



Request for Proposal
for
Selection of Agency for Technology and
Operationalization
of
U.P. State-wide Dial 100 Project

Tender No. DT-807-2015(1)

Date: 05.01.2016

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UP POLICE
GOVERNMENT OF UTTAR PRADESH

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Section 1

Invitation to Bidders

Section 1: Invitation to bidders

1. This invitation is addressed to interested bidders for **“Selection of Agency for Technology and operationalization of U.P. State-wide Dial 100 Project”**
2. Bidders are advised to study the RFP document carefully. Submission of bid response to this RFP shall be deemed to have been done after careful study and examination of the RFP document with full understanding of its implications. Bid response is required to be prepared in accordance with the procedures and timelines as enumerated in **Section 1 and 2 of this RFP**.
3. Bidders can download the RFP document from <https://uppolice.gov.in> (Traffic Directorate/Tender). Bidders who download the RFP from website would be required to submit demand draft of tender fee at time of bid submission. The tender fee in the form of demand draft of Twenty Five Thousand Rupees (INR 25,000 only) in favor “ADG, ITECCS, Traffic Directorate” payable at Lucknow should be submitted along with the bid response.
4. All bids must be accompanied by Earnest Money Deposit (EMD) of Rs. 20 crore (Twenty Crore Rupees only) in the form of Bank Guarantee drawn in favor of **Governor of Uttar Pradesh**, Lucknow. The EMD should be issued from a nationalized or scheduled bank. The BG shall be valid for the same period as the bid validity mentioned in this section. The Bank Guarantee should be prepared as per the format specified in Section 4 of this RFP

5. Critical information

Name of the Purchaser	Home Department, Government of Uttar Pradesh(GoUP)
Name of the RFP	Request for Proposal for Selection of Agency for Technology and operationalization of U.P. State-wide Dial 100 Project
Contact person of client	ADG Traffic
Contact details of client	ADG Traffic Sector 18, Vrindavan Yojna, Post Kalli Paschim Mohanlalganj Lucknow-227305 (Uttar Pradesh) Phone No. 0522 2050240 Email: techdt-up@gov.in
Distribution of RFP document	08 January 2016
Date of start of issue of RFP	08 January 2016
Last date for collection of RFP	15 February 2016 at 10:00 Hours
Last date to submit pre-bid queries	16 January 2016 at 17:00 Hours via Email: techdt-up@gov.in
Date and time of pre-bid meeting	20 January 2016 at 14:00 Hours
Contact person for pre-bid queries	ADG Traffic Phone No. 0522 2050240 Email: techdt-up@gov.in
Venue of pre-bid meeting	Indira Gandhi Pratishthan, Vibhuti Khand, Gomti Nagar, Lucknow, Uttar Pradesh 226010
Last date for submission of RFP response	15 February 2016 at 17:00 Hours

Date of Technical bid opening	17 February 2016 at 11:00 Hours
Date of Technical presentation	Would be communicated later
Date of Financial bid opening	Would be communicated later
Bid validity	120 days from date of issuance of this RFP

6. Bidders must note that **bids, received after due date and time shall be rejected.** GoUP would not be responsible for any delay in submission of bids.
7. The Scope of Work, tender procedures and Contract terms are prescribed in this RFP Document. In addition to Section 1, the RFP Document includes:

SECTION	CONTENTS
Section 2	Instructions to Bidders
Section 3	Contract Conditions and Service Levels
Section 4	Bid Submission Formats
Section 5	Scope of Work
Section 5 A	Minimum Software Requirement Specifications
Section 5 B	Minimum Technical Requirement Specifications

8. The Bidder should examine all instructions, forms, terms and conditions, and scope of work in the RFP Document and furnish all information as stipulated therein.

Section 2

Instructions to bidders

Section 2: Instructions to bidders

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Section 2: Instructions to bidders

1. Cost of Bidding Process

- 1.1. The Bidder shall bear all costs associated with the preparation and submission of its bid, including cost of presentations etc. for the purposes of clarification of the bid, if so desired by the GoUP.

2. Clarification on RFP Document

- 2.1. A prospective Bidder requiring any clarification on the RFP Document may submit the queries as per schedule indicated in Section 1. The queries must be submitted in the following format in editable form (Excel format):

BIDDER'S REQUEST FOR CLARIFICATION			
Name and Address of the Organization submitting request		Name and Position of Person submitting request	Contact Details of the Organization or Authorized Representative
			Tel:
			Fax:
			Email:
S. No	RFP Reference(s) (Section, Page)	Content of RFP requiring clarification	Points of clarification required
1.			
2.			

- 2.2. The GoUP will respond, to any request for clarification to queries on the RFP Document, received not later than the date prescribed by the GoUP in Section 1 of this RFP document.

3. Amendment of RFP Document

- 3.1. At any time prior to the deadline for submission of Bids, the GoUP may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective bidder, modify the Bid document by amendments. Such amendments shall be uploaded on the website <https://uppolice.gov.in> (Traffic Directorate/Tender), through corrigendum and shall form an integral part of Bid document. The relevant clauses of the Bid document shall be treated as amended accordingly.
- 3.2. It shall be the sole responsibility of the prospective bidders to check the website <https://uppolice.gov.in> (Traffic Directorate/Tender) from time to time for any amendment in this RFP. In case of failure to get the amendments, if any, the GoUP shall not be responsible for it.
- 3.3. In order to allow prospective Bidders a reasonable time to take the amendment into account in preparing their Bids, the GoUP, at its discretion, may extend the deadline for the submission

of Bids. Such extensions shall be uploaded on the website <https://uppolice.gov.in> (Traffic Directorate/Tender).

4. Language of Bids

- 4.1. The Bids prepared by the Bidder and all correspondence and documents relating to the bids exchanged by the Bidder and the GoUP, shall be written in **English language**, provided that any printed literature furnished by the Bidder may be written in another language so long the same is accompanied by a duly certified English translation in which case, for purposes of interpretation of the bid, the **English translation** shall govern.

5. Procedure for Submission of Bids

- 5.1. The last date and time of submission of bids shall be as per Clause 5 of Section 1 of the RFP.
- 5.2. Paper based submission of bid should follow the details mentioned below

Sl. No.	Bid type	Details
1.	Pre-Qualification Bid	<ul style="list-style-type: none"> 3 hard copies along with 1 CD in one cover Each copy should be marked as "Original" OR "Duplicate" The envelope should be super-scribed "Pre-Qualification Bid" with complete details of the bidder
2.	Technical Bid	<ul style="list-style-type: none"> 3 hard copies along with 1 CD in one cover Each copy should be marked as "Original" OR "Duplicate" The envelope should be super-scribed "Technical Bid" with complete details of the bidder
3.	Financial Bid	<ul style="list-style-type: none"> 1 hard copy in one cover The envelope should be super-scribed "Financial Bid" with complete details of the bidder
4.	Entire Bid document (1+2+3)	<ul style="list-style-type: none"> 1 cover super-scribed "Selection of Agency for Technology and Operationalization of U.P. State-wide Dial 100 Project" Cover should have complete name, address and contact details of bidder

- 5.3. Each page of the original copy of Prequalification, Technical Bid and Financial Bid should be duly initialed by Authorized Signatory and stamped with correct name of the Bidder's company or organization.
- 5.4. The bids received after the due date and time shall be summarily rejected and returned to the Bidder declaring as "Late submission" and the same shall not be opened.
- 5.5. Each copy of the bid response should be a complete document of good print quality and should be bound properly as a volume. If not properly bound, the GoUP shall not be in any way responsible for loss of sheets due to inadvertent opening of the document at any stage

- and that affecting the prospects of the Bidder during the evaluation due to loss of these documents. The document should be page numbered and appropriately flagged and must contain the list(table) of contents with page numbers. Different copies must be bound separately.
- 5.6. As part of the bid, Bidder should also provide the Pre-Qualification and Technical bid in soft copy format, in the form of a non-re-writeable CD (Compact Disc) as follows:
- 5.6.1. The CD containing pre-qualification and technical bid should be sealed along with the hard copy of the Pre-Qualification and Technical bid respectively. The CD should contain files and folders with all the relevant information/ documents included in a sequence exactly as in the hard copy of Pre-Qualification and Technical bid.
 - 5.6.2. The CD submitted by the Bidder must be in sealed covers. The sealed covers as well as the CD media must be duly signed by the Bidder using a “Permanent Pen/Marker” and should be super-scribed with “Pre-Qualification / Technical Bid- from <<Bidder Name>>”.
 - 5.6.3. Bidder must ensure that the information furnished in the CD is identical to that submitted in the original paper bid document. In case of any discrepancy observed by the GoUP during the time of bid evaluation in the contents of the CD and original paper bid documents, the information furnished on original paper bid document will prevail over the soft copy.
 - 5.6.4. Bidder must ensure that the Pre-Qualification and Technical bid CD & hardcopies should not contain any commercial items / prices.
 - 5.6.5. Telex/Telegraphic/Tele-fax bids will not be considered. All out-station bids, if sent by post, should be sent under registered cover.
 - 5.6.6. If the outer envelope is not sealed and marked as indicated above, the GoUP will assume no responsibility for the bid's misplacement or premature opening.

5.7. Preparation of Bids

- 5.7.1. Bidder should take into account any corrigendum published on the tender document before submitting their bids.
- 5.7.2. Please go through the tender advertisement and the tender document carefully to understand the documents required to be submitted as part of the bid.
- 5.7.3. All the pages of the proposal must be sequentially numbered and must contain the list of contents with page numbers. Any deficiency in the documentation may result in the rejection of the Bid.
- 5.7.4. Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender document

6. Format and Signing of Bid

- 6.1. The Bidder shall prepare three copies of the Bid, clearly marking each "Original", "and "Duplicate" as appropriate in accordance with Clause 5 of this section. In the event of any discrepancy between them, the original in hard copy shall govern.
- 6.2. The original and all copies of the bid shall be typed or written in indelible ink. The original and all copies shall be signed by the Bidder or a person or persons duly authorized to bind the Bidder to the Contract in accordance with Clause 11 of this Section of RFP. All pages of the bid, except for unamended printed literature, shall be initialed and stamped by the person or persons signing the bid.
- 6.3. The bid shall contain no interlineations, erasures or overwriting except as necessary to correct errors made by the Bidder, in which case such corrections shall be initialed by the person or persons signing the bid.

7. Documents Comprising the Bids

The bid prepared by the Bidder shall comprise of the following components:

Cover No.	Cover type	Description	Contents
1	Pre-Qualification proposal	Pre-Qualification Covering letter as prescribed format	All relevant details and documentary proofs as per formats in Section 4
		Pre-qualification checklist	As per the format
		EMD in the form of Bank Guarantee	EMD BG as per formats in Section-4
		Demand Draft for Tender Fee	Tender Fee DD
		Supporting information on pre-qualification	As per formats given in clause 1.1, 1.2, 1.3, 1.4, 1.5 and Annexure of Section-4
		Power of Attorney for Authorization of Signatory for bid signing	
		Consortium agreement	
		Declaration of Non-Blacklisting	
2	Technical Proposal	Bid Submission Checklist	As per clause 2.1 of Section 4 of this RFP
		Technical bid letter	
		Supporting information for the Technical Proposal	

Cover No.	Cover type	Description	Contents
		Breakdown of cost components mentioning only the BoM (Bill of Material)	Clauses 3.2 of Section 4 without the cost of components
		Schedule of deviation	As per format given in clause 2.7 of Section 4 of this RFP
		Non-Disclosure agreement	As per formats given in clause 2.9 of Section 4 of this RFP
		Anti-Collusion certificate	
3	Financial Proposal	Financial bid letter	As per the format given in clause 3.1 of Section 4
		Breakdown of cost components	As per the format given in clause 3.2 of Section 4

8. Bid Prices

- 8.1. The Bidder shall indicate in the proforma prescribed at Clause 3.2 of Section 4 of this RFP, the unit rates of the services, it proposes to provide under the Contract. Prices should be shown separately for each item as detailed in Bid Documents.
- 8.2. In the absence of information as requested above, a bid shall be considered incomplete and summarily rejected.
- 8.3. The Bidder shall prepare the bid based on details provided in the RFP documents. The Bidder shall carry out all the tasks in accordance with the requirement of the RFP documents and it shall be the responsibility of the Bidder to fully meet all the requirements of the RFP documents.
- 8.4. The Bidder as part of its Financial Bid should account for all out of pocket, taxes, levies and other expenses that the Bidder shall incur during the contract period.

9. Firm Prices

- 9.1. Prices quoted must be firm and final and shall remain constant throughout the period of the contract and shall not be subject to any upward modifications, on any account whatsoever. The Bidder shall, therefore, indicate the prices in Clause 3.2 of Section 4 of this RFP. The Bid Prices shall be indicated in **Indian Rupees (INR) only**.
- 9.2. The Financial Bid should clearly indicate the price to be charged without any qualifications whatsoever and should include all taxes, duties, fees, levies, works contract tax and other charges as may be applicable in relation to the activities proposed to be carried out. It is mandatory that such charges wherever applicable or payable should be indicated separately in Clause 3.2 of Section 4 of this RFP.
- 9.3. A financial bid submitted with an adjustable price quotation or conditional bid shall be treated as non-responsive and the bid shall be rejected summarily.

10. Discount

- 10.1. The Bidder is advised not to indicate any separate discount. Discount, if any, should be merged with the quoted prices. Discount of any type, indicated separately, will not be taken into account for evaluation purpose.

11. Bidder Qualification

- 11.1. The "Bidder" or "Prime Bidder" in case of Consortium as used in the RFP documents shall mean the Organisation on whose behalf the RFP response has been submitted. The Bidder may be either the Principal Officer (MD or Company Secretary) or his or her duly Authorized Representative, in which case he or she shall submit a power of attorney as mentioned in Annexure A (d) of Section 4 of this RFP. All certificates and documents (including any clarifications sought and any subsequent correspondences) received hereby, shall be furnished and signed by the representative or the principal.
- 11.2. It is further clarified that the individual signing the RFP or other documents in connection with the RFP must certify whether he or she signs as :
- 11.2.1. Constituted attorney of the firm, if it is a company
OR
- 11.2.2. The Principal officer or his or her duly Authorized Representative of the Bidder or Prime Bidder in case of the Consortium, in which case he or she shall submit a certificate of authority on behalf of the Prime Bidder of the consortium
- 11.3. The authorization shall be indicated by power-of-attorney accompanying the bid as per Annexure A (e) of Section 4 of this RFP.

12. Earnest Money Deposit (EMD)

- 12.1. The Bidder shall furnish, as part of its bid, EMD of the amount and format as mentioned in Clause 4 of Section 1 of this RFP.
- 12.2. The EMD is required to protect the GoUP against the risk of Bidder's conduct which would warrant the EMD's forfeiture, pursuant to Clause 13.6.
- 12.3. Unsuccessful Bidder's EMD will be discharged or returned after award of contract to the successful Bidder. **No interest will be paid by the GoUP on the EMD amount.**
- 12.4. The successful Bidder's EMD shall be discharged upon the Bidder executing the Contract, pursuant to Clause 26 and after furnishing the performance security, pursuant to Clause 27.
- 12.5. The EMD may be forfeited:
- 12.5.1. if a Bidder withdraws its bid during the period of bid validity specified by the Bidder in the Bid; or
- 12.5.2. in the case of a successful bid, if the Bidder fails;
- i. to sign the Contract in accordance with Clause 26; or
- ii. to furnish performance security in accordance with Clause 27.

13. Period of Validity of Bids

- 13.1. Bids shall remain valid for a period of as mentioned in Section 1 of this RFP. A bid valid for a shorter period shall be rejected by the GoUP as non-responsive and shall not be taken up for evaluation purposes.

- 13.2. The GoUP may request the Bidder(s) for an extension of the period of validity. The request and the responses thereto shall be made in writing (or by fax or by e-mail). The validity of EMD provided under Clause 5 of Section 1 of this RFP shall also be accordingly extended.

14. Terms and Conditions of Bidder

- 14.1. Terms and conditions (General Conditions) of the Bidder will not be considered as forming part of their Bids. In case terms and conditions of the contract applicable to this Invitation of RFP are not acceptable to any Bidder, he or she should clearly specify deviation in his or her Technical Bid, Clause 2.7 of Section 4 of this RFP. Similarly in case the Services being offered have deviations from the requirements or specifications laid down in this RFP, the Bidder shall describe in what respects and to what extent the Services being offered differ or deviate from the requirements, even though the deviations may not be very material. The Bidder must state categorically whether or not his offer conforms to RFP requirements or specifications and indicate deviations, if any, in his Technical Bid (Clause 2.7 of Section 4) of this RFP)
- 14.2. Any deviations or assumptions mentioned elsewhere in the Bid, other than the formats (Clause 2.7 of Section 4 of this RFP) will not be considered by the GoUP.
- 14.3. All deviations should be closed before the financial opening by mutual discussion between GoUP and Bidder. Financial bid would be opened only after closure of all deviations by the technically successful bidders

15. Local Conditions

- 15.1. It will be incumbent upon each Bidder to fully acquaint himself with the local conditions and factors at all respective locations, sites and offices which would have any effect on the performance of the contract and or the cost.
- 15.2. The Bidder is expected to obtain for himself on his own responsibility all information that may be necessary for preparing the bid and entering into contract. Obtaining such information shall be at Bidder's own cost.
- 15.3. Failure to obtain the information necessary for preparing the bid and or or failure to perform activities that may be necessary for project will in no way relieve the successful Bidder from performing any work in accordance with the contract entered into.
- 15.4. It will be imperative for each Bidder to fully inform themselves of all local and legal conditions and factors which may have any effect on the execution of the contract as described in the RFP documents.
- 15.5. It is the responsibility of the Bidder that such factors have properly been investigated and considered while submitting the bid response and that no claim whatsoever including those for financial adjustment to the contract awarded under the bidding documents will be entertained by the GoUP and that neither any change in the time schedule of the contract nor any financial adjustments arising thereof shall be permitted by the GoUP on account of failure of the Bidder to appraise themselves of local laws and conditions.

16. Last Date for Receipt of Bids

- 16.1. Bids will be received by the GoUP at the address specified under Section 1 of the RFP not later than the time and date specified in Clause 5 of Section 1. In the event of the specified date for the receipt of Bids being declared a holiday for the GoUP, the Bids will be received upto the appointed time on the next working day.

- 16.2. The GoUP may, at its discretion, extend the last date for the receipt of bids by amending the RFP Document in accordance with Clause 3 of Section 2, in which case all rights and obligations of the GoUP and Bidder previously subject to the last date will thereafter be subject to the last date as extended.

17. Late Bids

- 17.1. Any bid received by the GoUP after the last date and time for receipt of bids prescribed by the GoUP, pursuant to Clause 5 of Section 1, will be rejected and shall not be considered for opening and/or returned unopened to the Bidder.

18. Modification and Withdrawal of Bids

- 18.1. No bid may be altered / modified after submission to the GoUP. Unsolicited correspondences in this regard from Bidder will not be considered.
- 18.2. No bid may be withdrawn in the interval between the last date for receipt of bids and the expiry of the bid validity period specified by the Bidder in the Bid. Withdrawal of a bid during this interval may result in the Bidder's forfeiture of its EMD

19. Contacting the GoUP

- 19.1. No Bidder shall contact the GoUP on any matter relating to its bid, from the time of the bid opening to the time the Contract is awarded.
- 19.2. Any effort by a Bidder to influence the GoUP bid evaluation, bid comparison or contract award decisions shall result in the rejection of the Bidder's bid.

20. Consortium Approach

- 20.1. Considering the wide variety of skills and resources needed for the project, a group of Companies or organizations are allowed to form a Consortium and bid for this project.
- 20.2. The number of consortium members cannot exceed two, including the Prime Bidder.
- 20.3. Prime bidder must have a minimum of 51% stake in the contract value of project. Prime bidder will provide an undertaking along with Consortium agreement mentioned in Section 4 highlighting the stake of each consortium member in the project. GoUP may also validate it through various means.
- 20.4. Consortium is not a mandatory condition. A Bidder meeting all the Pre-Qualification conditions mentioned for a bidder in Clause 22.3 of this section may bid independently for this RFP.
- 20.5. In case of Consortium, the consortium members must necessarily satisfy the Pre-Qualification criteria as mentioned in clause 22.3 of this section.
- 20.6. The Prime Bidder shall be the prime point of contact for the GoUP and shall be primarily responsible for the discharge and administration of all the obligations for this project. The sole responsibility under the contract would be that of the Prime Bidder only.
- 20.7. In case of consortium, consortium member should furnish a Power of Attorney in favour of the Prime Bidder, authorizing to submit and sign the RFP response.
- 20.8. The Prime Bidder shall be required to submit a joint agreement between the consortium members for the contract. The Prime Bidder participating with consortium approach shall

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define the role of each consortium member in the RFP response clearly indicating their scope of work or responsibilities and relationship.

- 20.9. Any company or organization cannot be a member of any other consortium for the purpose of this tender. Participation by any company in more than one consortium will be considered a disqualification for all concerned consortium applying to this bid.

21. Evaluation of Bids

- 21.1. Tender Evaluation Committee (TEC) will carry out a detailed evaluation of the Technical Bids received by it in order to determine whether they are substantially responsive to the requirements set forth in the RFP document. In order to reach such a determination, Tender Evaluation Committee will examine the information supplied by the Bidders or Consortium, and shall evaluate the same as per the evaluation criteria specified in this RFP. The decision of TEC will be final in case of bid evaluations.
- 21.2. TEC while evaluating the Technical Bids shall have no access to the Financial Bids until the technical evaluation is concluded and recommendations are made public. The TEC shall evaluate Technical Bids on the basis of their responsiveness to the Terms of Reference and by applying the evaluation criteria specified in the document. Only responsive bids shall be further taken up for evaluation. Evaluation of the technical bid will be done and at this stage the financial bid will remain unopened. The TEC may require verbal or written clarifications from the bidders to clarify ambiguities and uncertainties arising out of the evaluation of the bid documents. The Technical Bids will be evaluated on the basis of Technical criteria mentioned in the Clause 23.4 of this section of RFP.

22. Clarification

- 22.1. When deemed necessary, during the tendering process, the GoUP may seek clarifications on any aspect from any or all the Bidders. However, that would not entitle the Bidder to change or cause any change in the substance of the RFP submitted or price quoted.

23. Substantially Responsive Bids

- 23.1. A substantially responsive Bid is one, which conforms to all the requirements, terms, conditions and specifications of the Request for Proposal.
- 23.2. Any attempt by a Bidder to influence it's the bid evaluation process may result in the rejection of the Bidder's Bid.

23.3. Prequalification Criteria

The below presented table provides the pre-qualification criteria for the selection of Agency:

S. No.	Description	Mandatory documentary evidence to be submitted
Qualification Criteria for Agency		
1	The number of consortium members cannot exceed two, including the Prime Bidder	Signed agreement between Primer bidder and consortium partner
1A	Prime bidder must have a minimum of 51% stake in the contract value of project	Undertaking along with signed Consortium agreement mentioned in Section 4 highlighting the stake

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S. No.	Description	Mandatory documentary evidence to be submitted
		of each consortium member in the project.
2	<p>Prime bidder must have registered under Companies Act, 1956 and should be in operation in India for a period of at least 10 years as on 31st March 2015</p> <p>Consortium partner must have registered under Companies Act, 1956 and should be in operation in India for a period of at least 5 years as on 31st March 2015</p>	<ul style="list-style-type: none"> ▶ Copy of certification of incorporation ▶ PAN card ▶ VAT registration
3	<p>Prime bidder should have average annual turnover of Rs.1000 crores in last three financial year (ending 31st March 2015)</p> <p>Parent company average annual turnover would be considered for only 100% subsidiary or division or sub division or branch business unit</p>	<ul style="list-style-type: none"> ▶ Copy of audited financial statements ▶ Declaration from appointed statutory auditor of the company ▶ Support letter from parent or group company or group companies and its subsidiaries to be provided
4	<p>Prime Bidder should have a current net worth of 250 Crores as of 31 March 2015</p> <p>Parent Company Net worth would be considered for only 100% subsidiary or division or sub-division or branch or business unit</p>	Letter from statutory auditor with Net Worth details
5	<p>Prime Bidder or consortium partner should have experience of handling assignments in India or abroad as System Integrator over last 5 years (as on 31st March 2015) for</p> <p>1 project with value 150 crore</p> <p style="text-align: center;">OR</p> <p>2 projects with value 100 crore each</p> <p style="text-align: center;">OR</p> <p>3 projects with value 60 crore each</p> <p>Parent Company experience would be considered for only 100% subsidiary or division or sub-division or branch or business unit</p>	<p>Credential in the format provided in Section 4 of RFP document</p> <p>Documentary evidence (Copy of Client certificate or Purchase order or Contract) or work order</p> <p>The date of work order or contract should be at least 6 months before date of release of this RFP</p>

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S. No.	Description	Mandatory documentary evidence to be submitted
6	<p>Prime Bidder or consortium partner should have experience in implementing minimum 2 projects of Call Centre or Emergency Response (Medical, Police, Fire) with Contact Centre solution in last 5 years in India or abroad.</p> <p>Parent Company experience would be considered for only 100% subsidiary or division or sub-division or branch or business unit</p>	<p>Credential in the format provided in Section 4 of RFP document</p> <p>Documentary evidence (Copy of Client certificate or Purchase order or Contract) or work order</p> <p>The date of work order or contract should be at least 6 months before date of release of this RFP</p>
7	<p>Prime bidder or consortium partner should have experience of providing annual average employment of 300 people to Call Centres projects in last 3 years in India</p> <p>Parent Company experience would be considered for only 100% subsidiary or division or sub-division or branch or business unit.</p>	<p>Credential in the format provided in Section 4 of RFP document</p> <p>Documentary evidence (Copy of Client certificate or Purchase order or Contract)</p> <p>The date of work order or contract should be at least 6 months before date of release of this RFP</p>
8	Prime Bidder or consortium partner should have certification of ISO 9001:2008	Copy of valid certificates from authorized agencies
9	<p>Prime bidder should have a local office in Lucknow</p> <p>OR</p> <p>If bidder has no local presence, it should open a local office within 30 days from issuance of LOI or contract.</p>	<p>Declaration from authorized signatory mentioning the name and address of local office</p> <p>OR</p> <p>Undertaking from authorized signatory to open the local office within 30 days from issuance of LOI or contract</p>
10	Prime bidder should have employed an average of 3000 personnel over last 3 years ending on 31st March 2015	Declaration from authorized signatory
11	Prime Bidder and consortium member shall not be black listed to provide similar services to any State or Central Government Department or Ministry as on bid submission date	Self-Declaration Certificate signed by authorized signatory to be submitted by each Consortium member
Qualification Criteria for Contact centre, CAD and ROIP solution proposed for the project		
12	Should be a solution that is ready-made and available for sale, lease, or license to the general public. It should have been implemented or being implemented by a large number of System	Declaration from the authorized signatory of the OEM

Section 2: Instructions to bidders

S. No.	Description	Mandatory documentary evidence to be submitted
	Integrators (3 or more). The OEM should own the Source Code of the software.	
13	<p>The proposed Contact Centre solution must be in Leaders Quadrant of Gartner Report in any one report published in last 3 years.</p> <p>The solution should have been implemented in minimum 2 projects handling over 100,000 calls per day in each project in India or abroad in last 5 years.</p>	<p>Letter from the authorized signatory of the OEM along with the copy of relevant pages of the report</p> <p>Documentary evidence from OEM (Copy of Client certificate or Purchase order or Contract)</p> <p>The date of work order or contract should be at least 6 months before date of release of this RFP</p>
14	<p>The proposed CAD solution must be in IMS Control Room solution in any one report published in last 3 years.</p> <p>The proposed CAD solution should have been implemented in minimum three (3) projects in Emergency Response (Police, Medical, Fire) in India or abroad in last 5 years. The projects should have CAD solution integrated with GIS solution, AVLS and MDT.</p> <p>MDT refers to Mobile Data Terminal – an Android/Windows/IOS based device that displays GIS maps and dispatch related information.</p>	<p>Letter from the authorized signatory of the OEM along with the copy of relevant pages of the report</p> <p>Documentary evidence from OEM (Copy of Client certificate or Purchase order or Contract)</p> <p>The date of work order or contract should be at least 6 months before date of release of this RFP</p>
15	<p>The proposed ROIP solution should have been implemented three (3) projects with minimum 5 frequency bands in India or abroad</p>	<p>Documentary evidence from OEM (Copy of Client certificate or Purchase order or Contract)</p> <p>The date of work order or contract should be at least 6 months before date of release of this RFP</p>
Qualification Criteria for OEM for proposed MDT device for the project		
16	<p>The proposed MDT device should be rugged with minimum of IP65 and MIL 810G standards.</p> <p>The MDT devices of the OEM should have been deployed in India or abroad in minimum three (3) projects in last 5 years.</p> <p>The OEM for MDT should have its own service center in India</p>	<p>Self-certification from authorized signatory of the OEM</p> <p>Documentary evidence from OEM (Copy of Client certificate or Purchase order or Contract)</p> <p>The date of work order or contract should be at least 6 months before date of release of this RFP</p>

S. No.	Description	Mandatory documentary evidence to be submitted
Qualification Criteria for ISP or Network Service Provider		
17	<p>The Service Provider should be a National Long Distance Service Provider or IP VPN service provider having own MPLS VPN network under license from Government of India (Gol)</p> <p>The Service provider backbone should be highly redundant, ensuring that there is no single point of failure.</p>	Self-certification from ISP or Network Service Provider
Qualification Criteria for OEM of the proposed Video Wall		
18	<p>The Video Wall systems of the OEM should have been deployed in India in minimum five (5) projects in last 5 years.</p> <p>The OEM for Video wall should have its own service center in India with a minimum of 20-member service team.</p>	<p>Documentary evidence from OEM (Copy of Client certificate or Purchase order or Contract)</p> <p>The date of work order or contract should be at least 6 months before date of release of this RFP</p> <p>Self-certification from authorized signatory of the OEM</p>

23.4. Technical Evaluation Criteria

- 23.4.1. Only those bidders who qualify the pre-qualification criteria will be evaluated for the technical evaluation. Bidders who do not qualify for the pre-qualification, their technical bids and financial bids will not be evaluated.
- 23.4.2. Bidders, whose bids are responsive and score a minimum of 75% of total marks (minimum marks to obtain for technically qualifying) from the technical evaluation criteria would be considered technically qualified. Bidder also must be able to score the minimum qualifying marks in each section (wherever mentioned as per the Technical Evaluation in clause 22.4.7)
- 23.4.3. Only those Bidders who cross the threshold level of Technical Evaluation indicated below and adhere to the GoUP technical requirements shall be considered for next stage i.e. Financial evaluation
- 23.4.4. In case of no response by the Bidder to any of the requirements with regard to the contents of the Technical Bid, no marks will be assigned for the same
- 23.4.5. Technical bid of the Bidder shall be opened and evaluated for acceptability of Techno-functional requirements, deviations and technical suitability. Bidders shall respond to the requirements as explained below for their evaluation with regard to experience and qualification. Also, Bidder shall refer and respond to ALL technical requirements as mentioned in the RFP document
- 23.4.6. After the technical presentation and demo, the Tender Evaluation Committee may ask the bidder to change the proposed components at no additional cost to the GoUP
- 23.4.7. Technical Evaluation shall be based on the following parameters and associated Weightage

Section 2: Instructions to bidders

Sl. No	Evaluation criterion	Max. Mark	Qualifying
1	Company profile	100	
1.1	<p>Prime bidder should have average annual turnover of at least Rs.1000 crores in each of last three financial year (ending 31st March 2015)</p> <p>Parent company average annual turnover would be considered for only 100% subsidiary or division or sub division or branch business unit</p>	50	
	More than INR 2000 Crore	50	
	More than INR 1500 Crore	40	
	More than INR 1000 Crore	35	
1.2	Prime Bidder or its consortium partner should have a valid CMMi certification	50	
	CMMi 5	50	
	CMMi 3 or better	10	
2	Relevant Past experience	300	210
2.1	<p>Prime Bidder or its consortium partner should have experience of handling assignments in India as System Integrator in last 5 years (as on 31-03-15)</p> <p>Parent Company experience would be considered for only 100% subsidiary or division or sub-division or branch or business unit.</p>	100	
	2 or more credentials with cumulative value \geq 500 Cr.	100	
	1 or more credentials with cumulative value \geq 200 Cr.	70	
2.2	<p>Prime Bidder or its consortium member should have experience in implementing projects of Call Centre or Emergency Response (Medical, Police or Fire) with Contact Centre solution in last 5 years in India or abroad.</p> <p>Parent Company experience would be considered for only 100% subsidiary or division or sub-division or branch or business unit.</p>	100	
	5 or more credentials	80	
	3 credentials	60	
	2 credentials	50	
	Additional marks if any of the credentials is for Emergency Response system	20	
2.3	<p>Prime bidder or the consortium partner should have experience of providing annual average employment of 300 people to Call Centers projects in last 3 years in India.</p> <p>Parent Company experience would be considered for only</p>	100	

Section 2: Instructions to bidders

Sl. No	Evaluation criterion	Max. Mark	Qualifying
	100% subsidiary or division or sub-division or branch or business unit.		
	700 or more	80	
	500 or more	60	
	300 people	50	
	Additional marks if any of the call center is for Emergency Response (Police or Fire or Medical) related services	20	
3	Solutions proposed	450	315
3.1	Understanding of ToR and Approach for implementation	50	
	Understanding of Requirements	25	
	Adequacy of the Work plan	25	
3.2	Robustness and quality of technology solution	150	
	Adequacy, robustness and scalability of proposed Software solution	50	
	Adequacy, robustness and scalability of proposed Hardware solution (including DC or DR or Network)	50	
	Compliance with the FRS and Technical Specifications as mentioned in the RFP	25	
	Project implementation approach or strategy and operations and maintenance plan including comprehensiveness of fallback strategy and planning during rollout	25	
3.3	Assessment of Manpower deployment, Training and Handholding plan	100	
	<ul style="list-style-type: none"> - Deployment strategy of Manpower - Contingency management - Mobilization of existing resources and additional resources as required 	60	
	Training and Handholding strategy	40	
3.4	Technical Presentation by the bidder	50	35
	Quality of Presentation and clarity of responses	30	
	Passion and commitment demonstrated during the presentation	20	
3.5	Demonstration of following components	100	70
	Contact center and CAD integration	40	
	MDT and AVLS integration with CAD	30	
	ROIP with 5 different radio frequency spots	30	

Section 2: Instructions to bidders

Sl. No	Evaluation criterion	Max. Mark	Qualifying
4	Proposed resources for the project (As per the criterion mentioned in RFP)	150	
4.1	Project Director	5	
4.2	Project Manager	20	
4.3	Monitoring center manager	10	
4.4	Solution architect (DC, DR)	10	
4.5	Solution architect (Application)	10	
4.6	Solution architect (Network)	9	
4.7	Solution architect (Information Security)	9	
4.8	Database architect or Modeller	9	
4.9	CAD Expert (from OEM of the proposed product)	9	
4.10	Telephony and ACD configuration and customization expert	9	
4.11	GIS Expert (from OEM of the proposed product)	9	
	Enterprise Management System (EMS) expert (from OEM of the proposed product)	9	
4.12	Radio Frequency IP Expert (from OEM of the proposed product)	9	
4.13	QA Manager	9	
4.14	BI, Data warehouse expert	9	
4.15	Master Trainer	5	
	Total	1000	750

23.4.8. The Bidder would be technically evaluated out of 1000 marks. Bids receiving 750 marks and above would qualify for financial evaluation.

23.5. Opening of Financial Bids

23.5.1. The GoUP will open the Financial Bids of only Technically Qualified Bidders after all deviation has been resolved and accepted by the bidder, in the presence of the representatives of the Bidder who choose to attend, at the time, date and place, as decided by the GoUP.

23.5.2. Financial evaluation would be undertaken irrespective of number of Bidders qualifying the Technical evaluation.

23.5.3. The Financial bids shall be evaluated by the GoUP for completeness and accuracy. Arithmetical errors will be rectified on the following basis. If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected. If there is a discrepancy between words and figures, the amount in words will prevail.

23.5.4. No enquiry shall be made by the bidder(s) during the course of evaluation of the tender, after opening of bid, till final decision is conveyed to the successful bidder(s). However, the Committee or its authorized representative and office of GoUP can make any enquiry

or seek clarification from the bidders, which the bidders must furnish within the stipulated time else bid of such defaulting bidders will be rejected.

23.5.5. Combined Quality- cum- Cost Based System Selection (CQCCBS) will be followed.

23.5.6. The technically qualified bidders shall be ranked as per score achieved by them, from the highest to the lowest Technical Score (ST).

23.5.7. Each Financial Proposal will be assigned a financial score (SF). The lowest financial proposal (FM) will be given a financial score (SF) of 1000 points in which 700 points for technical evaluation and 300 points for financial evaluation. The financial scores of other proposals will be computed as follows:

$SF = 1000 \times FM \text{ or } F$, where F = amount of Financial Proposal

23.5.8. Thereafter, Combined and Final evaluation will be done on the following basis:

Proposals will finally be ranked according to their combined score (S) based on their technical (ST) and financial (SF) scores as follows:

$$S = ST \times 0.7 + SF \times 0.3$$

The Selected bidder shall be the first ranked bidder (having the highest combined score). The score contains 700 score for technical evaluation and 300 score for financial evaluation.

24. Post Qualification and Award Criteria

24.1. This determination will take into account the Bidder's financial, technical, implementation and post-implementation strengths and capabilities. It will also include examination of the documentary evidence submitted by the Bidder as part of the bid as well as such other information as the GoUP deems necessary and appropriate.

24.2. An affirmative determination will be a prerequisite for award of the Contract to the Bidder or Prime Bidder (in case of consortium). A negative determination will result in rejection of the Bidder's bid, in which event; the GoUP will proceed to the next best evaluated bid to make a similar determination of that Bidder's capabilities to perform satisfactorily and award of contract.

24.3. The GoUP is not bound to accept the best evaluated bid or any bid and reserves the right to accept any bid, wholly or in part.

25. GoUP Right to Vary Scope of Contract at the time of Award

25.1. The GoUP may at any time, by a written order given to the Bidder, make changes to the scope of the Contract as specified in Change Control Note in Section 3 of this RFP.

25.2. If any such change causes an increase or decrease in the cost of, or the time required for the Bidder's performance of any part of the work under the Contract, whether changed or not changed by the order, an equitable adjustment shall be made in the Contract Value or time schedule, or both, with the consent of the Bidder and the Contract shall accordingly be amended.

26. GoUP Right to Accept Any Bid and to Reject Any or All Bids

26.1. The GoUP reserves the right to accept any bid, and to annul the tender process and reject all bids at any time prior to award of Contract, without thereby incurring any liability to the affected Bidder (s) or any obligation to inform the affected Bidder (s) of the grounds for the GoUP action.

27. Notification of Award

- 27.1. Prior to the expiration of the period of bid validity, pursuant to Clause 12, the GoUP will notify the successful Bidders in writing that its bid has been accepted. The Bidders shall provide their acceptance within specific period mentioned by GoUP.
- 27.2. The notification of award will constitute the formation of the Contract.
- 27.3. Upon the successful Bidders furnishing of performance security pursuant to Clause 27, the GoUP may notify each unsuccessful Bidder and will discharge their EMD, pursuant to Clause 11 of this section.

28. Performance Bank Guarantee

- 28.1. Within 15 days of the receipt of notification of award or Letter of Intent (LoI) from the GoUP, the successful Bidder shall furnish the performance bank guarantee of 10% of total contract value in accordance with the Conditions of Contract, in the Performance Bank Guarantee prescribed in Annexure A (a) of Section 4 of this RFP given by any scheduled bank.
- 28.2. Failure of the successful Bidders to comply with the requirement of Clause 27.1 of this section shall constitute sufficient grounds for the annulment of the award and forfeiture of the EMD, in which event the GoUP may award the Contract to the next best evaluated bid or call for new bids.
- 28.3. Performance Bank Guarantee shall be valid for One Year more than the period of the contract.

29. Signing of Contract

- 29.1. The successful Bidder shall sign the contract within 15 days of submission of Performance Bank Guarantee.

30. Rejection Criteria

- 30.1. Besides other conditions and terms highlighted in the RFP document, bids may be rejected under following circumstances:
- 30.2. General Rejection Criteria
 - 30.2.1. Bids submitted without or improper EMD or tender fees
 - 30.2.2. Bids received through Telex or Telegraphic or Fax or e-Mail
 - 30.2.3. Bids which do not confirm unconditional validity of the bid as prescribed in the RFP
 - 30.2.4. If the information provided by the Bidder is found to be incorrect or misleading at any stage or time during the Tendering Process
 - 30.2.5. Any effort on the part of a Bidder to influence the GoUP bid evaluation, bid comparison or contract award decisions
 - 30.2.6. Bids received by the GoUP after the last date and time for receipt of bids prescribed by the GoUP, pursuant to Clause 7 of Section 1.
 - 30.2.7. Bids without power of attorney and any other document consisting of adequate proof of the ability of the signatory to bind the Bidder
 - 30.2.8. Bids without an undertaking of having understood the provision of the RFP fully.
- 30.3. Technical Rejection Criteria
 - 30.3.1. Technical Bid containing financial details.
 - 30.3.2. Revelation of prices in any form or by any reason before opening the Financial Bid

Section 2: Instructions to bidders

- 30.3.3. Failure to furnish all information required by the RFP Document or submission of a bid not substantially responsive to the RFP Document in every respect.
- 30.3.4. Bidders not responding to the complete scope of work as indicated in the RFP documents, addendum (if any) and any subsequent information given to the Bidder.
- 30.3.5. If the bid does not conform to the timelines indicated in the bid.

30.4. **Financial Rejection Criteria**

- 30.4.1. Incomplete Price Bid
- 30.4.2. Price Bids that do not conform to the RFP's price bid format.
- 30.4.3. If there is an arithmetic discrepancy in the Financial Bid calculations the GoUP shall rectify the same. If the Bidder does not accept the correction of the errors, bid may be rejected.

Section 3

Contract Conditions and Service Levels

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A. GENERAL CONDITIONS OF CONTRACT (GCC)

1. Definition of Terms

- 1.1. **“Acceptance of System”**: The system shall be deemed to have been accepted by the GoUP, subsequent to its installation, rollout and deployment of trained manpower, when all the activities as defined in Scope of Work have been successfully executed and completed to the satisfaction of GoUP. Refer Annexure 5.2 of Section 5 of the RFP.
- 1.2. **“Bidder”** shall mean organization or consortium submitting the proposal in response to this RFP
- 1.3. **“Contract”** means the Contract entered into by the parties with the entire documentation specified in the RFP.
- 1.4. **“Contract Value”** means the price payable to the Bidder under this Contract for the full and proper performance of its contractual obligations.
- 1.5. **“Commercial Off-The-Shelf (COTS)”** refers to software products that are ready-made and available for sale, lease, or license to the general public.
- 1.6. **“Data Center Site”** means the DC sites including their respective Data Centre space, Communications Room and Non-Data Centre space wherein the delivery, installation, integration, management and maintenance services as specified under the scope of work are to be carried out for the purpose of this Contract. The site for DC would be provided by UP Police in ITECCS, Lucknow and location of Disaster site (DR) will be the responsibility of selected bidder. The DR site should be outside UP state and in a different seismic zone.
- 1.7. **“Document”** means any embodiment of any text or image however recorded and includes any data, text, images, sound, voice, codes, databases or any other electronic documents as per IT Act etc.
- 1.8. **“Effective Date”** means the date on which this Contract is signed or Lol is issued by GoUP, whichever is earlier and executed by the parties hereto. If this Contract is executed in parts, then the date on which the last of such Contracts is executed shall be construed to be the Effective Date.
- 1.9. **“GCC”** means General Conditions of Contract
- 1.10. **“Goods”** means all of the equipment, sub-systems, hardware, software, products accessories, software and/or other material OR items which the Bidder is required to supply, install and maintain under the contract.
- 1.11. **“ITECCS”** means Integrated Technology Enabled Citizen Center Services
- 1.12. **“UP POLICE 100”** means the Uttar Pradesh Police Integrated Call 100 Center
- 1.13. **“LDI”** means Leadership Development Institute
- 1.14. **“Communication officers”** means all outsourced staff deployed at UP POLICE 100 Lucknow, OMC centers at Agra and Varanasi. These staff will be the first point of contact to any caller.
- 1.15. **“Intellectual Property Rights”** means any patent, copyright, trademark, trade name, service marks, brands, proprietary information whether arising before or after the execution of this Contract and the right to ownership and registration of these rights.
- 1.16. **Go- live** means commissioning of project after installation of all hardware, software, deployment of manpower including training as per scope of work for UP POLICE 100, OMC and other locations as mentioned in the RFP document. Bidder should have the approval from GoUP for user acceptance testing. GoUP should be able to perform all the operations from their defined location for emergency response system.

- 1.17. **“Notice”** means:
- a notice; or
 - a consent, approval or other communication required to be in writing under this Contract.
- 1.18. **“OEM”** means the **Original Equipment Manufacturer of any equipment or system or software or product** which are providing such goods to the GoUP under the scope of this RFP
- 1.19. **“Bidder’s Team”** means the Bidder who has to provide goods and services to the GoUP under the scope of this Contract. This definition shall also include any and/or all of the employees of the Bidder, authorized service providers or partners and representatives or other personnel employed or engaged either directly or indirectly by the Prime Bidder for the purposes of this Contract.
- 1.20. **“Project”** shall mean procurement, installation and integration of technology solution, deployment of trained manpower and operations and maintenance of UP State- wide Dial 100 system at ITECCS, Lucknow, Operational Mirroring Centres and all identified field locations.
- 1.21. **“Purchaser”** shall mean Government of Uttar Pradesh (GoUP) acting through Integrated Technology Enabled Citizen Centric Services(ITECCS) cell of UP Police and its successors and assignees. .
- 1.22. **“Agency”** means the bidder who is selected by the GoUP at the end of this RFP process. The agency will carry out all the services mentioned in the scope of work of this RFP.
- 1.23. **“Consortium”** means the entity named in the contract for any part of the work has been sublet with the consent in writing of the GoUP and the heirs, legal representatives, successors and assignees of such person. The entry of consortium is as per constitution of Consortium described in clause 9 of Section 3 of RFP
- 1.24. **“Replacement Service Provider”** means the organization replacing the bidder in case of contract termination for any reasons
- 1.25. **“Sub-Contractor”** shall mean the entity named in the contract for any part of the work or any person to whom any part of the contract has been sublet with the consent in writing of the GoUP and the heirs, legal representatives, successors and assignees of such person.
- 1.26. **“SCC”** means Special Conditions of Contract
- 1.27. **“Services”** means the work to be performed by the agency pursuant to this RFP and to the contract to be signed by the parties in pursuance of any specific assignment awarded by the GoUP.

2. Interpretation

- 2.1. In this Contract unless a contrary intention is evident:
- a. the clause headings are for convenient reference only and do not form part of this Contract;
 - b. unless otherwise specified a reference to a clause number is a reference to all of its sub-clauses;
 - c. the word “include” or “including” shall be deemed to be followed by “without limitation” or “but not limited to” whether or not they are followed by such phrases;
 - d. unless otherwise specified a reference to a clause, sub-clause or section is a reference to a clause, sub-clause or section of this Contract including any amendments or modifications to the same from time to time;
 - e. a word in the singular includes the plural and a word in the plural includes the singular;

- f. a word importing a gender includes any other gender;
- g. a reference to a person includes a partnership and a body corporate;
- h. a reference to legislation includes legislation repealing, replacing or amending that legislation;
- i. where a word or phrase is given a particular meaning it includes the appropriate grammatical forms of that word or phrase which have corresponding meanings.
- j. in the event of an inconsistency between the terms of this Contract and the RFP and the Bid, the terms hereof shall prevail.

3. Conditions Precedent

This Contract is subject to the fulfilment of the following conditions precedent by the Bidder.

- 3.1. Furnishing by the Bidder, an unconditional and irrevocable Performance Bank Guarantee (Section 4 of the RFP) and acceptable to the GoUP which would remain valid until such time as stipulated by the GoUP.
- 3.2. Obtaining of all statutory and other approvals required for the performance of the Services under this Contract. This may include approvals or clearances, wherever applicable, that may be required for execution of this contract e.g. clearances from Government authorities for importing equipment, exemption of Tax/Duties/Levies, work permits/clearances for Bidder or Bidder's team, etc.
- 3.3. Furnish notarized copies of any/all contract(s) duly executed by the Bidder and its OEMs existing at the time of signing of this contract in relation to the GoUP project. Bidder may not submit the financial components of the contract. Failure to do so within stipulated time of signing of contract would attract penalty as defined in clause 42 in this Section.
- 3.4. Furnishing of such other documents as the GoUP may specify or demand.
- 3.5. The GoUP reserves the right to waive any or all of the conditions specified in Clause 3 above in writing and no such waiver shall affect or impair any right, power or remedy that the GoUP may otherwise have.
- 3.6. In the event that any of the conditions set forth in Clause 3 hereinabove are not fulfilled within 3 months from the date of this Contract, or such later date as may be mutually agreed upon by the parties, the GoUP may terminate this Contract.
- 3.7. In case there is a contradiction between the sections, the below hierarchy of sections in order of precedence :
 - 3.7.1. Pre-bid clarification and Corrigendum
 - 3.7.2. Section 3 (GCC holds precedence over SCC)
 - 3.7.3. Section 5
 - 3.7.4. Section 5A
 - 3.7.5. Section 5B
 - 3.7.6. Section 2
 - 3.7.7. Section 4
 - 3.7.8. Section 1

4. Scope of work

- 4.1. Scope of the work shall be as defined in **Section 5 of the RFP** and Annexes thereto of the tender.

- 4.2. GoUP has engaged the bidder to provide services related to setting up of police emergency response system and operationalization of Uttar Pradesh Police Integrated Call 100 Center (UP POLICE 100) using which the GoUP intends to perform its business operations. The Bidder is required to provide such goods, services and support as the GoUP may deem proper and necessary, during the term of this Contract, and includes all such processes and activities which are consistent with the proposals set forth in the Bid, the Tender and this Contract and are deemed necessary by the GoUP, in order to meet its business requirements (hereinafter 'scope of work').

5. Key Performance Measurements

- 5.1. Unless specified by the GoUP to the contrary, the Bidder shall deliver the goods, perform the services and carry out the scope of work in accordance with the terms of this Contract, Scope of Work and the Service Specifications as laid down under Section C (Service Level Agreement) of this section.
- 5.2. If the Contract, scheduled requirements, service specification includes more than one document, then unless the GoUP specifies to the contrary, the later in time shall prevail over a document of earlier date to the extent of any inconsistency.
- 5.3. The GoUP reserves the right to amend any of the terms and conditions in relation to the Contract or Service Specifications and may issue any such directions which are not necessarily stipulated therein if it deems necessary for the fulfilment of the Schedule of Requirements.

6. Commencement and Progress

- 6.1. The Bidder shall subject to the fulfillment of the conditions precedent above, commence the performance of its obligations in a manner as per the Scope of Work (Section 5 of the RFP).
- 6.2. The Bidder shall proceed to carry out the activities or services with diligence and expedition in accordance with any stipulation as to the time, manner, mode, and method of execution contained in this Contract.
- 6.3. The Bidder shall be responsible for and shall ensure that all activities or services are performed in accordance with the Contract, Scope of Work and Service Specifications and that the Bidder's Team complies with such Specifications and all other standards, terms and other stipulations or conditions set out hereunder.
- 6.4. The Bidder shall perform the activities or services and carry out its obligations under the Contract with due diligence, efficiency and economy, in accordance with generally accepted techniques and practices used in the industry and shall observe sound management, engineering and security practices. The Bidder shall always act, in respect of any matter relating to this Contract, as faithful advisors to the GoUP and shall, at all times, support and safeguard the GoUP legitimate interests in any dealings with Third parties.

7. Standards of performance

- 7.1. The bidder shall perform the Services and carry out its obligations under the Contract with due diligence, efficiency and economy, in accordance with generally accepted techniques and best

practices used in the industry and with IT standards recognized by international professional bodies and shall observe sound management, engineering and security practices. It shall employ appropriate advanced technology and engineering practices and safe and effective equipment, machinery, material and methods. The bidder shall always act, in respect of any matter relating to the Contract, as faithful advisors to the GoUP and shall, at all times, support and safeguard the GoUP legitimate interests in any dealings with Third Parties.

8. Approvals and Required Consents

- 8.1. The GoUP will extend necessary support to the Bidder to obtain, maintain and observe all relevant and customary regulatory and governmental licenses, clearances and applicable approvals (hereinafter the "Approvals") necessary for the Bidder to provide the Services. The costs of such Approvals shall be borne by the Bidder. Both parties will give each other all co-operation and information reasonably.
- 8.2. The GoUP shall also provide necessary support to Bidder in obtaining the Approvals. In the event that any Approval is not obtained, the Bidder and the GoUP will co-operate with each other in achieving a reasonable alternative arrangement as soon as reasonably practicable for the GoUP, to continue to process its work with as minimal interruption to its business operations as is commercially reasonable until such Approval is obtained, provided that the Bidder shall not be relieved of its obligations to provide the Services and to achieve the Service Levels until the Approvals are obtained if and to the extent that the Bidder 's obligations are dependent upon such Approvals.

9. Constitution of Consortium

- 9.1. For the purposes of fulfillment of its obligations as laid down under the Contract, where the GoUP deems fit and unless the contract requires otherwise, Prime Bidder shall be the sole point of interface for the GoUP and would be absolutely accountable for the performance of its own, the other member of Consortium and/or its Team's functions and obligations.
- 9.2. The Consortium member has agreed that the Prime Bidder is the prime point of contact between the Consortium member and the GoUP and it shall be primarily responsible for the discharge and administration of all the obligations contained herein and, the GoUP, unless it deems necessary shall deal only with the Prime Bidder.
- 9.3. Without prejudice to the obligation of the Consortium member to adhere to and comply with the terms of this Contract, the Consortium member has executed and submitted a Power of Attorney in favour of the Prime Bidder authorizing him to act for and on behalf of such member of the Consortium and do all acts as may be necessary for fulfillment of contractual obligations.
- 9.4. The GoUP reserves the right to review, approve and require amendment of the terms of the Consortium Contract or any contract or agreements entered into by and between the members of such Consortium and no such agreement/contract shall be executed, amended, modified and/or terminated without the prior written consent of the GoUP. An executed copy of each of such agreements/contracts shall, immediately upon execution be submitted by the Prime Bidder to the GoUP.
- 9.5. Where, during the term of this Contract, the Prime Bidder terminates any contract/arrangement or agreement relating to the performance of Services, the Prime Bidder shall be responsible and severally liable for any consequences resulting from such termination. The Prime Bidder shall in such case ensure the smooth continuation of Services by providing a suitable replacement to the satisfaction of the GoUP at no additional charge and at the earliest opportunity.

10. Bidder's Obligations

- 10.1. The Bidder's obligations shall include all the activities as specified by the GoUP in the Scope of Work and other sections of the Tender and Contract and changes thereof to enable GoUP to meet the objectives and operational requirements. It will be the Bidder's responsibility to ensure the proper and successful implementation, performance and continued operation of the proposed solution in accordance with and in strict adherence to the terms of his Bid, the Tender and this Contract.
- 10.2. In addition to the aforementioned, the Bidder shall provide services to manage and maintain the said infrastructure along with manpower provided at all sites as mentioned in Section 5 of the RFP document
- 10.3. The Bidder will be responsible for payment of all statutory levies including ESIC Contribution, PF etc. in respect of the staff engaged or deployed by him under the contract. This should comply to all statutory obligations and should be according to National Floor Level of Minimum Wage (NFLMW)
- 10.4. The Bidder shall also maintain adequate contracted strength 'on panel' to enable meeting the replacement or substitution and additional resource requirements within the time period specified in SLA's for such replacements or substitution at all locations.
- 10.5. GoUP reserves the right to interview the personnel proposed that will be deployed as part of the project team. If found unsuitable, the GoUP may reject the deployment of the personnel. But ultimate responsibility of the project implementation shall lie with the Bidder.
- 10.6. GoUP reserves the right to require changes in personnel which shall be communicated to the Bidder. The Bidder with the prior approval of the GoUP may make additions to the project team. The Bidder shall provide the GoUP with the resume of Key Personnel and provide such other information as the GoUP may reasonably require. The GoUP also reserves the right to interview the personnel and reject, if found unsuitable. In case of change in its team members, for any reason whatsoever, the Bidder shall also ensure that the exiting members are replaced with at least equally qualified and professionally competent members.
- 10.7. The Bidder shall ensure that none of the Key Personnel (refer Clause 5.3 of Section 5 of the RFP) proposed and manpower, exit from the project during first 6 months of the beginning of the project, if Letter of Intent (LoI) is issued within 3 months of bid submission. In such cases of exit, a penalty of INR 2 lakhs per such replacement will be imposed on the bidder.
- 10.8. The Bidder should submit profiles of only those resources who will be deployed on the project. Any change of resource should be approved by the GoUP and compensated with equivalent or better resource. The GoUP may interview the resources suggested by the bidder before their deployment on board. It does not apply in case of change requested by the GoUP. The GoUP may replace 20% COs every year with its own staff if desired
- 10.9. In case of change in its team members, the Bidder shall ensure a reasonable amount of time overlap in activities to ensure proper knowledge transfer and handover or takeover of documents and other relevant materials between the outgoing and the new member.
- 10.10. The Bidder shall ensure that the Bidder's Team is competent, professional and possesses the requisite qualifications and experience appropriate to the task they are required to perform under this Contract. The Bidder shall ensure that the services are performed through the efforts of the Bidder's Team, in accordance with the terms hereof and to the satisfaction of the GoUP. Nothing in this Contract relieves the Bidder from its liabilities or obligations under this Contract to provide the Services in accordance with the GoUP directions and requirements and as stated in this Contract and the Bid to the extent accepted by the GoUP and the Bidder shall be liable for any

- non-performance, non-compliance, breach or other loss and damage resulting either directly or indirectly by or on account of its Team.
- 10.11. The Bidder shall be fully responsible for deployment or installation or development and integration of all the software and hardware components and resolve any problems or issues that may arise due to integration of components.
- 10.12. The bidder shall be responsible to provide manpower to operationalize UP POLICE 100 at Lucknow and OMC at Agra and Varanasi. It should be the bidder's responsibility to provide adequate trained manpower for the role of Communication Officer and Admin as per the clause 8.1.2.: Resource deployment requirement mentioned in Section 5 of RFP document. It should be the bidder's responsibility to provide uniform, shoes and regular trainings to the deployed manpower. The bidder shall also be responsible to provide transportation facilities as required to all the Communication Officers across 3 shifts at UP POLICE 100 at Lucknow and OMC at Agra and Varanasi.
- 10.13. The Bidder shall ensure that the OEMs supply equipment or components including associated accessories and software required and shall support the Bidder in the installation, commissioning, integration and maintenance of these components during the entire period of contract. The Bidder shall ensure that the COTS OEMs supply the software applications and shall support the Bidder in the installation or deployment, integration, roll-out and maintenance of these applications during the entire period of contract. It must clearly be understood by the bidder that warranty and AMC of the system, products and services incorporated as part of system would commence from the day of Go-Live of system as a whole. The bidder would be required to explicitly display that he or they have a back to back arrangement for provisioning of warranty or AMC support till the end of contract period with the relevant OEMs. The annual maintenance support shall include patches and updates the software, hardware components and other devices.
- 10.14. All the software licenses that the Bidder proposes should be perpetual software licenses. The software licenses shall not be restricted based on location and the GoUP should have the flexibility to use the software licenses for other requirements if required.
- 10.15. All the OEMs that Bidder proposes should have Dealer possession licenses.
- 10.16. The GoUP reserves the right to review the terms of the Warranty and Annual Maintenance agreements entered into between the Bidder and OEMs and no such agreement/contract shall be executed, amended, modified and/or terminated without the prior written consent of the GoUP. An executed copy of each of such agreements/contracts shall, immediately upon execution be submitted by the Bidder to the GoUP.
- 10.17. The Bidder shall ensure that none of the components and sub-components is declared end-of-sale or end-of-support by the respective OEM at the time of submission of bid. If the OEM declares any of the products or solutions end-of-sale subsequently, the Bidder shall ensure that the same is supported by the respective OEM for contract period.
- 10.18. If a product is de-supported by the OEM for any reason whatsoever, from the date of Acceptance of the System till the end of contract, the Bidder should replace the products/ solutions with an alternate that is acceptable to the GoUP at no additional cost to the GoUP and without causing any performance degradation.
- 10.19. The Bidder shall ensure that the OEMs provide the support and assistance to the Bidder in case of any problems or issues arising due to integration of components supplied by him with any other component(s) or product(s) under the purview of the overall solution. If the same is not resolved for any reason whatsoever, the Bidder shall replace the required component(s) with an equivalent or better substitute that is acceptable to GoUP without any additional cost to the GoUP and without impacting the performance of the solution in any manner whatsoever

- 10.20. The Bidder shall ensure that the OEMs for hardware servers/equipment supply and/or install all type of updates, patches, fixes and/or bug fixes for the firmware or software from time to time at no additional cost to the GoUP.
- 10.21. The Bidder shall ensure that the OEMs for hardware servers or equipment or Bidder's trained engineers conduct the preventive maintenance on a Quarterly basis and break-fix maintenance in accordance with the best practices followed in the industry.
- 10.22. The Bidder shall ensure that the documentation and training services associated with the components shall be provided by the OEMs without any additional cost to the GoUP.
- 10.23. The bidder and their personnel or representative shall not alter or change or replace any hardware component proprietary to the GoUP and/or under warranty or AMC of third party without prior consent of the GoUP.
- 10.24. The Bidder shall provision the required critical spares or components at the designated Datacenter Sites or office locations of the GoUP for meeting the uptime commitment of the components supplied by him.
- 10.25. The Bidder's representative(s) shall have all the powers requisite for the execution of scope of work and performance of services under this contract. The Bidder's representative(s) shall liaise with the GoUP representative for the proper coordination and timely completion of the works and on any other matters pertaining to the works. The Bidder will extend full co-operation to GoUP representative in the manner required by them for supervision or inspection or observation of the equipment or goods or material, procedures, performance, progress, reports and records pertaining to the works. He shall also have complete charge of the Bidder's personnel engaged in the performance of the works and to ensure compliance of rules, regulations and safety practice. He shall also cooperate with the other Service Providers or Vendors of the GoUP working at the GoUP office locations and field locations and DC sites. Such Bidder's representative(s) shall be available to the GoUP Representative at respective Datacenter during the execution of works.
- 10.26. The Bidder shall be responsible on an ongoing basis for coordination with other vendors and agencies of the GoUP in order to resolve issues and oversee implementation of the same. The Bidder shall also be responsible for resolving conflicts between vendors in case of borderline integration issues.
- 10.27. The bidder is expected to set up a project office in Lucknow. The technical manpower deployed on the project should work from the same office. However, some resources may be required to work from the client office during the contract period.

10.28. Access to Sites

- 10.28.1. Sites would include UP POLICE 100, OMC centers at Agra and Varanasi, all field locations and Data Center etc.
- 10.28.2. The GoUP representative upon receipt of request from the Bidder intimating commencement of activities at various locations shall give to the Bidder access to as much of the Sites as may be necessary to enable the Bidder to commence and proceed with the installation of the works in accordance with the program of work. Any reasonable proposal of the Bidder for access to Site to proceed with the installation of work in accordance with the program of work will be considered for approval and shall not be unreasonably withheld by the GoUP. Such requests shall be made to the GoUP representative in writing at least 7 days prior to start of the work.
- 10.28.3. At the site locations, the GoUP representative shall give to the Bidder access to as much as may be necessary to enable the Bidder to commence and proceed with the installation

of the works in accordance with the program of work or for performance of Facilities Management Services.

10.29. **Start of Installation**

- 10.29.1. Bidder shall co-ordinate with the GoUP and stakeholders for the complete setup of Data Centre sites before commencement of installation of other areas as mentioned in Section 5: of the RFP document. The bidder shall also co-ordinate regarding Network or Bandwidth connectivity in order to prepare the installation plan and detailed design or architectural design documents.
- 10.29.2. As per TRAI guidelines, resale of bandwidth connectivity is not allowed. In such a case tripartite agreement should be formed between GoUP, selected Bidder and Internet Service Provider (s).
- 10.29.3. The plan and design documents thus developed shall be submitted by the Bidder for approval by the GoUP.
- 10.29.4. After obtaining the approval from the GoUP, the Bidder shall commence the installation.

10.30. **Reporting Progress**

- 10.30.1. The Bidder shall monitor progress of all the activities related to the execution of this contract and shall submit to the GoUP, **progress reports** with reference to all related work, milestones and their progress during the implementation phase.
- 10.30.2. Formats for all above mentioned reports and their dissemination mechanism shall be discussed and finalized along with project plan. The GoUP on mutual agreement between both parties may change the formats, periodicity and dissemination mechanism for such reports.
- 10.30.3. Periodic meetings shall be held between the representatives of the GoUP and the Bidder once in every 15 days during the implementation phase to discuss the progress of implementation. After the implementation phase is over, the meeting shall be held as an ongoing basis, as desired by GoUP, to discuss the performance of the contract.
- 10.30.4. The Bidder shall ensure that the respective solution teams involved in the execution of work are part of such meetings.
- 10.30.5. Several review committees involving representative of the GoUP and senior officials of the Bidder shall be formed for the purpose of this project. These committees shall meet at intervals, as decided by the GoUP later, to oversee the progress of the implementation.
- 10.30.6. All the goods, services and manpower to be provided / deployed by the Bidder under the Contract and the manner and speed of execution and maintenance of the work and services are to be conducted in a manner to the satisfaction of GoUP representative in accordance with the Contract.
- 10.30.7. The GoUP reserves the right to inspect and monitor or assess the progress or performance of the work or services at any time during the course of the Contract. The GoUP may demand and upon such demand being made, the Bidder shall provide documents, data, material or any other information which the GoUP may require, to enable it to assess the progress or performance of the work or service.
- 10.30.8. At any time during the course of the Contract, the GoUP shall also have the right to conduct, either itself or through another agency as it may deem fit, an audit to monitor the performance by the Bidder of its obligations or functions in accordance with the standards committed to or required by the GoUP and the Bidder undertakes to cooperate with and provide to the GoUP or any other agency appointed by the GoUP, all Documents and other

details as may be required by them for this purpose. Such audit shall not include Bidder's books of accounts.

- 10.30.9. Should the rate of progress of the works or any part of them at any time fall behind the stipulated time for completion or is found to be too slow to ensure completion of the works by the stipulated time, or is in deviation to Tender requirements or standards, the GoUP representative shall so notify the Bidder in writing.
- 10.30.10. The Bidder shall reply to the written notice giving details of the measures he proposes to take to expedite the progress so as to complete the works by the prescribed time or to ensure compliance to RFP requirements. The Bidder shall not be entitled to any additional payment for taking such steps. If at any time it should appear to the GoUP or GoUP representative that the actual progress of work does not conform to the approved plan the Bidder shall produce at the request of the GoUP representative a revised plan showing the modification to the approved plan necessary to ensure completion of the works within the time for completion or steps initiated to ensure compliance to the stipulated requirements
- 10.30.11. The submission seeking approval by the GoUP or GoUP representative of such plan shall not relieve the Bidder of any of his duties or responsibilities under the Contract.
- 10.30.12. In case during execution of works, the progress falls behind schedule or does not meet the Tender requirements, the Bidder shall deploy extra manpower or resources to make up the progress or to meet the RFP requirements. Plan for deployment of extra man power or resources will be submitted to the GoUP for its review and approval. All time and cost effect in this respect shall be borne, by the Bidder within the contract value.

10.31. Knowledge of Datacenter, UP POLICE 100, OMC and others sites conditions

- 10.31.1. The Bidder shall be granted access to the Datacenter, contact center, OMC and other sites for inspection by the GoUP before commencement of installation. The plan shall be drawn mutually at a later stage.
- 10.31.2. The Bidder shall be deemed to have knowledge of the Datacenter, UP POLICE 100, OMC and other sites and its surroundings and information available in connection therewith and to have satisfied itself the form and nature thereof including, the data contained in the Bidding Documents, the physical and climatic conditions, the quantities and nature of the works and materials necessary for the completion of the works, the means of access, etc. and in general to have obtained itself all necessary information of all risks, contingencies and circumstances affecting his obligations and responsibilities therewith under the Contract and his ability to perform it. However, if during pre-installation survey or during delivery or installation, the Bidder detects physical conditions and /or obstructions affecting the work, the Bidder shall take all measures to overcome them.

10.32. Project Plan

- 10.32.1. Within 15 calendar days of Effective date of the contract or Issuance of Lol, the Bidder shall submit to the GoUP for its approval a detailed Project Plan with details of the project showing the sequence, procedure and method in which he proposes to carry out the works. The Plan so submitted by the Bidder shall conform to the requirements and timelines specified in the Contract. The GoUP and the Bidder shall discuss and agree upon the work procedures to be followed for effective execution of the works, which the Bidder intends to deploy and shall be clearly specified. The Project Plan shall include but not limited to project organization, communication structure, proposed staffing, roles and responsibilities, processes and tool sets to be used for quality assurance, security and confidentiality practices in accordance with industry best practices, project plan and delivery schedule in accordance with the Contract. Approval by the GoUP Representative of the Project Plan shall not relieve the Bidder of any of his duties or responsibilities under the Contract.
- 10.32.2. If the Bidder's work plans necessitate a disruption or shutdown in GoUP operation, the plan shall be mutually discussed and developed so as to keep such disruption or shutdown to the barest unavoidable minimum. Any time and cost arising due to failure of the Bidder to develop or adhere such a work plan shall be to his account.

10.33. Adherence to safety procedures, rules regulations and restriction

- 10.33.1. The Bidder's Team shall comply with the provision of all laws including labour laws, rules, regulations and notifications issued there under from time to time. All safety and labour laws enforced by statutory agencies and by GoUP shall be applicable in the performance of this Contract and Bidder's Team shall abide by these laws.
- 10.33.2. Access to the DC, contact center, OMC and other sites etc. shall be strictly restricted. No access to any person except the essential members of the Bidder's Team who are authorized by the GoUP and are genuinely required for execution of work or for carrying out management or maintenance shall be allowed entry. Even if allowed, access shall be restricted to the pertaining equipment of the GoUP only. The Bidder shall maintain a log of all activities carried out by each of its team personnel.
- 10.33.3. No access to any staff of bidder, except the essential staff who has genuine work-related need, should be given. All such access should be logged in a loss free manner for permanent record with unique biometric identification of the staff to avoid misrepresentations or mistakes
- 10.33.4. The Bidder shall take all measures necessary or proper to protect the personnel, work and facilities and shall observe all reasonable safety rules and instructions. The Bidder's Team shall adhere to all security requirement or regulations of the GoUP during the execution of the work. GoUP employee also shall comply with safety procedures or policy.
- 10.33.5. The Bidder shall report as soon as possible any evidence, which may indicate or is likely to lead to an abnormal or dangerous situation and shall take all necessary emergency control steps to avoid such abnormal situations.

10.34. Statutory Requirements

- 10.34.1. During the tenure of this Contract nothing shall be done by the Prime Bidder or his team including consortium in contravention of any law, act and/or rules or regulations, there under or any amendment thereof governing inter-alia customs, stowaways, foreign exchange etc. and shall keep GoUP indemnified in this regard.

11. GoUP (Purchaser) Obligations

- 11.1. GoUP or his/her nominated representative shall act as the nodal point for implementation of the contract and for issuing necessary instructions, approvals, commissioning, acceptance certificates, payments etc. to the Bidder.
- 11.2. GoUP shall ensure that timely approval is provided to the Bidder as and when required, which may include approval of project plans, implementation methodology, design documents, specifications, or any other document necessary in fulfillment of this contract.
- 11.3. The GoUP representative shall interface with the Bidder, to provide the required information, clarifications, and to resolve any issues as may arise during the execution of the Contract. GoUP shall provide adequate cooperation in providing details, coordinating and obtaining of approvals from various governmental agencies, in cases, where the intervention of the GoUP is proper and necessary.
- 11.4. GoUP may provide on Bidder's request, particulars/ information/ or documentation that may be required by the Bidder for proper planning and execution of work and for providing services covered under this contract and for which the Bidder may have to coordinate with respective vendors.
- 11.5. GoUP shall provide to the Bidder only sitting space and basic infrastructure not including, stationery and other consumables at the GoUP office locations and Data Centre Sites.
- 11.6. GoUP reserves the right to procure the hardware including devices on quarterly basis in first year based on actual deployment and AMC will be applicable whenever the devices are procured and deployed till end of the contract
- 11.7. **Site Not Ready:** GoUP hereby agrees to make the project sites ready as per the agreed specifications, within the agreed timelines. GoUP agrees that the Bidder shall not be in any manner liable for any delay arising out of GoUP failure to make the site ready within the stipulated period.

12. Payments

- 12.1. GoUP shall make payments to the Bidder at the times and in the manner set out in the Payment schedule as specified in clause 15 of section 5 of the RFP. GoUP will make all efforts to make payments to the Prime Bidder within 30 days of receipt of invoice(s) and all necessary supporting documents.
- 12.2. All payments agreed to be made by GoUP to the Bidder in accordance with the Bid shall be inclusive of all statutory levies, duties, taxes and other charges whenever levied or applicable, if any, and GoUP shall not be liable to pay any such levies or other charges under or in relation to this Contract and/or the Services.
- 12.3. No invoice for extra work or change order on account of change order will be submitted by the Bidder unless the said extra work or change order has been authorized or approved by the GoUP in writing in accordance with Change Control Note (Annexure I of this section of the RFP).
- 12.4. In the event of GoUP noticing at any time that any amount has been disbursed wrongly to the Bidder or any other amount is due from the Bidder to the GoUP, the GoUP may without prejudice to its rights recover such amounts by other means after notifying the Bidder or deduct such amount from any payment falling due to the Bidder. The details of such recovery, if any, will be intimated to the Bidder. The Bidder shall receive the payment of undisputed amount under subsequent invoice for any amount that has been omitted in previous invoice by mistake on the part of the GoUP or the Bidder.

- 12.5. All payments to the Bidder shall be subject to the deductions of tax at source under Income Tax Act, and other taxes and deductions as provided for under any law, rule or regulation. All costs, damages or expenses which GoUP may have paid or incurred, for which under the provisions of the Contract, the Bidder is liable, the same shall be deducted by GoUP from any dues to the Bidder. All payments to the Bidder shall be made after making necessary deductions as per terms of the Contract and recoveries towards facilities, if any, provided by the GoUP to the Bidder on chargeable basis.

13. Intellectual Property Rights

- 13.1. Retention of Ownership except for the rights expressly granted to the Licensee under this Agreement, the Licensor will retain all right, title and interest in and to the Licensed Technology, including all worldwide Technology and intellectual property and proprietary rights.
- 13.2. Preservation of Notice Licensee shall not remove, efface or obscure any copyright notices or other proprietary notices or legends from any Licensed Technology or materials provided under this Agreement, and shall reproduce all such notices and legends when incorporating Licensed Technology or materials into any Integrated Products.
- 13.3. The Bidder must ensure that while using any software, hardware, processes, document or material in the course of performing the Services, it does not infringe the Intellectual Property Rights of any person or Company. The Bidder shall keep the GoUP indemnified against all costs, expenses and liabilities howsoever, arising out any illegal or unauthorized use (piracy) or in connection with any claim or proceedings relating to any breach or violation of any permission/license terms or infringement of any Intellectual Property Rights by the Bidder or the Bidder's Team during the course of performance of the Services. The Bidder's liability is excluded regarding any claim based on any of the following (a) anything GoUP provides which is incorporated into the Solution; (b) the GoUP modification of the solution; (c) the combination, operation, or use of the solution with other materials, if the third party claim has been caused by the combination, operation or use of the solution
- 13.4. GoUP shall own and have a right in perpetuity to use all newly created Intellectual Property Rights which have been developed solely during execution of this Contract, including but not limited to all processes, products, specifications, reports and other documents which have been newly created and developed by the Bidder solely during the performance of Services and for the purposes of inter-alia use or sub-license of such Services under this Contract. The Bidder undertakes to disclose all such Intellectual Property Rights arising in performance of the Services to the GoUP, execute all such agreements or documents and obtain all permits and approvals that may be necessary in regard to the Intellectual Property Rights of the GoUP.
- 13.5. If GoUP desires, the Bidder shall be obliged to ensure that all approvals, registrations, licenses, permits and rights etc. which are inter-alia necessary for use of the goods supplied / installed by the Bidder, the same shall be acquired in the name of the GoUP, prior to termination of this Contract and which may be assigned by the GoUP to the Prime Bidder for the purpose of execution of any of its obligations under the terms of the Bid, Tender or this Contract. However, subsequent to the term of this Contract, such approvals, registrations, licenses, permits and rights etc. shall endure to the exclusive benefit of the GoUP.
- 13.6. The bidder shall not copy, reproduce, translate, adapt, vary, modify, disassemble, decompile or reverse engineer or otherwise deal with or cause to reduce the value of the Materials except as expressly authorized by GoUP in writing

14. Taxes

- 14.1. The Bidder shall bear all personnel taxes levied or imposed on its personnel, or any other member of the Bidder's Team, etc. on account of payment received under this Contract. The Bidder shall bear all corporate taxes, levied or imposed on the Bidder on account of payments received by it from the GoUP for the work done under this Contract.
- 14.2. The Bidder shall bear all taxes and duties etc. levied or imposed on the Bidder under the Contract including but not limited to Sales Tax, Customs duty, Excise duty, Octroi, Service Tax, VAT, Works Contracts Tax and all Income Tax levied under Indian Income Tax Act – 1961 or any amendment thereof during the entire contract period, i.e., on account of material supplied and services rendered and payments received by him from the GoUP under the Contract. It shall be the responsibility of the Bidder to submit to the concerned Indian authorities the returns and all other connected documents required for this purpose. The Bidder shall also provide the GoUP such information, as it may be required in regard to the Bidder's details of payment made by the GoUP under the Contract for proper assessment of taxes and duties. The amount of tax withheld by the GoUP shall at all times be in accordance with Indian Tax Law and the GoUP shall promptly furnish to the Bidder original certificates for tax deduction at source and paid to the Tax Authorities.
- 14.3. The bidder agrees that he shall comply with the Indian Income Tax Act in force from time to time and pay Indian Income Tax, as may be imposed/ levied on them by the Indian Income Tax Authorities, for the payments received by them for the works under the Contract
- 14.4. The Bidders shall fully familiarize themselves about the applicable domestic taxes (such as value added or sales tax, service tax, income taxes, duties, fees, levies, etc.) on amounts payable by the GoUP under the Agreement. All such taxes must be included by Bidders in the financial proposal. (Bidder to find out applicable taxes for the components being proposed.)
- 14.5. If there is any reduction in taxes / duties/levies due to any reason whatsoever, after Notification of Award, the difference shall be passed on to the GoUP. In case of increase in taxation, GoUP shall pay the tax as applicable.
- 14.6. Should the Bidder fail to submit returns/pay taxes in times as stipulated under applicable Indian/State Tax Laws and consequently any interest or penalty is imposed by the concerned authority, the Bidder shall pay the same. The Bidder shall indemnify GoUP against any and all liabilities or claims arising out of this Contract for such taxes including interest and penalty by any such Tax Authority may assess or levy against the GoUP/Prime Bidder.
- 14.7. Supplies of materials from abroad are exempted from levy of Sales Tax/VAT on works/works Contract tax (Central or state). However, the Sales Tax/VAT on works (central or state) if levied on supplies made from indigenous vendors for the works shall be borne by the bidder within the Contract Price. Service Tax/ Terminal Sales Tax/ Works Contract Tax, etc., if any applicable, shall be payable extra, at actuals by the GoUP in accordance with the conditions of the Contract and upon submission of proof of payment of such taxes.
- 14.8. The GoUP shall if so required by applicable laws in force, at the time of payment, deduct income tax payable by the Bidder at the rates in force, from the amount due to the Bidder and pay to the concerned tax authority directly.

15. Indemnity

- 15.1. The Bidder shall indemnify the GoUP from and against any costs, loss, damages, expense, claims including those from third parties or liabilities of any kind howsoever suffered, arising or incurred inter alia during and after the Contract period out of:
 - a. any negligence or wrongful act or omission by the Bidder or any third party associated with the Bidder in connection with or incidental to this Contract; or
 - b. any breach of any of the terms of the Bidder's bid as agreed, the RFP and this Contract by the Bidder
 - c. any infringement of patent, trademark/copyright or industrial design rights arising from the use of the supplied goods and related services or any part thereof
- 15.2. The Bidder shall also indemnify the GoUP against any privilege, claim or assertion made by a third party with respect to right or interest in, ownership, mortgage or disposal of any asset, property etc.
- 15.3. Regardless of anything contained (except for the Bidder's liability for bodily injury and/ or damage to tangible and real property for which it is legally liable and its liability for patent and copyright infringement in accordance with the terms of this Agreement) the total liability of the Bidder, is restricted to the total value of the contract and the Bidder is not responsible for any third party claims.

16. Warranty

- 16.1. In order to induce the GoUP to enter into the Contract, the Bidder hereby represents and warrants as of the date hereof, which representations and warranties shall survive the term and termination hereof, the following:
- 16.2. That the selected bidder is a company which has the requisite experience in providing Services related to setting up of police emergency response system, the technical know-how and the financial wherewithal, the power and the authority that would be required to successfully commission the project and operate the UP POLICE 100 and OMC centers and to enter into the Contract and provide the Services sought by the GoUP, for the purposes of the Contract.
- 16.3. That the bidder is not involved in any major litigation, potential, threatened and existing, that may have an impact of affecting or compromising the delivery of Services of the Contract.
- 16.4. That the representations made by the bidder in its Bid are and shall continue to remain true and fulfil all the requirements as are necessary for executing the obligations and responsibilities as laid down in the Contract and the Bid and unless the GoUP specifies to the contrary, the bidder shall be bound by all the terms of the Bid Document.
- 16.5. That the bidder has the professional skills, personnel, infrastructure and resources/authorizations that are necessary for providing all such services as are necessary to fulfil the Schedule of Requirements stipulated in the Bid Document and the Contract.
- 16.6. That the bidder shall ensure that all assets including but not limited to equipment, licenses, etc. developed, procured, deployed and created during the term of the Contract are duly maintained and suitably updated, upgraded, replaced with regard to contemporary requirements.
- 16.7. That the bidder shall use such assets of the GoUP as the GoUP may permit for the sole purpose of execution of its obligations under the terms of the Bid Document, or the Contract. The bidder shall however, have no claim to any right, title, lien or other interest in any such property, and any possession of property for any duration whatsoever shall not create any right in equity or otherwise, merely by fact of such use or possession during or after the term hereof.

- 16.8. That during the term of the Contract, the bidder shall procure insurance policies for all its present and future property and assets that are developed, procured and created for fulfilment of obligations under the Contract with financially sound and reputable insurers to the satisfaction of the GoUP and shall pay all premium in relation thereto and shall ensure that nothing is done to make such insurance policies void or voidable. The bidder shall also furnish to the GoUP a certificate evidencing such insurance, risks covered, names of beneficiaries, expiration dates, names of insurers and all other features of the insurance policy, both original and renewed and shall keep the same alive during the term of the Contract
- 16.9. That the bidder shall procure all the necessary permissions and adequate approvals and licenses for use of various software and any copyrighted process or product free from all claims, titles, interests and liens thereon and shall keep the GoUP indemnified in relation thereto.
- 16.10. That all the representations and warranties as have been made by the bidder with respect to its Bid and Contract, are true and correct, and shall continue to remain true and correct through the term of the Contract.
- 16.11. That the execution of the Services and the Schedule of Requirements herein is and shall be in accordance and in compliance with all applicable laws.
- 16.12. That it has not been initiated nor is it pending nor are there threatened any legal proceedings against any bidder or its Team which adversely affects or may affect performance under the Contract.
- 16.13. That the bidder has the corporate power to execute, deliver and perform the terms and provisions of the Contract and has taken all necessary corporate action to authorise the execution, delivery and performance by it of the Contract.
- 16.14. That all Conditions Precedent under the Contract have been satisfied.
- 16.15. That neither the execution and delivery by the bidder of the Contract nor the bidder's compliance with or performance of the terms and provisions of the Contract (i) will contravene any provision of any Applicable Law or any order, writ, injunction or decree of any court or Governmental Authority binding on the bidder, (ii) will conflict or be inconsistent with or result in any breach of any of the terms, covenants, conditions or provisions of, or constitute a default under any agreement, contract or instrument to which the bidder is a party or by which it or any of its property or assets is bound or to which it may be subject or (iii) will violate any provision of the Memorandum and Articles of Association of the bidder.
- 16.16. That the bidder certifies that all registrations, recordings, filings and notarisations of the Contract and all payments of any tax or duty, including without limitation stamp duty, registration charges or similar amounts which are required to be effected or made by the bidder which is necessary to ensure the legality, validity, enforceability or admissibility in evidence of the Contract have been made.
- 16.17. That the bidder confirms that there has not and shall not occur any execution, amendment or modification of any agreement or contract without the prior written consent of the GoUP, which may directly or indirectly have a bearing on the Contract
- 16.18. That the bidder owns or has good, legal or beneficial title, or other interest in, to the property, assets and revenues of the bidder on which it grants or purports to grant or create any interest pursuant to the Contract, in each case free and clear of any encumbrance and further confirms that such interests created or expressed to be created are valid and enforceable.
- 16.19. That the bidder owns, has license to use or otherwise has the right to use, free of any pending or threatened liens or other security or other interests all Intellectual Property Rights, which are required or desirable for the project and the bidder does not, in carrying on its business and operations, infringe any Intellectual Property Rights of any person. None of the Intellectual Property or Intellectual Property Rights owned or enjoyed by the bidder or which the bidder is licensed to use, which are material in the context of the bidder's business and operations are

being infringed nor, so far as the bidder is aware, is there any infringement or threatened infringement of those Intellectual Property or Intellectual Property Rights licensed or provided to the bidder by any person. All Intellectual Property Rights (owned by the bidder or which the bidder is licensed to use) are valid and subsisting. All actions (including registration, payment of all registration and renewal fees) required to maintain the same in full force and effect have been taken thereon and shall keep the GoUP indemnified in relation thereto.

17. Term and Extension of the Contract

- 17.1. The term of this Contract shall be initially for a period of 5 years from the date of signing of contract or Issuance of Lol, whichever is earlier.
- 17.2. If the delay occurs due to circumstances beyond control of the bidder such as strikes, lockouts, fire, accident, defective materials, delay in approvals or any cause whatsoever beyond the reasonable control of the Bidder, a reasonable extension of time shall be granted by the GoUP.
- 17.3. The GoUP shall reserve the sole right to grant any extension to the term above mentioned and shall notify in writing to the Bidder, at least 3 (three) months before the expiration of the Term hereof, whether it will grant the Bidder an extension of the Term. The decision to grant or refuse the extension shall be at the GoUP discretion and such extension of the contract, if any, shall be as per terms agreed mutually between the GoUP and the Bidder. Upper limit for the extension of contract will be 3 (three) years.
- 17.4. Where the GoUP is of the view that no further extension of the term be granted to the Bidder, the GoUP shall notify the Bidder of its decision at least 3 (three) months prior to the expiry of the Term. Upon receipt of such notice, the Bidder shall continue to perform all its obligations hereunder, until such reasonable time beyond the Term of the Contract within which, the GoUP shall either appoint an alternative agency or Bidder or create its own infrastructure to operate such Services as are provided under this Contract.

18. Dispute Resolution

In case, a dispute is referred to arbitration, the arbitration shall be under **the Indian Arbitration and Conciliation Act, 1996** and any statutory modification or re-enactment thereof.

- 18.1. If during the subsistence of this Contract or thereafter, any dispute between the Parties hereto arising out of or in connection with the validity, interpretation, implementation, material breach or any alleged material breach of any provision of this Contract or regarding any question, including as to whether the termination of this Contract by one Party hereto has been legitimate, the Parties hereto shall endeavor to settle such dispute amicably and/or by Conciliation to be governed by the Arbitration and Conciliation Act, 1996 or as may be agreed to between the Parties. The attempt to bring about an amicable settlement is considered to have failed as soon as one of the Parties hereto, after reasonable attempts; which attempt shall continue for not less than thirty (30) days, gives thirty (30) day notice to refer the dispute to arbitration to the other Party in writing.
- 18.2. The Arbitration proceedings shall be governed by the Arbitration and Conciliation Act, 1996.
- 18.3. The Arbitration proceedings shall be held in Lucknow, Uttar Pradesh, India.
- 18.4. The Arbitration proceeding shall be governed by the substantive laws of India.
- 18.5. The proceedings of Arbitration shall be in Hindi/English language.
- 18.6. Except as otherwise provided elsewhere in the contract if any dispute, difference, question or disagreement arises between the parties hereto or their respective representatives or

- assignees, at any time in connection with construction, meaning, operation, effect, interpretation or out of the contract or breach thereof the same shall be referred to a Tribunal of three (3) Arbitrators, constituted as per the terms of and under the (Indian) Arbitration and Conciliation Act, 1996. Each party to the contract shall appoint or nominate one Arbitrator each, the two Arbitrators so appointed/ nominated by the Parties herein shall together choose the third Arbitrator, who will be the Presiding Arbitrator of the Tribunal. The consortium of the three Arbitrators shall form the Arbitral Tribunal.
- 18.7. In case, a party fails to appoint an arbitrator within 30 days from the receipt of the request to do so by the other party or the two Arbitrators so appointed fail to agree on the appointment of third Arbitrator within 30 days from the date of their appointment upon request of a party, the Chief Justice of the Delhi High Court or any person or institution designated by him shall appoint the Arbitrator or Presiding Arbitrator upon request of one of the parties.
- 18.8. Any letter, notice or other communications dispatched to the Bidder relating to either arbitration proceeding or otherwise whether through the post or through a representative on the address last notified to the GoUP by the Bidder shall be deemed to have been received by the Bidder although returned with the remarks, refused 'undelivered' where about not known or words to that effect or for any other reasons whatsoever
- 18.9. If the Arbitrator so appointed dies, resigns, incapacitated or withdraws for any reason from the proceedings, it shall be lawful for the GoUP to appoint another person in his place in the same manner as aforesaid. Such person shall proceed with the reference from the stage where his predecessor had left if both parties consent for the same, otherwise, he shall proceed de novo.
- 18.10. It is a term of the contract that the party invoking arbitration shall specify all disputes to be referred to arbitration at the time of invocation of arbitration and not thereafter.
- 18.11. It is also a term of the contract that neither party to the contract shall be entitled for any interest on the amount of the award.
- 18.12. The Arbitrator shall give reasoned award and the same shall be final, conclusive and binding on the parties.
- 18.13. The fees of the arbitrator, costs and other expenses incidental to the arbitration proceedings shall be borne equally by the parties.

19. Time is of the essence

- 19.1. Time shall be of the essence in respect of any date or period specified in this Contract or any notice, demand or other communication served under or pursuant to any provision of this Contract and in particular in respect of the completion of the activities by the Bidder by the specified completion date.

20. Conflict of interest

- 20.1. The Bidder shall disclose to the GoUP in writing, all actual and potential conflicts of interest that exist, arise or may arise (either for the Bidder or the Bidder's Team) in the course of performing the Services as soon as practical after it becomes aware of that conflict.

21. Publicity

- 21.1. The Bidder / Bidder's Team shall not make or permit to be made a public announcement or media release about any aspect of this Contract unless the GoUP first gives the Bidder its written consent.

22. Force Majeure

- 22.1. Force Majeure shall not include any events caused due to acts or omissions of the Bidder resulting in a breach or contravention of any of the terms of the Contract and/or the Bidder's Bid. It shall also not include any default on the part of the Bidder due to its negligence or failure to implement the stipulated or proposed precautions, as were required to be taken under the Contract.
- 22.2. The failure or occurrence of a delay in performance of any of the obligations of either party shall constitute a Force Majeure event only where such failure or delay could not have reasonably been foreseen i.e. war, or hostility, acts of the public enemy, civil commotion, sabotage, fire, floods, explosions, epidemics, quarantine restriction, strikes, lockouts or act of God (hereinafter referred to as events) , or where despite the presence of adequate and stipulated safeguards the failure to perform obligations has occurred at any location in scope. In such an event, the affected party shall inform the other party in writing within five days of the occurrence of such event. Any failure or lapse on the part of the Bidder in performing any obligation as is necessary and proper, to negate the damage due to projected force majeure events or to mitigate the damage that may be caused due to the above mentioned events or the failure to provide adequate disaster management or recovery or any failure in setting up a contingency mechanism would not constitute force majeure, as set out above.
- 22.3. In case of a Force Majeure, all Parties will endeavor to agree on an alternate mode of performance in order to ensure the continuity of service and implementation of the obligations of a party under the Contract and to minimize any adverse consequences of Force Majeure.

23. Delivery

- 23.1. The Bidder shall bear the cost for packing, transport, insurance, storage and delivery of all the goods for "Selection of Technology Service Provider" at all locations identified by the GoUP.
- 23.2. The Goods and manpower supplied under this Contract shall conform to the standards mentioned in the RFP, and, when no applicable standard is mentioned, to the authoritative standards; such standard shall be approved by GoUP.
- 23.3. The Bidder shall only procure the hardware and software after approvals from a designated Committee or Authority.

24. Insurance

- 24.1. The Goods supplied under this Contract shall be comprehensively insured by the Bidder at his own cost, against any loss or damage, for the entire period of the contract. The Bidder shall submit to the GoUP, documentary evidence issued by the insurance company, indicating that such insurance has been taken.
- 24.2. The Bidder shall bear all the statutory levies like customs, insurance, freight, etc. applicable on the goods and also the charges like transportation charges, octroi, etc. that may be applicable till the goods are delivered at the respective sites of installation shall also be borne by the Bidder.

- 24.3. The bidder shall take out and maintain at its own cost, on terms and conditions approved by the GoUP, insurance against the risks, and for the coverages, as specified below;
- a. At the GoUP request, shall provide evidence to the GoUP showing that such insurance has been taken out and maintained and that the current premiums therefor have been paid.
 - b. Employer's liability and workers' compensation insurance in respect of the Personnel of the Company, in accordance with the relevant provisions of the Applicable Law, as well as, with respect to such Personnel, any such life, health, accident, travel or other insurance as may be appropriate

25. Transfer of Ownership

- 25.1. The Bidder must transfer all titles to the assets and goods procured for the purpose of the project to the GoUP at the time of Acceptance of System. This includes all licenses, titles, source code, certificates, hardware, devices, equipment etc. related to the system designed, developed, installed and maintained by the Bidder.
- 25.2. Forthwith upon expiry or earlier termination of the Contract and at any other time on demand by the GoUP, the Bidder shall deliver to the GoUP all Documents provided by or originating from the GoUP and all Documents produced by or from or for the Bidder in the course of performing the Services, unless otherwise directed in writing by the GoUP at no additional cost. The bidder shall not, without the prior written consent of the GoUP store, copy, distribute or retain any such Documents.

26. Exit Management Plan

- 26.1. An Exit Management plan shall be furnished by Bidder in writing to the GoUP within 90 days from the date of signing the Contract, which shall deal with at least the following aspects of exit management in relation to the contract as a whole and in relation to the Project Implementation, and Service Level monitoring.
- i. A detailed program of the transfer process that could be used in conjunction with a Replacement Service Provider including details of the means to be used to ensure continuing provision of the services throughout the transfer process or until the cessation of the services and of the management structure to be used during the transfer;
 - ii. Plans for provision of contingent support to Project and Replacement Service Provider for a reasonable period after transfer.
 - iii. Exit Management plan in case of normal termination of Contract period
 - iv. Exit Management plan in case of any eventuality due to which Project is terminated before the contract period.
 - v. Exit Management plan in case of termination of the Bidder
- 26.2. Exit Management plan at the minimum adhere to the following:
- i. Three (3) months of the support to Replacement Service Provider post termination of the Contract
 - ii. Complete handover of the Planning documents, bill of materials, functional requirements specification, technical specifications of all equipments, change requests if any, sources codes, reports, documents and other relevant items to the Replacement Service Provider/ GoUP

Section 3: Contract conditions and Service Levels

- iii. Certificate of Acceptance from authorized representative of Replacement Service Provider issued to the Bidder on successful completion of handover and knowledge transfer
- 26.3. In the event of termination or expiry of the contract, Project Implementation, or Service Level monitoring, both Bidder and GoUP shall comply with the Exit Management Plan.
- 26.4. During the exit management period, the Bidder shall use its best efforts to deliver the services.

B. SPECIAL CONDITIONS OF CONTRACT (SCC)

27. Performance Security

- 27.1. The successful Bidder shall furnish Performance Security to the GoUP at the time of signing the Contract which shall be equal to 10% of the value of the Contract and shall be in the form of a **Bank Guarantee Bond** from a Nationalized / Scheduled Bank in the Proforma given in clause 4.1 of Section 4 of this RFP within 15 days after issuance of letter of intent (LOI) which would be valid up to a period of six months after the contract period.
- 27.2. The bidder will be required to submit **five** Bank Guarantees of equal amount totaling 10% of the value of the Contract. The GoUP will return 1st Bank Guarantee after 2 years of signing of contract and successful project execution, 2nd Bank Guarantee after 3 years of contract signing, 3rd Bank Guarantee after 4 years of contract signing and the 4th and 5th Bank Guarantee within one year after the contract ends.

28. Liquidated Damages

- 28.1. If the Bidder fails to supply, install or maintain any or all of the goods as per the contract, within the time period(s) specified in the Contract, the GoUP without prejudice to its other rights and remedies under the Contract, deduct from the Contract price, as liquidated damages, as per clause 43 of Section 3 of RFP.
- 28.2. The deduction shall not in any case exceed **10 percent of the contract value**.
- 28.3. The GoUP may without prejudice to its right to effect recovery by any other method, deduct the amount of liquidated damages from any money belonging to the Bidder in its hands (which includes the GoUP right to claim such amount against the Bidder's Bank Guarantee) or which may become due to the Bidder. Any such recovery or liquidated damages shall not in any way relieve the Bidder from any of its obligations to complete the Work or from any other obligations and liabilities under the Contract.
- 28.4. Delay not attributable to the Bidder will be considered for exclusion for the purpose of computing liquidated damages.

29. Limitation of Liability:

Limitation of Bidder's Liability towards the GoUP:

- 29.1. Neither Party shall be liable to the other Party for any indirect or consequential loss or damage (including loss of revenue and profits) arising out of or relating to the Contract.
- 29.2. Except in case of gross negligence or willful misconduct on the part of the bidder or on the part of any person or company acting on behalf of the bidder in carrying out the Services, the bidder, with respect to damage caused by the bidder to GoUP property, shall not be liable to GoUP:
 - (i) for any indirect or consequential loss or damage; and
 - (ii) for any direct loss or damage that exceeds (A) the total payments payable under the Contract to the bidder hereunder, or (B) the proceeds the bidder may be entitled to receive from any insurance maintained by the bidder to cover such a liability, whichever of (A) or (B) is higher.

- 29.3. This limitation of liability shall not affect the bidder liability, if any, for damage to Third Parties caused by the bidder or any person or company acting on behalf of the bidder in carrying out the Services.

30. Ownership and Retention of Documents

- 30.1. The GoUP shall own the Documents, prepared by or for the bidder arising out of or in connection with the Contract.
- 30.2. Forthwith upon expiry or earlier termination of this Contract and at any other time on demand by the GoUP, the Bidder shall deliver to the GoUP all documents provided by or originating from the GoUP and all documents produced by or for the Bidder in the course of performing the Services, unless otherwise directed in writing by the GoUP at no additional cost. The Bidder shall not, without the prior written consent of the GoUP store, copy, distribute or retain any such documents.

31. Information Security

- 31.1. The Bidder shall not carry any written or printed document, layout diagrams, CD, hard disk, storage tapes, other storage devices or any other goods /material proprietary to GoUP into or out of any location without written permission from the GoUP.
- 31.2. The Bidder shall not destroy any unwanted documents, defective tapes/media present at any location on their own. All such documents, tapes or media shall be handed over to the GoUP.
- 31.3. All documentation and media at any location shall be properly identified, labeled and numbered by the Bidder. The Bidder shall keep track of all such items and provide a summary report of these items to the GoUP whenever asked for.
- 31.4. Access to GoUP data and systems, Email and Internet facility by the Bidder at any location shall be in accordance with the written permission by the GoUP. The GoUP will allow the Bidder to use facility in a limited manner subject to availability. It is the responsibility of the Bidder to prepare and equip himself in order to meet the requirements.
- 31.5. The Bidder must acknowledge that GoUP business data and other GoUP proprietary information or materials, whether developed by GoUP or being used by GoUP pursuant to a license agreement with a third party (the foregoing collectively referred to herein as "proprietary information") are confidential and proprietary to GoUP; and the Bidder along with its team agrees to use reasonable care to safeguard the proprietary information and to prevent the unauthorized use or disclosure thereof, which care shall not be less than that used by the Bidder to protect its own proprietary information. The Bidder recognizes that the goodwill of GoUP depends, among other things, upon the Bidder keeping such proprietary information confidential and that unauthorized disclosure of the same by the Bidder or its team could damage the goodwill of GoUP, and that by reason of the Bidder's duties hereunder. The Bidder may come into possession of such proprietary information, even though the Bidder does not take any direct part in or furnish the services performed for the creation of said proprietary information and shall limit access thereto to employees with a need to such access to perform the services required by this agreement. The Bidder shall use such information only for the purpose of performing the said services.
- 31.6. The Bidder shall, upon termination of this agreement for any reason, or upon demand by GoUP, whichever is earliest, return any and all information provided to the Bidder by GoUP, including any copies or reproductions, both hardcopy and electronic.
- 31.7. By virtue of the Contract, the bidder team may have access to personal information of the GoUP and/or a third party. The GoUP has the sole ownership of and the right to use, all such data in

perpetuity including any data or other information pertaining to the citizens that may be in the possession of the bidder team in the course of performing the Services under the Contract

32. Records of contract documents

- 32.1. The bidder shall at all-time make and keep sufficient copies of the process manuals, operating procedures, specifications, Contract documents and any other documentation for him to fulfil his duties under the Contract.
- 32.2. The bidder shall keep on the Site at least three copies of each and every specification and Contract Document, in excess of his own requirement and those copies shall be available at all times for use by the GoUP Representative and by any other person authorized by the GoUP Representative.

33. Security and Safety

- 33.1. The Bidder will comply with the directions issued from time to time by the GoUP and the standards related to the security and safety, in so far as it applies to the provision of the Services.
- 33.2. The Bidder shall upon reasonable request by the GoUP, or its nominee(s) participate in regular meetings when safety and information technology security matters are reviewed.

34. Confidentiality

- 34.1. The Bidder shall not, either during the term or after expiration of this Contract, disclose any proprietary or confidential information relating to the Services or Contract and/or GoUP business/ operations, information, Application/software, hardware, business data, architecture schematics, designs, storage media and other information or documents without the prior written consent of the GoUP.
- 34.2. The Bidder shall execute a Non-Disclosure Agreement (NDA) as given in Proformas; Section 4 of the RFP, in favor of the GoUP
- 34.3. The GoUP reserves the right to adopt legal proceedings, civil or criminal, against the Bidder in relation to a dispute arising out of breach of obligation by the Bidder under this clause.
- 34.4. The bidder shall do everything reasonably possible to preserve the confidentiality of the Confidential Information including execution of a confidentiality agreement with the GoUP to the satisfaction of the GoUP.
- 34.5. The bidder shall notify the GoUP promptly if it is aware of any disclosure of the Confidential Information otherwise than as permitted by the Contract or with the authority of the GoUP.
- 34.6. The bidder shall be liable to fully recompense the GoUP for any loss of revenue arising from breach of confidentiality.

35. Events of Default by Prime Bidder

The failure on the part of the Bidder to perform any of its obligations or comply with any of the terms of this Contract shall constitute an Event of Default on the part of the Bidder. The events of default are but not limited to:

- 35.1. The Bidder/ Bidder's Team has failed to perform any instructions or directives issued by the GoUP which it deems proper and necessary to execute the scope of work or provide services under the Contract, or
- 35.2. The Bidder/ Bidder's Team has failed to confirm or adhere to any of the key performance indicators as laid down in the Key Performance Measures or Service Levels, or if the Bidder has fallen short of matching such standards or benchmarks or targets as the GoUP may have designated with respect to the system or any goods, task or service, necessary for the execution of the scope of work and performance of services under this Contract. The above mentioned failure on the part of the Bidder may be in terms of failure to adhere to performance, quality, timelines, specifications, requirements or any other criteria as defined by the GoUP;
- 35.3. The Bidder has failed to remedy a defect or failure to perform its obligations in accordance with the specifications issued by the GoUP, despite being served with a default notice which laid down the specific deviance on the part of the Bidder/ Bidder's Team to comply with any stipulations or standards as laid down by the GoUP; or
- 35.4. The Bidder/ Bidder's Team has failed to adhere to any amended direction, instruction, modification or clarification as issued by the GoUP during the term of this Contract and which the GoUP deems proper and necessary for the execution of the scope of work under this Contract
- 35.5. The Bidder/ Bidder's Team has failed to demonstrate or sustain any representation or warranty made by it in this Contract, with respect to any of the terms of its Bid, the RFP and this Contract
- 35.6. There is a proceeding for bankruptcy, insolvency, winding up or there is an appointment of receiver, liquidator, assignee, or similar official against or in relation to the Bidder.
- 35.7. The Bidder/ Bidder's Team has failed to comply with or is in breach or contravention of any applicable laws.

Where there has been an occurrence of such defaults inter alia as stated above, the GoUP shall issue a notice of default to the Bidder, setting out specific defaults or deviances or omissions or non-compliances or non-performances and providing a notice of thirty (30) days to enable such defaulting party to remedy the default committed.

Where despite the issuance of a default notice to the Bidder by the GoUP, the Prime Bidder fails to remedy the default to the satisfaction of the GoUP, the GoUP may, where it deems fit, issue to the defaulting party another default notice or proceed to contract termination.

36. Termination

The GoUP may, terminate this Contract in whole or in part by giving the Bidder a prior and written notice indicating its intention to terminate the Contract under the following circumstances:

- 36.1. Where the GoUP is of the opinion that there has been such Event of Default on the part of the Bidder / Bidder's Team which would make it proper and necessary to terminate this Contract and may include failure on the part of the Bidder to respect any of its commitments with regard to any part of its obligations under its Bid, the RFP or under this Contract.
- 36.2. Where it comes to the GoUP attention that the Bidder (or the Bidder's Team) is in a position of actual conflict of interest with the interests of the GoUP, in relation to any of terms of the Bidder's Bid, the RFP or this Contract.
- 36.3. Where the Bidder's ability to survive as an independent corporate entity is threatened or is lost owing to any reason whatsoever, including inter-alia the filing of any bankruptcy proceedings against the Bidder, any failure by the Bidder to pay any of its dues to its creditors, the institution of any winding up proceedings against the Bidder or the happening of any such events that

- are adverse to the commercial viability of the Bidder. In the event of the happening of any events of the above nature, the GoUP shall reserve the right to take any steps as are necessary, to ensure the effective transition of the pilot site to a successor agency, and to ensure business continuity
- 36.4. Termination for Insolvency: The GoUP may at any time terminate the Contract by giving written notice to the Bidder, without compensation to the Bidder, if the Bidder becomes bankrupt or otherwise insolvent, provided that such termination will not prejudice or affect any right of action or remedy which has accrued or will accrue thereafter to the GoUP.
- 36.5. The Bidder may, subject to approval by the GoUP, terminate this Contract before the expiry of the term by giving the GoUP a prior and written notice at least 3 months in advance indicating its intention to terminate the Contract.

37. Consequence of Termination

- 37.1. In the event of termination of the Contract due to any cause whatsoever, whether consequent to the stipulated Term of the Contract or otherwise the GoUP shall be entitled to impose any such obligations and conditions and issue any clarifications as may be necessary to ensure an efficient transition and effective business continuity of the project which the bidder shall be obliged to comply with and take all available steps to minimize loss resulting from that termination or breach, and further allow and provide all such assistance to the GoUP and/ or the successor agency or service provider, as may be required, to take over the obligations of the bidder in relation to the execution or continued execution of the requirements of the Contract.
- 37.2. Where the termination of the Contract is prior to its stipulated term on account of a Default on the part of the bidder or due to the fact that the survival of the bidder as an independent corporate entity is threatened/has ceased, or for any other reason, whatsoever, the GoUP, through unilateral re-determination of the consideration payable to the bidder, shall pay the bidder for that part of the Services which have been authorized by the GoUP and satisfactorily performed by the bidder up to the date of termination. Without prejudice to any other rights, the GoUP may retain such amounts from the payment due and payable by the GoUP to the bidder as may be required to offset any losses caused to the GoUP as a result of any act/omissions of the bidder. In case of any loss or damage due to default on the part of the bidder in performing any of its obligations with regard to executing the Schedule of Requirements under the contract, the bidder shall compensate the GoUP for any such loss, damages or other costs, incurred by the GoUP. Additionally, members of its team shall perform all its obligations and responsibilities under the Contract in an identical manner as were being performed before the collapse of the bidder as described above in order to execute an effective transition and to maintain business continuity. All third parties shall continue to perform all or any functions as stipulated by the GoUP and as may be proper and necessary to execute the Schedule of Requirements under the Contract in terms of the bidder's Bid, the Bid Document and the Contract
- 37.3. Nothing herein shall restrict the right of the GoUP to invoke the Bank Guarantee and other Guarantees furnished hereunder and pursue such other rights and/or remedies that may be available to the GoUP under law.
- 37.4. The termination hereof shall not affect any accrued right or liability of either Party nor affect the operation of the provisions of the Contract that are expressly or by implication intended to come into or continue in force on or after such termination.

38. Change Control Note (CCN)

- 38.1. This applies to and describes the procedure to be followed in the event of any proposed change to contract, Pilot site Implementation, and Service levels. Such change shall include, but shall not be limited to, changes in the scope of services provided by the Bidder and changes to the terms of payment.
- 38.2. Change requests in respect of the contract, the pilot site implementation, or the Service levels will emanate from the Parties' representative who will be responsible for obtaining approval for the change and who will act as its sponsor throughout the Change Control Process and will complete Part A of the CCN (Annex I, Section 3 of the RFP). CCNs will be presented to the other Party's representative who will acknowledge receipt by signature of the authorized representative of the GoUP.
- 38.3. The Bidder and the GoUP while preparing the CCN, shall consider the change in the context of whether the change is beyond the scope of Services including ancillary and concomitant services required
- 38.4. The CCN shall be applicable for the items which are beyond the stated or implied scope of work as per the RFP document.

38.5. Quotation

- 38.5.1. The Bidder shall assess the CCN and complete Part B of the CCN. In completing Part B of the CCN the Prime Bidder shall provide as a minimum:
 - a description of the change;
 - a list of deliverables required for implementing the change;
 - a timetable for implementation;
 - an estimate of any proposed change;
 - any relevant acceptance criteria;
 - an assessment of the value of the proposed change;
 - Material evidence to prove that the proposed change is not already covered within the scope of the pilot site, Agreement and Service Levels.
- 38.5.2. Prior to submission of the completed CCN to the GoUP or its nominated agencies, the Bidder will undertake its own internal review of the proposal and obtain all necessary internal approvals. As a part of this internal review process, the Bidder shall consider the materiality of the proposed change in the context of the Agreement, the Pilot site Implementation, Service levels affected by the change and the total effect that may arise from implementation of the change.
- 38.5.3. Each Party shall be responsible for its own costs incurred in the quotation, preparation of CCNs and in the completion of its obligations described in this process provided the Bidder meets the obligations as set in the CCN. In the event the Bidder is unable to meet the obligations as defined in the CCN then the cost of getting it done by third party will be borne by the Bidder. Change requests and CCNs will be reported monthly to each Party's representative who will prioritize and review progress.

C. SERVICE LEVELS

39. Purpose

- 39.1. The purpose is to define the levels of service provided by the Bidder to the GoUP for the duration of the contract. The benefits of this are:

- 39.1.1. Start a process that applies to GoUP and Bidder management attention to some aspect of performance, only when that aspect drops below the threshold defined by the GoUP
- 39.1.2. Help the GoUP control the levels and performance of Bidder's services

39.2. The Service Levels are between the GoUP and the Bidder

40. Service Level Agreements and Targets

- 40.1. This section is agreed to by GoUP and Bidder as the key performance indicator for the project. This may be reviewed and revised according to the procedures detailed in Clause 47, SLA Change Control.
- 40.2. The following section reflects the measurements to be used to track and report system's performance on a regular basis. The targets shown in the following tables are for the period of contact.
- 40.3. The procedures in Clause 18 will be used if there is a dispute between GoUP and Bidder on what the permanent targets should be.

41. General principles of Service Level Agreements

The Service Level agreements have been logically segregated in the following categories:

41.1. Liquidated Damages

The liquidated damages will come into effect once the notification of Award has been issued by the GoUP. It would be applicable in the implementation phase of the project.

41.2. Technical Service Level Agreement

SLA would be applicable in operations and maintenance phase of the project. The penalties will be applicable on Operations and Maintenance cost of the project calculated quarterly. SLA would be applicable on:

- a. Data Centre Application and Components and Disaster Recovery Site
- b. IT infrastructure at UP POLICE 100, OMCs and field locations
- c. Network
- d. Manpower Availability
- e. Audit
- f. Issue Resolution
- g. Others

41.3. Manpower Service Level Agreement

SLA would be applicable after one month of project Go-live and in operations and maintenance phase of the project. SLA would be applicable on the availability of manpower and the service levels mentioned below in clause 44 of this section of RFP.

42. Service Levels Monitoring

The Service Level parameters defined in Clause 42 shall be monitored on a periodic basis, as per the individual parameter requirements. The Bidder shall be responsible for providing appropriate web based online SLA measurement and monitoring tools for the same. The Bidder will be expected to take immediate corrective action for any SLA that has been breached. In case issues are not rectified to the complete satisfaction of GoUP within a reasonable period of time then the GoUP will have the right to take appropriate penalizing actions, including action as per clause 41 or termination of the contract.

43. Technology related penalties

- 43.1. A maximum level of performance penalties is established and described below.
- 43.2. The framework for performance penalties as a result of not meeting the Service Level Targets are detailed below:
- 43.3. Performance penalties shall be levied for not meeting each of the severity levels of performance as per the following table:

Severity Level	Penalty as a percentage of Quarterly value applicable
9	Event of default and termination as per Clause 35 and 36 of this section of RFP respectively and the consequences as provided in Clause 37 of this section of RFP
8	4.00%
7	2.00%
6	1.00%
5	0.75%
4	0.50%
3	0.40%
2	0.30%
1	0.20%

- 43.4. Performance Penalty for not meeting a measurement parameter for any two months in consecutive quarters shall result in twice the penalty percentage of that respective measurement parameter in the third quarter for all the three months

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- 43.5. Maximum Penalty applicable for any quarter shall not exceed 30% of the 'applicable fees' for the respective quarter.
- 43.6. Three consecutive quarterly deductions of 30 % of the applicable fee on account of any reasons will be deemed to be an event of default and termination as per Clause 36 and 37 of this Section of RFP respectively and the consequences as provided in Clause 37 of this section of RFP shall follow.
- 43.7. The payment to the agency will be on Quarterly basis, however the penalty will be calculated on monthly basis as per the SLAs stated in the RFP

43.8. **Measurements and Targets**43.8.1. **Liquidated damages**

#	Measurement	Target	Liquidated damage
1	Submission of performance bank guarantee after issuance of Lol or award of notification by GoUP	a. After 15 days of receipt of Lol or award of notification by GoUP	a. Forfeiture of EMD
		b. After 30 days of receipt of award of notification by GoUP	b. Cancellation of award of notification
2	Team mobilization and commencement of work	a. Complete resources within 30 calendar days from the date of signing of contract or issuance of Lol, whichever is earlier.	a 0.01% of the contract value for each week of delay
		b. None of the Key Personnel (refer Clause 5.3 of Section 5 of the RFP) proposed manpower should exit from the project during first 6 months of the beginning of the project, if Letter of Intent (Lol) is issued within 3 months of bid submission. In such cases of exit, a penalty of INR 2 lakhs per such replacement will be imposed on the bidder.	b. a penalty of INR 2 lakhs per such replacement will be imposed on the bidder
Data centre and disaster recovery			
3	Completion of milestone no. 7, 8 as per Clause 12, Section 5	As per timelines defined in project milestone in section 5	0.1% of the milestone value for per week of delay
4	Completion of milestone no. 9,10,11,12 as per Clause 12 of Section 5 of RFP document	As per timelines defined in project milestone in section 5	0.1% of the milestone value for per week of delay

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#	Measurement	Target	Liquidated damage
5	Completion of milestone no. 13, 14 as per Clause 12 of Section 5 of RFP document	As per timelines defined in project milestone in section 5	0.1% of the milestone value for per week of delay
UP Police 100, OMC and other locations			
4	Completion of milestone no. 15, 16 as per Clause 12 of Section 5 of RFP document	As per timelines defined in project milestone in section 5	0.1% of the milestone value for per week of delay
MDT devices in vehicles			
6	Completion of milestone no. 18 as per Clause 12 of Section 5 of RFP document	As per timelines defined in project milestone in section 5	0.1% of the milestone value for per week of delay
Others			
7	Completion of milestone no. 17,19,20 as per Clause 12 of Section 5 of RFP document	As per timelines defined in project milestone in section 5	0.1% of the milestone value for per week of delay
8	Completion of milestone no. 23 as per Clause 12 of Section 5 of RFP document	As per timelines defined in project milestone in section 5	0.1% of the milestone value for per week of delay
9	Completion of milestone no. 24 as per Clause 12 of Section 5 of RFP document	As per timelines defined in project milestone in section 5	0.1% of the milestone value for per week of delay

* The above mentioned table is common for both technology provider and UP POLICE 100 manpower

43.8.2. UP POLICE 100 and OMC related Performance Levels

S. No.	Definition	Measurement	Measurement Interval	Target	Severity Level
UP POLICE 100 and OMC					
1	Availability of equipment for UP POLICE 100 and OMC: • Routers • Switches	$\text{Uptime} = \{1 - (\text{Equipment downtime-maintenance downtime}) / (\text{Total Time} - \text{maintenance downtime})\}$ Equipment should be replaced or repaired after complaint logging from GoUP officials. Measurement Tool: Reports from EMS	Monthly	Minimum 99.98% up time	-
				$\geq 99.95\%$ to $<99.98\%$ up time	6
				$<99.95\%$	7
2	Availability of equipment for core UP POLICE 100 and OMC call 100 staff • IP Phones and headset • Workstations / Desktops • Foot Paddle • Radio Gateway	$\text{Uptime} = \{1 - (\text{Application downtime-maintenance downtime}) / (\text{Total Time} - \text{maintenance downtime})\}$ Equipment should be replaced or repaired after complaint logging from GoUP officials. Measurement Tool: Reports from EMS	Monthly	Minimum 99.8% uptime of the equipment	-
				$\geq 99.5\%$ to $<99.8\%$ uptime	3
				$<99.5.0\%$ uptime	4
3	Availability of equipment for non-core UP POLICE 100 and OMC call 100 staff • IP Phones and	$\text{Uptime} = \{1 - (\text{Application downtime-maintenance downtime}) / (\text{Total Time} - \text{maintenance downtime})\}$ Equipment should be replaced or repaired after complaint logging from	Monthly	Minimum 99.0% uptime	-
				$\geq 98.5\%$ to $<99.0\%$ uptime	1

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S. No.	Definition	Measurement	Measurement Interval	Target	Severity Level
UP POLICE 100 and OMC					
	headset · Workstations / Desktops	GoUP officials. Measurement Tool: Reports from EMS		<98.5 % uptime	2
4	Availability of equipment for UP POLICE 100 and OMC call 100 staff · Laptop	<p>Uptime = {1 - (Application downtime-maintenance downtime) / (Total Time – maintenance downtime) }</p> <p>Please note that inside UP POLICE 100 and OMC , Continuous downtime of every 2 hours (from 9 am to 9 pm) or every 4 hrs (from 9 pm to 9am) would raise the severity by one level. e.g. the severity level will raise from 0 to 1</p> <p>Please note that outside UP POLICE 100 and OMC, continuous downtime of every 4 hours (from 9 am to 9 pm) or every 6 hrs (from 9 pm to 9am) outside UP POLICE 100 and OMC would raise the severity by one level. e.g. the severity level will rise from 0 to 1</p> <p>Equipment should be replaced or repaired after complaint logging from GoUP officials.</p> <p>Measurement Tool: Reports from EMS</p>	Monthly	Minimum 99.0% uptime	-
				>= 98.5% to <99.0% uptime	1
				<98.5% uptime	2

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S. No.	Definition	Measurement	Measurement Interval	Target	Severity Level
UP POLICE 100 and OMC					
5	Availability of equipment at UP POLICE 100 and OMC - DLP Screen - Projector - Audio equipment - Printer - Scanner - Copier - Paper Shredder - TV	All equipment's should be available 24*7 and Any complaint should be resolved within 2 hrs (from 9 am to 9 pm) and with 4 hrs (from 9pm to 9 am) Equipment should be replaced or repaired after complaint logging from GoUP officials with 24X7 support Measurement Tool: System generated incident log at Helpdesk / Reports from EMS	Monthly	>=99.5% log complaints resolved	-
				>=99.5% log complaints resolved	1
				>= 99.0% to <99.5 log complaints resolved	2
6	Availability of static radio device at UP POLICE 100 and OMC	Uptime = {1 - (Application downtime-maintenance downtime) / (Total Time – maintenance downtime) } Please note that inside UP POLICE 100 and OMC , Continuous downtime of every 2 hours (from 9 am to 9 pm) or every 4 hrs (from 9 pm to 9am) would raise the severity by one level. e.g. the severity level will raise from 0 to 1 Equipment should be replaced or repaired after complaint logging from GoUP officials.	Monthly	Minimum 99.95% uptime	-
				>= 99.2.0% to <99.95 uptime	3
				<99.2.0% uptime	4

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S. No.	Definition	Measurement	Measurement Interval	Target	Severity Level
UP POLICE 100 and OMC					
		Measurement Tool: Reports from EMS			
7	Battery replacement for static Radio devices at UP POLICE 100 and OMC	Replacement of batteries for static Radio device: 1. Any complaint should be resolved within 2 hrs. 2. Battery should be replaced or repaired after complaint logging from GoUP officials. 3. This excludes regular maintenance of the static radio device and its batteries. 4. Warranty should be provided till end of the contract. Measurement Tool: Reports from EMS	Monthly	>=98% of complaints resolved	-
				>= 95% and <98% of complaints resolved	3
				<95% of complaints resolved	4
8	Availability of Access control equipment at UP POLICE 100 and OMC	Uptime = {1 - (Equipment downtime-maintenance downtime) / (Total Time – maintenance downtime)} Equipment should be replaced or repaired after complaint logging from GoUP officials.	Monthly	Minimum 99.98% uptime of the equipment	-
				>= 99.95% to <99.98 % uptime	3

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S. No.	Definition	Measurement	Measurement Interval	Target	Severity Level
UP POLICE 100 and OMC					
		Measurement Tool: Reports from EMS		<99.95.0% uptime	4
9	Availability of Security equipment at UP POLICE 100 and OMC - CCTV - CCTTV Controller	Uptime = {1 - (Equipment downtime-maintenance downtime) / (Total Time – maintenance downtime) } Equipment should be replaced or repaired after complaint logging from GoUP officials. Measurement Tool: Reports from EMS	Monthly	Minimum 99.0% uptime of the equipment	-
				>= 98.5% to <99.0 % uptime	1
				<98.5% uptime	2
12	Availability of UPS at UP POLICE 100 and OMC	Uptime = {1 - (UPS downtime-maintenance downtime) / (Total Time – maintenance downtime) }	Monthly	>=98.5%	-

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S. No.	Definition	Measurement	Measurement Interval	Target	Severity Level
UP POLICE 100 and OMC					
		<p>UPS Downtime shall be measured from the time the UPS becomes unavailable (due to any reasons whatsoever attributable to the Bidder) for Business processing to the end user to the time it becomes fully available for the above stated business processes.</p> <p>Please note that continuous downtime of every 2 hours (from 9 am to 9 pm) would raise the severity by one level. e.g. the severity level will raise from 0 to 1</p> <p>Please note that continuous downtime of every 4 hours (from 9 pm midnight to 9 am) would raise the severity by one level. e.g. the severity level will raise from 0 to 1</p> <p>Any downtime for maintenance shall be with prior written intimation to the GoUP.</p> <p>Measurement Tool: Reports from EMS</p>		>= 98.0% to <98.5 %	4
				<98.0%	6
10	UPS Power supply		Monthly	>=120 minutes	-

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S. No.	Definition	Measurement	Measurement Interval	Target	Severity Level
UP POLICE 100 and OMC					
		Supply of power to all IT equipment at UP POLICE 100 and OMC Measurement Tool: Reports from EMS		>= 120 Minutes	5
11	Battery replacement for UPS	Replacement of batteries for UPS: 1. Any complaint should be resolved within 2 hrs. 2. Battery should be replaced or repaired after complaint logging from GoUP officials. 3. This excludes regular maintenance of the UPS and its batteries. 4. Warranty should be provided till end of the contract. Measurement Tool: Reports from EMS	Monthly	>=98.5% of complaints resolved within 2 hours	-
				>= 98% and <98.5% of complaints resolved within 2 hours	5
				<98% of complaints resolved within 2 hours	6

43.8.1. Other site (75 Districts, 8 police zones, 18 ranges, 25 Police units) related Performance Levels

S. No.	Definition	Measurement	Measurement Interval	Target	Severity Level
Other Sites Components and Vehicles					
1	Availability of equipment for UP POLICE 100 and OMC: • Routers • Switches	$\text{Uptime} = \{1 - (\text{Equipment downtime-maintenance downtime}) / (\text{Total Time} - \text{maintenance downtime})\}$ Equipment should be replaced or repaired after complaint logging from GoUP officials. Measurement Tool: Reports from EMS	Monthly	Minimum 99.5% up time	-
				$\geq 99.5\%$ to $<99.0\%$ up time	3
				$<99.0\%$ uptime	4
2	Availability of equipment for other sites except vehicles • IP Phones and headset • Workstations / Desktops • Foot Paddle • Radio Gateway • Static Radio Device	All equipment's should be available 24*7 and any complaint should be resolved within 2 hrs. Equipment should be replaced or repaired after complaint logging from GoUP officials with 24X7 support Measurement Tool: Reports from EMS	Monthly	$\geq 99.0\%$ log complaints resolved	-
				$\geq 98.5\%$ to $<99.0\%$ log complaints resolved	3
				$<98.5\%$ log complaints resolved	4
3	Battery replacement for static Radio devices at other sites except vehicles devices	Replacement of batteries for static Radio device: 1. Any complaint should be resolved	Monthly	$\geq 98.5\%$ of complaints resolved	-

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S. No.	Definition	Measurement	Measurement Interval	Target	Severity Level
Other Sites Components and Vehicles					
		within 4 hrs. 2. Battery should be replaced or repaired after complaint logging from GoUP officials. 3. This excludes regular maintenance of the static radio device and its batteries. 4. Warranty should be provided till end of the contract. Measurement Tool: Reports from EMS		>= 98% and <98.5% of complaints resolved	3
				<98% of complaints resolved	4
4	Availability of UPS at other sites	$\text{Uptime} = \{1 - (\text{UPS downtime-maintenance downtime}) / (\text{Total Time} - \text{maintenance downtime})\}$	Monthly	>=98.5%	-

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S. No.	Definition	Measurement	Measurement Interval	Target	Severity Level
Other Sites Components and Vehicles					
		<p>UPS Downtime shall be measured from the time the UPS becomes unavailable (due to any reasons whatsoever attributable to the Bidder) for Business processing to the end user to the time it becomes fully available for the above stated business processes.</p> <p>Please note that continuous downtime of every 2 hours (from 9 am to 9 pm) would raise the severity by one level. e.g. the severity level will raise from 0 to 1</p> <p>Please note that continuous downtime of every 4 hours (from 9 pm midnight to 9 am) would raise the severity by one level. e.g. the severity level will raise from 0 to 1</p> <p>Any downtime for maintenance shall be with prior written intimation to the GoUP.</p> <p>Measurement Tool: Reports from EMS</p>		>= 98.0% to <98.5 %	4
				<98.0%	6
5	UPS Power supply	<p>Supply of power to all IT equipment at other sites</p> <p>Measurement Tool: Reports from EMS</p>	Monthly	>=120 minutes	-
				>= 120 Minutes	3

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S. No.	Definition	Measurement	Measurement Interval	Target	Severity Level
Other Sites Components and Vehicles					
6	Battery replacement for UPS	Replacement of batteries for UPS: 1. Any complaint should be resolved within 2 hrs. 2. Battery should be replaced or repaired after complaint logging from GoUP officials. 3. This excludes regular maintenance of the UPS and its batteries. 4. Warranty should be provided till end of the contract. Measurement Tool: Reports from EMS	Monthly	>=98% of complaints resolved within 2 hours	-
				>= 95% and <98% of complaints resolved within 2 hours	2
				<95% of complaints resolved within 2 hours	3
7	Availability of MDT and Static and mobile Radio devices (including applications on MDT) in vehicles	All MDTs should be available 24*7 1. Any complaint should be resolved within 2 hrs. if the distance of the vehicle location is within 50 km. from District HQ location 2. Any complaint should be resolved within 4 hrs. If the distance of the vehicle location is >=50 Km but less than 80 km. from District HQ location 3. Any complaint should be resolved within 8 hrs. If the distance of the vehicle	Monthly	>=98.5% of complaints resolved	-

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S. No.	Definition	Measurement	Measurement Interval	Target	Severity Level
Other Sites Components and Vehicles					
		location is ≥ 80 Km from District HQ location Equipment should be replaced or repaired after complaint logging from GoUP officials. The MDT and VHF Radio device should be made available for repair/replacement at sites Measurement Tool: System generated Incident log at Helpdesk / EMS		$\geq 98\%$ and $< 98.5\%$ of complaints resolved	3
				$< 98\%$ of complaints resolved	4
8	Battery replacement for MDT and Radio devices	Replacement of batteries for MDT and VHF Radio device 1. Any complaint should be resolved within 2 hrs. if the distance of the vehicle location is within 50 km. from District HQ location 2. Any complaint should be resolved within 4 hrs. If the distance of the vehicle location is ≥ 50 Km but less than 80 km. from District HQ location 3. Any complaint should be resolved within 8 hrs. If the distance of the vehicle location is ≥ 80 Km from District HQ location	Monthly	$\geq 98.5\%$ of complaints resolved	-

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S. No.	Definition	Measurement	Measurement Interval	Target	Severity Level
Other Sites Components and Vehicles					
		4. Battery should be replaced or repaired after complaint logging from GoUP officials.		>= 98.0% and <98.5% of complaints resolved	2
		5. This excludes regular maintenance of the UPS and its batteries.			
		6. Warranty should be provided till end of the contract.		<98.0% of complaints resolved	3
		Measurement Tool: System generated Incident log at Helpdesk / Reports from EMS			

43.8.2. Data center and Disaster Recovery sites related performance levels

S. No.	Definition	Measurement	Measurement Interval	Target	Severity Level
Availability of DC and DR components					
1	Availability of Enterprise Management System (EMS) at the respective DC and DR sites	Uptime = {1 - [(EMS downtime- Maintenance Downtime) / (Total Time – Maintenance Downtime)]}	Monthly	>=99.8%	-
				>= 99.5% to <99.8%	6
				<99.5%	7
2	Availability of each server: - Application server - Database server	Uptime = {1 - [(server downtime- Maintenance Downtime) / (Total Time – Maintenance Downtime)]} Each server violation will be measured separately through EMS tool.	Monthly	>=99.8%	-
				>= 99.5% to <99.8%	4
				<99.5%	5
3	Availability of the Contact Centre and CAD solution which includes IPPBX, ACD, CTI, CAD, GIS and other relevant component of these solution with corresponding database/software/hardware	Uptime = {1 - (Application downtime- maintenance downtime) / (Total Time – maintenance downtime) } Please note that continuous downtime of every 2 hours (from 9 am to 9 pm) or every 4 hrs (from 9 pm to 9am) would raise the severity by one level. e.g. the severity level will raise from 0 to 1 Measurement Tool: Reports from EMS	Monthly	>=99.8%	-
				>= 99.5% to <99.8%	6
				<99.5%	7

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S. No.	Definition	Measurement	Measurement Interval	Target	Severity Level
Availability of DC and DR components					
4	Availability of the following solutions / applications: - UP POLICE 100 Portal - UP POLICE 100 Intranet Portal - ROIP Application - SMS Gateway - Patrol Management System	Uptime = {1 - (Application downtime-maintenance downtime) / (Total Time – maintenance downtime) } Measurement Tool: Reports from EMS	Monthly	>= 99.5%	-
				>= 99.0% to <99.5 %	1
				>=98.5% to < 99%	2
				<98.5%	3
5	Availability of the following solutions / applications: - eLearning - HRMS - Biometric - BI Reporting and analytics - Asset Management - Finance Management	Uptime = {1 - (Application downtime-maintenance downtime) / (Total Time – maintenance downtime) } Measurement Tool: Reports from EMS	Monthly	>= 98%	-
				>= 95% to <98%	1
				<95%	2
6	SMS Delivery	95% Outgoing SMS should be delivered in 15 seconds. Measurement tool : EMS	Monthly	>=95%	-
				>=90% to <95%	3
				<90.0%	4

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S. No.	Definition	Measurement	Measurement Interval	Target	Severity Level
Availability of DC and DR components					
7	Location detection by the LBS system	98% Location should be detected in the system within 20 sec. at Communication officer desktop Measurement Tool: Reports from EMS or call management system	Monthly	>=98%	-
				>=97% to <98%	3
				<97%	4
8	Availability of event Log solution	<p>Uptime = $\{1 - [(Event\ Log\ downtime) / (Total\ Time - Maintenance\ Downtime)]\}$</p> <p>Total Time shall be measured on 24*7 basis.</p> <p>Downtime shall be measured from the time the Event Log becomes unavailable (due to any reasons whatsoever attributable to the Bidder) for the user to the time it becomes fully available.</p> <p>Further any downtime for maintenance during the 24*7 timeframe shall be with prior written intimation to the GoUP</p> <p>Measurement Tool: Reports from EMS</p>	Monthly	>= 98 %	-
				>= 97.0% to <98.0%	2
				>= 96.0% to <97.0%	3
				>= 95.0% to <96.0%	4
				<95.0%	5

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S. No.	Definition	Measurement	Measurement Interval	Target	Severity Level
Availability of DC and DR components					
9	Replication System	<p>Metric: % of Uptime for Replication System</p> <p>Formula: $\text{Uptime \%} = \{1 - [(\text{Total Downtime}) / (\text{Total Time} - \text{Planned Downtime})]\} * 100$</p> <p>Replication System is used to maintain synchronous/ asynchronous update between DC and DR. The service is expected to be available 24 x 7.</p> <p>Availability of Replication System is determined by components of Replication System like Replication Server and Replication Software</p> <p>Total Downtime - Total cumulative time the Replication Networks are NOT available.</p> <p>Total Time - 24 X 7 measured over a period of month.</p>	Monthly	>= 99.5 %	-
				>= 98.0% to <99.5%	4
				>= 97.0% to <98.0%	5
				<97%	7

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S. No.	Definition	Measurement	Measurement Interval	Target	Severity Level
Availability of DC and DR components					
10	All Security appliance Uptime - Next Generation Firewall - HIPS - NOC - Web Application firewall - Other security appliances installed in DC and DR	Uptime % = {1-[(Total Downtime) / (Total Time – Planned Downtime)]} *100 Measurement Tool: Reports from EMS	Monthly	> = 99.5%	-
				>= 99.0% to < 99.5%	5
				< 99.0 %	6
11	Storage Availability	Any downtime for maintenance shall be with prior written intimation to the GoUP. Measurement Tool: Reports from EMS	Monthly	>= 99.5%	-
				>= 90.0% to <99.5.0 %	2
				>=80% to < 90%	4
				>=50% to <80%	5
12	Average CPU Utilization for each server at DC and DR Sites	Uptime = {1 - (UPS downtime-maintenance downtime) / (Total Time – maintenance downtime)} Average CPU utilization of each server should not be more than 50% is the criteria for default. It should be applicable whenever a batch processing is not	Monthly	>=99.5%	-
				>=99.0% to <99.5%	4

Section 3: Contract conditions and Service Levels

S. No.	Definition	Measurement	Measurement Interval	Target	Severity Level
Availability of DC and DR components					
		occurring at the backend site during peak hours			
		Measurement Tool: Reports from EMS		<99.0%	5
13	Availability of UPS at DC and DR	<p>Uptime = {1 - (UPS downtime-maintenance downtime) / (Total Time – maintenance downtime) }</p> <p>UPS Downtime shall be measured from the time the UPS becomes unavailable (due to any reasons whatsoever attributable to the Bidder) for Business processing to the end user to the time it becomes fully available for the above stated business processes.</p> <p>Please note that continuous downtime of every 2 hours (from 9 am to 9 pm) would raise the severity by one level. e.g. the severity level will raise from 0 to 1</p> <p>Please note that continuous downtime of every 4 hours (from 9 pm midnight to 9 am) would raise the severity by one level. e.g. the severity level will raise from 0 to 1</p> <p>Any downtime for maintenance shall be with prior written intimation to the GoUP.</p>	Monthly	<p>>=98.5%</p> <p>>= 98.0% to <98.5 %</p> <p><98.0%</p>	<p>-</p> <p>4</p> <p>6</p>

Section 3: Contract conditions and Service Levels

S. No.	Definition	Measurement	Measurement Interval	Target	Severity Level
Availability of DC and DR components					
		Measurement Tool: Reports from EMS			
14	UPS Power supply	Supply of power to all IT equipment and DC and DR location Measurement Tool: SLA Monitoring EMS tool	Monthly	>= 120 Minutes	-
				< 120 Minutes	5
15	Battery replacement for UPS for all equipment / devices procured	Replacement of batteries for UPS: 1. Any complaint should be resolved within 2 hrs. 2. Battery should be replaced or repaired after complaint logging from GoUP officials. 3. This excludes regular maintenance of the UPS and its batteries. 4. Warranty should be provided till end of the contract. Measurement Tool: Reports from EMS	Monthly	>=98% of complaints resolved within 2 hours	-
				>= 97% and <98% of complaints resolved within 2 hours	5
				<97% of complaints resolved within 2 hours	6
16	Availability of Access control equipment at DC and DR	Uptime = {1 - (Equipment downtime-maintenance downtime) / (Total Time – maintenance downtime) }	Monthly	Minimum 99.8% uptime of the equipment	-

Section 3: Contract conditions and Service Levels

S. No.	Definition	Measurement	Measurement Interval	Target	Severity Level
Availability of DC and DR components					
		Equipment should be replaced or repaired after complaint logging from GoUP officials.		>= 99.5% to <99.8 % uptime	3
		Measurement Tool: Reports from EMS		<99.5% uptime	4
17	Availability of Security equipment at DC and DR - CCTV - CCTTV Controller	Uptime = {1 - (Equipment downtime-maintenance downtime) / (Total Time – maintenance downtime) }	Monthly	Minimum 99.0% uptime of the equipment	-
		Equipment should be replaced or repaired after complaint logging from GoUP officials.		>= 98.5% to <99.0 % uptime	1
		Measurement Tool: Reports from EMS		<98.5% uptime	2
18	Availability of generator with required fuel for uninterrupted power supply	Availability of generator set with fuel for any power interruption	Monthly	100%	-
		Measurement Tool: Log of use of generator and each incident of non-compliance		Any incident of non-compliance	5
19	Routing of voice calls to UP POLICE 100, OMC location	Voice call routing latency should not be more than 200 milliseconds (ms).This should be from caller to communication officer.	Monthly	Minimum 99.8% of routing calls	-

Section 3: Contract conditions and Service Levels

S. No.	Definition	Measurement	Measurement Interval	Target	Severity Level
Availability of DC and DR components					
		Measurement Tool: Reports from EMS or call management system		>=99.5% to <99.8% of routing calls	4
				<99.5% of routing calls	6
20	Vulnerability Assessment	Authenticated Mode Assessment should be done for all assets on a monthly basis. The report to be submitted to GoUP by 5 th of next month	Monthly	100% coverage of assets as per respective VA report for that month.	-
		High severity issues to be closed within 7 days of issue of report. Medium severity issues to be closed within the same month of issue of report. Monitoring tool : Vulnerability assessment report		For any non-compliance with the SLA target.	4
21	Penetration testing	The Penetration Testing of all the public facing assets and services has to be done by the bidder on a quarterly basis. External PT should be done for all public facing assets and on a quarterly basis. The report to be submitted to GoUP by 5 th of the month following the quarter. High severity issues to be closed within 7 days of issue of report.	Monthly	100% coverage of assets.	-

Section 3: Contract conditions and Service Levels

S. No.	Definition	Measurement	Measurement Interval	Target	Severity Level
Availability of DC and DR components					
		Medium severity issues to be closed within the same month of issue of report. Monitoring tool: Penetration testing report		For any non-compliance with the SLA target.	4
22	Patch management	The patches to be installed on the systems in case a patch is released by the OEM or a flaw is identified due to an internal or external assessment by bidder or GoUP. High severity patches to be tested and installed within 7 days of issue of patch. Medium severity patches to be installed within 30 days of issue of patch. Measurement Tool: System generated Incident log at Helpdesk	Monthly	100% coverage.	-
				For any non-compliance with the SLA target.	4
23	DR Drill	Bidder shall adhere to the DR Policy of GoUP and conduct DR Drills.	Half yearly	100% of the time the drill should happen as per schedule and as per request of MHA.	-
				For any violation of the DR policy.	6

43.8.3. Network related performance levels

Network					
S. No.	Measurement	Definition	Measurement Interval	Target	Severity Level
1	Network Availability between DC, DR, UP Police 100, OMC and other sites	<p>Network availability for a month is defined as total time (in minutes) in a month less total down time (in minutes) in a month excluding planned network downtime. The network is considered available when all the services in full capacity are available</p> <p>Network Availability (%) = (Total minutes during the month – Planned downtime - Downtime minutes during the month) *100 / Total minutes during the month</p> <p>Measurement Tool: Reports from NMS/EMS</p>	Monthly	>=99.8%	-
				>=99.5% to <99.8%	6
				<99.5%	7

Section 3: Contract conditions and Service Levels

Network					
S. No.	Measurement	Definition	Measurement Interval	Target	Severity Level
2	Replication Network between DCs	<p>Metric: % of Uptime for Replication Network</p> <p>Formula: Uptime % = $\{1 - [(Total\ Downtime) / (Total\ Time - Planned\ Downtime)]\} * 100$</p> <p>Replication Network is used to connect DCs and is expected to available 24 x 7.</p> <p>Total Downtime - Total cumulative time the Replication Networks are NOT available.</p> <p>Planned Downtime -Total maintenance time as defined and agreed upon by TSP and GoUP.</p>	Monthly	>= 99.95 % up time	-
				< 99.95 % up time	4

Section 3: Contract conditions and Service Levels

Network					
S. No.	Measurement	Definition	Measurement Interval	Target	Severity Level
		Total Time - 24 X 7 measured over a period of month. Measurement Tool: Reports from NMS/EMS			
3	Network Quality of Service	Quality of Service (QoS) refers to the capability of a network to provide traffic engineering to selected network traffic. The primary goal of QoS is to provide priority including dedicated bandwidth, controlled jitter, latency and improved loss characteristics. Measurement Tool: Reports from NMS/EMS	Hourly	99% throughput of minimum stipulated bandwidth during 24*7 hours	-
				>=97% and <99% throughput of minimum stipulated bandwidth during 24*7 hours	5
				<97% throughput of minimum stipulated bandwidth during 24*7 hours	6
				Average Packet loss exceeding 0.5% over a month	4

Section 3: Contract conditions and Service Levels

Network					
S. No.	Measurement	Definition	Measurement Interval	Target	Severity Level
				Latency Delay > 150 ms (every instance)	4
4	Network Bandwidth Utilization for each server at DC,DR, UP Police 100,,OMC and other connected sites including internet	Average Network Bandwidth utilization should be less than 60% criteria for default. Measurement Tool: Reports from EMS	Monthly	>99.5%	-
				>=99.0% to < 99.5%	3
				<99.0%	6

43.8.4. Manpower related performance levels (Technical)

Sl. No.	Measurement	Definition	Measurement Interval	Target	Severity Level
Manpower Availability					
1	Replacement of key personnel defined in section 5 of the RFP	The Bidder is expected to replace the resources within 15 days in case of replacement	Quarterly	Less than 15 days for each key resource personnel	Penalty = 3* Monthly Unit Rate (for each replacement)
2	Availability of all Manpower resources at designated location as per requirement defined in section 5 of the RFP	[(Actual number of man-days deployed for a month) / (Agreed Total number of man-days in a month)] *100	Monthly	>= 95%	-
				>=90 % to < 95%	2
				< 90 %	4

43.8.5. Audit related performance levels

Sl. No.	Measurement	Definition	Measurement Interval	Target	Severity Level
Audit					
1	Implementation of recommendations of audit and Risk Assessment	Implementation of recommendations given by the auditor/ Assessor and which have been agreed upon to be implemented by the Bidder and GoUP	Monthly	100% on time, for the recommendations agreed upon with the GoUP, to be implemented in the said Month	5
2	Outcome of Security Audit	The third party auditor shall rate the performance of the Bidder on Security implementation. The three ratings for the performance shall be: Major Non Compliance (NC), Minor NC and Requires Improvement(or similar categories)	Yearly	Major Non Compliance	8
				Minor Non Compliance	7
				Requires Improvement	4
3	Adherence to Backup Policy	Based on the backup policy of the GoUP	Monthly	< 99% backups taken on time at the Data Centre Sites as per the GoUPs backup policy	5
				< 99% backup restoration testing on time in accordance to the GoUPs backup policy	3

43.8.6. Issue resolution

Sl. No.	Definition	Measurement	Measurement Interval	Target	Severity Level
1	“Resolution Time” means time taken (after the trouble call has been logged on the IT helpdesk), in resolving (diagnosing, troubleshooting and fixing) or escalating to the second level to respective Vendors, getting the confirmatory details about the same.	Severity: Critical	Daily	>= 98% of Issues to be analysed and resolved in 2 hours	-
				>=95 % to < 98% of issues to be analysed and resolved in 2 hours	4
		Show stoppers involving major functional failure in the application. There are no usable workarounds available to troubleshoot the problem. Affects majority of the users (more than 25%).		>=90 % to < 95% of issues to be analysed and resolved in 2 hours	5
				< 90 % of issues to be analysed and resolved in 2 hours	6
2	“Resolution Time” means time taken (after the trouble call has been logged on the IT helpdesk), in resolving (diagnosing, troubleshooting and fixing) or escalating to the second level to respective Vendors, getting the confirmatory details about the same.	Severity: High	Daily	>= 98% of issues to be analysed and resolved in 4 hours	-
				>=95 % to < 98% of issues to be analysed and resolved in 4 hours	3

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Sl. No.	Definition	Measurement	Measurement Interval	Target	Severity Level
		Users face severe functional restrictions in the application irrespective of the cause. Workarounds are time consuming. Affects majority of the users (more than 25%).		>=90 % to < 95% of issues to be analysed and resolved in 4 hours	4
				< 90 % of issues to be analysed and resolved in 4 hours	5
3	“Resolution Time” means time taken (after the trouble call has been logged on the IT helpdesk), in resolving (diagnosing, troubleshooting and fixing) or escalating to the second level to respective Vendors, getting the confirmatory details about the same.	Severity: Moderate	Daily	>= 98% of issues to be analysed and resolved in 6 hours	-
				>=95 % to < 98% of issues to be analysed and resolved in 6 hours	2
		Moderate functional restrictions in the application irrespective of the cause. Has a convenient and readily available workaround. Affects a few users		>=90 % to < 95% of issues to be analysed and resolved in 6 hours	3
				< 90 % of issues to be analysed and resolved in 6 hours	4
4	“Resolution Time” means time taken (after the trouble call has been logged on the IT helpdesk), in resolving (diagnosing,	Severity: Low	Daily	>= 98% of issues to be analysed and resolved in 8 hours	-

Section 3: Contract conditions and Service Levels

Sl. No.	Definition	Measurement	Measurement Interval	Target	Severity Level
	troubleshooting and fixing) or escalating to the second level to respective Vendors, getting the confirmatory details about the same.			>=95 % to < 98% of issues to be analysed and resolved in 8 hours	1
		Requiring cosmetic functional changes. Does not require any workaround. It may include user query / suggestions but has no business impact.		>=90 % to < 95% of issues to be analysed and resolved in 8 hours	2
				< 90 % of issues to be analysed and resolved in 8 hours	3

43.8.7. Other performances

Sl. No.	Definition	Measurement	Measurement Interval	Target	Severity Level
1	Generation of SLA reports from EMS system	All reports should be generated from EMS. No manual reports would be acceptable to the GoUP.	Weekly	100% from EMS.	-
				<100%	2
2	Submission of technology refresh report and annual security audit	Technology refresh and security audit report should be submitted timely as per Clause 11 of Section 5	As per Clause 11 of Section 5	On time submission as per Clause 11 of section 5	-
				Delay of every week	2

Foot Note:

In case the DC site is not ready, the Bidder should set up the DRC site to run as DC during with 50% capacity of planned DC infrastructure. In such case, SLA shall be applied on planned DC SLAs will be applicable for this DR with 50% capacity.

44. Manpower for UP POLICE 100 and OMC centre related:

44.1. Performance penalties for UP POLICE 100 manpower at Lucknow and OMC centers at Agra and Varanasi shall be levied for not meeting each of the severity levels of performance as per the following table:

Severity Level	Penalty as a percentage of monthly payment applicable
8	Replacement of concerned CO with a new CO within 1 month and 2% of monthly billed value
7	CO to be retrained and kept under supervision
6	7%
5	4%
4	2%
3	1.0%
2	0.5%
1	0.1%

44.2. Performance Penalty for not meeting a measurement parameter for any two months in one quarter shall result in twice the penalty percentage of that respective measurement parameter in the third month.

44.3. Maximum Penalty applicable for any month shall not exceed 20% of the 'applicable fees' for the respective month.

44.4. The payment to the Agency for UP POLICE 100 manpower will be on monthly basis and the penalties will also be calculated accordingly

The SLAs for manpower for UP POLICE 100 and OMC center is mentioned below:

Section 3: Contract conditions and Service Levels

44.4.1. UP POLICE 100 and OMC center related performance level

Sl. No.	Measurement	Definition	Measurement target	Severity level
1.	Average Speed to Answer (ASA)	Average amount of time to respond to the call. This includes the amount of time caller waits in a waiting queue ASA to be reviewed on a monthly basis. System generated reports to be considered to review the ASA	>=98% of the calls to be attended within 5 seconds	NIL
			>=97% to <98% calls attended within 5 second	2
			>=96% to <97% calls attended within 5 seconds	4
			<96% calls attended within 5 seconds	6
2.	Average Handle Time(AHT) Compliance - Inbound Actionable Call (AbC)	AHT refers to the time taken to manage a call. AHT shall be calculated as the sum of average talk time, hold time and transfer of calls to dispatch officer. AHT to be reviewed on a monthly basis. Reports to be taken by SLA monitoring tool or reports generated by ITECCS.	>=95% of the calls closed within 45 seconds	NIL
			>=90 to <95% of the calls closed within 45 seconds	2
			< 90% of the calls closed within 45 seconds	3

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Sl. No.	Measurement	Definition	Measurement target	Severity level
3.	Call Quality Score	<p>Call Quality score method scores CO calls against predefined parameters to ensure adherence of COs to the defined SOPs.</p> <p>The parameters and mechanism for calculating quality score will be mutually agreed between GoUP and Agency. These may cover:</p> <ul style="list-style-type: none"> ▶ Accuracy of information captured during the call ▶ Telephone etiquette and communication skills ▶ Responsiveness ▶ Knowledge, competency and skill ▶ Call management <p>Call quality score to be reviewed on a monthly basis. Reports to be taken by SLA monitoring tool or reports generated by ITECCS.</p>	>=80% score for all audited calls/ COs	NIL
			>=75% to <80% score for all audited calls/ Cos	4
			<75% score for all audited calls/ COs	5 And Retraining of identified COs
4.	Call abandon	<p>The proportion of calls that hang up or are disconnected before the CO answers the phone. In this case, outbound COs should call back all abandon calls (within 600 seconds of the</p>	100% call back made	NIL
			>=90% to <100% call back	4

Section 3: Contract conditions and Service Levels

Sl. No.	Measurement	Definition	Measurement target	Severity level
		abandoned call.) Only calls that get disconnected after 5 seconds from transfer to the ACD from IPPBX will be considered for computation of SLA. Reports to be taken by SLA monitoring tool or reports generated by ITECCS.	<90% call back	5
5.	Time bound call back for all abandoned calls	The proportion of calls that hang up or are disconnected before the CO answers the phone. In this case, outbound COs should call back all abandon calls within 600 seconds of the abandoned call. Only calls that get disconnected after 5 seconds from transfer to the ACD from IPPBX will be considered for computation of SLA. Reports to be taken by SLA monitoring tool or reports generated by ITECCS.	98% call within 600 seconds	NIL
			>=90% to <98% call back within 600 seconds	3
			<90% call back within 600 seconds	4
6.	Attendance in UP POLICE 100	Refers to availability of all CO staff as per agreed seats per shift and shift timings Attendance to be reviewed on monthly basis. The COs will mark their attendance through biometric devices or any other method located at the entry gate of UP POLICE 100	100% attendance of staff at UP POLICE 100	NIL
			>= 95% to <100% attendance of staff at UP POLICE 100	4
			>= 90% to <95% attendance of staff at UP POLICE 100	5
			<90% attendance of staff at UP POLICE 100	6

Section 3: Contract conditions and Service Levels

Sl. No.	Measurement	Definition	Measurement target	Severity level
7.	Non-compliance to UP POLICE 100 regulations	Refers to the non-compliance related to UP POLICE 100 dress code and moral behaviour etc. as per UP POLICE 100 policy. Code violation will be monitored on the basis of complaints received. It will be reviewed on a monthly basis.	<=1 for each staff monthly	NIL
			>=2 for each staff monthly	5% of monthly billed value of each non-compliant staff
8.	CO Trainings	Adherence to the Training Schedule for additional trainings on Functional/Technical aspects to be provided by UP POLICE 100	0 instances of non-adherence	NIL
			Every instance of non-adherence	5% of monthly billed value of each non-compliant staff
		Scores obtained on trainings provided by UP POLICE 100 by each staff The scores to be reviewed for every test	>=90% marks achieved by staff	NIL
			<90% of total marks	Retraining of the staff
			<90% of total marks after retraining and retesting	Replacement of the staff
9.	Compliance to schedule - Feedback form completion rate	Refers to the percentage calls for which a dispatch has happened and feedback was taken by the outbound CO. The outbound CO to take feedback thrice as per the schedule below:	100% feedback of special dispatch calls	NIL
			>= 95% to <100% feedback of special dispatch calls	2

Section 3: Contract conditions and Service Levels

Sl. No.	Measurement	Definition	Measurement target	Severity level
		<ul style="list-style-type: none"> ▶ In case of Special Dispatch calls : once within 24hrs, then after 1 week and then after 3 months ▶ In case of Dispatch calls (only for 50% of the cases): once within 48hrs, then after 2 weeks and then after 2 months <p>Compliance to be reviewed on case to case basis. The reports to be submitted as per the requirement raised by GoUP</p>	< 95% feedback of special dispatch calls	3
			100% feedback of Dispatch Calls	NIL
			>= 95% to <100% feedback of Dispatch calls	2
			< 95% feedback of Dispatch calls	3
10.	Response to non-voice mode of communications: <ul style="list-style-type: none"> ▶ SMS ▶ IoT, ▶ Panic button ▶ Mobile application ▶ Mobile chat 	<ul style="list-style-type: none"> ▶ Response to the citizens from COs as per agreed SOP ▶ Case to be created in the emergency response system ▶ Transfer the case to Dispatch officer, if required <p>Should be monitored on monthly basis and system generated reports should be taken</p>	100% response within 600 seconds	NIL
			>=95% to <100% response within 600 seconds	2
			<95% response within 600 seconds	3
11.	Response to non-voice mode of communications: <ul style="list-style-type: none"> ▶ VoIP ▶ Email 	<ul style="list-style-type: none"> ▶ Response to the citizens from COs as per agreed SOP ▶ Case to be created in the emergency response system ▶ Transfer the case to Dispatch officer, if required 	100% response within 30 minutes	NIL
			>=95% to <100% response within 30 minutes	1

Section 3: Contract conditions and Service Levels

Sl. No.	Measurement	Definition	Measurement target	Severity level
	▶ Web chat	Should be monitored on monthly basis and system generated reports should be taken	<95% response within 30 minutes	2

45. Reporting Procedures

- 45.1. The Bidder representative will prepare and distribute Service level performance reports in a mutually agreed format by the **5th working day of subsequent month**. The reports will include “**actual versus target**” Service Level Performance, a variance analysis and discussion of appropriate issues or significant events. Performance reports will be distributed to GoUP management personnel as directed by GoUP.
- 45.2. Also, the Bidder may be required to get the Service Level performance report audited by a third-party Auditor appointed by the GoUP.

46. Issue Management Procedures

46.1. General

This process provides an appropriate management structure for the orderly consideration and resolution of business and operational issues in the event that quick consensus is not reached between GoUP and Bidder.

Implementing such a process at the beginning of the outsourcing engagement significantly improves the probability of successful issue resolution. It is expected that this pre-defined process will only be used on an exception basis if issues are not resolved at lower management levels.

46.2. Issue Management Process

- 46.2.1. Either GoUP or the Bidder may raise an issue by documenting the business or technical problem, which presents a reasonably objective summary of both points of view and identifies specific points of disagreement with possible solutions.
- 46.2.2. Any unresolved issues/disputes concerning the Project/Contract between the Parties will first be referred in writing to the Project Manager for his consideration and resolution. If the Project Manager is unable to resolve any issue/dispute within 5 days of reference to them, the Project Manager will refer the matter to the Program Management Committee. If the Program Management Committee is unable to resolve the issues/disputes referred to them within 15 days the unresolved issue/dispute will be referred to Steering Committee for resolution. The Steering Committee within 30 days of reference to them shall try to resolve the issue/dispute.
- 46.2.3. If the Steering Committee fails to resolve a dispute as per the above clause, the same shall be referred to arbitration. The arbitration proceedings shall be carried out as per the Arbitration procedures mentioned in Clause 18 of this section of RFP.

47. Service Level Change Control

47.1. General

It is acknowledged that this **Service levels may change as GoUP business needs evolve over the course of the contract period**. As such, this document also defines the following management procedures:

- a. A process for negotiating changes to the Service Levels
- b. An issue management process for documenting and resolving particularly difficult issues.
- c. GoUP and Bidder management escalation process to be used in the event that an issue is not being resolved in a timely manner by the lowest possible level of management.

Any changes to the levels of service provided during the term of this Agreement will be requested, documented and negotiated in good faith by both parties. Either party can request a change.

- 47.2. **Service Level Change Process:** The parties may amend Service Level by mutual agreement in accordance. Changes can be proposed by either party. Unresolved issues will also be addressed. The Bidder's representative will maintain and distribute current copies of the Service Level document as directed by GoUP. Additional copies of the current Service Levels will be available at all times to authorized parties.
- 47.3. **Version Control:** All negotiated changes will require changing the version control number. As appropriate, minor changes may be accumulated for periodic release or for release when a critical threshold of change has occurred.

48. Exit Management Plan

- 48.1. An Exit Management plan shall be furnished by Bidder in writing to the GoUP within 90 days from the date of signing the Contract, which shall deal with at least the following aspects of exit management in relation to the contract as a whole and in relation to the Pilot site Implementation, and Service Level monitoring.
- vi. A detailed program of the transfer process that could be used in conjunction with a Replacement Service Provider including details of the means to be used to ensure continuing provision of the services throughout the transfer process or until the cessation of the services and of the management structure to be used during the transfer;
 - vii. Plans for provision of contingent support to Project and Replacement Service Provider for a reasonable period after transfer.
 - viii. Exit Management plan in case of normal termination of Contract period
 - ix. Exit Management plan in case of any eventuality due to which Project is terminated before the contract period.
 - x. Exit Management plan in case of termination of the Bidder
- 48.2. Exit Management plan at the minimum adhere to the following:
- 48.2.1. Three (3) months of the support to Replacement Service Provider post termination of the Contract
 - 48.2.2. Complete handover of the sources codes, reports, documents and other relevant items to the Replacement Service Provider
 - 48.2.3. Certificate of Acceptance from authorized representative of Replacement Service Provider issued to the Bidder on successful completion of handover and knowledge transfer
- 48.3. In the event of termination or expiry of the contract, Pilot site Implementation, or Service Level monitoring, both Bidder and GoUP shall comply with the Exit Management Plan.
- 48.4. During the exit management period, the Bidder shall use its best efforts to deliver the services.

D. ANNEXURES*1.1 Annex I: Change Control Note*

Change Control Note		CCN Number:
Part A: Initiation		
Title:		
Originator:		
Sponsor:		
Date of Initiation:		
Details of Proposed Change		
(To include reason for change and appropriate details/specifications. Identify any attachments as A1, A2, and A3 etc.)		
Authorized by GoUP	Date:	
Name:		
Signature:		
Received by the Bidder	Date:	
Name:		
Signature:		
Change Control Note		CCN Number:
Part B : Evaluation		
(Identify any attachments as B1, B2, and B3 etc.)		

Section 3: Contract conditions and Service Levels

Changes to Services, payment terms, payment profile, documentation, training, service levels and component working arrangements and any other contractual issue.	
Brief Description of Solution:	
Impact:	
Deliverables:	
Timetable:	
Charges for Implementation: (including a schedule of payments)	
Other Relevant Information: (including value-added and acceptance criteria)	
Authorized by the Bidder	Date:
Name:	
Signature:	
Change Control Note	CCN Number :
Part C : Authority to Proceed	

Section 3: Contract conditions and Service Levels

Implementation of this CCN as submitted in Part A, in accordance with Part B is: (tick as appropriate)	
Approved Rejected Requires Further Information (as follows, or as Attachment 1 etc.)	
For GoUP and its nominated agencies	For the Bidder
Signature	Signature
Name	Name
Title	Title
Date	Date

1.3 Annex II: Form of Agreement

This Agreement is made on theday of.....2016,

BETWEEN

The Governor of Uttar Pradesh through Sri.....,

(Deputy/Special) Secretary, Home Department, Government of Uttar Pradesh (hereinafter referred as “GoUP” which expression shall unless repugnant to the Context thereafter include his Successor in office) of the **ONE PART**;

AND

.....a Company/.....registered under the Companies Act, 1956 and having its registered office at through Sri.....(hereinafter referred as “Successful Bidder” which expression shall unless repugnant to the Context thereafter include his successor in office and assigns)of the **OTHER PART**.

NOW, THEREFORE, IT IS HEREBY AGREED between the parties as follows:

- a. The GoUP has accepted the tender of the Prime Bidder for the provision and execution of the said works for the sum ofupon the terms laid out in this RFP.
- b. The Bidder hereby agrees to provide Services to GoUP, conforming to the specified Service Levels and conditions mentioned
- c. The following documents attached hereto shall be deemed to form an integral part of this Agreement:

Complete Request for Proposal (RFP) Document	<i>Section 1,2,3,4,5, 5A and 5 B of the RFP</i>
Break-up of cost components	<i>Prime Bidder's Commercial Proposal</i>
The GoUP Letter of Intent dated <<>>	<i>To be issued later by the GoUP</i>
The Prime Bidder's Letter of acceptance dated <<>>	<i>To be issued later by the GoUP</i>
Bid submitted by the Prime Bidder as per file No. <<>>	

- d. The mutual rights and obligations of the “GoUP” and the Prime Bidder shall be as set forth in the Agreement, in particular:
 - the Prime Bidder shall carry out and complete the Services in accordance with the provisions of this Agreement; and
 - the “GoUP” shall make payments to the Prime Bidder in accordance with the provisions of this Agreement.

Section 3: Contract conditions and Service Levels

NOW THESE PRESENTS WITNESS and the parties hereto hereby agree and declare as follows, that is to say, in consideration of the payments to be made to the Prime Bidder by the GoUP as hereinafter mentioned, the Prime Bidder shall deliver the services for the said works and shall do and perform all other works and things in the Contract mentioned or described or which are implied there from or there in respectively or may be reasonably necessary for the completion of the said works within and at the times and in the manner and subject to the terms, conditions and stipulations mentioned in the said Contract.

AND in consideration of services and milestones, the GoUP will pay to the Prime Bidder the said sum ofor such other sums as may become payable to the Prime Bidder under the provisions of this Contract, such payments to be made at such time and in such manner as is provided by the Contract.

IN WITNESS WHEREOF the parties hereto have signed this deed hereunder on the dates respectively mentioned against the signature of each.

Signed
Name : _____
Designation : _____

Date :

Place :

in the presence of :

Signed
Name : _____
Designation : _____
Date :
Place :

Signed
Name : _____
Designation : _____

Date :

Place :

in the presence of :

Signed
Name : _____
Designation : _____
Date :
Place :

Section 4

Bid submission formats

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1 Pre-qualification formats:

1.1 Pre-qualification checklist

Sl. No.	Description	Proof Required
General Requirements		
1.	Pre Qualification Covering letter as prescribed format	Refer clause 1.2 of this document
2.	Pre-qualification checklist	Refer clause 1.3 of this document
3.	Earnest Money Deposit (EMD)	Bank Guarantee as per clause 1.4 of this document
4.	Demand draft of Tender fees	Refer Section 1 of the RFP document
5.	Authorization of signatory for the purpose of this RFP	As per bidder's format
6.	Consortium agreement	As per bidder's format

1.2 Pre-qualification Bid Letter

Date: dd / mm / yyyy

To

**ADG, ITECCS
Traffic Directorate
Mohanlalganj, Lucknow
Uttar Pradesh**

Sir,

Sub: Request for Proposal for Selection of Agency for Technology and operationalization of U.P. State wide Dial 100 Project

Ref: RFP No. <<>> dated << 2015>>

Dear Sir,

With reference to your “**Request for Proposal for Selection of Agency for Technology and operationalization of U.P. State wide Dial 100 Project**”, we hereby submit our Prequalification proposal, Technical Proposal and Commercial Proposal for the same.

We hereby declare that:

- a. We hereby acknowledge and unconditionally accept that the GoUP can at its absolute discretion apply whatever criteria it deems appropriate, not just limiting to those criteria set out in the RFP and related documents, in short listing of Agency for providing services.
- b. We have enclosed a Bank Guarantee for Rs. 20 Core and Demand Draft of Rs. 25,000 in favour of **Governor of Uttar Pradesh** as Earnest Money Deposit and tender fees respectively.
- c. We hereby declare that all information and details furnished by us in the Proposal are true and correct, and all documents accompanying such application are true copies of their respective originals.
- d. We agree to abide by our offer for a period of 120 days from the date of opening of pre-qualification bid prescribed by ITECCS UP POLICE and that we shall remain bound by a communication of acceptance within that time.
- e. We have carefully read and understood the terms and conditions of the RFP and the conditions of the contract applicable to the RFP. We do hereby undertake to provision as per these terms and conditions.
- f. In the event of acceptance of our bid, we do hereby undertake
 - i. To supply the products and commence services as stipulated in the RFP document is forming a part of the attached proposal.

- ii. To undertake the project services for entire contract period from the date of signing of the contract as mentioned in the RFP document.
- iii. We affirm that the prices quoted are inclusive of design, development, delivery, installation, commissioning, training, and providing facility management, outsourced staff for contact center, handholding support, and inclusive of all out of pocket expenses, taxes, levies discounts etc.
- g. We do hereby undertake, that, until a formal contract is prepared and executed, this proposal, together with your written acceptance thereof and notification of award of contract, shall constitute a binding contract between us.
- h. We understand that the bank guarantee furnished by us as Earnest Money Deposit may be encashed under conditions enumerated in Section 2 of the RFP
- i. We understand that the GoUP may cancel the bidding process at any time and that GoUP is not bound to accept any bid that it may receive without incurring any liability towards the bidder.

In case of any clarifications please contact _____ email at _____

Thanking you,

Yours sincerely,

(Signature of the Prime Bidder)

Printed Name

Designation

Seal

Date:

Place:

Business Address:

1.3 Pre-qualification checklist

S. No.	Description	Mandatory documentary evidence to be submitted	Compliance (YES or NO)	Reference (Page No. and Section No.)
Qualification Criteria for Agency				
1	The number of consortium members cannot exceed two, including the Prime Bidder	Signed agreement between Primer bidder and consortium partner		
1 A	Prime bidder must have a minimum of 51% stake in the contract value of project	Undertaking along with signed Consortium agreement mentioned in Section 4 highlighting the stake of each consortium member in the project.		
2	<p>Prime bidder must have registered under Companies Act, 1956 and should be in operation in India for a period of at least 10 years as on 31st March 2015</p> <p>Consortium partner must have registered under Companies Act, 1956 and should be in operation in India for a period of at least 5 years as on 31st March 2015</p>	<ul style="list-style-type: none"> ▶ Copy of certification of incorporation ▶ PAN card ▶ VAT registration 		
3	<p>Prime bidder should have average annual turnover of Rs.1000 crores in last three financial year (ending 31st March 2015)</p> <p>Parent company average annual turnover would be considered for only 100% subsidiary or division or sub division or branch business unit</p>	<ul style="list-style-type: none"> ▶ Copy of audited financial statements ▶ Declaration from appointed statutory auditor of the company ▶ Support letter from parent or group company or group companies and its subsidiaries to be provided 		
4	<p>Prime Bidder should have a current net worth of 250 Crores as of 31 March 2015</p> <p>Parent Company Net worth would</p>	Letter from statutory auditor with Net Worth details		

S. No.	Description	Mandatory documentary evidence to be submitted	Compliance (YES or NO)	Reference (Page No. and Section No.)
	be considered for only 100% subsidiary or division or sub-division or branch or business unit			
5	<p>Prime Bidder or consortium partner should have experience of handling assignments in India or abroad as System Integrator over last 5 years (as on 31st March 2015)</p> <p>1 project with value 150 crore</p> <p>OR</p> <p>2 projects with value 100 crore each</p> <p>OR</p> <p>3 projects with value 60 crore each</p> <p>Parent Company experience would be considered for only 100% subsidiary or division or sub-division or branch or business unit</p>	<p>Credential in the format provided in Section 4 of RFP document</p> <p>Documentary evidence (Copy of Client certificate or Purchase order or Contract) or work order</p> <p>The date of work order or contract should be at least 6 months before date of release of this RFP</p>		
6	<p>Prime Bidder or consortium partner should have experience in implementing minimum 2 projects of Call Centre or Emergency Response (Medical, Police, Fire) with Contact Centre solution in last 5 years in India or abroad.</p> <p>Parent Company experience would be considered for only 100% subsidiary or division or sub-division or branch or business unit</p>	<p>Credential in the format provided in Section 4 of RFP document</p> <p>Documentary evidence (Copy of Client certificate or Purchase order or Contract) or work order</p> <p>The date of work order or contract should be at least 6 months before date of release of this RFP</p>		
7	Prime bidder or consortium partner should have experience of	Credential in the format provided in Section 4 of		

S. No.	Description	Mandatory documentary evidence to be submitted	Compliance (YES or NO)	Reference (Page No. and Section No.)
	<p>providing annual average employment of 300 people to Call Centres projects in last 3 years in India</p> <p>Parent Company experience would be considered for only 100% subsidiary or division or sub-division or branch or business unit.</p>	<p>RFP document</p> <p>Documentary evidence (Copy of Client certificate or Purchase order or Contract)</p> <p>The date of work order or contract should be at least 6 months before date of release of this RFP</p>		
8	Prime Bidder or consortium partner should have certification of ISO 9001:2008	Copy of valid certificates from authorized agencies		
9	<p>Prime bidder should have a local office in Lucknow</p> <p>OR</p> <p>If bidder has no local presence, it should open a local office within 30 days from issuance of LOI or contract.</p>	<p>Declaration from authorized signatory mentioning the name and address of local office</p> <p>OR</p> <p>Undertaking from authorized signatory to open the local office within 30 days from issuance of LOI or contract</p>		
10	Prime bidder should have employed an average of 3000 personnel over last 3 years ending on 31st March 2015	Declaration from authorized signatory		
11	Prime Bidder and consortium member shall not be black listed to provide similar services to any State or Central Government Department or Ministry as on bid submission date	Self-Declaration Certificate signed by authorized signatory to be submitted by each Consortium member		
Qualification Criteria for Contact centre, CAD and ROIP solution proposed for the project				

S. No.	Description	Mandatory documentary evidence to be submitted	Compliance (YES or NO)	Reference (Page No. and Section No.)
12	Should be a solution that is ready-made and available for sale, lease, or license to the general public. It should have been implemented or being implemented by a large number of System Integrators (3 or more). The OEM should own the Source Code of the software.	Declaration from the authorized signatory of the OEM		
13	The proposed Contact Centre solution must be in Leaders Quadrant of Gartner Report in any one report published in last 3 years. The solution should have been implemented in minimum 2 projects handling over 100,000 calls per day in each project in India or abroad in last 5 years.	Letter from the authorized signatory of the OEM along with the copy of relevant pages of the report Documentary evidence from OEM (Copy of Client certificate or Purchase order or Contract)		
14	The proposed CAD solution must be in IMS Control Room solution in any one report published in last 3 years. The proposed CAD solution should have been implemented in minimum three (3) projects in Emergency Response (Police, Medical, Fire) in India or abroad in last 5 years. The projects should have CAD solution integrated with GIS solution, AVLS and MDT.	Letter from the authorized signatory of the OEM along with the copy of relevant pages of the report Documentary evidence from OEM (Copy of Client certificate or Purchase order or Contract)		
15	The proposed ROIP solution should have been implemented three (3) projects with minimum 5 frequency bands in India or abroad	Documentary evidence from OEM (Copy of Client certificate or Purchase order or Contract)		
Qualification Criteria for OEM of proposed MDT device for the project				
16	The proposed MDT device should be rugged with minimum of IP65 and MIL 810G standards.	Self-certification from authorized signatory of the OEM		

S. No.	Description	Mandatory documentary evidence to be submitted	Compliance (YES or NO)	Reference (Page No. and Section No.)
	<p>The proposed MDT device should have been deployed in India or abroad in minimum three (3) projects in last 5 years.</p> <p>The OEM for MDT should have its own service center in India</p>	Documentary evidence from OEM (Copy of Client certificate or Purchase order or Contract)		
Qualification Criteria for ISP or Network Service Provider				
17	<p>The Service Provider should be a National Long Distance Service Provider or IP VPN service provider having own MPLS VPN network under license from Government of India (GoI)</p> <p>The Service provider backbone should be highly redundant, ensuring that there is no single point of failure.</p>	Self-certification from ISP or Network Service Provider		
Qualification Criteria for OEM of the proposed Video Wall				
18	<p>The Video Wall systems of the OEM should have been deployed in India in minimum five (5) projects in last 5 years.</p> <p>The OEM for Video wall should have its own service center in India with a minimum of 20-member service team.</p>	<p>Documentary evidence from OEM (Copy of Client certificate or Purchase order or Contract)</p> <p>Self-certification from authorized signatory of the OEM</p>		

1.4 Earnest Money Deposit Form

To,

ADG, ITECCS
Traffic Directorate
Mohanlaganj, Lucknow
Uttar Pradesh

Whereas M/s <<Name of Bidder>>, a company incorporated under the <<Act>>, its registered office at or (hereinafter called 'the Bidder') has submitted its Proposal dated ---- for **"Request for Proposal for Selection of Agency for Technology and operationalization of U.P. State wide Dial 100 Project"**

KNOW ALL MEN by these presents that WE <<Name of Bank>> of ----- having our registered office at ----- (hereinafter called "the Bank") are bound unto the **ITECCS UP POLICE** (hereinafter called "the Client") in the sum of Rs. 20 crore (Rupees Twenty Crores) for which payment well and truly to be made to the said Client, the Bank binds itself, its successors and assigns by these presents. Sealed with the Common Seal of the said Bank this ----- day of -----2016

THE CONDITIONS of this obligation are:

1. If the Bidder withdraws its bid during the period of bid validity specified by the Bidder in the Bid
2. If the Bidder, having been notified of the acceptance of its Proposal by the Client during the period of validity of Proposal, bidder:
 - withdraws his participation from the Proposal during the period of validity of Proposal document;
 - fails to extend the validity if required and as requested or
 - fails to produce Performance Bank Guarantee in case of award of tender within 15 days of award of LOI or awarding contract whichever is earlier

We undertake to pay to the Client up to the above amount upon receipt of its first written demand, without the Client having to substantiate its demand, provided that in its demand the Client will note that the amount claimed by it is due to it owing to the occurrence of one or any or a combination of the above conditions, specifying the occurred condition or conditions.

This guarantee will remain in force up to the period of bid validity and its validity should be extensible to 90 days beyond the bid validity date. Any demand in respect thereof should reach the Bank not later than the above date.

(Authorized Signatory of the Bank)

1.5 Declaration of Non-Blacklisting

Declaration for Prime Bidder:

Please provide the declaration on letter head

{Place}

{Date}

To,

Ref: RFP Ref No: _____

Subject: Self Declaration of not been blacklisted in response to the Request for Proposal for Selection of Agency for Technology and operationalization of U.P. State-wide Dial 100 Project

Dear Sir,

We confirm that our company or firm, _____, is currently not blacklisted in any manner whatsoever by any of the State or UT and / or Central Government in India on any ground including but not limited to indulgence in corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice.

(Signature of the Prime Bidder)

Printed Name

Designation

Seal

Date:

Place:

Business Address:

Declaration for Consortium Member:

{Place}

{Date}

To,

Ref: RFP Ref No: _____

Subject: Self Declaration of not been blacklisted in response to the Request for Proposal for Selection of Agency for Technology and operationalization of U.P. State-wide Dial 100 Project

Dear Sir,

We confirm that our company or firm, _____, is currently not blacklisted in any manner whatsoever by any of the State or UT and / or Central Government in India on any ground including but not limited to indulgence in corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice.

(Signature of the Consortium Member)

Printed Name

Designation

Seal

Date:

Place:

Business Address:

2 Technical Formats

2.1 Technical Bid Check-List

S. No.	Checklist Items	Compliance (Yes or No)	Page No. and Section No. in proposal
1.	Technical Bid Letter		
2.	Credential summary		
3.	Detailed credentials		
4.	Detailed proposed solution		
5.	Proposed CVs		
6.	Statement of Deviation		

Section 4: Bid submission formats

S. No.	Checklist Items	Compliance (Yes or No)	Page No. and Section No. in proposal
7.	Breakdown of cost components without mentioning cost		

2.2 Technical Bid Letter

Date: dd or mm or yyyy

**ADG, ITECCS
Traffic Directorate
Mohanlalganj, Lucknow
Uttar Pradesh**

Sir,

Sub: Request for Proposal for Selection of Agency for Technology and operationalization of U.P. State wide Dial 100 Project

Ref: RFP No. <<>> dated << 2015>>

I (in case of single bidder) or We, <<name of the undersigned Bidder and consortium members>>, having read and examined in detail all the bidding documents in respect of **“Request for Proposal for Selection of Agency for Technology and operationalization of U.P. State wide Dial 100 Project”** do hereby propose to provide our services as specified in the bidding proposal submitted by us.

We declare that all the services shall be performed strictly in accordance with the RFP documents except for the variations, assumptions and deviations, all of which have been detailed out exhaustively in the format provided for statement of deviation, irrespective of whatever has been stated to the contrary anywhere else in our Proposal.

We confirm that the information contained in this response or any part thereof, including its exhibits, and other documents and instruments delivered or to be delivered to “ITECCS UP Police” is true, accurate, verifiable and complete. This response includes all information necessary to ensure that the statements therein do not in whole or in part mislead the department in its evaluation process. We also confirm that we shall not attract conflict of interest in principle.

We hereby declare that in case the contract is awarded to us, we shall submit the contract Performance bank guarantee in the form prescribed at Clause 5.1 of Section 4 of the RFP.

We hereby declare that our bid is made in good faith, without collusion or fraud and the information contained in the bid is true and correct to the best of our knowledge and belief.

We understand that our bid is binding on us and that you are not bound to accept a Bid you receive. This proposal is valid for 120 days after opening of technical bid. We shall extend the validity of the bid if required by “ITECCS UP Police”.

Thanking you,
Yours sincerely,

(Signature of the Prime Bidder)

Printed Name
Designation

Seal

Date:
Place:
Business Address:

2.3 Company Profile

A. Brief company profile (required for both bidder and consortium member)

Sl. No.	Particulars	Description or Details
A.	Name of Bidder	
B.	Legal status of Bidder (company, Pvt. Ltd., LLP etc.)	
C.	Main business of the Bidder	
D.	Registered office	
E.	Incorporation date and number	
F.	Service Tax number	
G.	VAT number	
H.	PAN details	
I.	Primary Contact Person (Name, Designation, address, mobile number, fax, email)	
J.	Secondary Contact Person (Name, Designation, address, mobile number, fax, email)	
K.	EMD details	
L.	Demand Draft details (DD No., date, Bank)	

B. Certificate of Incorporation (required for both bidder and consortium member)

Provide the Certificate of Incorporation of the company.

C. Financial Turnover

The financial turnover of the company is provided as follows:

	2012 – 13	2013 – 14	2014 – 15
Annual Turnover			
Net worth			

Copy of audited financial statements or declaration from the appointed statutory auditor to be provided as proof of the financial turnover

D. Certifications (required for both bidder and consortium member)

Provide copy of valid certification for SEI CMM or CMMi maturity Level 5, ISO 27001 or ISO 9001.

2.4 Prior Experience

2.4.1 Credential Summary

#	Project Name	Client Name	Client Type	Project Value (in INR)	Project Components	Documentary evidence provided (Yes or No)	Project Status (Completed or Ongoing or Withheld)
1							
2							
3							
4							
5							
6							
7							

- Client type – Indicate whether the client is Government or PSU or Private
- Project Components – Indicate the major project components setting up of case record management application, contact centre establishment, Application development, Maintenance, Hardware procurement and deployment, DC setup and maintenance, Facility management services, provisioning manpower, IT support and maintenance
- Documentary evidence provided – Indicate the documentary evidence provided with the detailed project credential like work order or purchase order or completion certificate or letter of appointment
- Project Status – Completed (date of project completion) or Ongoing (project start date)

2.4.2 Credential Format

Prime Bidder or Consortium member is requested to furnish the credentials in the following format for both Pre-qualification and Technical criterion. All credentials should be followed by relevant documentary proof.

Name of the Work and Location	
Client's Name and Complete Address	
Narrative description of project	
Contract Value for the bidder (in INR) (mandatory)	
Date of Start (mandatory)	
Date of Completion	
Activities undertaken by prime bidder or consortium member	

2.5 Overview of Proposed Solution

2.5.1 Structure of Proposed Solution

Please provide approach and methodology to execute the entire project as per the following headers. Bidders are advised to comply with the below provided header while detailing out their solution.

Sl. No.	Item
1.	Understanding of ToR and Implementation approach <ul style="list-style-type: none"> Understanding of requirements Adequacy of Work plan
2.	Robustness and quality <ul style="list-style-type: none"> Entire proposed solution (software) for operationalization of contact center Hardware solution comprising of DC or DR, network etc.) Compliance with all requirement specifications as mentioned in the RFP Project implementation approach or strategy and operations and maintenance plan including comprehensiveness of fall-back strategy and planning during rollout Any other area that may be required in the project
3.	Assessment of Manpower deployment, Training and Handholding plan <ul style="list-style-type: none"> Deployment strategy of Manpower Contingency management Mobilization of existing resources and additional resources as required Training and handholding strategy

2.5.2 Project Plan

A **Detailed Project Plan** covering break-up of each phase into the key activities, along with the start and end dates must be provided as per format given below.

Activity-wise Timelines							
Sl. No.	Item of Activity	Month wise Program					
		1	2	3	4	5	...
	Project Plan						
1	Activity 1						
1.1	Sub-Activity 1						
1.2	Sub-Activity 2						
2							
2.1							
2.2							
3							

Activity-wise Timelines							
Sl. No.	Item of Activity	Month wise Program					
3.1							
4							
<p>Note: The above activity chart is just for the purpose of illustration. Bidders are requested to provide detailed activity and phase wise timelines for executing the project with details of deliverables and milestones as per their proposal.</p>							

2.5.3 Manpower Plan

Manpower distribution									
S. No.	Manpower	Month wise time to be spent by each personnel (in days)						Total	Onsite or offsite
		Month 1	Month 2	Month 3	Month 4	Month 5	...		
1	Project Director								Onsite
									Offsite
2	Project Manager								Onsite
									Offsite
3	Solution Architect (DC, DR)								Onsite
									Offsite
4	Solution Architect (Applications)								Onsite
									Offsite
5	Solution Architect (Network)								Onsite
									Offsite
6	Solution Architect (Information Security)								Onsite
									Offsite
7	Database Architect or Modeler								Onsite
									Offsite
8	Database Administrator								Onsite
									Offsite
9	System Administrator								Onsite
									Offsite
10	Network Administrator								Onsite
									Offsite

Section 4: Bid submission formats

Manpower distribution									
S. No.	Manpower	Month wise time to be spent by each personnel (in days)						Total	Onsite or offsite
		Month 1	Month 2	Month 3	Month 4	Month 5	...		
11	Business Analyst								Onsite
									Offsite
12	CAD Expert (from OEM of the proposed product)								Onsite
									Offsite
13	GIS Expert (from OEM of the proposed product)								Onsite
									Offsite
14	Telephony & ACD expert (from OEM of the proposed product)								Onsite
									Offsite
15	Radio over IP specialist (from OEM of the proposed product)								Onsite
									Offsite
16	Monitoring center integration expert								Onsite
									Offsite
17	Monitoring center configuration and customization expert								Onsite
									Offsite
18	Application Developers								Onsite
									Offsite
19	QA Manager								Onsite
									Offsite
20	Test Analysts								Onsite
									Offsite
21	Master Trainer								Onsite
									Offsite
22	Documentation Specialist								Onsite
									Offsite
23	GIS Data Support Staff								Onsite
									Offsite

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Manpower distribution									
S. No.	Manpower	Month wise time to be spent by each personnel (in days)						Total	Onsite or offsite
		Month 1	Month 2	Month 3	Month 4	Month 5	...		
24	Geo Fencing Staff								Onsite
									Offsite
25	Process and Compliance Manager								Onsite
									Offsite
26	SOC Analyst								Onsite
									Offsite
27	VAPT Analyst								Onsite
									Offsite
28	Build and Release Manager								Onsite
									Offsite
29	IT Security Manager								Onsite
									Offsite
30	IT Helpdesk Staff								Onsite
									Offsite
31	DC support Staff								Onsite
									Offsite
32	DR Support Staff								Onsite
									Offsite
33	FMS staff at UP POLICE 100								Onsite
									Offsite
34	FMS Staff at OMC Agra								Onsite
									Offsite
35	FMS staff at OMC Varanasi								Onsite
									Offsite
36	Others								
Total									
<p>Note: The above chart is just for the purpose of illustration. Bidders are requested to provide detailed manpower distribution with clearly stating offsite and onsite deployment, part time or full time deployment and other details as per their proposal.</p>									

2.6 Details of Manpower Resource

2.6.1 Summary of resources

Note: For the Key Personnel (refer Section 5), it is mandatory to provide name of proposed resource along with details desired as per format given below.

Sl. No.	Name of the Resource	Proposed Role	Higher Qualification	Basic Qualification (E.g. B.Sc. or B.E. or Diploma)	Certifications (ex. PMI or ITIL)	Number of projects in (Dial 100 or emergency response)	Total Experience (in years)
1.							
2.							
3.							

Section 4: Bid submission formats

2.6.2 Detailed CV

1	Name:			
1.	Proposed position or role	(only one candidate shall be nominated for each position)		
2.	Date of Birth		Nationality	
3.	Education	Qualification	Name of School or College or University	Degree Obtained
				Date Attended
4.	Years of experience			
5.	Areas of Expertise and no. of years of experience in this area	(as required for the Profile) ▶		
6.	Certifications and Trainings attended	▶		
7.	Employment Record	Employer	Position	From
				To
		[Starting with present position and last 2 firms, list in reverse order, giving for each employment: dates of employment, name of employing organization, positions held.]		
8.	Detailed Tasks Assigned	(List all tasks to be performed under this project) ▶		
9.	Relevant Work Undertaken that Best Illustrates the experience as required for the Role)			

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1	Name:	
Project 1		
Name of assignment		
Year		
Location		
Employer		
Main project features		
Position held		
Activities performed		
Project 2		
Name of assignment		
Year		
Location		
Employer		
Main project features		
Position held		
Activities performed		

2.7 Statement Of Deviations From Schedule Of Requirements

Date: DD MONTH 2015

To

ADG, ITECCS

Traffic Directorate

Mohanlalganj, Lucknow

Uttar Pradesh

Sir,

We are providing the deviations from the requirements of RFP document **No <<>> dated <<2015>>**. These deviations, assumptions and variations are exhaustive. Except these deviations, assumptions and variations, all other Terms and Conditions of the RFP are acceptable to us.

Deviations in Scope of Work

S. No.	Reference of RFP Volume Number, Clause No. and Page. No	Deviation in the Proposal	Brief Reasons

Deviation in Terms and Conditions

S. No.	Reference of RFP Volume Number, Clause No. and Page. No	Deviation in the Proposal	Brief Reasons

Yours sincerely,

(Signature of the Authorized Representative)

Printed Name

Designation

Seal

Place:

Business Address:

2.8 Manufacturer's Authorization Form

Note: This letter of authority should be on the letterhead of the manufacturing concern and should be signed by a person competent and having the power of attorney to bind the manufacturer.

Some of the key products for which MAF is required are:

1. Core switch, routers ,gateways and firewalls
2. Servers , Storage (SAN) and VTL
3. Desktops and Laptops
4. IP phones
5. Mobile data terminals
6. Wireless equipment

To,

Date:

ADG-ITECCS
XXXXXXXX

Subject: Manufacturer's Authorization Form

Reference: RFP No: _____ Dated: _____ for Selection of "XXXXXX"

We _____ (Name of the OEM) who are established and reputable manufacturers of _____ (List of Goods) having factories or product development centers at the locations _____ or as per list attached, do hereby authorize. _____ (Name and address of the Bidder) to bid, negotiate and conclude the contract with you against RFP No. _____ Dated _____ for the above goods manufactured or developed by us.

We hereby extend, our warranty for the hardware goods supplied by the bidder and / or the maintenance or support services for software products against this invitation for bid by _____ (Name of the Bidder)

Thanking you,
Yours faithfully,

(Signature)

For and on behalf of: _____ (Name of the OEM)

Authorised Signatory

Name:

Designation:

Place:

Date:

2.9 Anti-Collusion Certificate

Certificate should be provided by Prime Bidder and on letter head

Anti-Collusion Certificate

We hereby certify and confirm that in the preparation and submission of our Proposal for **Request for Proposal for Selection of Agency for Technology and operationalization of U.P. State wide Dial 100 Project** in Uttar Pradesh against the RFP issued by ITECCS UP Police, We have not acted in concert or in collusion with any other Bidder or other person(s) and also not done any act, deed or thing, which is or could be regarded as anti-competitive. We further confirm that we have not offered nor will offer any illegal gratification in cash or kind to any person or organization in connection with the instant proposal.

(Signature of the Prime Bidder)

Printed Name

Designation

Seal

Date:

Place:

Business Address:

3 Financial Proposal Formats

3.1 Financial Bid Letter

To

ADG, ITECCS
Traffic Directorate
Mohanlaganj, Lucknow
Uttar Pradesh

Sir,

Sub: Request for Proposal for Selection of Agency for Technology and operationalization of U.P. State wide Dial 100 Project

Ref: RFP No. <<>> dated << 2015>>

We, <<name of the undersigned Bidder and consortium members>>, having read and examined in detail all the bidding documents in respect of set up of **Request for Proposal for Selection of Agency for Technology and operationalization of U.P. State wide Dial 100 Project** do hereby propose to provide our services as specified in the bidding proposal submitted by us.

All the prices mentioned in our bid are in accordance with the terms as specified in the bidding documents. This bid is valid for a period of 120 calendar days from the date of issuance of RFP to the bidder.

We have studied the relevant clause(s) in Indian Tax Laws and hereby declare that if any taxes, surcharge, Professional and any other corporate Tax in altercated under the laws, we shall pay the same.

We have indicated in the relevant schedules enclosed, the unit rates on account of payment as well as for price adjustment in case of any increase or decrease from the scope of work under the contract.

We declare that our bid prices are for the entire scope of work as specified in the Scope of Work and bid documents. These prices are attached with our bid as part of the bid.

We hereby declare that in case the contract is awarded to us, we shall submit the contract Performance Bank Guarantee in the form prescribed in clause 5.1 of Section 4 of RFP within 15 days of issue of LOI.

We hereby declare that our bid is made in good faith, without collusion or fraud and the information contained in the bid is true and correct to the best of our knowledge and belief.

We understand that our bid is binding on us during the validity period or the extensions thereof and that you are not bound to accept a Bid you receive.

We confirm that no deviations are attached here with this commercial offer.

Section 4: Bid submission formats

Thanking you,
Yours sincerely,

(Signature of the Prime Bidder)

Printed Name

Designation

Seal

Date:

Place:

Business Address:

3.2 Breakdown Of Cost Components

Note:

- Bidder should provide all prices, quantities as per the prescribed format under this Annexure. Bidder should not leave any field blank. In case the field is not applicable, Bidder must indicate “0” (Zero) in all such fields.
- The Bidder shall take the quantities mentioned as minimum quantities. However, for proper functioning of the system, the bidder may include components which may not have been mentioned or increased quantities.
- It is mandatory to provide breakup of all Taxes, Duties and Levies wherever applicable and or payable.
- GoUP reserves the right to ask the Agency to submit proof of payment against any of the taxes, duties, levies indicated.
- GoUP shall take into account all Taxes, Duties and Levies for the purpose of Evaluation.

3.2.1 Summary – Total Project Value

Sl. No.	Item	Table	Total Value
1.	Hardware at DC	Table A1	
2.	Hardware at DR	Table A2	
3.	Hardware at UP POLICE 100	Table A3	
4.	Hardware at OMCs	Table A4	
5.	Hardware at Field	Table A5	
6.	Software Components	Table B1	
7.	Location Base Service Software	Table B2	
8.	Technical Manpower	Table C	
9.	Network	Table D= (Table D1 +Table D2)	
9.A	Network Components	Table D1	
9.B	Other Network Components	Table D2	
10.	Manpower to operationalize contact center at Lucknow	Table E1	
11.	Manpower to operationalize contact center at Varanasi	Table E2	
12.	Manpower to operationalize contact center at Agra	Table E3	
13.	Training	Table F	
14.	Miscellaneous	Table G	
	Total Project Value		X

The total project value in numbers is

Rupees _____

The total project value in words is

Rupees _____

A) Table A1 - Hardware at DC

Hardware components at DC													
Sr. No.	Description	Unit Rate	No. of Units	Total (Unit Rate * No. of Units) A1	Tax Rate (%)	Tax (A7)	AMC for 2 nd year(A2)	AMC for 3 ^d year (A3)	AMC for 4 TH year (A4)	AMC for 5 TH year (A5)	Tax rate (%)	Tax (A6)	Total (A1+A2+A3+A4+A5+A6+A7)
1.	Biometric												
2.	SAN Storage												
3.	VTL												
4.	Voice gateway												
5.	Database server												
6.	Blade chassis												
7.	Rack												
8.	Blade server – 2 CPU												
9.	Blade server – 4 CPU												
10.	Load Balancer												
11.	UPS												
12.	50 kVA												
13.	1 kVA												
14.	70 kVA												
15.	Core Switch												
16.	Managed Access Switch												
17.	SAN Switch												
18.	Aggregation Switch												
19.	Internet Router cum firewall												
20.	Intranet router												
21.	Web Application Firewall												

Section 4: Bid submission formats

Hardware components at DC													
Sr. No.	Description	Unit Rate	No. of Units	Total (Unit Rate * No. of Units) A1	Tax Rate (%)	Tax (%)	AMC for 2 nd year(A2)	AMC for 3 ^d year (A3)	AMC for 4 TH year (A4)	AMC for 5 TH year (A5)	Tax rate (%)	Tax (%)	Total (A1+A2+A3+A4+A5+A6+A7)
22.	NextGen Firewall												
23.	Security Incident & Event Management (SIEM)												
24.	Data Leakage Prevention (DLP)												
25.	Network Access Control (NAC)												
26.	Host Based Intrusion Prevention System (HIPS)												
27.	Silent Diesel Generator - 100 kVA												
28.	Silent Diesel Generator - 200 kVA												
29.	Others												
	Total												Total - A1

B) Table A2 - Hardware at DRC

Hardware components at DRC													
Sr. No.	Description	Unit Rate	No. of Units	Total (Unit Rate * No. of Units) A1	Tax Rate	Tax (A7)	AMC for 2 nd year(A2)	AMC for 3 ^d year (A3)	AMC for 4 TH year (A4)	AMC for 5 TH year (A5)	Tax rate	Tax (A6)	Total (A1+A2+A3+A4+A5+A6+A7)
1.	SAN Storage												
2.	VTL												
3.	Voice gateway												
4.	Database server												
5.	Blade chassis												
6.	Rack												
7.	Blade server – 2 CPU												
8.	Blade server – 4 CPU												
9.	Load Balancer												
10.	UPS 15kVA												
11.	Core Switch												
12.	SAN Switch												
13.	Aggregation Switch												
14.	Internet Router												
15.	Core router												
16.	Web Application Firewall												
17.	NextGen Firewall												
18.	Security Incident & Event Management (SIEM)												
19.	Data Leakage Prevention (DLP)												

Section 4: Bid submission formats

Hardware components at DRC													
Sr. No.	Description	Unit Rate	No. of Units	Total (Unit Rate * No. of Units) A1	Tax Rate (A7)	Tax (A7)	AMC for 2 nd year(A2)	AMC for 3 ^d year (A3)	AMC for 4 TH year (A4)	AMC for 5 TH year (A5)	Tax rate	Tax (A6)	Total (A1+A2+A3+A4+A5+A6+A7)
20.	Network Access Control (NAC)												
21.	Host Based Intrusion Prevention System (HIPS)												
22.	Others												
	Total												Total - A2

C) Table A3 - Hardware at UP POLICE 100

Hardware components at UP POLICE 100													
Sr · No.	Description	Unit Rate	No. of Unit s	Total (Unit Rate * No. of Units) A1	T a x R a t e	T a x (A 7)	AMC for 2 nd year(A2)	AMC for 3 ^d ye ar(A3)	AMC for 4 TH yea r(A 4)	AMC for 5 TH yea r(A 5)	T a x r a t e	T a x (A 6)	Total (A1+A2+A 3+A4+A5+ A6+A7)
1	Biometric												
2	Desktops including Hindi Key pad on Keyboard with two monitors												
3	Desktops including Hindi Key pad on Keyboard with triple monitors												
4	Desktops including Hindi Key pad on Keyboard with single monitor												
5	Desktop Thin client including Hindi Key pad on Keyboard												
6	IP Phones with Headset												
7	Laptop												
8	Printer , scanner and copier(multi-function)												
9	Heavy Duty printer												
10	Laser jet printer												
11	Paper shedder												
12	Smart TV – 32 Inch.												
13	Smart TV – 42 Inch.												
14	LED TV – 55 Inch.												

Section 4: Bid submission formats

Hardware components at UP POLICE 100													
Sr · N o.	Description	Unit Rate	No. of Unit s	Total (Unit Rate * No. of Units) A1	<u>T</u> <u>a</u> <u>x</u> <u>R</u> <u>a</u> <u>t</u> <u>e</u>	<u>T</u> <u>a</u> <u>x</u> <u>(</u> <u>A</u> <u>7</u> <u>)</u>	AMC for 2 nd year(A2)	AMC for 3 ^d ye ar(A3)	AMC for 4 TH yea r(A4)	AMC for 5 TH yea r(A5)	T a x r a t e	T a x (A 6)	Total (A1+A2+A 3+A4+A5+ A6+A7)
15	3 Conference room with equipment of capacity 15 people												
i	Display device												
ii	Audio System												
iii	Control System												
iv	Video Conferencing at 6Mbps												
v	Others												
16	2 Conference rooms with equipment of capacity 10 people												
i	Display device												
ii	Audio System												
iii	Control System												
iv	Video Conferencing at 6Mbps												
v	Others												
17	2 Conference rooms with equipment of capacity 8 people												
i	Display device												
ii	Audio System												
iii	Control System												
iv	Video Conferencing at 6Mbps												

Section 4: Bid submission formats

Hardware components at UP POLICE 100													
Sr · N o.	Description	Unit Rate	No. of Unit s	Total (Unit Rate * No. of Units) A1	<u>T</u> <u>a</u> <u>x</u> <u>R</u> <u>a</u> <u>t</u> <u>e</u>	<u>T</u> <u>a</u> <u>x</u> <u>(</u> <u>A</u> <u>7</u> <u>)</u>	AMC for 2 nd year(A2)	AMC for 3 ^d ye ar(A3)	AMC for 4 TH yea r(A4)	AMC for 5 TH yea r(A5)	T a x r a t e	T a x (A 6)	Total (A1+A2+A 3+A4+A5+ A6+A7)
v	Others												
18	3 Meeting rooms with equipment of capacity 20 people												
i	Display device												
ii	Audio System												
iii	Control System												
iv	Video Conferencing at 6Mbps												
v	Others												
19	1 Meeting room with equipment of capacity 30 people												
i	Display device												
ii	Audio System												
iii	Control System												
iv	Video Conferencing at 6Mbps												
V	Others												
20	2 Board rooms with equipment of capacity 30 people												
i	Display device												
ii	Audio System												
iii	Control System												

Section 4: Bid submission formats

Hardware components at UP POLICE 100													
Sr · N o.	Description	Unit Rate	No. of Unit s	Total (Unit Rate * No. of Units) A1	<u>T</u> <u>a</u> <u>x</u> <u>R</u> <u>a</u> <u>t</u> <u>e</u>	<u>T</u> <u>a</u> <u>x</u> <u>(</u> <u>A</u> <u>7</u> <u>)</u>	AMC for 2 nd year(A2)	A M C for 3 ^d ye ar(A3)	AM C for 4 TH yea r(A 4)	AM C for 5 TH yea r(A 5)	T a x r a t e	T a x (A 6)	Total (A1+A2+A 3+A4+A5+ A6+A7)
iv	Video Conferencing at 6Mbps												
v	Others												
21	2 Training rooms with equipment of capacity 25 people												
i	Screen												
ii	Projector												
iii	Audio system												
iv	Lapel Microphone												
v	Others												
22	2 Training rooms with equipment of capacity 50 people												
i	Screen												
ii	Projector												
lii	Audio system												
iv	Lapel Microphone												
v	Others												
23	1 Training rooms with equipment of capacity 50 people (35 DOs live training room)												
i	Screen												
ii	Projector												

Section 4: Bid submission formats

Hardware components at UP POLICE 100													
Sr · N o.	Description	Unit Rate	No. of Unit s	Total (Unit Rate * No. of Units) A1	T a x R a t e	T a x (A 7)	AMC for 2 nd year(A2)	A M C for 3 ^d ye ar(A3)	AM C for 4 TH yea r(A 4)	AM C for 5 TH yea r(A 5)	T a x r a t e	T a x (A 6)	Total (A1+A2+A 3+A4+A5+ A6+A7)
lii	Audio system												
Iv	Lapel Microphone												
V	Others												
Vi	Streaming Solution Device												
Vii	Desktops with triple monitors												
Vii	IP Phone with headset												
Vii i	Table top microphone												
ix	Foot paddle												
X	VHF static radio device												
Xi	Access Switch												
Xii	20 kVA UPS												
Xii i	MDT												
24	1 Training rooms with equipment of capacity 100 people												
I	Screen												
li	Projector												
lii	Audio system												
Iv	Lapel Microphone												

Section 4: Bid submission formats

Hardware components at UP POLICE 100													
Sr · N o.	Description	Unit Rate	No. of Unit s	Total (Unit Rate * No. of Units) A1	<u>T</u> <u>a</u> <u>x</u> <u>R</u> <u>a</u> <u>t</u> <u>e</u>	<u>T</u> <u>a</u> <u>x</u> <u>(</u> <u>A</u> <u>7</u> <u>)</u>	AMC for 2 nd year(A2)	AMC for 3 ^d ye ar(A3)	AMC for 4 TH yea r(A4)	AMC for 5 TH yea r(A5)	T a x r a t e	T a x (A 6)	Total (A1+A2+A 3+A4+A5+ A6+A7)
V	Others												
25	1 Training rooms with equipment of capacity 100 people (75 COs live training room)												
I	Screen												
li	Projector												
lii	Audio system												
Iv	Lapel Microphone												
V	Others												
Vi	Access Switch												
Vii	Table top microphone												
Vii i	Streaming Solution Device												
Ix	Desktops with double monitors												
X	IP Phone with headset												
Xi	20 kVA UPS												
26	Video conference equipment for 15 locations												
27	Digital light processing (DLP) video wall												
28	Radio Gateway												
29	Foot paddle												
30	VHF static radio device												

Section 4: Bid submission formats

Hardware components at UP POLICE 100													
Sr · N o.	Description	Unit Rate	No. of Unit s	Total (Unit Rate * No. of Units) A1	T a x R a t e	T a x (A 7)	AMC for 2 nd year(A2)	A M C for 3d ye ar(A3)	AM C for 4 TH yea r(A 4)	AM C for 5 TH yea r(A 5)	T a x r a t e	T a x (A 6)	Total (A1+A2+A 3+A4+A5+ A6+A7)
31	Battery of VHF Static device												
32	Lattice Mast and antenna for VHF static set												
33	Network Rack												
34	Managed Access Switch – 24 ports												
35	Interactive Screen for EOC												
	Total												Total - A3

D) Table A4 - Hardware at OMCs

Hardware components at OMCs													
Sr. No.	Description	Unit Rate	No. of Units	Total (Unit Rate * No. of Units) A1	Tax rate	Tax (A7)	AMC for 2 nd year(A2)	AMC for 3 ^d year(A3)	AMC for 4 th year(A4)	AMC for 5 th year(A5)	Tax rate	Tax (A6)	Total (A1+A2+A3+A4+A5+A6+A7)
1.	Desktops including Hindi Key pad on Keyboard with two monitors												
2.	Desktops including Hindi Key pad on Keyboard with triple monitors												
3.	Laptop												
4.	IP Phones with Headset												
5.	Printer , scanner and copier(multi-function)												
6.	Laser jet printer												
7.	Heavy Duty printer												
8.	Battery of VHF Static Device												
9.	VHF static radio device												
10.	Lattice Mast and antenna for VHF static set												
11.	Foot paddle												

Section 4: Bid submission formats

Hardware components at OMCs													
Sr. No.	Description	Unit Rate	No. of Units	Total (Unit Rate * No. of Units) A1	Tax rate	Tax (A 7)	AMC for 2 nd year(A2)	AMC for 3 ^d year(A3)	AMC for 4 TH year(A4)	AMC for 5 TH year(A5)	Tax rate	Tax (A 6)	Total (A1+A2+A3+A4+A5+A6+A7)
12.	Radio Gateway												
13.	2 Meeting rooms with equipment of capacity 20 people												
i	Display device												
ii	Audio System												
iii	Control System												
iv	Video Conferencing at 6Mbps												
14.	Others												
15.	Smart TV - 32 Inch.												
16.	Smart TV - 42 Inch.												
17.	Printer , scanner and copier(multi-function)												
18.	Network Rack												
19.	Managed Access Switch 24 ports												
20.	Intranet Router - 500Mbps												

Section 4: Bid submission formats

Hardware components at OMCs													
Sr. No.	Description	Unit Rate	No. of Units	Total (Unit Rate * No. of Units) A1	Tax rate	Tax (A7)	AMC for 2 nd year(A2)	AMC for 3 ^d year(A3)	AMC for 4 TH year(A4)	AMC for 5 TH year(A5)	Tax rate	Tax (A6)	Total (A1+A2+A3+A4+A5+A6+A7)
21.	UPS 20 kVA												
22.	Biometric												
23.	Others												
	Total												Total - A4

E) Table A5 - Hardware at Field

Hardware components at Field													
Sr. No.	Description	Unit Rate	No. of Units	Total (Unit Rate * No. of Units) A1	Tax Rate	Tax (A 7)	AMC for 2 nd year (A2)	AMC for 3 rd year (A 3)	AMC for 4 TH year (A 4)	AMC for 5 ^{T^H} year (A 5)	Tax rate	Tax (A 6)	Total (A1+A2+A3+A4+A5+A6+A 7)
1.	Desktops including Hindi Key pad on Keyboard with single monitor												
2.	Laptop												
3.	Mobile Data Terminal Devices (MDT) minimum 7 inches screen												
4.	Mobile Data Terminal Devices (MDT) 5 inches screen												
5.	Mobile Data Terminal Devices (MDT) minimum 7 inches screen (Fire Services)												
6.	Mobile Data Terminal Devices (MDT) 5 inches screen (Fire Services)												
7.	UPS 1 kVA												
8.	Network Rack												
9.	IP Phones with Headset												
10.	VHF 4W antenna												

Section 4: Bid submission formats

Hardware components at Field													
Sr. No.	Description	Unit Rate	No. of Units	Total (Unit Rate * No. of Units) A1	Tax Rate	Tax (A 7)	AMC for 2 nd year (A2)	AMC for 3 rd year (A 3)	AMC for 4 TH year (A 4)	AMC for 5 TH year (A 5)	Tax rate	Tax (A 6)	Total (A1+A2+A3+A4+A5+A6+A 7)
11.	Lattice Mast and antenna for VHF static set												
12.	VHF static radio device												
13.	Battery of VHF Static Device												
14.	Battery of VHF Hand Held Radio Device And Charger of Battery pack												
15.	VHF Hand held radio device												
16.	Foot paddle												
17.	Radio Gateway												
18.	Managed Access Switch 24 Ports												
19.	Intranet Router 20Mbps												
20.	Others												
	Total												Total - A5

F) Table B1 – Software Components

Software Components												
Sr. No.	Description	License Policy	Unit Rate	No. of Units	Total (Unit Rate * No. of Units) A1	AMC for 2 year (A2)	AMC for 3 year (A3)	AMC for 4 year (A4)	AMC for 5 year (A5)	Tax rate	Tax (A6)	Total (A1+A2+A3+A4+A5+A6)
1	IP PBX license	License										
		Bespoke										
		Other										
2	Automatic Call Distribution (ACD) license	License										
		Bespoke										
		Other										
3	Voice Recording & Quality Monitoring license	License										
		Bespoke										
		Other										
4	Multimedia System license	License										
		Bespoke										
		Other										
5	Computer Telephony Interface (CTI)	License										
		Bespoke										
		Other										
6	Outbound Dialer	License										
		Bespoke										

Section 4: Bid submission formats

Software Components												
Sr. No.	Description	License Policy	Unit Rate	No. of Units	Total (Unit Rate * No. of Units) A1	AMC for 2 year (A2)	AMC for 3 year (A3)	AMC for 4 year (A4)	AMC for 5 year (A5)	Tax rate	Tax (A6)	Total (A1+A2+A3+A4+A5+A6)
		Other										
7	Contact Center Reporting System	License										
		Bespoke										
		Other										
8	Computer Aided Dispatch (CAD) license											
i	Communication officer license	License										
		Bespoke										
		Other										
ii	Dispatch officer license	License										
		Bespoke										
		Other										
iii	Special dispatch unit license	License										
		Bespoke										
		Other										
iv	Supervisor and Special dispatch unit license	License										
		Bespoke										
		Other										
9	Web and Desktop Application for	License										
		Bespoke										
		Other										

Section 4: Bid submission formats

Software Components												
Sr. No.	Description	License Policy	Unit Rate	No. of Units	Total (Unit Rate * No. of Units) A1	AMC for 2 year (A2)	AMC for 3 year (A3)	AMC for 4 year (A4)	AMC for 5 year (A5)	Tax rate	Tax (A6)	Total (A1+A2+A3+A4+A5+A6)
	Monitoring - Police officials											
10	Mobile Application for Police officials	License										
		Bespoke										
		Other										
11	Mobile Application for citizen	License										
		Bespoke										
		Other										
12	Mobile application for GIS Data collection	License										
		Bespoke										
		Other										
13	CAD Mobile Software For MDT License	License										
		Bespoke										
		Other										
14	Citizen Portal	License										
		Bespoke										
		Other										
15	UP POLICE 100 Intranet Portal	License										
		Bespoke										
		Other										
16	E-Learning Software	License										
		Bespoke										
		Other										

Section 4: Bid submission formats

Software Components												
Sr. No.	Description	License Policy	Unit Rate	No. of Units	Total (Unit Rate * No. of Units) A1	AMC for 2 year (A2)	AMC for 3 year (A3)	AMC for 4 year (A4)	AMC for 5 year (A5)	Tax rate	Tax (A6)	Total (A1+A2+A3+A4+A5+A6)
17	Web Based Training Application	License										
		Bespoke										
		Other										
18	Patrol Management system	License										
		Bespoke										
		Other										
19	Human resource management system (HRMS)	License										
		Bespoke										
		Other										
20	Finance management system	License										
		Bespoke										
		Other										
21	Document management system	License										
		Bespoke										
		Other										
22	Data ware house, Business Intelligence (BI), Reporting & Analytics	License										
		Bespoke										
		Other										
23		License										
		Bespoke										

Section 4: Bid submission formats

Software Components												
Sr. No.	Description	License Policy	Unit Rate	No. of Units	Total (Unit Rate * No. of Units) A1	AMC for 2 year (A2)	AMC for 3 year (A3)	AMC for 4 year (A4)	AMC for 5 year (A5)	Tax rate	Tax (A6)	Total (A1+A2+A3+A4+A5+A6)
	Enterprise Management System (EMS)	Other										
24	Identity and access management system	License										
		Bespoke										
		Other										
25	Asset Management	License										
		Bespoke										
		Other										
26	Anti-virus license for laptop and desktop	License										
		Bespoke										
		Other										
27	Directory services	License										
		Bespoke										
		Other										
28	Backup Software	License										
		Bespoke										
		Other										
29	ROIP web application license	License										
		Bespoke										
		Other										
30	Soft Phone License	License										
		Bespoke										

Section 4: Bid submission formats

Software Components												
Sr. No.	Description	License Policy	Unit Rate	No. of Units	Total (Unit Rate * No. of Units) A1	AMC for 2 year (A2)	AMC for 3 year (A3)	AMC for 4 year (A4)	AMC for 5 year (A5)	Tax rate	Tax (A6)	Total (A1+A2+A3+A4+A5+A6)
		Other										
31	Database licenses	License										
		Bespoke										
		Other										
32	GIS Map (Map, Map Data, POI) for complete UP state	License										
		Bespoke										
		Other										
33	GIS Software License	License										
		Bespoke										
		Other										
34	SMS Gateway	License										
		Bespoke										
		Other										
35	OS License and Support	License										
		Bespoke										
		Other										
36	Inventory Management	License										
		Bespoke										
		Other										
37	Application for large scale Incidence and Death	License										
		Bespoke										
		Other										

Section 4: Bid submission formats

Software Components												
Sr. No.	Description	License Policy	Unit Rate	No. of Units	Total (Unit Rate * No. of Units) A1	AMC for 2 year (A2)	AMC for 3 year (A3)	AMC for 4 year (A4)	AMC for 5 year (A5)	Tax rate	Tax (A6)	Total (A1+A2+A3+A4+A5+A6)
38	Management for Citizen and Police											
	Application for Operation Smile and Missing Person	License										
		Bespoke										
		Other										
39	Others											
	Total											Total - B

G) Table B 2 – Location Base Service Software

Location Base Service Software												
Sr. No.	Description	License Policy	Unit Rate	No. of Units	Total (Unit Rate * No. of Units) A1	AMC for 2 year (A2)	AMC for 3 year (A3)	AMC for 4 year (A4)	AMC for 5 year (A5)	Tax rate	Tax (A6)	Total (A1+A2+A3+A4+A5+A6)
1	Location Base Service (LBS)Solution	License										
		Bespoke										
		Other										

Section 4: Bid submission formats

H) Table C – Technical Manpower

Technical Manpower											
Sr. No.	Description	Unit Rate	No. of Resources	Year 1	Year 2	Year 3	Year 4	Year 5	Tax rate	TAX	Total
1	Project Director										
2	Project Manager										
3	Solution Architect (DC, DR)										
4	Solution Architect (Applications)										
5	Solution Architect (Network)										
6	Solution Architect (Information Security)										
7	Database Architect or Modeler										
8	Database Administrator										
9	System Administrator										
10	Network Administrator										
11	Business Analyst										
12	CAD Expert (from OEM of the proposed product)										
13	GIS Expert (from OEM of the proposed product)										
14	Telephony & ACD expert (from OEM of the proposed product)										
15	Radio over IP specialist (from OEM of the proposed product)										
16	Monitoring center integration expert										
17	Monitoring center configuration and customization expert										
18	Application Developers										
19	QA Manager										
20	Test Analysts										

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Technical Manpower											
Sr. No.	Description	Unit Rate	No. of Resources	Year 1	Year 2	Year 3	Year 4	Year 5	Tax rate	TAX	Total
21	Master Trainer										
22	Documentation Specialist										
23	GIS Data Support Staff										
24	Geo Fencing Staff										
25	Process and Compliance Manager										
26	SOC Analyst										
27	VAPT Analyst										
28	Build and Release Manager										
29	IT Security Manager										
30	IT Helpdesk Staff										
31	DC support Staff										
32	DR Support Staff										
33	FMS staff at UP POLICE 100										
34	FMS Staff at OMC Agra										
35	FMS staff at OMC Varanasi										
36	Others										
	Total									Total - C	

I) Table D – Network

Network Components												
#	Description	Unit Rate	Bandwidth Requirement (in Mbps)	Network Service Provider	Year 1	Year 2	Year 3	Year 4	Year 5	Tax rate	TAX	Total
1.	Primary connectivity between DC and DR											
2.	Secondary connectivity between DC and DR											
3.	Primary Connectivity between DC and UP POLICE 100											
4.	Secondary Connectivity between DC & UP POLICE 100											
5.	Primary Connectivity between DR and UP POLICE 100											
6.	Secondary Connectivity between DR and UP POLICE 100											
7.	Primary Connectivity between OMC Agra and DC											
8.	Secondary Connectivity between OMC Agra and DC											
9.	Primary Connectivity between OMC Agra and DR											

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Network Components												
#	Description	Unit Rate	Bandwidth Requirement (in Mbps)	Network Service Provider	Year 1	Year 2	Year 3	Year 4	Year 5	Tax rate	TAX	Total
10.	Secondary Connectivity between OMC Agra and DR											
11.	Primary Connectivity between OMC Varanasi and DC											
12.	Secondary Connectivity between OMC Varanasi and DC											
13.	Primary Connectivity between OMC Varanasi and DR											
14.	Secondary Connectivity between OMC Varanasi and DR											
15.	Internet lease line – DC from 2 different service provider											
16.	Internet lease line – DRC from 2 different service provider											
17.	4 Mbps connectivity at 75 Districts control rooms,8 Police zone of state,18 range of state police,25 Police Units											

Section 4: Bid submission formats

Network Components												
#	Description	Unit Rate	Bandwidth Requirement (in Mbps)	Network Service Provider	Year 1	Year 2	Year 3	Year 4	Year 5	Tax rate	TAX	Total
18.	6Mbps for video conferencing											
19.	Others											
	Total										Total – D1	

Other Network Components												
#	Description	No of Units	Unit Rate	Service Provider	Year 1	Year 2	Year 3	Year 4	Year 5	Tax rate	TAX	Total
1.	PRI Lines at DC											
2.	PRI lines at DR											
3.	Phone line (outbound)											
4.	MDT GSM U SIM Card including GPRS or 2G or3G or4G or LTE with bandwidth											
5.	MDT GSM U SIM Card including GPRS or 2G or3G or4G or LTE with bandwidth (Fire services)											
6.	MDT GSM U SIM Card including GPRS or 2G or3G or4G or LTE with											

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Other Network Components												
#	Description	No of Units	Unit Rate	Service Provider	Year 1	Year 2	Year 3	Year 4	Year 5	Tax rate	TAX	Total
	bandwidth (Training room)											
7.	SIM of Mobile phones for vehicles											
8.	Outgoing SMS											
9.	Public IP Address											
10.	Others											
	Total										Total – D2	

J) Table E: Manpower to operationalize UPPIC:

E 1 - Contact center at UP POLICE 100 - Lucknow				
Year 1 cost				
Sl. No.	Description	Total seats	Cost per seat (in INR)	Cost of Year 1
1	Communication Officers (CO)	387		
2	CO Monitoring Staff			
			Cost (A)	
			Taxes (B)	
			Total Cost C 1= A+B	
Year 2 cost				
Sl. No.	Description	Total seats	Cost per seat (in INR)	Cost of Year 2
1	Communication Officers (CO)	387		
2	CO Monitoring Staff			
			Cost (A)	
			Taxes (B)	
			Total Cost C 2= A+B	
Year 3 cost				
Sl. No.	Description	Total seats	Cost per seat (in INR)	Cost of Year 3
1	Communication Officers (CO)	387		
2	CO Monitoring Staff			

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	Cost (A)			
	Taxes (B)			
	Total Cost C 3= A+B			
Year 4 cost				
Sl. No.	Description	Total seats	Cost per seat (in INR)	Cost of Year 4
1	Communication Officers (CO)	387		
2	CO Monitoring Staff			
	Cost (A)			
	Taxes (B)			
	Total Cost C 4= A+B			
Year 5 cost				
Sl. No.	Description	Total seats	Cost per seat (in INR)	Cost of Year 5
1	Communication Officers (CO)	387		
2	CO Monitoring Staff			
	Cost (A)			
	Taxes (B)			
	Total Cost C 5= A+B			
E 1: Total Manpower cost for UP POLICE 100 – Lucknow E (C1+C2+C3+C4+C5)				

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E 2 - Contact center at UP POLICE 100 – Varanasi				
Year 1 cost				
Sl. No.	Description	Total seats	Cost per seat (in INR)	Cost of Year 1
1	Communication Officers (CO)	60		
2	CO Monitoring Staff			
	Cost (A)			
	Taxes (B)			
	Total Cost C 1= A+B			
Year 2 cost				
Sl. No.	Description	Total seats	Cost per seat (in INR)	Cost of Year 2
1	Communication Officers (CO)	60		
2	CO Monitoring Staff			
	Cost (A)			
	Taxes (B)			
	Total Cost C 2= A+B			
Year 3 cost				
Sl. No.	Description	Total seats	Cost per seat (in INR)	Cost of Year 3
1	Communication Officers (CO)	60		
2	CO Monitoring Staff			
	Cost (A)			
	Taxes (B)			
	Total Cost C 3= A+B			

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Year 4 cost				
Sl. No.	Description	Total seats	Cost per seat (in INR)	Cost of Year 4
1	Communication Officers (CO)	60		
2	CO Monitoring Staff			
			Cost (A)	
			Taxes (B)	
			Total Cost C 4= A+B	
Year 5 cost				
Sl. No.	Description	Total seats	Cost per seat (in INR)	Cost of Year 5
1	Communication Officers (CO)	60		
2	CO Monitoring Staff			
			Cost (A)	
			Taxes (B)	
			Total Cost C 5= A+B	

E 2:Total Manpower cost for OMC – Varanasi E (C1+C2+C3+C4+C5)	
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Section 4: Bid submission formats

E 3 - Contact center at UP POLICE 100 - Agra				
Year 1 cost				
Sl. No.	Description	Total seats	Cost per seat (in INR)	Cost of Year 1
1	Communication Officers (CO)	60		
2	CO Monitoring Staff			
	Cost (A)			
	Taxes (B)			
	Total Cost C 1= A+B			
Year 2 cost				
Sl. No.	Description	Total seats	Cost per seat (in INR)	Cost of Year 2
1	Communication Officers (CO)	60		
2	CO Monitoring Staff			
	Cost (A)			
	Taxes (B)			
	Total Cost C 2= A+B			
Year 3 cost				
Sl. No.	Description	Total seats	Cost per seat (in INR)	Cost of Year 3
1	Communication Officers (CO)	60		
2	CO Monitoring Staff			
	Cost (A)			
	Taxes (B)			

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	Total Cost C 3= A+B			
Year 4 cost				
Sl. No.	Description	Total seats	Cost per seat (in INR)	Cost of Year 4
1	Communication Officers (CO)	60		
2	CO Monitoring Staff			
	Cost (A)			
	Taxes (B)			
	Total Cost C 4= A+B			
Year 5 cost				
Sl. No.	Description	Total seats	Cost per seat (in INR)	Cost of Year 5
1	Communication Officers (CO)	60		
2	CO Monitoring Staff			
	Cost (A)			
	Taxes (B)			
	Total Cost C 5= A+B			
E 3: Total Manpower cost for OMC - Agra (C1+C2+C3+C4+C5)				

Notes:

- ▶ The UP POLICE 100 shall be operational 24X7 and in 3 shifts
- ▶ This rate should include cost involved across all processes as part of the scope of this exercise – manpower to operationalize contact center, admin staff needed in the contact center, distribution of uniforms, training and transportation etc. The activities pertaining to this category is mentioned in Section 5: Scope of work of this RFP document
- ▶ Taxes shall be applicable at prevailing rates
- ▶ The respective rates shall remain constant across one year
- ▶ The bidder should keep scope of work in mind before making the costing sheet

K) Table F: Training

Total Training Cost								
Sl. No.	Description	Unit Rate for Batch (Batch size-50)	Number of Batches	Cost of Year 1	Cost of Year 2	Cost of Year 3	Cost of Year 4	Cost of Year 5
1	Training – General training							
2	Training – Functional training							
3	Training – Operations Centre							
4	Training – Any other training							
Tax								
Year-Wise Total with Taxes								
Grand Total								

*Please refer to the Indicative training plan mentioned in Section 5 of the RFP document for training related details

Section 4: Bid submission formats

L) Table G: Miscellaneous

#	Description	Quantity	Unit Rate	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Tax rate	TAX	Total
1.	Cabling tray										
2.	CCTV equipment										
3.	Fiber cables										
4.	Fiber LIU										
5.	Dish TV connection for Televisions										
6.	ID card printer										
7.	Printing charges (at UP Police 100 and OMC)										
8.	Miscellaneous like cabling, Patch panel etc.										
9.	Others										
	Total									TOTAL F	

Notes:

- ▶ This rate should include cost involved across all processes as part of the scope of this exercise – manpower to operationalize contact center, admin staff needed in the contact center, distribution of uniforms, training and transportation etc. The activities pertaining to this category is mentioned in Section 5: Scope of work of this RFP document
- ▶ The total cost is for the period of 5 years. Bidder should factor all possible increments in the cost
- ▶ Taxes shall be applicable at prevailing rates
- ▶ The rates shall remain constant across one year

3.3 Make and Model

Bidder will also submit the make, model, quantity and OEM for all the hardware and networking products. Also provide quantity, OEM and licenses for software products as per tables below:

3.3.1 Hardware at DC

Sr. No.	Description	Minimum No. of Units	OEM	Make and Model
1.	Biometric			
2.	SAN Storage (90GB / 3months)			
3.	VTL (120 TB/Year)			
4.	Voice gateway			
5.	Database server			
6.	Blade chassis			
7.	Rack			
8.	Blade server – 2 CPU			
9.	Blade server – 4 CPU			
10.	Load Balancer			
11.	UPS			
i.	50 kVA			
ii.	1 kVA			
iii.	70 kVA			
12.	Core Switch			
13.	Managed Access Switch for 24 ports			
14.	SAN Switch			
15.	Aggregation Switch			

Section 4: Bid submission formats

Sr. No.	Description	Minimum No. of Units	OEM	Make and Model
16.	Internet Router			
17.	Core router			
18.	Web Application Firewall			
19.	NextGen Firewall			
21.	Security Incident and Event Management (SIEM)			
22.	Data Leakage Prevention (DLP)			
23.	Network Access Control (NAC)			
24.	Host Based Intrusion Prevention System (HIPS)			
25.	Silent Diesel Generator – 100 kVA			
26.	Silent Diesel Generator – 200 kVA			

3.3.2 Hardware at DRC

Sr. No.	Description	Minimum No. of Units	OEM	Make and Model
1	SAN Storage			
2	VTL			
3	Voice gateway			
4	Database server			
5	Blade chassis			
6	Rack			
7	Blade server – 2 CPU			
8	Blade server – 4 CPU			
9	Load Balancer			
10	UPS 15kVA			

Section 4: Bid submission formats

Sr. No.	Description	Minimum No. of Units	OEM	Make and Model
11	Core Switch			
12	SAN Switch			
13	Aggregation Switch			
14	Internet Router			
15	Core router			
16	Web Application Firewall			
17	NextGen Firewall			
18	Security Incident and Event Management (SIEM)			
19	Data Leakage Prevention (DLP)			
20	Network Access Control (NAC)			
21	Host Based Intrusion Prevention System (HIPS)			

3.3.3 Hardware at UP Police 100

Sr. No.	Description	Minimum No. of Units	OEM	Make and Model
1.	Biometric			
2.	Desktops including Hindi Key pad on Keyboard with two monitors			
3.	Desktops including Hindi Key pad on Keyboard with triple monitors			
4.	Desktops including Hindi Key pad on Keyboard with single monitor			
5.	Desktop Thin client including Hindi Key pad on Keyboard			
6.	IP Phones with Headset			
7.	Laptop			
8.	Printer , scanner and copier(multi-function)			
9.	Heavy Duty printer			

Section 4: Bid submission formats

Sr. No.	Description	Minimum No. of Units	OEM	Make and Model
10.	Laser jet printer			
11.	Paper shredder			
12.	Smart TV – 32 Inch.			
13.	Smart TV – 42 Inch.			
14.	LED TV – 55 Inch.			
15.	3 Conference room with equipment of capacity 15 people			
i.	Display device			
ii.	Audio System			
iii.	Control System			
iv.	Video Conferencing at 6Mbps			
v.	Others			
16.	2 Conference rooms with equipment of capacity 10 people			
i.	Display device			
ii.	Audio System			
iii.	Control System			
iv.	Video Conferencing at 6Mbps			
v.	Others			
17.	2 Conference rooms with equipment of capacity 8 people			
i.	Display device			
ii.	Audio System			
iii.	Control System			
iv.	Video Conferencing at 6Mbps			
v.	Others			
18.	3 Meeting rooms with equipment of capacity 20 people			
i.	Display device			
ii.	Audio System			

Section 4: Bid submission formats

Sr. No.	Description	Minimum No. of Units	OEM	Make and Model
iii.	Control System			
iv.	Video Conferencing at 6Mbps			
v.	Others			
19.	1 Meeting room with equipment of capacity 30 people			
i.	Display device			
ii.	Audio System			
iii.	Control System			
iv.	Video Conferencing at 6Mbps			
v.	Others			
20.	2 Board rooms with equipment of capacity 30 people			
i.	Display device			
ii.	Audio System			
iii.	Control System			
iv.	Video Conferencing at 6Mbps			
v.	Others			
21.	2 Training rooms with equipment of capacity 25 people			
i.	Screen			
ii.	Projector			
iii.	Audio system			
iv.	Lapel Microphone			
v.	Others			
22.	2 Training rooms with equipment of capacity 50 people			
i.	Screen			
ii.	Projector			
iii.	Audio system			
iv.	Lapel Microphone			
v.	Others			

Section 4: Bid submission formats

Sr. No.	Description	Minimum No. of Units	OEM	Make and Model
23.	1 Training rooms with equipment of capacity 50 people (35 DOs live training room)			
i.	Screen			
ii.	Projector			
iii.	Audio system			
iv.	Lapel Microphone			
v.	Others			
vi.	Streaming Solution Device			
vii.	Desktops with triple monitors			
viii.	IP Phone with headset			
ix.	Table top microphone			
x.	Foot paddle			
xi.	Access Switch			
xii.	20 kVA UPS			
xiii.	MDT			
24.	1 Training rooms with equipment of capacity 100 people			
i.	Screen			
ii.	Projector			
iii.	Audio system			
iv.	Lapel Microphone			
v.	Others			
25.	1 Training rooms with equipment of capacity 100 people (75 COs live training room)			
i.	Screen			
ii.	Projector			
iii.	Audio system			
iv.	Lapel Microphone			
v.	Others			

Section 4: Bid submission formats

Sr. No.	Description	Minimum No. of Units	OEM	Make and Model
vi.	Access Switch			
vii.	Table top microphone			
viii.	Streaming Solution Device			
ix.	Desktops with double monitors			
x.	IP Phone with headset			
xi.	20 kVA UPS			
26.	Video conference equipment for 15 locations			
27.	Digital light processing (DLP) video wall			
28.	Radio Gateway			
29.	Foot paddle			
30.	VHF static radio device			
31.	Battery of VHF Static device			
32.	Lattice Mast and antenna for VHF static set			
33.	Network Rack			
34.	Managed Access Switch – 24 ports			
35.	Interactive Screen for EOC			

3.3.4 Hardware at OMC

Sr. No.	Description	Minimum No. of Units	OEM	Make and Model
1.	Desktops including Hindi Key pad on Keyboard with two monitors			
2.	Desktops including Hindi Key pad on Keyboard with triple monitors			

Section 4: Bid submission formats

Sr. No.	Description	Minimum No. of Units	OEM	Make and Model
3.	Laptop			
4.	IP Phones with Headset			
5.	Printer , scanner and copier(multi-function)			
6.	Laser jet printer			
7.	Heavy Duty printer			
8.	Battery of VHF Static Device			
9.	VHF static radio device			
10.	Lattice Mast and antenna for VHF static set			
11.	Foot paddle			
12.	Radio Gateway			
13.	2 Meeting rooms with equipment of capacity 20 people			
i.	Display device			
ii.	Audio System			
iii.	Control System			
iv.	Video Conferencing at 6Mbps			
v.	Others			
14.	Smart TV – 32 Inch.			
15.	Smart TV – 42 Inch.			
16.	Printer , scanner and copier(multi-function)			
17.	Network Rack			
18.	Managed Access Switch – 24 ports			
19.	Intranet Router – 500 Mbps			
20.	UPS 20 kVA			
21.	Biometric			

3.3.5 Hardware at Field

Section 4: Bid submission formats

Sr. No.	Description	Minimum No. of Units	OEM	Make and Model
1.	Desktops including Hindi Key pad on Keyboard with single monitor			
2.	Laptop			
3.	Mobile Data Terminal Devices (MDT) min 7 inches screen			
4.	Mobile Data Terminal Devices (MDT) 5 inches screen			
5.	Mobile Data Terminal Devices (MDT) min 7 inches screen (Fire Services)			
6.	Mobile Data Terminal Devices (MDT) 5 inches screen (Fire Services)			
7.	UPS 1 kVA			
8.	Network Rack			
9.	IP Phones with Headset			
10.	VHF 4W antenna			
11.	Lattice Mast and antenna for VHF static set			
12.	VHF static radio device			
13.	Battery of VHF Static Device			
14.	Battery of VHF Hand Held Radio Device And Charger of Battery pack			
15.	VHF Hand held radio device			
16.	Foot paddle			
17.	Radio Gateway			
18.	Managed Access Switch – 24 ports			
19.	Intranet Router – 20 Mbps			

3.3.6 Software Licenses

Section 4: Bid submission formats

Sr. No.	Description	Minimum No. of Units	OEM	Licensing Policy
1.	IP PBX license			
2.	Automatic Call Distribution (ACD) license			
3.	Voice Recording and Quality Monitoring license			
4.	Multimedia System license			
5.	Computer Telephony Interface (CTI)			
6.	Outbound Dialer			
7.	Contact Center Reporting System			
8.	Computer Aided Dispatch (CAD) license			
i.	Communication officer license			
ii.	Dispatch officer license			
iii.	Supervisor and Special dispatch unit license			
9.	Web and Desktop Application for Monitoring - Police officials			
10.	Mobile Application for Police officials			
11.	Mobile Application for citizen			
12.	Mobile application for GIS Data collection			
13.	CAD Mobile Software For MDT License			
14.	Citizen Portal			
15.	UP POLICE 100 Intranet Portal			
16.	E-Learning Software			
17.	Web Based Training Application			
18.	Patrol Management system			
19.	Human resource management system (HRMS)			
20.	Finance management system			
21.	Document management system			
22.	Data ware house, Business Intelligence (BI), Reporting and Analytics			

Section 4: Bid submission formats

Sr. No.	Description	Minimum No. of Units	OEM	Licensing Policy
23.	Enterprise Management System (EMS)			
24.	Identity and access management system			
25.	Asset Management			
26.	Anti-virus license for laptop and desktop			
27.	Directory services			
28.	Backup Software			
29.	ROIP web application license			
30.	Soft Phone License			
31.	LBS software			
32.	Database licenses			
33.	GIS Map (Map, Map Data, POI) for complete UP state			
34.	GIS Software License			
35.	SMS Gateway			
36.	OS License and Support			
37.	Inventory Management			
38.	Application for large scale Incidence and Death Management for Citizen and Police			
39.	Application for Operation Smile and Missing Person			
40.	Others			

3.3.7 Network

Section 4: Bid submission formats

Sr. No.	Description	Minimum No. of Units	Service Provide
1.	PRI Lines at DC		
2.	PRI lines at DR		
3.	Primary connectivity between DC and DR		
4.	Secondary connectivity between DC and DR		
5.	Primary Connectivity between DC and UP POLICE 100		
6.	Secondary Connectivity between DC and UP POLICE 100		
7.	Primary Connectivity between DR and UP POLICE 100		
8.	Secondary Connectivity between DR and UP POLICE 100		
9.	Primary Connectivity between OMC Agra and DC		
10.	Secondary Connectivity between OMC Agra and DC		
11.	Primary Connectivity between OMC Agra and DR		
12.	Secondary Connectivity between OMC Agra and DR		
13.	Primary Connectivity between OMC Varanasi and DC		
14.	Secondary Connectivity between OMC Varanasi and DC		
15.	Primary Connectivity between OMC Varanasi and DR		
16.	Secondary Connectivity between OMC Varanasi and DR		
17.	MPLS Connectivity		
18.	Internet lease line – DC and DRC from 2 different service provider		

Section 4: Bid submission formats

Sr. No.	Description	Minimum No. of Units	Service Provide
19.	4 Mbps connectivity at 75 Districts control rooms,8 Police zone of state,18 range of state police,25 Police Units		
20.	6Mbps for video conferencing		
21.	Phone line (outbound)		
22.	MDT GSM U SIM Card including GPRS or2G or3G or4G		
23.	MDT GSM U SIM Card including GPRS or2G or3G or4G (Fire Services)		
24.	MDT GSM U SIM Card including GPRS or2G or3G or 4G(Training room)		
25.	SIM of Mobile phones for vehicles		
26.	Incoming SMS		
27.	Outgoing SMS		
28.	Public IP Address		

3.3.8 Miscellaneous

Section 4: Bid submission formats

Sr. No.	Description	Minimum No. of Units	OEM	Make and Model
1.	Cabling tray			
2.	CCTV equipment			
3.	Fiber cables			
4.	Fiber LIU			
5.	Dish TV connection for Televisions	23 connection		
6.	ID card printer			
7.	Printing charges (at UP POLICE 100 and OMC)			
8.	Miscellaneous like cabling, Patch panel etc.			
9.	Others			

A) Annexure A: Proformas

a. Performance Bank Guarantee

Ref: _____

Date _____

Bank Guarantee No. _____

To
XXX
XXX

IN consideration of the **Governor of Uttar Pradesh**, _____ < indicate name and address of GoUP > (hereinafter called "the GoUP") having agreed; to exempt _____ (hereinafter called "Agency") from the demand, under the terms and conditions of an Agreement, dated _____ made between _____ and _____ for _____ (hereinafter called "the said Contract"), of security deposit for the due fulfilment by the said Agency of the terms and conditions contained in the said Agreement, on production of a bank Guarantee for Rs. _____ (Rupees _____ only) we, _____ < indicate name of the Bank > (hereinafter referred to as "the Bank") at the request of _____ or Agency or , do hereby undertake to pay to the ITECCS-UP Police an amount not exceeding Rs. _____ against any loss or damage caused to or suffered or would be caused to or suffered by the Government by reason of any breach by the said Agency of any of the terms or conditions contained in the said contract

2. We _____ < indicate name of the Bank > do hereby undertake to pay the amounts due and payable under this guarantee without any demur, merely on a demand from the ITECCS-UP Police stating that the amount claimed is due by way of loss or damage caused to or would be caused to or suffered by the ITECCS-UP Police by reason of breach by the said Agency of any of the terms or conditions contained in the said Contract or by reason of the Agency failure to perform the said Contract. Any such demand made on the bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. _____

3. We undertake to pay to the ITECCS-UP Police any money so demanded notwithstanding any dispute or disputes raised by the contractor(s) supplier(s) in any suit or proceeding pending before any court or Tribunal relating thereto our liability under this present being absolute and unequivocal. The payment so made by us under this bond shall be a valid discharge of our liability for payment there under and the contractor(s) supplier(s) shall have no claim against us for making such payment.

4. We, _____ <indicate name of the Bank> further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Contract and that it shall continue to be enforceable till all the dues of the Contract under or by virtue of the said Contract have been fully paid and its claims satisfied or discharged or filed _____ Office or Department _____ certifies that the terms and conditions of the said

Section 4: Bid submission formats

contract, have been fully and properly carried out by the said Agency and accordingly discharges this guarantee. Unless a demand or claim under this guarantee is made on us in writing on or before the _____ we shall be discharged from all liability under this guarantee thereafter.

5. We, _____ <indicate name of the Bank> further agree with the ITECCS-UP Police that the ITECCS-UP Police shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Contract or to extend time of performance by the said Agency from time to time or to postpone for any time or from time to time any of the powers exercisable by the ITECCS-UP Police against the said ITECCS-UP Police and to for bear or enforce any of the terms and conditions relating to the said contract and we shall not be relieved from our liability by reason of any such variation or extension being granted to the said agency or for any forbearance, act or commission on the part of the ITECCS-UP Police or any indulgence by the ITECCS-UP Police to the said Agency or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.

6. This guarantee will not be discharged due to the change in the constitution of the Bank or the agency.

7. We, _____ <indicate name of the Bank> lastly undertake not to revoke this guarantee during its currency except with the previous consent of the ITECCS-UP Police in writing.

Date _____

Place _____

Witness _____

Signature _____

Printed name _____

(Bank's common seal)

b. Non-Disclosure Agreement

WHEREAS, we the undersigned Bidder, _____, having our principal place of business or registered office at _____, are desirous of bidding for RFP No. <<>> dated <<DD-MM-2015>> **“Selection of Agency for Technology and operationalization of U.P. State wide Dial 100 Project” for ITECCS-UP Police**” (hereinafter called the said 'RFP') to the “ITECCS-UP Police”, hereinafter referred to as 'GoUP'

and,

WHEREAS, the Bidder is aware and confirms that the GoUP business or operations, information, application or software, hardware, business data, architecture schematics, designs, storage media and other information or documents made available by the GoUP in the RFP documents during the bidding process and thereafter, or otherwise (confidential information for short) is privileged and strictly confidential and or or proprietary to the GoUP,

NOW THEREFORE, in consideration of disclosure of confidential information, and in order to ensure the GoUP grant to the Bidder of specific access to GoUP confidential information, property, information systems, network, databases and other data, the Bidder agrees to all of the following conditions.

It is hereby agreed as under:

1. The confidential information to be disclosed by the GoUP under this Agreement (“Confidential Information”) shall include without limitation, any and all information in written, representational, electronic, verbal or other form relating directly or indirectly to processes, methodologies, algorithms, risk matrices, thresholds, parameters, reports, deliverables, work products, specifications, architecture, project information, security or zoning strategies and policies, related computer programs, systems, trend analysis, risk plans, strategies and information communicated or obtained through meetings, documents, correspondence or inspection of tangible items, facilities or inspection at any site to which access is permitted by the GoUP.
2. Confidential Information does not include information which:
 - a. the Bidder knew or had in its possession, prior to disclosure, without limitation on its confidentiality;
 - b. information in the public domain as a matter of law;
 - c. is obtained by the Bidder from a third party without any obligation of confidentiality;
 - d. the Bidder is required to disclose by order of a competent court or regulatory authority;
 - e. is released from confidentiality with the written consent of the GoUP.

The Bidder shall have the burden of proving hereinabove are applicable to the information in the possession of the Bidder.

3. The Bidder agrees to hold in trust any Confidential Information received by the Bidder, as part of the Tendering process or otherwise, and the Bidder shall maintain strict confidentiality in respect of such Confidential Information, and in no event a degree of confidentiality less than the Bidder uses to protect its own confidential and proprietary information. The Bidder also agrees:

Section 4: Bid submission formats

- a. to maintain and use the Confidential Information only for the purposes of bidding for this RFP and thereafter only as expressly permitted herein;
 - b. to only make copies as specifically authorized by the prior written consent of the GoUP and with the same confidential or proprietary notices as may be printed or displayed on the original;
 - c. to restrict access and disclosure of Confidential Information to their employees, consortium members and representatives strictly on a "need to know" basis, to maintain confidentiality of the Confidential Information disclosed to them in accordance with this clause; and
 - d. to treat Confidential Information as confidential unless and until GoUP expressly notifies the Bidder of release of its obligations in relation to the said Confidential Information.
4. Notwithstanding the foregoing, the Bidder acknowledges that the nature of activities to be performed as part of the Tendering process or thereafter may require the Bidder's personnel to be present on premises of the GoUP or may require the Bidder's personnel to have access to software, hardware, computer networks, databases, documents and storage media of the GoUP while on or off premises of the GoUP. It is understood that it would be impractical for the GoUP to monitor all information made available to the Bidder's personnel under such circumstances and to provide notice to the Bidder of the confidentiality of all such information.

Therefore, the Bidder shall disclose or allow access to the Confidential Information only to those personnel of the Bidder who need to know it for the proper performance of their duties in relation to this project, and then only to the extent reasonably necessary. The Bidder will take appropriate steps to ensure that all personnel to whom access to the Confidential Information is given are aware of the Bidder's confidentiality obligation. Further, the Bidder shall procure that all personnel of the Bidder are bound by confidentiality obligation in relation to all proprietary and Confidential Information received by them which is no less onerous than the confidentiality obligation under this agreement.

5. The Bidder shall establish and maintain appropriate security measures to provide for the safe custody of the Confidential Information and to prevent unauthorised access to it.
6. The Bidder agrees that upon termination or expiry of this Agreement or at any time during its currency, at the request of the GoUP, the Bidder shall promptly deliver to the GoUP the Confidential Information and copies thereof in its possession or under its direct or indirect control, and shall destroy all memoranda, notes and other writings prepared by the Bidder or its Affiliates or directors, officers, employees or advisors based on the Confidential Information and promptly certify such destruction.
7. Confidential Information shall at all times remain the sole and exclusive property of the GoUP. Upon completion of the Tendering process and or or termination of the contract or at any time during its currency, at the request of the GoUP, the Bidder shall promptly deliver to the GoUP the Confidential Information and copies thereof in its possession or under its direct or indirect control, and shall destroy all memoranda, notes and other writings prepared by the Bidder or its Affiliates or directors, officers, employees or advisors based on the Confidential Information within a period of sixty days from the date of receipt of notice, or destroyed, if incapable of return. The destruction shall be witnessed and so recorded, in writing, by an authorized representative of the GoUP. Without prejudice to the above the Bidder shall promptly certify to the GoUP, due and complete destruction and return. Nothing contained herein shall in any manner impair rights of the GoUP in respect of the Confidential Information.

Section 4: Bid submission formats

8. In the event that the Bidder hereto becomes legally compelled to disclose any Confidential Information, the Bidder shall give sufficient notice and render best effort assistance to the GoUP to enable the GoUP to prevent or minimize to the extent possible, such disclosure. Bidder shall not disclose to a third party any Confidential Information or the contents of this RFP without the prior written consent of the GoUP. The obligations of this Clause shall be satisfied by handling Confidential Information with the same degree of care, which the Bidder applies to its own similar Confidential Information but in no event less than reasonable care.

For and on behalf of:

(BIDDER)

Authorised Signatory

Name:

Designation:

Office Seal:

Place:

Date :

c. Consortium Agreement

DRAFT AGREEMENT EXECUTED BY MEMBERS OF THE CONSORTIUM

[On Non-judicial stamp paper of INR 100 duly attested by notary public]

This agreement entered into this day of [Date] [Month] 2015 at [Place] among _____ (hereinafter referred to as "_____") and having office at [Address], India, as Party of the First Part and _____ (hereinafter referred to as "_____") and having office at [Address], as Party of the Second Part and _____ (hereinafter referred to as "_____") and having office at [Address], as Party of the Third Part.

The parties are individually referred to as Party and collectively as Parties.

WHEREAS ITECCS - UP Police has issued a Request for Proposal dated [Date] (RFP) from the Applicants interested in **Selection of Agency for Technology and operationalization of U.P. State wide Dial 100 Project:**

AND WHEREAS the Parties have had discussions for formation of a Consortium for bidding for the said Project and have reached an understanding on the following points with respect to the Parties' rights and obligations towards each other and their working relationship.

AS MUTUAL UNDERSTANDING OF THE PARTIES, IT IS HEREBY AGREED AND DECLARED AS FOLLOWS:

- i. The purpose of this Agreement is to define the principles of collaboration among the Parties to:
 - Submit a response jointly to Bid for the "**Selection of Agency for Technology and operationalization of U.P. State wide Dial 100 Project**" as a Consortium.
 - Sign Contract in case of award.
 - Provide and perform the supplies and services which would be ordered by the GoUP pursuant to the Contract.
- ii. This Agreement shall not be construed as establishing or giving effect to any legal entity such as, but not limited to, a company, a partnership, etc. It shall relate solely towards the GoUP for **Selection of Agency for Technology and operationalization of U.P. State wide Dial 100 Project** for and related execution works to be performed pursuant to the Contract and shall not extend to any other activities.
- iii. The Parties shall be jointly and severally responsible and bound towards the GoUP for the performance of the works in accordance with the terms and conditions of the BID document, and Contract.
- iv. ----- (Name of Party) shall act as Lead Partner of the Consortium. As such, it shall act as the coordinator of the Party's combined activities and shall carry out the following functions:
 - To ensure the technical, commercial and administrative co-ordination of the work package
 - To lead the contract negotiations of the work package with the GoUP.

Section 4: Bid submission formats

- The Lead partner is authorized to receive instructions and incur liabilities for and on behalf of all Parties.
 - In case of an award, act as channel of communication between the GoUP and the Parties to execute the Contract
- v. That the Parties shall carry out all responsibilities as Developer in terms of the Project Agreement.
- vi. That the broad roles and the responsibilities of each Party at each stage of the Bidding shall be as below including % stake in the contract value:
Party A: _____
Party B: _____
Party C: _____
- vii. That the Parties affirm that they shall implement the Project in good faith and shall take all necessary steps to see the Project through expeditiously.
- viii. That this agreement shall be governed in accordance with the laws of India and courts in Uttar Pradesh shall have exclusive jurisdiction to adjudicate disputes arising from the terms herein.

In witness whereof the Parties affirm that the information provided is accurate and true and have caused this agreement duly executed on the date and year above mentioned.

(Party of the first part) (Party of the second part) (Party of the third part)

Witness:

- i. _____
- ii. _____

d. Format for Power of Attorney to Authorize Signatory

POWER OF ATTORNEY

[To be executed on non-judicial stamp paper of the appropriate value in accordance with relevant Stamp Act. The stamp paper to be in the name of the company who is issuing the power of attorney.]

We, M/s._____ (name of the firm or company with address of the registered office) hereby constitute, appoint and authorise Mr. or Ms._____ (Name and residential address) who is presently employed with us and holding the position of _____, as our Attorney to do in our name and our behalf all or any of the acts, deeds or things necessary or incidental to our RFP for the Project _____ (name of the Project), including signing and submission of the RFP response, participating in the meetings, responding to queries, submission of information or documents and generally to represent us in all the dealings with Client or any other Government Agency or any person, in connection with the works until culmination of the process of bidding till the Project Agreement is entered into with _____ (Client) and thereafter till the expiry of the Project Agreement.

We hereby agree to ratify all acts, deeds and things lawfully done by our said Attorney pursuant to this power of attorney and that all acts, deeds and things done by our aforesaid Attorney shall and shall always be deemed to have been done by us.

(Add in the case of a Consortium or Joint Venture)

Our firm is a Member or Lead Member of the Consortium of _____, _____ and _____.

Dated this the _____ day of _____ 2015

(Signature and Name of authorized signatory)

(Signature and Name in block letters of all the remaining partners of the firm Signatory for the Company)

Seal of firm Company

Witness 1:

Witness 2:

Notes:

- ▶ To be executed by all the members individually.
- ▶ The Mode of execution of the power of attorney should be in accordance with the procedure, if any laid down by the applicable law and the charter documents of the executant(s) and when it is so required the same should be under common seal affixed in accordance with the required procedure.

e. Format for Power of Attorney for Prime Member of Consortium

[To be executed on non-judicial stamp paper of the appropriate value in accordance with relevant Stamp Act. The stamp paper to be in the name of the company who is issuing the power of attorney]

Whereas _____ has invited RFP response for _____ (Name of the Project)
Whereas, the Members of the Consortium comprising of M/s._____, M/s._____, M/s._____
and M/ s._____ (the respective names and addresses of the registered offices to be given) are
interested in bidding for the Project and implementing the same in accordance with the terms and
conditions contained in the RFP Documents.

Whereas, it is necessary for the members of the Consortium to designate one of them as the lead
member with all necessary power and authority to do, for and on behalf of the Consortium, all acts,
deeds and things as may be necessary in connection with the Consortium's RFP response for the
Project.

NOW THIS POWER OF ATTORNEY WITNESSETH THAT

We, M/ s._____ and M/s _____ and M/s_____ hereby designate M/s. _____ being
one of the members of the Consortium, as the lead member of the Consortium, to do on behalf of
the Consortium, all or any of the acts, deeds or things necessary or incidental to the Consortium's
RFP response for the Project, including submission of the RFP response, participating in meetings,
responding to queries, submission of information or documents and generally to represent the
Consortium in all its dealings with Client or any other Government Agency or any person, in
connection with the Project until culmination of the process of bidding till the Project Agreement is
entered into with Client and thereafter till the expiry of the Project Agreement.

We hereby agree to ratify all acts, deeds and things lawfully done by our said Attorney pursuant to
this power of attorney and that all acts, deeds and things done by our aforesaid Attorney shall and
shall always be deemed to have been done by us or Consortium.

Dated this the _____ day of _____ 2015

(signature)

(Name in Block Letter of Executant) [seal of Company]

Witness 1

Witness 2

Notes:

► To be executed by all the members individually, in case of a Consortium.
The Mode of execution of the power of attorney should be in accordance with the procedure, if
any laid down by the applicable law and the charter documents of the executant(s) and when it is
so required the same should be under common seal affixed in accordance with the required
procedure.

Section 5

Scope of Work

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1 Intent

The intent of this document is to provide the detailed scope of work for Bidder who shall be engaged to supply, install, commission and maintain UP State-wide Dial 100 System and provide related services to the GoUP.

This section is part of the RFP document and it details out the Scope of Work for Bidder.

This section should be read together with Annexure 5A and 5B to get detailed overview of scope of work.

2 Introduction

2.1 Project Background

- 2.1.1 Uttar Pradesh has the distinction of being the single largest Police force not only in the country but the entire world. The Director General of UP Police commands a force of approx. 2.0 Lacs personnel spread over 75 districts, 33 armed Battalions and other specialized wings or branches related to Intelligence, Investigation, Anti-corruption, Technical, Training, Forensic Science etc.
- 2.1.2 UP Police with its unique approach towards Safety, security and reduction in crime rate is undertaking a large number of initiatives to modernize its police force. It is also scaling up its infrastructure to match the requirements of police force including equipping its force with all the technical tools required to cope up with the requirements of safety and security.
- 2.1.3 Historically, there is a Dial 100 number in different cities of the state to cater to Police emergency services. Any call to this emergency number is routed to a communication officer or dispatcher in that particular district where the call originated and is handled by the concerned personnel. The system today has been implemented in a distributed environment and is working independently. Some of the cities including Lucknow, Kanpur, Allahabad and Ghaziabad have recently upgraded their Police Call 100 centers.
- 2.1.4 The current challenges being faced by Police forces in the state in providing a coordinated and centralized emergency response, led to the conceptualization of a centralized and integrated system to provide better Police emergency response and services to the citizens. This would also lead to the coverage of entire UP state including rural, urban and

Section 5: Scope of Work

remote areas under the Call 100 services. The system should be designed to be scalable in future. Scalability of the system would mean:

- Integration of new applications
- Increase in number of seats at command and control center
- Increase in number of call volumes
- Increase in type of cases to be handled by emergency response
- Increase in dispatch vehicles
- Inclusion of Women Powerline 1090
- Inclusion of Fire services
- Inclusion of Highway Police, ITMS, City surveillance and Medical emergency services and any other service like CCTNS which would make the Emergency Response more comprehensive in future

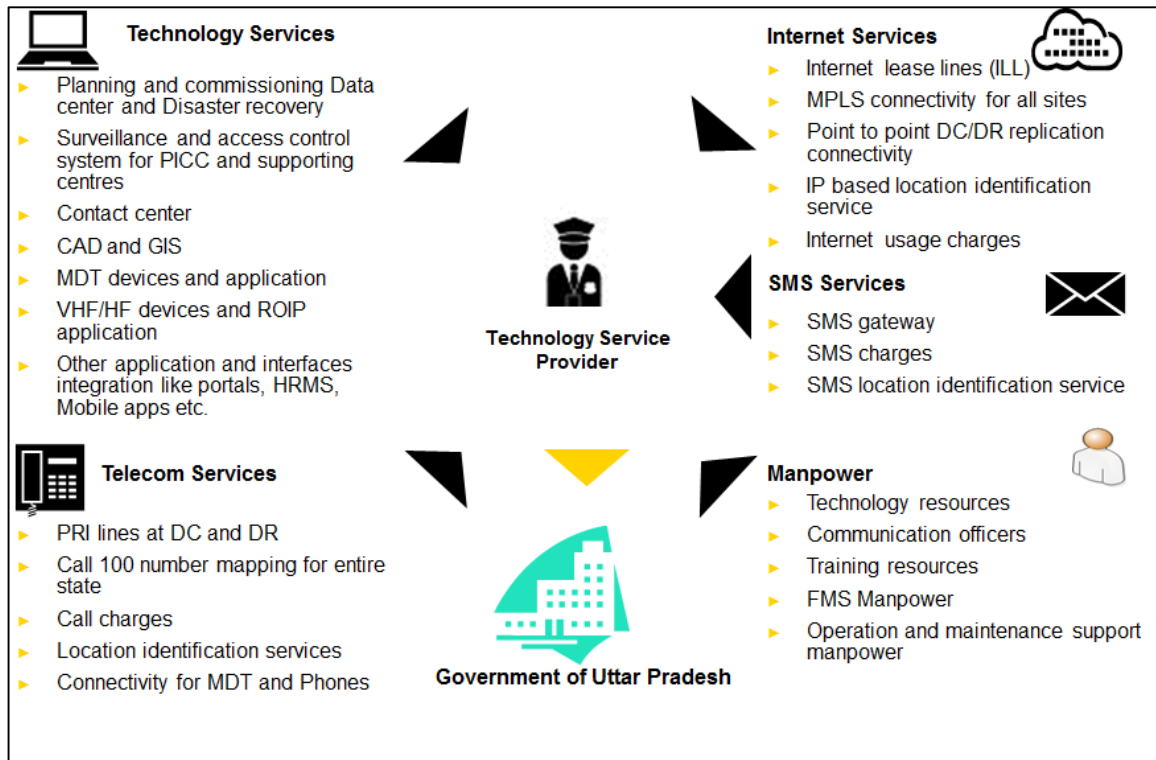
2.2 Objectives and Scope of the project

- 2.2.1 To improve response and timely action for a distressed citizen, the call 100 should be a robust solution with multi - lingual support and logical distribution of calls. It will help in lowering the crime rates by acting as a deterrent through round-the-clock availability of response system with real-time tracking, movement and location of response vehicles.
- 2.2.2 Improve the response time for providing Police emergency response services to the citizens
- 2.2.3 Ensure state-wide coverage of the State-wide Call 100 service including urban, rural and remotest areas of the state
- 2.2.4 Provide 24x7 operational centralized State-wide Call 100 number
- 2.2.5 Provide 24x7 efficient and effective Police emergency response system. Citizens shall be able to connect to the system through multiple media, like SMS, email, Chat etc.
- 2.2.6 Handle Police emergency requests from citizens through skilled manpower
- 2.2.7 Improve response system for timely dispatch of field personnel (police) to the location of incidence
- 2.2.8 GPS enabled quick dispatch of vehicles to location of distressed person
- 2.2.9 Analysis of trends and optimize the use of Police personnel to handle emergency situations
- 2.2.10A scalable system to handle increased number of citizen requests for Fire services and Women Powerline 1090.
- 2.2.11The system will support with distinct feature to support and assist physically challenged such as blind, dumb, deaf persons
- 2.2.12**A scalable system to handle increased number of citizen requests and integrate with other services in future like City Surveillance, Highway Police and Medical (ambulance) services**

2.3 Ecosystem for service delivery

- 2.3.1 Envisaged system would require interactions amongst various stakeholders in the ecosystem.

Section 5: Scope of Work



#	Stakeholder	Broad roles and responsibilities
1.	Government of Uttar Pradesh and UP Police	<ul style="list-style-type: none"> ▶ Provide requirements related to the project ▶ To provide overall guidance and approach for implementation and execution of the project ▶ To approve deliverables as listed in this RFP ▶ Acceptance of the system which has been deployed ▶ To provide any other approval required for the implementation ▶ Civil infrastructure preparation and interiors, support and maintenance of the UP POLICE 100, OMCs ▶ Dispatch officer manpower ▶ Handling operations of field officers ▶ Assisting the Bidder for implementation of the project

Section 5: Scope of Work

#	Stakeholder	Broad roles and responsibilities
2.	Selected Agency	<ul style="list-style-type: none"> ▶ Planning and commissioning of DC and DRC sites ▶ Provide DRC site in different seismic zone outside UP state ▶ Procurement, software development, testing, installation, commission and operation and maintenance of the emergency response system (including hardware, manpower, network, application) ▶ Installation of MDTs in vehicles ▶ Installation of ROIP solution at city or district location ▶ Training of the personnel on the solution ▶ Agency would be providing minimum following services:
2. A	Telecom Services	<ul style="list-style-type: none"> ▶ Provision of PRI lines ▶ Provision of system for identifying the location of caller ▶ Providing mapping of centralized short code number ▶ Providing required databases such as SDR etc.
2. B	SMS service	<ul style="list-style-type: none"> ▶ Providing SMS service through which messages can be sent and received by the central system to the required personnel based on requirement
2. C	Network services	<ul style="list-style-type: none"> ▶ Connecting all sites i.e. Monitoring Center, UP POLICE 100, OMC, DC-DR and other sites through primary and secondary network link as required ▶ Providing IP address of the personnel who have requested services over internet ▶ MPLS connectivity at all sites ▶ Internet lease lines ▶ IP based location detection
2. D	Technology services	<ul style="list-style-type: none"> ▶ Planning and commissioning of DC at UP POLICE 100 ▶ Planning and commissioning of DRC outside the UP state in different seismic zone including physical infrastructure for DRC ▶ Surveillance and access control system for UP POLICE 100 and supporting sites ▶ Contact center technology like IPPBX, ACD, and CTI etc. ▶ CAD and GIS solution ▶ MDT devices and application ▶ VHF devices and application ▶ Other application and interfaces like HRMS, Finance management, Portals, mobile applications etc.
2. E	Manpower services	<ul style="list-style-type: none"> ▶ Provide technology resources ▶ Provide Communication officer ▶ Provide Faculty Management services staff ▶ Provide training to the resources ▶ Operation and maintenance resource during the contract period

3 Functional Requirement of the system

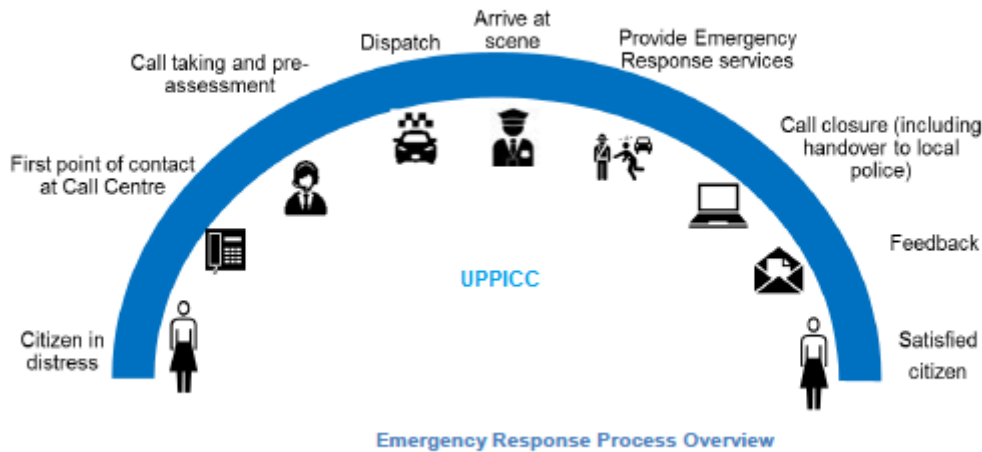
3.1 Geographical overview

The project would be undertaken statewide, with a centralized Monitoring center and UP POLICE 100 at Lucknow and OMCs at Varanasi and Agra in Uttar Pradesh.

3.2 Process overview

3.2.1 A centralized system leveraging input from various sources such as voice call, SMS, email, mobile application etc. is envisaged by the GoUP.

3.2.2 Process for Emergency Response is divided into 9 majors steps starting with connect from a distressed citizen and ending with a satisfied one.

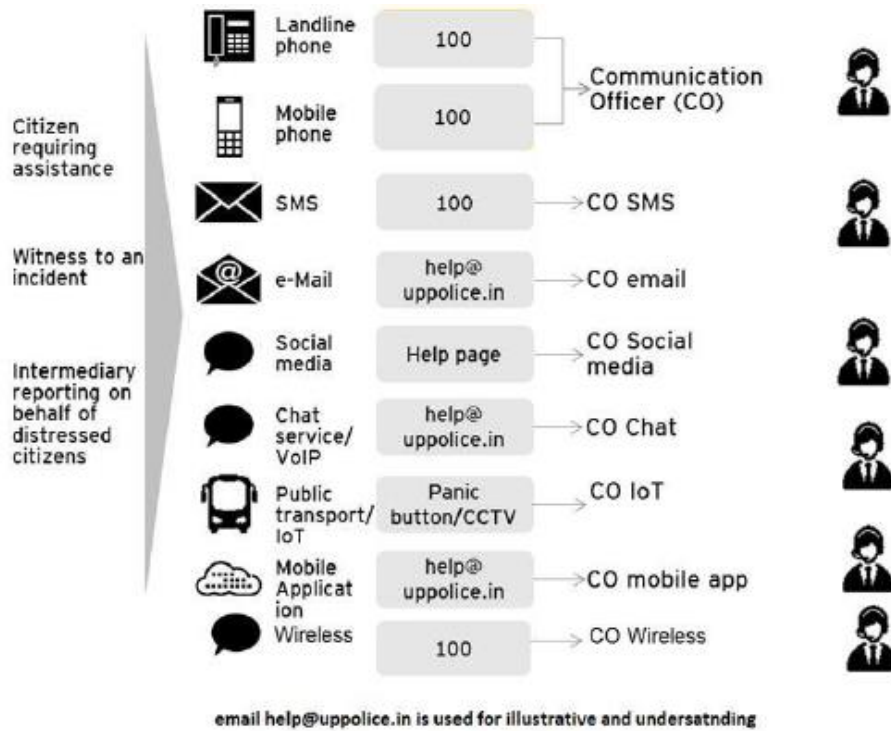


3.3 Citizen in distress

3.3.1 A citizen who requires assistance or witnesses an incident can connect to a centralized system to avail Police emergency services. As a future requirement, the Call 100 system will have a platform as a future requirement to integrate other services like Highway Police, City surveillance, ITMS, Medical assistance and severe Traffic issues etc. thereby providing efficient emergency response services to the citizen.

3.4 First point of contact at Call 100

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- 3.4.1 As illustrated through the diagram above, any citizen facing an emergency situation can connect to UP POLICE 100 through various modes of communication as mentioned below:
- 3.4.2 Land Line (PSTN) phone: Citizens can dial from a fixed line phone to Call 100 system which will require basic phones over Public Switched Telephone Network (PSTN)
- 3.4.3 Mobile Handset: It will be the communication medium for citizens to dial from mobile phone to Call 100 and will require Mobile handset with Telecom Service Provider connectivity.
- 3.4.4 SMS: Citizens can text from mobile phone to Call 100 system which will require Mobile handset with Telecom Service Provider connectivity.
- 3.4.5 Email: Citizens can connect with Call 100 system through mail at pre-decided email addresses. Citizen will require a valid email ID and terminal or GPRS activated cellular device with internet access.
- 3.4.6 Chat Services or VoIP: It will be the communication medium for citizens to inform Call 100 system about emergency through messenger services or VoIP systems. System will have pre-decided messenger ID and VoIP number which will be made available for citizen support. The citizen will require installed messenger services on terminal (with microphones) or GPRS activated cellular device with internet access. With VoIP, analog voice calls are converted into packets of data. The packets travel like any other type of data, such as e-mail, over the public Internet and or any private Internet Protocol (IP) network. Using a VoIP service, citizens can call landline or cell phones. One can also make computer-to-computer calls, with both parties speaking into a computer microphone and listening through computer speakers or headsets.
- 3.4.7 Public transport or IoT: Internet of things shall be integrated in future with Call 100 system. IoT may be a device installed in in public transportation, public places or it could be devices being worn or used by citizens. The Device-to-Device (D2D) communication involves collection of data from monitoring sensors or smart meters installed in IoT

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devices and transmission over wireless GSM or GPRS connections. The data received from these registered IoT devices will be used to provide emergency response services to the citizen.

3.4.8 **Mobile Application:** A person in an emergency situation can connect with Call 100 system using registered mobile applications. These applications use GPS system for location tracking of a distressed person. Mobile application may be based on Android or Windows or IOS platform.

3.4.9 **Wireless Device:** District control rooms in UP will be connected to Call 100 system through Radio gateway. This mode of communication will be additional communication channel through ISP over radio link. District control rooms will be connected to PRV staff over VHF links to communicate about emergency.

3.4.10 **Social media:** Social media tools or applications allow distressed citizens to disseminate information to wider audiences, interact with the public and also to specifically connect with Call 100 system.

3.5 **Call taking and pre-assessment**

3.5.1 Call taking and pre assessment play a very crucial part in emergency response. It includes collation of information from a distressed citizen, pre-assessment of calls forwarding to the dispatch group. The CO attending the call or connect from the citizen will provide information to the Dispatcher. Selection of the right personnel as COs is crucial as they would be handling real time calls or connects about emergencies of various kinds. The vision is to create a motivating environment for the staff that helps them to be self-driven and meet the desired objectives of the project. COs will classify the calls under actionable, non-actionable and other emergencies categories during the pre-assessment step.

3.5.2 Call taking process:

3.5.2.1 Pool of women Communication Officers will be available to handle Voice calls communication from modes like mobile, PSTN Line. They will collect information related to incident from the distressed caller and create an incident report. All unanswered calls would fall under a separate category and will be handled by 'Unanswered desk' with dedicated COs who would call back the unanswered phone numbers.

3.5.2.2 Communication Officers are classified majorly into two subcategories:

3.5.2.3 **Inbound Communication Officers:** These Communication Officers will be responsible for all incoming calls or connects. COs will coordinate with the distressed caller to receive information about the emergency and respond according to defined SOPs.

3.5.2.4 **Outbound Communication Officers:** Outbound COs will call the distressed person to receive the information about incident and create a report. These COs will also be

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responsible for handling any unanswered calls and collecting and collating the Citizen experience post the resolution of emergencies

- 3.5.2.5 It should be possible to divide the communication officers into a number of groups to answer the calls which may originate from different geo-location of the state
- 3.5.2.6 Communication officer with different dialects of the UP state shall be employed to facilitate the communication with users calling from different geo region of the state
- 3.5.2.7 It should be possible that calls from particular communication officer to be sent to the region based dispatch officers.
- 3.5.2.8 COs should have the ability to classify and transfer calls as per category. Thus the system needs to exhibit the same capability. For example:
 - If Police emergency related calls: transfer calls to DO or Special Dispatch Unit Officer
 - If 1090: transfer calls to designated Communication Officer for 1090
- 3.5.2.9 Call answering: System will facilitate in recording the time when a CO has been given a call, record and identify the CO who was selected for the call through system generated unique ID. Overall call response system will be enabled to provide human touch to the distressed person and no automated response system will be provided for answering the call.
- 3.5.2.10 To minimize the response time, call delivery is considered to be an integral part of the call taking process. Call delivery primarily covers the operational features of queuing, automatic call distribution system, call treatment rule, call type information etc.
- 3.5.2.11 It will have the ability to convert call location from civic address to geographic coordinates and a menu for location search with direction markers and advance search buttons.
- 3.5.3 Location Map Display: COs desk will have the facility to display GIS based enriched data which can display a Caller Location on GIS map. There will be display of multiple locations associated with a single call by using different icons to represent the locations. Capability to zoom (1:1000 for City and 1:5000 for Rural) on the GIS based map display and pan on GIS based map display. Capability to store geographic information system databases in pre decided formats. Maps will be able to turn on and off specific theme based layers of information, and be able to select on specific layers on a GIS map display (e.g. district boundaries, Police zones, Police Station area, Thana and Chowki with their boundaries) while capacity to display the emergency responder agencies associated with a Caller Location on the GIS based map display. There will be value added feature like display caller location information on the GIS based map display and ability to include both raster and vector data. GIS based display shall include status and selected call data and any associated data through indicators as part of the call or emergency location status icons.
- 3.5.4 Call pre-Assessment: The Pre-assessment of calls requires technique, training, experience and will be a challenging task for all COs. The assessment will involve:

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- 3.5.4.1 Call grading, route the call to dispatcher and alerts to various levels depending on severity of cases
- 3.5.4.2 Call handling procedure to the CO using CAD and provide interface to check the nature of emergency
- 3.5.4.3 Classification of calls under Actionable calls (AbCs) or non-actionable calls (non AbCs).
- 3.5.4.4 Actionable Calls (AbCs) shall be further classified as per service required e.g. Police, Fire, Ambulance, 1090 and all the services being handled by centre.
- 3.5.4.5 Call for women against harassment by obscene callers and road Romeos will be directed to Women Powerline 1090
- 3.5.4.6 Call for fire services will be pre assessed and further forwarded for dispatch pool
- 3.5.5 Call details records: Using CAD CO will be able to record the particulars like date(s), time stamping and probable time of occurrence of incident. The call details records will involve:
 - 3.5.5.1 System will record service originator code, Caller Location, Call Type, network processing data, caller classification and other relevant data
 - 3.5.5.2 System will provide features to create or read a Call Detail Record and facility to update it
 - 3.5.5.3 CO will be able to create incident record though CAD and system will maintain the association between an Incident Record, the Call Detail Record, and Call Recording
 - 3.5.5.4 Voice recording of all the calls will be maintained for a period of 5 years in archive on backup with flags for data storage.
 - 3.5.5.5 One (1) month live call data would be maintained post which it would be archived.
 - 3.5.5.6 CO will be able to record and navigate on display map using CAD with primary interface in Hindi and the required fields will be as below (indicative):
 - 3.5.5.7 Unique ID of each case: Every incoming incident would have a unique number and details will have all the necessary data like caller, dispatcher, time stampings, category of incident etc. Also, tracking of all cases through system generated ID for each call and each dispatch.
 - 3.5.5.8 Additional Phone number: Any other contact number
 - 3.5.5.9 Communication medium
 - 3.5.5.10 Probable time of occurrence of incident
 - 3.5.5.11 Caller Name
 - 3.5.5.12 Caller Address
 - 3.5.5.13 AbC type: Actionable Call will be type of Call for service and sub categories. Sample for same:

Actionable Calls	Sub category	Easy Hindi abbreviations for Actionable calls	Alphabetic Abbreviation of actionable calls
Accident	Accident of group	Durghatana	A

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	Accident of individual		
	Accident of two wheeler with car		
	Accident of two wheeler with heavy duty vehicle		
	Accident of Car with heavy duty vehicles		
	Animal hit		
	Accident of group		
	Accident of individual		
Alcohol/Drugs	Possession	Madak Padarth	B
	Trafficking		
Animal Related	Cow Killing	Pashu hatya	C
	Dead Body		

3.5.5.14 Non AbC type: CO will enter from category like priority: Select from emergency OR non-emergency OR enquiry

3.5.5.15 Description: Details of distress

3.5.5.16 Notes: special notes about caller

3.5.5.17 Navigation keys like:

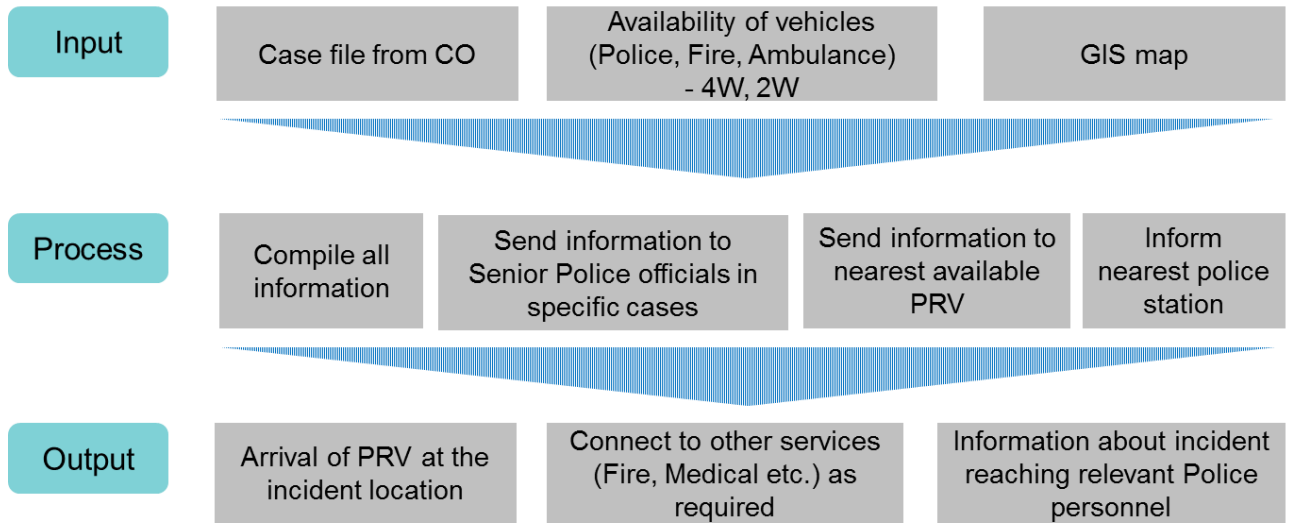
- New
- Accept
- Edit
- Save
- Cancel
- SOP
- Support Information
- Log file
- Voice log
- Add Task
- Route
- Conference

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3.5.5.18 GIS MAP: with enriched data and navigation keys like zoom, rotate, shift, up down etc.

3.5.6 Call forwarding: Once the CO captures minimum potential data in the CAD she will forward the emergency AbCs to the dispatch system using CAD only. There will be an option to edit or change the basic details of call like email, nearest landmark and a comment option.

3.6 Dispatch



Dispatch flow

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- 3.6.1 Dispatcher validates and priorities the AbCs at field level. The AbCs, once classified and detailed by the COs, shall be passed by the system to one or more dispatchers.
- 3.6.2 Dispatcher will have information about the case from CO and will ensure the dispatch of field personnel
- 3.6.3 Dispatcher will send AbCs related info to specific MDTs on PRVs or Fire stations and SMS to mobile of PRVs and designated Police officers and units as may be required
- 3.6.4 It should be possible to divide the dispatch officers including special dispatch unit into the number of groups to answer the calls which may originate from different geo location of the state
- 3.6.5 The dispatchers are classified into Dispatch Officers and Special Dispatch Officers allocated as per the complexity of cases to be handled
- 3.6.6 For Fire services, the dispatcher will dispatch calls to concerned District control rooms using MDTs installed in Fire stations and the nearest Fire PRVs (Fire Brigades). There will be separate 5 seats for Dispatchers of Fire Services
- 3.6.7 Dispatcher may use wireless system to send information to the field team and communicate with the vehicle directly.
- 3.6.8 All dispatchers would be police personnel
- 3.6.9 The major functions involved during dispatch will be:
 - Actionable Calls Location: The CAD System will display the information entered by the CO for AbCs. It would display the location as identified by the CO, ALI or address database but the dispatcher would also have the option of 'relocating' the AbCs.
 - 3.6.9.1 Caller History: The response to an AbC would be affected by previous experience about the caller, location or locality. The CAD would retrieve and display such information. Women Powerline 1090 will be integrated with Call 100 in such a way that mapping of Caller history of 1090 will be reflected to COs of Call 100 and vice-versa
 - 3.6.9.2 Dispatch Decisions: The CAD will suggest units and resources for dispatch based on a predefined algorithm. The conditions can include AbCs type, response action methodology, day and time of occurrence, PRV availability and number of vehicles required, jurisdiction, proximity, specialization, available equipment on duties resources and logical or combination within rules. The dispatcher shall choose which unit(s) to dispatch and it would be possible to do so with a click of a button. The CAD shall be freely customizable to include such varying SOPs and operational requirements.
 - 3.6.9.3 PRV Status: The GIS will display the assigned or unassigned PRVs and nearest fire brigades for Fire services using appropriate and intuitive graphical symbols:
 - 3.6.9.3.1 Unit shall report departure for, arrival at and, departure from a location
 - 3.6.9.3.2 Vehicle beacons colour will change automatically with their change in status, i.e. dispatch, arrival at scene, availability etc.
 - 3.6.9.3.3 The entire movement of a vehicle would be time stamped and monitored by the Dispatcher
 - 3.6.9.3.4 The Dispatcher will be able to lock vehicle on map for continuous tracking
 - 3.6.9.3.5 It should be possible to assign groups of patrolling PRVs to DOs for monitoring and supervision.
 - 3.6.9.4 Action Taken Reports: The dispatcher will be able to enter the ATR information as reported by the responding unit. ATR could also be entered by any response unit in its

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MDT. Each ATR/updated ATR will be shared with all units to whom the initial information has been sent

3.6.9.5 Simultaneous Call Taking and Dispatch: Other aspects of Call-Taking and Dispatch:

3.6.9.5.1 Dispatcher will provide information to the District Police for arranging other emergency oriented measures like Riot control vehicle, special armed police team, Dog squad, Mobile Forensic, Bomb squad, Special task Force (STF) to incident locations

3.6.9.5.2 ***Dispatcher will provide information to the District Police Control room and Fire services over MDT for arranging necessary action for Fire related calls.***

3.6.9.5.3 ***2 desktops with big screens will be provided to each district Police control room to monitor dispatch of vehicles through web links along with 4 Mbps MPLS connectivity***

3.6.9.5.4 Video walls will display statistics of dispatch, PRV movement etc.

3.6.9.6 Radio Records: The radio communications will be recorded by the system.

3.6.9.7 Call Conferencing and Patching: It shall be possible for the Dispatcher to organize a conference call from his or her console. It shall be possible to patch phone and radio as well. The pool of all Dispatch Officers will have three screens running in parallel to show GIS, Dispatch record and AbCs with analysis. One of the screens with the dispatcher should have a facility to enable the dispatcher to make a call through the wireless transmission system.

3.6.9.8 For every dispatch an acknowledgment with unique id of case no. shall be communicated to caller over SMS or email or over the medium of his call

3.6.9.9 The DO should be able to collect pictures and videos sent by caller and keep it consistently with case record

3.6.9.10 **Monitoring of the operations:** The operations at UP POLICE 100 shall always be commanded by an officer working in shifts. This officer would be responsible for generating appropriate operational response to each AbC. It would, therefore, be possible for him or her to monitor all activities of call taking, dispatch and response on large video walls. The dispatch operations area would have a large video display providing, among other things, a bird's eye view of the entire deployment and available units. Prompt and appropriate Call 100 systems with voice, data and image communication and logging and collaborative, multi-department response to emergencies will be key factors for DO pool for effective emergency response handling.

3.7 Arrive at Scene

3.7.1 The responses times of 2W and 4W PRVs as envisaged through this project are (including the call processing time of 3 minutes) are as below:

- ▶ Response time for Urban 2W - 10 min
- ▶ Response time for Urban 4W - 15min
- ▶ Response time for Rural 4W - 20 min

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- ▶ Response time shall include all activity time starting with call receiving, categorization of the call, dispatch, vehicle to reach at location and acknowledgement by vehicle at UP POLICE 100 or OMC.

3.7.2 To ensure that the PRVs reach the incident location within the stipulated timelines, it is important to keep the 4W and 2W PRVs (Police Response Vehicle) in an operationally ready condition 24 X 7, 365 days. The Supervisors at the Call 100 center will monitor movement of the vehicles towards the emergency site and provide route support based on shortest distance traffic conditions etc. They will pass on the instructions and follow up with field personnel if ambulance, fire brigade or district Police is required for handling the emergency situation. On being dispatched for attending to an emergency, the PRVs report to the Call 100 Center and set the status of the vehicle as 'busy'. During the free hours, PRVs provided as part of this project will patrol as per the route plan designed for them. This will help them in providing more timely response in case of distress or emergency.

3.8 Providing Emergency response service

3.8.1 On arriving at the incident location, the field personnel then take suitable action or provide the required emergency support to the citizen in distress as per the defined SOPs and update the status through MDT. The field team can also call for additional personnel if required through backend. Each field team shall be equipped with suitable measures to perform following functions:

3.8.1.1 Communication between Dispatcher and PRV staff will include:

3.8.1.2 Call details sent from dispatcher via text to MDT device of PRV staff

3.8.1.3 Action taken receipt received by dispatcher

3.8.1.4 Action taken receipt not received by dispatcher. In that case, dispatcher will call the PRV staff

3.8.1.5 Transmit the location and direction of the vehicle to the CAD system. Field unit will not be able to switch off his GPS Tracking manually

3.8.1.6 The handheld MDTs will have inbuilt camera with video. The MDTs will have an audio recorder which shall be used, among other applications, for recording and transmitting the Action Taken Reports (ATR). It will also be used to monitor attendance, vehicle utilization and other aspects of PRV management

3.8.1.7 Transmit and receive data through Mobile phones and Mobile Data Terminals

3.9 Call Closure (including handover to local police)

3.9.1 Field team will update the action taken report in MDT, close the case and show the PRV status as available for any other emergency. Field team may connect with district Police in case of any further assistance or handover. While at UP POLICE 100, supervisors will check the closure report from field team and close the case if satisfied with field team response. At the end of operation, PRV staff may either handover the case to local Police or close the emergency if the case doesn't require local Police intervention. The local Police

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will download details of action taken report from web link or app and initiate the case file and update status in Call 100 system.

3.10 Citizen Experience

- 3.10.1 Citizens who have experienced or faced distress and were assisted by UP POLICE 100 will have a facility to present their experience and rate the quality of service provided by the emergency response team. Citizen can communicate through call, SMS, email or web portal or mobile app to UP POLICE 100 to discuss about case. Additionally, the CO feedback desk will communicate with distressed citizen post closure of case after a certain period to know about his or her experience. Citizen experience system will help in improving and providing better services in future.

4 Technical solution

Technology solution desired for this critical need should be robust and scalable encompassing hardware, application software and a responsive man-machine interface. The system should meet all the current requirements of a modern Police Emergency Response Management system and yet be having an architecture that would be lending itself to integration with other existing and futuristic systems. At the same time the system should be scalable enough to incorporate future expansions.

4.1 Architectural principles

- 4.1.1 Service Oriented Architecture that defines integration architectures based on the concept of a service becomes relevant especially when there are multiple applications in an enterprise and point-to-point integration between them involves complexity. When multiple applications are involved services shall be able to communicate with each other which shall be achieved by implementation of SOA through web services where the services are exposed for other applications. Bidder shall propose SOA based architecture while designing the solution.
- 4.1.2 The system should be highly available to avoid missing any emergency situation in the UP State
- 4.1.3 The Principle of Architecture should have Active-Passive between the sites, servers and services across the solution.
- 4.1.4 Each incoming emergency should be formed as unique case in the system with unique registration number
- 4.1.5 There should be no single point of failure in the system including network between the sites
- 4.1.6 The bidder has to maintain the principal of less manual intervention and full automation.
- 4.1.7 The system must be highly efficient in order to achieve timely Emergency response to the person in need across state. It should be possible to scale quickly to meet the incoming calls or inputs from various sources.
- 4.1.8 All calls or other inputs should be recorded for future purpose for defined period. In case of any judicial proceedings, the records should be maintained as long as the proceedings.
- 4.1.9 The system must be reliable against hardware and software failures and Disasters. Integrity of data and availability must be assured.
- 4.1.10 The underlying technology needs to be user friendly. By having easy use-of-use principle, training can be kept to a minimum thereby aiding IT change management and the risk of using a system improperly can be minimized.
- 4.1.11 N-Tier model is the framework in which application user interface, logic, data, and their associated processing and repair are separated from each other in logical manner is more flexible in response to changes in internal logic, platforms, and structures; this isolates or

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minimizes the impact of change. Considering requirements of ease of support, scalability and interoperability, N-tier model shall be proposed.

- 4.1.12 Vendor lock-in should be avoided.
- 4.1.13 The bidder should minimize integration effort for the proposed solution.
- 4.1.14 The infrastructure management should be Directory services driven with Domain Schema
- 4.1.15 The infrastructure management shall be Directory services driven with Domain Schema
- 4.1.16 The system would be built from best of breed components with no obsolescence and with futuristic designs
- 4.1.17 The technology adopted would be periodically refreshed to achieve significant improvements in TCO
- 4.1.18 Scalability, manageability must be present in the solution to handle huge data volumes
- 4.1.19 Efficient resource utilization by separation of Compute and Storage resources and through distribution of load among all sites
- 4.1.20 All the system components must follow open standards
- 4.1.21 System should have high availability architecture

4.2 Security Principles

- 4.2.1 The bidder should follow security principles such as “defense in depth”; for numerous defense mechanisms (“layers”) in place, designed so that an attacker has to defeat multiple mechanisms to perform a successful attack. Multi-layer security must be employed starting with networks, perimeter, DMZ, Data Center, applications and databases. This principle may also require that the bidder provisions for security components from different vendors so that even if the equipment from one OEM is unable to detect the attack the other OEM will have a probability of detecting it.
- 4.2.2 All the Applications and Infra changes has to be by secure SMLC and Change Management principle driven respectively.
- 4.2.3 The bidder should follow the principle of “least privilege”. Each user and program should operate using the fewest privileges possible. This principle limits the damage from an accident, error, or attack. It also reduces the number of potential interactions among privileged programs, so unintentional, unwanted, or improper uses of privilege are less likely to occur. This idea can be extended to the internals of a program: only the smallest portion of the program which needs those privileges should have them. The bidder will have to design its solution utilizing similar industry recognized security principles.
- 4.2.4 All IT and IS operations will be governed by the IT and IS Policy which will be provided to the successful bidder. The bidder will have to prepare detailed procedures for the same

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and implement accordingly. All project documentation should be prepared by the bidder as per the policy and related regulations.

- 4.2.5 The privacy of data has to be ensured by the bidder at all times. The bidder has to ensure that data sharing is done as per the policy.
- 4.2.6 Latest version of industry best practices such as ISO 27001, ISO 20000, ISO 22301, IT Act, NCSP, NCIICP, DSCI-Privacy Framework and CoBIT5 should be followed by the bidder for the project.
- 4.2.7 The system must follow a role based access control at all levels. The bidder should implement logical access control based on policy prepared by GoUP for application, subsystem, or group of systems. All the access logs need to be captured and monitored.
- 4.2.8 Infrastructure and Application Access should follow 2 Factor Authentication
- 4.2.9 All the Databases and Data stores must be encrypted based on GOI encryption standards
- 4.2.10 The proposed MPLS should be a private and dedicated network
- 4.2.11 Security in Design would encompass security risk assessment on user specifications, secure information architecture, proper role and based access design and secure application and database design.
- 4.2.12 Security during Development would encompass detailed secure code training to developers, proper change management, peer code review for security, external source code review and exhaustive security testing based on WASC and OWASP Security Guidelines.
- 4.2.13 The bidder has to ensure that their Application Development must follow Secured SDLC process development and deployment by taking OWASP Top 10 and SANS top 25 into consideration. Similarly, Application maintenance should follow Secured SMLC.
- 4.2.14 The system must be secure at all user touch points by using suitable security protocols and data protection methods
- 4.2.15 All types of network attacks must be identified and counter measures must be put in place.
- 4.2.16 All the ICT assets must also be secured throughout their life cycle as they may contain sensitive data with hardening, Asset disposal, and data disposal principles.
- 4.2.17 The Network layer must have in depth packet inspection and intelligence in blocking attacks.
- 4.2.18 The bidder should provision for DDoS Free Bandwidth as a part of its solution.
- 4.2.19 For areas where Physical access controls have been implemented by the bidder as a part of the Scope of Work , the controls should address not only the area containing system hardware, but also locations of wiring used to connect elements of the system, supporting services (such as electric power), backup media, and any other elements required for the system's operation. The bidder should review the effectiveness of physical access controls in each area, both during normal business hours and at other times, particularly when an area may be unoccupied.
- 4.2.20 The bidder will ensure that the Critical data stores are minimized, and stored data has to be encrypted at all times.
- 4.2.21 The bidder has to ensure that access to data is given through application layer (via an application) at all times.
- 4.2.22 As a part of Service delivery process, the bidder has to ensure segregation of services and segregation of duties.
- 4.2.23 For operations phase security activities such as performing backups, holding training classes, managing cryptographic keys, keeping up with user administration and access

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privileges, and updating security software are some examples that have to be done by the bidder.

- 4.2.24 VPN and VLNS should be the principle of operations for remote access and isolation of internal traffic.

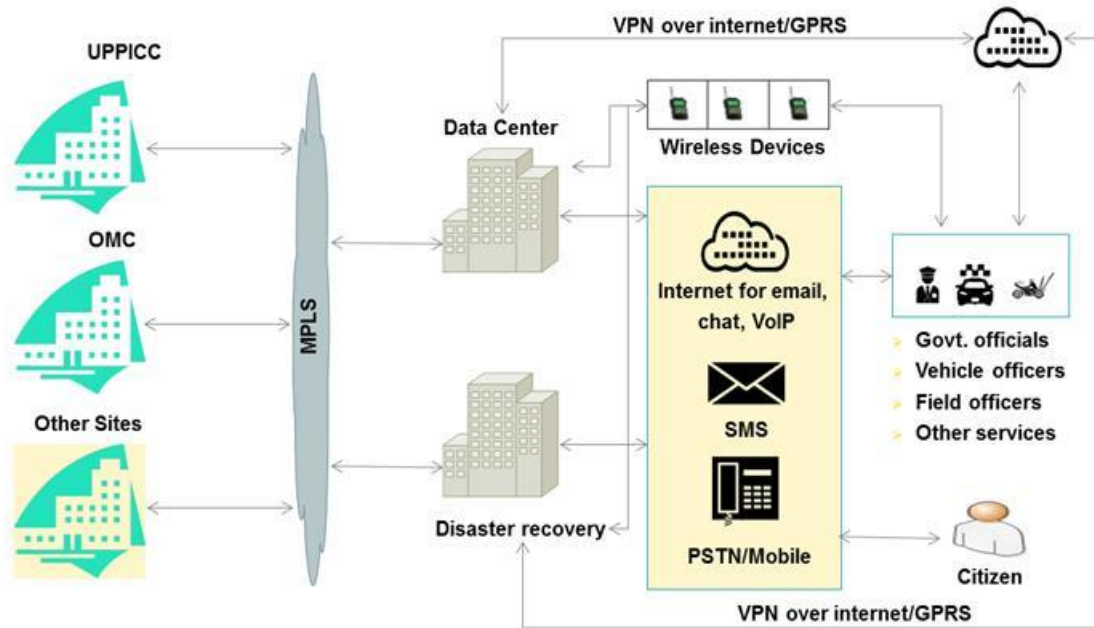
4.3 Management Principles

- 4.3.1 The management of system shall be SLA based.
- 4.3.2 System should have an Enterprise Management Solution that provides end-to-end, comprehensive, modular and integrated management of IT infrastructure components to maximize the availability of IT services and SLA performance
- 4.3.3 System Management shall follow all processes as per to ITIL standards. This includes Asset Management, Vendor Management, Configuration Management, Incident Management, Performance Management and Capacity Management.
- 4.3.4 Management to have minimal overhead on the system
- 4.3.5 Management of ICT should be automated.
- 4.3.6 Extensive reporting to help management and administrators to take quick decisions
- 4.3.7 System should track all the assets in use or acquired for use in real time.
- 4.3.8 Real-time status of the system should be available at all times.
- 4.3.9 System Management should intelligently perform root-cause analysis to rapidly bring the system back to normal working conditions
- 4.3.10 The system should be upgradeable without affecting the production
- 4.3.11 It should be possible to proactively manage all the system hardware and software components maintenance and licenses throughout their life cycle.
- 4.3.12 The lifecycle of all IT assets spanning from acquisition to disposal shall be managed in a manner which conforms to sound environmental norms as detailed in the IT E-Waste guidelines. This includes sound E-Waste management processes, extending the useful life of IT assets to postpone / minimize generation of E-Waste and responsible disposal processes conforming to regulatory requirements and best practices

4.4 Technology Principles

- 4.4.1 The system should be built from best of breed components with no obsolescence and with futuristic designs.
- 4.4.2 The technology adopted should be periodically refreshed to achieve significant improvements in TCO.
- 4.4.3 All the system components must follow open standards.
- 4.4.4 Interoperability of servers from different vendors is required at all levels.
- 4.4.5 Scalability, manageability to handle huge data volumes
- 4.4.6 Efficient Resource Utilization by separation of Compute and Storage resources and by distribution of load among all sites.
- 4.5 Solution overview
The simplistic overview of the solution is shown below and explained later in this clause.

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*UPPICC Uttar Pradesh Police Integrated Call 100 Centre, OMC Operational mirroring center, Other Sites : 75 districts control room and range officers
Govt. Officials includes police station supervisors, field officer, vehicle officer, senior officials, other services etc.

- 4.5.1 Citizen would be able to communicate through message, call, social media, app etc. For registering a Police emergency
- 4.5.2 As part of future requirements other emergency services, department services and citizen centric services such as City Surveillance, ITMS, Ambulance, Highway Police, CCTNS etc. will be connected to Call 100
- 4.5.3 As a part of project Women Powerline 1090 will be connected to UP Police 100 where all the calls falling under Women harassment on Call 100 will be directly routed to 1090 service helpline. Bidder shall be responsible to integrate the existing 1090 services with Call 100 system.
- 4.5.4 As a part of project call related to Fire services will be dispatched to concerned Fire stations over MDT and district control rooms
- 4.5.5 As a part of project a Public Information Centre will be formed as an integral part of the ITECCS to disseminate information relating to public safety issues. Information regarding road blockages, collusions, diversions etc. would be extremely useful for public to reduce travel time and costs and minimise environmental impacts. This will also serve to provide

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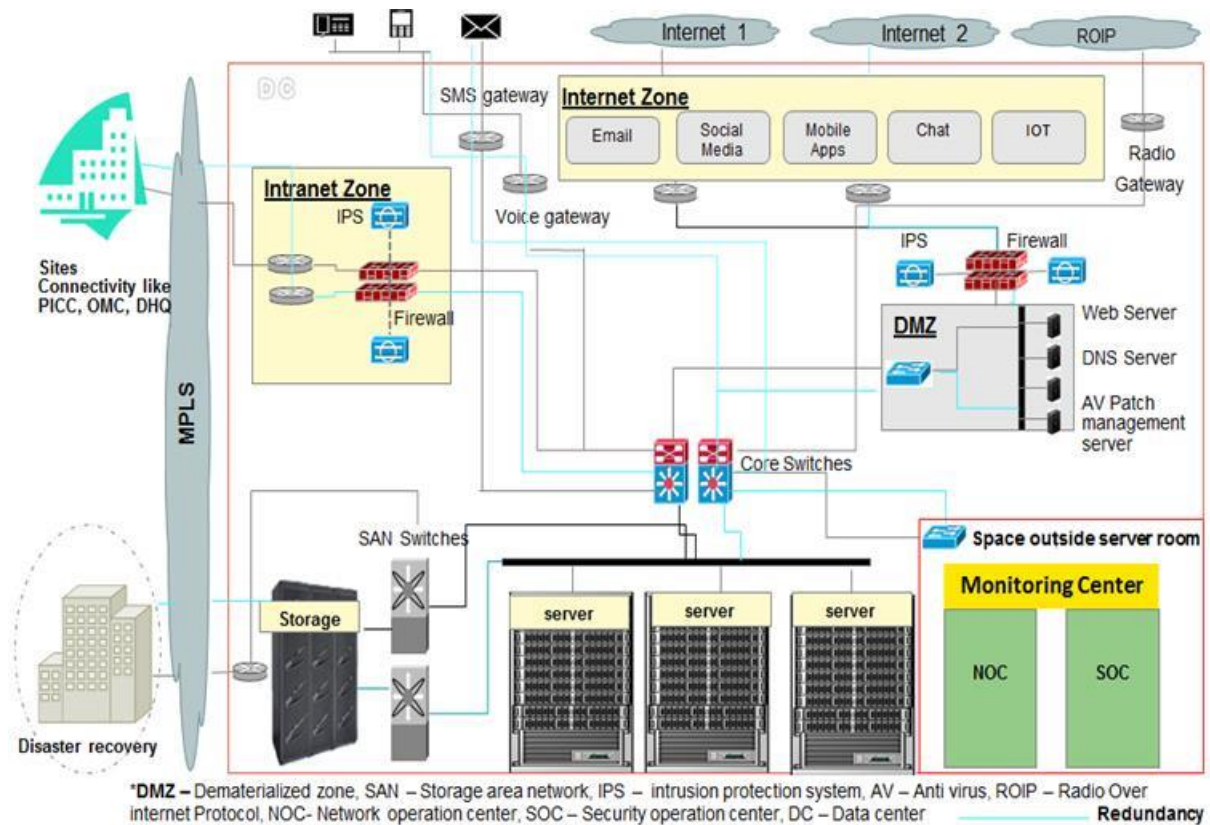
- timely information to other government agencies to deploy necessary resources and avoid additional incident deployment.
- 4.5.6 Social media, Citizen Portal and mobile application for citizen will be integrated as communication medium for Public Information Centre
 - 4.5.7 Connectivity of all 75 district control rooms directly over MPLS and Wireless network
 - 4.5.8 Robust IT infrastructure that can respond and connect to multiple stakeholders like field PRV staff, UP POLICE 100 staff etc. without any time lag
 - 4.5.9 All PRV will be connected through UP POLICE 100 by mobile handset connectivity, MDT connectivity and wireless connectivity over VHF
 - 4.5.10 Two operational mirroring centers at Agra and Varanasi will be supporting UP POLICE 100 in routine and disaster situations
 - 4.5.11 NOC and SOC in monitoring center will be provided for monitoring IT operations
 - 4.5.12 20 PRI lines for DC and 10 PRI lines for DR will be procured to support multiple channels connectivity from DC- DR to UP POLICE 100 and OMCs
 - 4.5.13 Call 100 of UP POLICE 100, OMCs will be connected to DC and DR over dedicated MPLS bandwidth
 - 4.6 System process steps during emergency handling
 - 4.6.1 The processes involved in receiving an emergency call and responding to an emergency involves various technical functions. At every step of the functional process, technology involvement is a must to ease and automate the process. Some of the key technical aspects are:
 - 4.6.1.1 PSTN: All 100 number calls from the state shall be routed through Telecom Service Provider's PRI lines to the UP POLICE 100. PSTN routes the incoming calls to the UP POLICE 100 and time lag for this process is almost negligible. 20 PRI lines will be procured for UP POLICE 100 at Lucknow while 10 PRI lines will be procured for DR Centre. DR is proposed to be co-hosted co-located in different seismic zone. The PRI lines will be leased from two or more service providers to provide redundancy
 - 4.6.1.2 IP PBX: An IP PBX is a private branch exchange (telephone switching system within an enterprise) that switches calls between PSTN and VoIP (voice over Internet Protocol or IP) and vice versa on local lines while allowing all users to share a certain number of external phone lines
 - 4.6.1.3 Automatic Call Distribution (ACD): ACD supports skill-base routing, multiple group support, and prior it handling and Queue status indicator. ACD shall be provided in 1:1 Hot Standby configuration. Even the COs can receive missed call data etc. from ACD and identify the available CO and then dial the outbound call and connect with the citizen
 - 4.6.1.4 Computer Telephony Integration (CTI): CTI middleware would be capable of integrating with Case Record Management or Front-end application to facilitate integration features. It shall send notifications and events on CO screen window for every call. It shall be provided in 1:1 Hot Standby configuration
 - 4.6.1.5 Computer Aided Dispatch (CAD):
 - 4.6.1.5.1 CAD system is designed to capture citizen needs while incorporating incident information inputs like name, address, contact number, incident type, incident location, caller location in a pre-defined format endeavouring to obtain Pre-populated information from location detection Information about the caller and the incident. It shall be used to track all the call records and will be useful for categorizing the cases in terms of crime, inquiry, prior It etc. Once this information has been gathered by the CO, the captured information along with the enriched GIS would be dispatched to the DOs pool
 - 4.6.1.5.2 GIS coordinates of a distressed person will be in the form of longitude or latitude and location of PRVs would be displayed on the screen of the dispatch officer

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- 4.6.1.5.3 Information about emergency would be passed from CAD system to the identified MDT device installed at PRV by just a button click at the DOs system
- 4.6.1.5.4 Response team at field will respond to this emergency, provide succour to the citizen in distress. Once the required assistance has been rendered, the case would be closed through the MDT.

4.7 Data Center and DRC Technology Architecture

- 4.7.1 The indicative representation for the DC and DRC technology architecture is presented below for reference purpose only:



DC-DR - Technology architecture

- 4.7.2 The Data Centre would consist of compute, storage, network and security elements in redundant modes. The DC and DRC would have redundant capacity of components, dual powered equipment and multiple uplinks. All these elements would need to be connected in a logical and functional manner with robust redundancy. Militarized and de-militarized zones would be segregated by implementation of firewalls and IPS. The internet and

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intranet zones shall ensure that public and private traffic is handled properly with appropriate security mechanism.

- 4.7.3 The Data Centre will be hosting a number of compute and storage elements for applications like CAD, GIS, IDM etc. with backup facility for major applications and data transacted during all the steps of the emergency process
- 4.7.4 DRC is proposed to be hosted in different seismic zone.
- 4.7.5 The DC would have redundant power sources at three levels. It would have clean power input with UPS w installed as a primary backup along with generators as secondary power backup.
- 4.7.6 The Disaster Recovery Centre shall consist of key elements similar to DC in terms of network connectivity to servers and storage devices in case of a disaster. The internet and intranet zones shall ensure that public and private traffic is handled properly with appropriate security mechanisms even through the DRC. Major applications, data base replica will be co-hosted on physical servers at DRC
- 4.7.7 The classification of zones on the firewall shall play an important role to diverge the public traffic by the means of setting up of internet zones. The internet zone shall receive traffic request from all external users which shall need to access the web services for respective applications
- 4.7.8 The trusted zone on firewall carries all the key critical applications such as Voice gateway, IP PBX, ACD, CTI, CAD etc. which ensures that the critical applications are protected from external attacks
- 4.7.9 The security device has been proposed to ensure that the traffic is filtered for all deep packet malicious activity which passes through the firewall
- 4.7.10 The internal user should not be able to access any content, website or application not authorized through the IT infrastructure such as watch videos, social media etc.
- 4.7.11 The zone shall be defined on an internet router to divert trusted, internet zone, Network management zone respectively. The intranet zone connects directly to MPLS with separate provisioning of IPS, redundant firewalls which intercepts all internal traffic which comes from local Call 100
- 4.7.12 The core switches in redundancy shall be provisioned in a manner where inter VLAN routing happens. Management zone VLAN is also created to ensure the NOC i.e. EMS, NMS and SOC elements such as SIEM are provisioned within the data center environment
- 4.7.13 The disparate elements DC, DR, UP POLICE 100 and OMCs would be networked and provisioned in a manner that optimal operational redundancy exists. In case, both the DC and UP POLICE 100 are down, the DRC will point to the backup operational mirroring

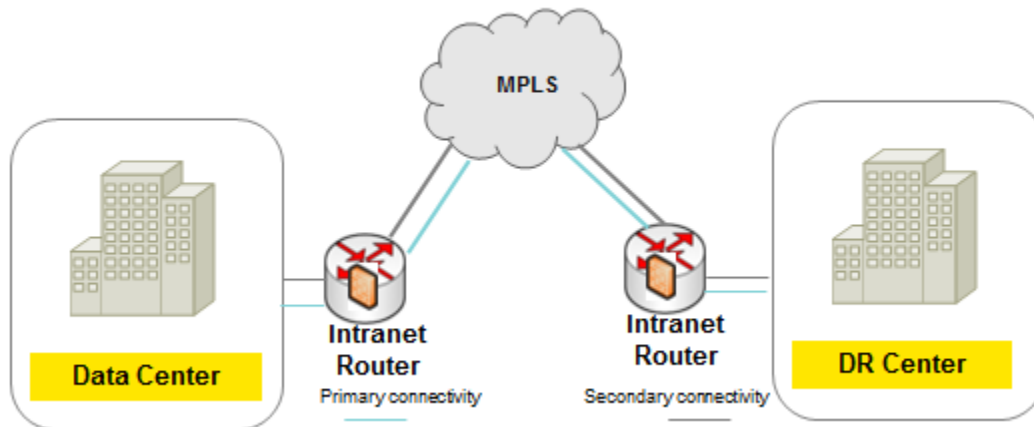
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Centres at Varanasi and Agra. These Centres will have 45 no. of officers at each location with 100% functionally enabled features for handling emergency calls

- 4.7.14 Bidder will provide mechanism that in case the UP POLICE 100 is down while DC is up, all the applications of DC including incoming emergency calls will be pointed towards two OMCs in load sharing mode
- 4.7.15 Bidder will provide mechanism that in case DC is down while UP POLICE 100 is up then UP POLICE 100 will receive inputs from DRC for functioning
- 4.7.16 Bidder will provide mechanism that in case complete ITECCS is down then handling of all incoming calls will be routed from OMCs and DR
- 4.7.17 The DC and DRC would have exclusive VPN management system
- 4.7.18 Data center and Disaster recovery shall be connected to prime rate interface lines for the calls
- 4.7.19 The indicative representation for the DC and DRC infrastructure and its connectivity is presented below:

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DC-DRC Active passive

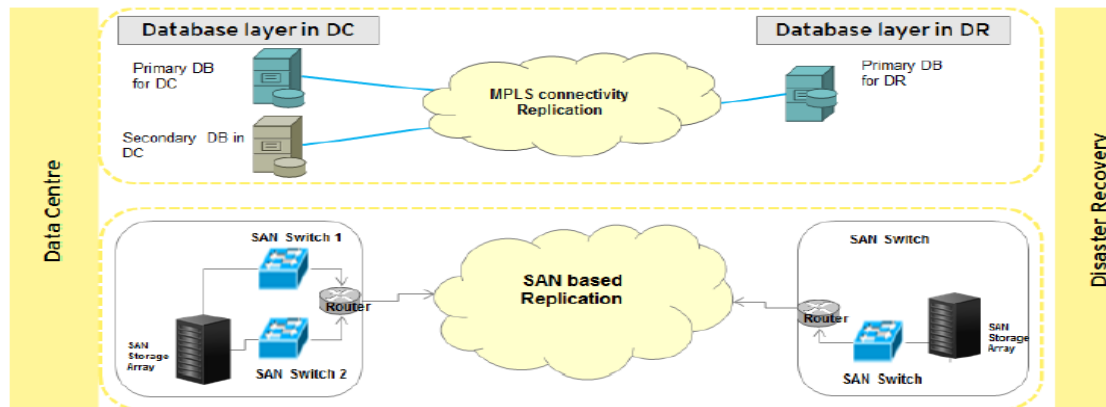


- 4.7.20 Bidder will provide primary and secondary connectivity at each site
- 4.7.21 The bidder will supply, install and maintain the technology infrastructure over the period of the contract. The bidder will be required to procure, commission the required IT infrastructure as presented in the Clause 14 in this section of RFP.
- 4.7.22 Bidder will set up and operationalize the Data Centre at UP Police 100, center in Lucknow and Disaster recovery center (DRC) site on a co-location basis provided by the bidder in different seismic zone.
- 4.7.23 The proposed applications shall be centrally hosted at the Data Center and Disaster Recovery sites (in different Seismic Zones) and access will be provided as an online service to users across the country in different seismic zones.
- 4.7.24 DC and DRC shall operate in an active-passive mode. The connectivity between both the data center and disaster recovery would ensure the replication works seamlessly with no data loss.
- 4.7.25 The infrastructure provisioned in DC shall be capable to handle 100% load at any point in time and DRC shall be capable to handle 50% load in case the DC is down.
- 4.7.26 The replication between both the data centers and disaster recovery centers would ensure that there are no data inconsistencies on both application as well as storage level.
- 4.7.27 Bidirectional setup where primary DC will be in Lucknow, attached through MPLS cloud with DRC site. This configuration shall provide failover capabilities in the event that the source site is unavailable through DRC site
- 4.7.28 As latency directly affects the performance, so an asynchronous sync will be a viable solution for DRC where distance and limited bandwidth will not cause round trip latency to go way up
- 4.7.29 DRC will be hosting 100% of active applications while hardware will be 50% of DC.
- 4.7.30 If the DC physical infrastructure is not ready in beginning during implementation phase then Bidder should set up DRC site to work as DC site with complete 50% IT infrastructure and capacity load of DC site. As the DC site gets ready then bidder has to enable the services of DC within one month after getting an approval of DC site and DRC site shall start performing as a normal DR site only.
- 4.7.31 The recovery point objective (RPO) will be approximately 4 minutes and the recovery time objective (RTO) will not be more than 20 minutes.

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4.8 DC-DR Replication Technique

4.8.1 The indicative representation for the replication technique infrastructure and its connectivity is presented below:



4.8.2 The replication technique between data centers and disaster recovery shall be both database as well SAN storage based replication. There shall be no data inconsistencies issues with either the data center site or disaster recovery site

4.9 Monitoring center

4.9.1 Bidder has to set up Monitoring Center (MC) to perform the following activities:

4.9.1.1 Set up NOC and SOC services to monitor and control the network and security operations for the entire project.

4.9.1.2 Bidder has to set up IT Help Desk

4.9.1.3 Monitor usage and performance of Emergency Response solution.

4.9.2 Bidder has to set up Monitoring center at the allocated DC site

4.9.3 The MC will provision for an IT Helpdesk to facilitate users on their day to day activities. MC personnel will be responsible for monitoring all devices. This is required to manage different networks and security devices or to provide geographic redundancy in the event of one site becoming unavailable. The NOC and SOC will be manned 24X7X365 for the duration of the contract.

4.9.4 Bidder shall develop the NOC and SOC operating procedures in adherence with GoUP applicable policies and guidelines.

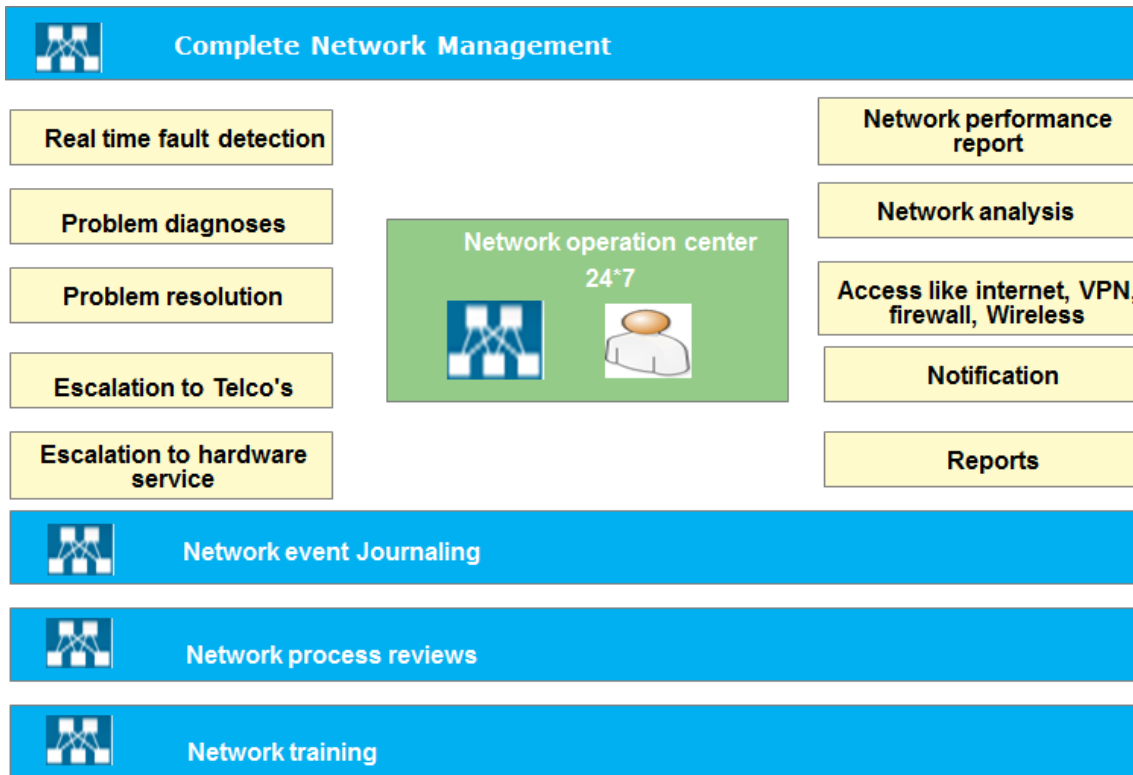
4.9.5 The bidder has to ensure that at minimum two factor authentication based access controls are followed for NOC and SOC operations.

4.9.6 Bidder shall be responsible for supply, installation, configuration, testing, commissioning, operations and maintenance of network infrastructure items such as Router (cum Firewall), user Layer switches for the monitoring Centre

4.10 Network operation center

4.10.1 The NOC will analyze network problems, perform troubleshooting, communicate with various state site technicians and track problems through resolution. The key objective of the NOC is to ensure the health and availability of components and services. When necessary, NOC will escalate problems to the appropriate stakeholders. For emergency conditions, such as a power failure of the NOC, procedures will have to be in place to immediately contact technicians to remedy the problem.

4.10.2 The indicative representation for the NOC with required minimum features:



4.10.3 The bidder should develop Services catalog for NOC and get a sign off on the same from GoUP.

4.10.4 Primary responsibilities of NOC personnel will include but not limited to:

- Network monitoring and management
- Resolution Management including incident and problem management
- Service level management
- Service Continuity and Availability Management
- Reporting
- Root Cause Analysis
- Remediation plans
- SLA monitoring

4.10.5 Features of NOC

4.10.5.1 Incident Management based on resource workload, incident Category etc.

4.10.5.2 Creates service request or incident tickets when new request will come from state call centers

4.10.5.3 Tracking and reporting of all contractual SLAs in an automated way.

4.10.5.4 Updateable knowledge base for technical analysis and further help end-users to search solutions for previously solved issues.

4.10.5.5 The NOC will escalate issues in a hierarchical manner, so if an issue is not resolved in a specific time frame, the next level is informed to speed up problem remediation.

4.10.6 Services to be provided through NOC

The Services Catalog for the NOC has to be prepared by the bidder and get a sign off from GoUP. Indicative list of services that have to be provided through the NOC are mentioned below.

4.10.6.1 Monitoring, Management and Reporting with Enterprise Management System (EMS)

The EMS system should provide for the regular monitoring, management and reporting of the ICT infrastructure of the project assets in the Data centre, DR Site, Operations Centre as well as State Locations. It should be noted that the activities performed by the bidder will be under the supervision of GoUP. All active infrastructure components of the solution should be configured in the EMS system. The EMS system should also provision for monitoring the health status of the UPS and allied power systems incorporated in the solution. Accordingly, the UPS so provisioned should lend themselves to be monitored by the EMS. The EMS provisioned would be required to be configured to calculate SLA parameters and generate SLA violations on request. The EMS system must have the following features including but not limited to and as well act as author ITative source for the same:

Following functionalities are desired by use of such EMS tools:

- Availability Monitoring, Management and Reporting
- Performance Monitoring, Management and Reporting
- Helpdesk Monitoring, Management and Reporting
- Traffic Analysis
- Asset Management
- Incident Management and RCA reporting.
- Change and Configuration management.
- SLA monitoring and management.

4.10.6.2 Availability - Monitoring, Management and Reporting

This part of the specification should ensure the monitoring, management, and reporting parameters of availability like discovery, configuration, faults, service levels etc. including but not limited to the following:

4.10.6.2.1 Discovery, Configuration and Faults

i. Monitoring and Management

- The proposed system must support multiple types of discovery like IP range discovery – including built-in support for IPv6 , Seed router based discovery and discovery whenever new devices are added with capability to exclude specific devices
- The proposed system must support exclusion of specific IP addresses or IP address ranges.
- The system should provide discovery and inventory of physical network devices like Layer-2 and Layer-3 switches, Routers and other IP devices and should provide mapping of LAN and WAN connectivity.
- The discovery should be able to identify and model of the ICT asset.
- The proposed system must provide a detailed asset report, organized by vendor name and device, listing all ports for all devices. The proposed system must provide sufficient reports that identify unused ports in the managed network infrastructure that can be reclaimed and reallocated. The proposed system must also intelligently determine which ports are operationally dormant.
- The proposed system must determine device availability and should exclude outages from the availability calculation with an option to indicate the reason.
- The proposed system should provide out of the box root cause analysis.
- The proposed system must include the ability to monitor and visualize a virtualized system

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infrastructure by discovering and monitoring virtual machines and providing ability to depict the logical relationships between virtual servers and virtual machines.

- The proposed solution must detect virtual server and virtual machine configuration changes and automatically update topology and should raise alarm when VM migrations happen between hosts.
 - The proposed solution must have the ability to collect data from the virtual systems without solely relying on SNMP.
 - The proposed solution must support an architecture that can be extended to support multiple virtualization platforms and technologies.
- ii. Reporting
- The proposed system should provide sufficient reports pertaining to asset and change management, alarms and availability of critical network resources as well as network response times for critical links.
 - The proposed system should be able to monitor compliance and enforce change control policies within the diverse infrastructure by providing data and tools to run compliance reports, track and remediate violations, and view history of changes.

4.10.6.2.2 Service Level Management

- i. Monitoring and Management
- The proposed service management system should provide a detailed service dashboard view indicating the health of the services they rely on as well as the SLAs.
 - The system should provide an outage summary that gives a high level health indication for each service as well as the details and root cause of any outage.
 - The system must be capable of managing IT resources in terms of the business services they support, specify and monitor service obligations, and associate users with the services they rely on and related Service or Operational Level Agreements. Presently, services shall include E-mail, Internet Access, Intranet and other services hosted.
 - The Service Level Agreements (SLAs) definition facility must support defining a set of one or more service that specify the Service obligations stipulated in an SLA contract for a particular time period (weekly, monthly, and so on).
 - SLA violation alarms must be generated to notify whenever an agreement is violated or is in danger of being violated.
 - The system must provide the capability to designate planned maintenance periods for services and take into consideration maintenance periods defined at the IT resources level. In addition the capability to exempt any service outage from impacting an SLA must be available.
- ii. Reporting
- The reports supported must include one that monitors service availability (including Mean Time to Repair (MTTR), Mean Time between Failure (MTBF), and Maximum Outage Time thresholds) and the other that monitors service transaction response time.
 - The system must provide a historical reporting facility that will allow for the generation of on-demand and scheduled reports of Service related metrics with capabilities for customization of the report presentation.
 - The system should provide for defining service policies like Service Condition High\Low Sensitivity, Port Status High\Low Sensitivity should be provided out of the box.
 - The system should display option on Services, Customer, SLA's, SLA templates. The

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customer definition option should allow associating a service or an SLA with a customer.

- The system should enable generation of reports based on time period selection. It should show absolute results as also percentage based results.

4.10.6.3 Performance - Monitoring, Management and Reporting

The proposed performance management system shall integrate network, server and database performance information and alarms in a single console and provide a reporting interface for network components.

4.10.6.3.1 Network Performance Monitoring, Management and Reporting

i. Monitoring and Management

- The System should have all the capabilities of a Network Management System which shall provide Real time network monitoring and Measurement off-end-to-end Network performance and availability to define service levels and further improve upon them.
- The tool should provide a live exceptions list displaying the various health and threshold exceptions that are occurring in the managed infrastructure.
- The tool should have the capability to configure different polling speeds for different devices in the managed infrastructure with capability to poll critical devices
- The proposed system should use intelligent alarm algorithms to learn the behaviour of the network infrastructure components over a period of time
- The proposed system should be able to administer configuration changes to network elements by providing toolkits to automate the following administrative tasks of effecting configuration changes to network elements like Capture running and start up configuration, Upload configuration etc.
- The proposed system must able to perform real-time or scheduled capture of device configurations. It should also provide features to capture view and upload network device configuration.
- The proposed system must able to store historical device configurations captured in the database and thereby enable comparison of current device configuration against a previously captured configuration as well as compare the current configuration against any user-defined standard baseline configuration policy.
- The proposed tool should display configuration changes differences in GUI within central Console. Also this should be able to identify which user has made changes or modifications to device configurations using the Interface.

ii. Reporting

- The Network Performance Management console must provide a consistent report generation interface from a single central console.
- This central console should also provide all required network performance reports (including latency, threshold violations, packet errors, availability, bandwidth utilization etc.) for the network infrastructure. The proposed system shall identify over-and under-utilized links and assist in maximizing the utilization of current resources
- The proposed system should enable complete customization flexibility of performance reports for network devices and monitored servers.
- The proposed system should provide an integrated performance view for all the managed systems and networks along with the various threshold violations alarms in them.
- The proposed system must provide the following reports as part of the base performance

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monitoring product out-of-the-box to help network operators quickly identify device problems quickly. The following charts like mentioned below should be available for routers: Backplane Utilization, Buffer Create Failures, Buffer Hits, Buffer Misses, Buffer Utilization, Bus Drops, CPU Utilization, Fan Status, Free Memory, Memory Utilization, Packets by Protocol, and Packets out etc.

- The Proposed Performance Management must provide charts for Health Reports like:
- Availability Chart, Average Health Index Chart, Average Network Volume and Call Volume Charts, Avg. Response Chart Bandwidth Utilization Chart, Latency Chart, Network Interface Utilization Chart etc.
- The proposed system should be able to auto-calculate resource utilization baselines for the entire managed systems and networks and allow user to set corresponding upper and lower threshold limits.

4.10.6.3.2 Application Performance Monitoring, Management and Reporting

i. Monitoring and Management

- The proposed solution should proactively monitor all user transactions for any web-application hosted; detect failed transactions; gather evidence necessary for triage and diagnosis of problems that affect user experiences and prevent completion of critical business processes
- The proposed solution should determine if the cause of performance issues is inside the application, in connected back-end systems or at the network layer.
- The proposed solution should correlate performance data from HTTP Servers (external requests) with internal application performance data
- The proposed solution should see response times based on different call parameters. For example the proposed solution should be able to provide CPU utilization metrics
- The proposed Solution must be able to correlate Application changes (code and configuration files) with change in Application performance.
- The proposed solution should allow data to be seen only by those with a need to know and limit access by user roles
- The proposed solution should measure the end users' experiences based on transactions
- The proposed solution should give visibility into user experience without the need to install agents on user desktops.
- The solution should be deployable as an appliance-based system or software based system acting as a passive listener on the network thus inducing zero overhead on the network and application layer.
- The proposed solution must be able to provide the ability to detect and alert which exact end users experience HTTP error codes such as 404 errors or errors coming from the web application.

ii. Reporting

- The proposed system must be able to detect user impacting defects and anomalies and reports them in real-time for Slow Response Time, Fast Response time, Low Throughput, Partial Response, Missing component within transaction
- The proposed system must be able to instantly identify whether performance problems like slow response times are within or outside the data center without having to rely on network monitoring tools.
- The proposed system must be able to provide trend analysis reports and compare the user experience over time by identifying transactions whose performance or count has

deteriorated over time.

4.10.6.3.3 Systems and Database Performance Monitoring, Management and Reporting

- i. Monitoring and Management
 - The proposed system should addresses management challenges by providing centralized management across physical and virtual systems
 - The proposed system should be able to monitor various operating system parameters such as processors, memory, files, processes, file systems, etc. where applicable, using agents on the servers to be monitored.
 - It should be possible to configure the operating system monitoring agents to monitor based on user-defined thresholds for warning or critical states and escalate events to event console of enterprise management system.
 - It should also be able to monitor various operating system parameters depending on the operating system being monitored yet offer a similar interface for viewing the agents and setting thresholds.
 - The proposed solution should support monitoring Processors, File Systems, Log Files, System Processes, and Memory etc.
 - The proposed tool should provide Process and NT Service Monitoring wherein if critical application processes or services fail, administrators are immediately alerted and processes and services are automatically re-started
 - The proposed tool should be able to provide Log File Monitoring which enables administrator to watch system logs and text log files by specifying messages to watch for. When matching messages gets logged, the proposed tool should notify administrators and enable to take action like sending an email.
 - The proposed database performance management system shall integrate network, server and database performance management systems and provide the view of the performance state in a single console.
 - It should be able to automate monitoring, data collection and analysis of performance from single point.
 - It should also provide the ability to set thresholds and send notifications when an event occurs, enabling database administrators (DBAs) to quickly trace and resolve performance-related bottlenecks.
 - The Monitoring tool should support database performance agents for performance reporting of standard RDBMS like Oracle, MS-SQL, Sybase and DB2.
 - The Performance Monitoring tool should provide you the ability to easily collect and report specific information, including information not limiting to: Buffer cache hit ratio, Locks and Global Locks, Table spaces etc.
- ii. Reporting
 - The proposed system must provide Performance Management and Reporting — Provides real-time and historical performance of physical and virtual environments enabling customers gain valuable insights of a given virtual container of the relative performance of a given Virtual Machine compared to other Virtual Machines, and of the relative performance of groups of Virtual Machines .
 - Role based Access — Enables role-based management by defining access privileges according to the role of the user.
 - The proposed Virtual Performance Management system must integrate latest virtualization technologies

4.10.6.4 Helpdesk - Monitoring, Management and Reporting

- The proposed helpdesk system must provide flexibility of logging, viewing, updating and closing incident manually via web interface.
- The proposed helpdesk system must support ITIL processes like request management, problem management, configuration management and change order management with out-of-the-box templates for various ITIL service support processes.
- Each incident must be able to associate multiple activity logs entries via manual update or automatic update from other enterprise management tools.
- The proposed helpdesk system must be able to provide flexibility of incident assignment based on the workload, category, location etc.
- Each escalation policy must allow easy definition on multiple escalation levels and notification to different personnel via window GUI or console with no or minimum programming.
- The proposed helpdesk system must provide grouping access on different security knowledge articles for different group of users.
- The proposed helpdesk system must have an updateable knowledge base for tech al analysis and further help end-users to search solutions for previously solved issues.
- The proposed helpdesk system must support tracking of SLA (service level agreements) for call requests within the help desk through service types.
- The proposed helpdesk system must be capable of assigning call requests to tech al staff manually as well as automatically based on predefined rules, and should support notification and escalation over email, web etc.
- The proposed helpdesk system must integrate tightly with the Knowledge tools and CMDB and should be accessible from the same login window.
- It should support remote management for end-user and allow analysts to do the desktop sharing for any system located anywhere, just connected to internet.
- Remote desktop sharing in the system should be agent less and all activity should be automatically logged into the service desk ticket.
- It should allow IT team to create solution and make them available on the end – user login window for the most common requests.

4.10.6.5 Traffic analysis

- The proposed system should enable the Data centre to centrally manage user access privileges and allow deploying baseline security polices so that the right people have access to the right information. It should proactively secure access to data and applications located on Linux, UNIX and Windows system servers throughout the enterprise.
- The traffic analysis system can be from different OEM providing Network Fault and Performance Management System
- The solution should be of the type passive monitoring without a need to install any probe or collector for data collection.
- The solution must provide the following metrics:
- The proposed solution must keep historical rate and protocol data for a minimum of 12 months (most recent) in its current long term operating database
- The proposed solution must keep historical rate and protocol data for a minimum of 30 days (most recent) in its short term operating database.

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- The proposed solution must be able to monitor and report on unique protocols per day and display utilization data and baselines for each protocol individually by interface.
- The proposed solution must keep and report on unique hosts and conversations per day for each monitored interface.
- The system must maintain this custom ToS based information for each interface for at least 12 months at a minimum 15 minute granularity.
- All custom reports from the long term database must support the ability to be run manually or scheduled to run automatically at user selectable intervals.
- All reports should be generated and displayed directly by the system from a common interface.
- The system should allow via API for Excel to download data to generate reports.
- The system must be able to restrict views and access for defined users to specific routers, interfaces, and reports.
- The user must be able to generate reports from the long term database based on specific thresholds defined by the user where the threshold can be compared to rate, utilization or volume of every monitored interface as a filter for inclusion in the report.
- Search for any traffic using a specific configurable destination port, or port range
- The overview page must include an email function that provides a GUI driven method for emailing the page in PDF format as well as for scheduling the email of this page at regular intervals without user intervention to one or more recipients.
- The proposed system must be capable of sending alerts via SNMP trap. Alerts should have the following configurable parameters:
- The ability to choose any protocol, interface or group of interfaces, ToS, rate, volume, utilization, time filters (i.e. business hours) over a specified threshold being monitored by the system.
- The system must provide the ability to group interfaces into functional groups based on any user criteria. The grouping function must allow users to create group names and add interfaces into that grouping for reporting purposes. Once created, these groups must be available for selection within custom reports as a mechanism to include multiple interfaces without individual selection for inclusion.
- The system must support interface specific report generation for every monitored interface in the network. It must provide menu or GUI driven access from the main system page that allows users to select from the automatically generated interface list and navigate to interface specific information.
- This page should display a graph representing the total number of flows that the data was derived from. It must represent flows for the selected period of time, for this interface.
- The user must be able to easily change the data type of the main interface view from protocol specific to a single graphical representation of utilization over multiple points in a 24 hour day as compared to all other similar points in the days in that month.
- The monthly view must provide a graphical representation of the level of utilization for each fifteen minute interval of each day of the month.

4.10.6.6 Asset Management

- Ability to provide inventory of hardware and software applications on end-user desktops, MDTs, Radio devices etc. including information on processor, memory, OS, mouse, keyboard, etc. through agents installed on them

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- Ability to have reporting capabilities; provide predefined reports and ability to create customized reports on data in the inventory database. Report results could be displayed as lists or graphs
- Ability to provide the facility to collect custom information from desktops
- Ability to provide facility to recognize custom applications on desktops
- Facility for the administrator to register a new application to the detectable application list using certain identification criteria. Should enable the new application to be detected automatically next time the inventory is scanned
- Facility for User self-registration.
- Ability to support configuration management functionality using which standardization of configuration can be achieved of all the desktops
- Software metering should be supported to audit and control software usage. Should support offline and online metering.
- Ability to support dynamic grouping of enabling assets to be grouped dynamically based on some pre-defined criteria e.g. a group should be able to display how many and which computers has a specific application installed. As and when a new computer gets the new application installed it should dynamically add to the group
- Ability to use the query tool to identify specific instances of concern like policy violation (presence of prohibited programs or games and old versions, etc.), inventory changes (memory change, etc.) and accordingly it could perform several actions as reply. These actions could be (a) sending a mail, (b) writing to files, sound an alarm (c) message to scroll on monitor screen if the administrator, etc.
- Facility to track changes by maintaining history of an asset
- Ability to have web based console
- The proposed Asset Management solution should provide comprehensive and end -to-end management of all the components for each service including Network, Systems and Application infrastructure.

Note: It is mandatory that all the modules for the proposed EMS Solution should provide out-of-the-box and seamless integration capabilities. GoUP must provide the specifications and numbers for all necessary Hardware, OS and DB (if any) which is required for an EMS to operate effectively.

4.10.6.7 Incident Management and RCA Reporting

- An information security incident is an event (or chain of events) that compromises the confidentiality, integrity or availability of information. All information security incidents that affect the information or systems of the enterprise (including malicious attacks, abuse or misuse of systems by staff, loss of power or communications services and errors by users or computer staff) should be dealt with in accordance with a documented information security incident management process.
- Incidents should be categorized and prioritized. While prior prioritizing incidents the impact and urgency of the incident must be taken into consideration.
- It should be ensured that the incident database is integrated with Known Error Database (KeDB), Configuration Management Database (CMDB). These details should be accessible to relevant personnel as and when needed.
- Testing should be performed to ensure that recovery action is complete and that the service has been fully restored.
- The bidder should keep the end users informed of the progress of their reported incident.
- When the incident has been resolved, it should be ensured that the service desk records of the resolution steps are updated, and confirm that the action taken has been agreed to

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by the end user. Also, unresolved incidents (known errors and workarounds) should be recorded and reported to provide information for effective problem management.

- Information security incidents and weaknesses associated with information systems should be communicated in a manner allowing timely corrective action to be taken.
- The bidder should conduct regular reviews on performance of incident management activities against documented Key Performance Indicators (KPI's).
- The incident management activities should be carried out by the bidder in such a way that an incident is resolved within the agreed time schedule.
- Root Cause Analysis (RCA) should be conducted by the bidder. The system installed should enable root cause analysis.
- Controls related to incident management need to be implemented and each implemented control should have a documentary evidence to substantiate and demonstrate effective implementation.

4.10.6.8 Change and Configuration Management

- Change and configuration management will be governed by the change management and configuration management policy of state. The policy will be shared with the successful bidder.
- Change management provides information on changes, and enables better control of changes to reduce errors and disruption in services.
- All changes should be initiated using change management process; and a Request for Change (RFC) should be created. All requests for change should be evaluated to determine the impact on business processes and IT services, and to assess whether change will adversely affect the operational environment and introduce unacceptable risk.
- The bidder shall ensure that all changes are logged, prior prioritized, categorized, assessed, authorized, planned and scheduled to track and report all changes.
- Ensure review of changes for effectiveness and take actions agreed with interested parties. Requests for change should be analysed at planned intervals to detect trends. The results and conclusions drawn from the analysis should be recorded and reviewed to identify opportunities for improvement.
- Controls related to change management need to be implemented and each implemented control should have a documentary evidence to substantiate and demonstrate effective implementation.
- The roles and responsibilities of the management should include review and approval of the implementation of change management policies, processes and procedures.
- A configuration management database should be established which stores unique information about each type Configuration Item CI or group of CI.
- The Configuration Management Database (CMDB) should be managed such that it ensures its reliability and accuracy including control of update access.
- The degree of control shall maintain the integrity of services and service components taking into consideration the service requirements and the risks associated with the CI.
- Corrective actions shall be taken for any deficiencies identified in the audit and shall be reported to the management and process owners.
- Information from the CMDB shall be provided to the change management process, and the changes to the CI shall be traceable and auditable.
- A configuration baseline of the attached CI shall be taken before deployment of a release into the live environment. It shall be stored in the safe environment with appropriate access control.

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- Master copies of CI shall be recorded in the CMDB and shall be stored in secure physical or electronic libraries which shall be referenced in the configuration records. This shall be applicable to documentations, licence information, software and hardware configuration images.
- 4.10.6.9 EMS Ability to integrate with other services
- The proposed EMS solution must comply with key integration points out of the box as listed below but not limited to:
 - The proposed network management system should integrate with the helpdesk system by updating the Asset with CI information to support viewing history or open issues in helpdesk on the particular managed asset and associate an SLA to the ticket in the helpdesk. The proposed network management system should attach an asset identifier when submitting a helpdesk ticket. In case the asset is not found in the helpdesk database, it should be automatically or manually created prior to submitting the ticket. NMS console must show associated helpdesk ticket number for the alarms that generated those tickets.
 - SLA's violation on monitored end user response time must open a helpdesk incident out of the box.
 - Proposed Application Performance Solution must integrate with Network Fault Monitoring Solution to forward Application Performance Threshold violation alarms in proposed Network Fault Manager Console.
 - The proposed Fault Management Solution must support integration with proposed help desk or trouble ticketing system such that integration should Associates alarms with Service Desk tickets in the following ways:
 - Manually creates tickets when requested by Fault Management GUI operators
 - Automatically creates tickets based on alarm type
 - Provides a link to directly launch a Service Desk view of a particular ticket created by alarm from within the Network Operation console.
 - Maintains the consistency of the following information that is shared between alarm and its associated Service Desk ticket including status of alarms and associated tickets and current assignee assigned to tickets.
 - Helpdesk ticket number created for associated alarm should be visible inside Network Operation Console .It should be integrated in a way that Helpdesk incident can be launched once clicked on ticket number for associated alarm from within Network Operation Console.
 - The proposed virtual performance management system should integrate with proposed Network Management and Performance Management system out of the box.
 - The proposed NMS should provide workflow between the fault and performance management systems including bi-directional and context-sensitive navigation, such as
 - Navigate from the Topology View to At-a-Glance or Trend Reports for any asset
 - Navigate from the Alarm View to At-a-Glance, Trend or Alarm Detail Reports
 - Proposed Performance Management system should feed in discovery from Devices already discovered in Network Management Module without starting discovery process again all together in Performance Management Engine this will reduce effort of having to perform discovery on both Fault and Performance Management Engines .Discovery can be synchronized.

Note:

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Successful bidder must use Industry standard EMS tools recognized by analysts (Gartner or Forrester) to report desired SLA's for availability and performance of Various IT Components including Networks, Systems and OS. Keeping in view the intricacies involved in the installation, configuration and day to day use of various components of Enterprise Management System covered under this document, the proposed EMS solution must involve tools to ensure smooth or seamless integration and out of the box workability of the offered solution.

4.10.6.10 ICT Assets Hardening

- All the ICT assets should be hardened as per the Hardening guidelines and industry leading practices.
- Remove all unauthorised software, utilities, and services.
- All required logs should be configured and monitored

4.10.6.11 Identity Management Services

- IDM services should have tight integration with Directory service, which acts as exclusive User repository and directory services for the entire infrastructure.
- IDM should understand the domain schema and have integrations with Devices and applications for Authentication and Authorization services across the network.
- IDM should have the feature either to publish or accommodate Organization Group policy publishing.
- The Identity Manager architecture should be an N Tier Architecture to allow portability between Operating systems and Application servers.
- Solution must be comprehensive with user provisioning, de-provisioning and password management tools
- Both the User Provisioning and Access Management [SSO and Operating System Access Control] solution must be a part of an integrated "Identity and Access Management" solution. Bidder should own the responsibility for the Identity and Access Management Suite. As the current solution involves both provisioning tools and Access Management tools, it is required that tighter integration and ease of administration is available
- The solution for identity lifecycle management should support Web Services standards
- Provisioning tool must support and provide business role based provisioning.
- IDM solution should take care of Privileged user access management, single sign on, effective governance mechanism on complete User Management life cycle.

4.10.6.12 Network Access Control Service: Network Access Control Service will aim at controlling access to a network with policies, including pre-admission endpoint security policy checks and post-admission controls over where users and devices can go on a network and what they can do. This service will ensure that when a computer connects to the network, it is not permitted to access anything unless it complies with the GoUP defined policy; including anti-virus protection level, system update level and configuration.

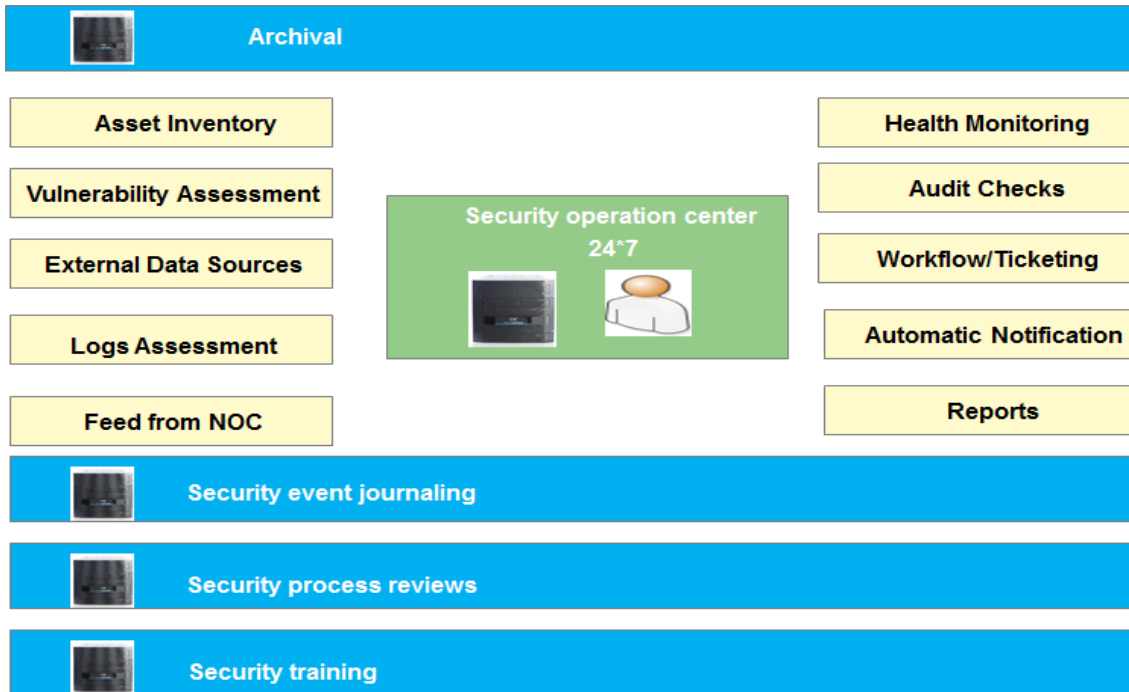
4.10.6.13 IT Infrastructure at the NOC

- The bidder has to ensure the proposed NOC services can be operated from NOC.
- The bidder will provide adequate IT infrastructure for all the persons manning NOC.
- Bidder has to provide required Desktops with OS and other relevant software.
- Bidder has to provide the required network connectivity to operate NOC.

4.11 Security operation center

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- 4.11.1 Infrastructure security's objective is to prevent attacks from internal and external sources to all ICT asset part of the project. The SOC will be manned 24X7X365 for the duration of the contract. The main objective of the SOC is to ensure confidentiality and integrity of information assets.
- 4.11.2 The bidder will provide adequate IT infrastructure for all the persons manning SOC.
- 4.11.3 The indicative representation for the NOC with required minimum features:



- 4.11.4 Services to be provided through SOC
- 4.11.4.1 The Services Catalog for the SOC has to be prepared by the bidder and get a sign off from GoUP. Indicative list of services that have to be provided through the SOC are mentioned below.
- 4.11.4.2 Service Provider shall supply of skilled manpower for Security Operations Center (SOC) monitoring over a period of contract at the GoUP decided or approved location. Bidder resources are expected to deliver SOC monitoring services including but not limited to performance monitoring, performance tuning, optimization, and maintenance of SIEM tool, security monitoring, etc. The detailed SOC Reports formats will be discussed and finalized with the selected bidder.
- 4.11.4.3 This service will help GoUP to monitor for security events throughout its network by analysis of logs from all servers, devices and key applications in the Data Centers and other locations. The indicative security monitoring service will have following components but not limited to:
- 24 or7 security monitoring
 - Threat intelligence
 - Log collection and management
 - Event correlation
 - Rapid response to incidents and forensics
 - Patch Management,
 - VA and PT Management.

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- Perimeter Security Management
- 4.11.4.4 Bidder should provide services for 24x7 monitoring of ICT Assets such as Operating systems, web servers, databases, network devices, MDTs (handheld devices in states), security devices and business applications, etc. The services will include review of the logs generated from servers and applications in real time to detect suspicious activities and potential attacks. Immediate response action will need to be initiated by the Bidder to stop the attacks. Bidder will provide the services using the SIEM platform procured by GoUP and through its dedicated personnel and processes based out of the Security Operations center of GoUP.
- 4.11.4.5 Bidder should monitor, detect and manage incidents for the following minimum set of IT infrastructure security events. This is indicative minimum list and is not a comprehensive or complete set of events. Bidders should indicate their event list in proposal response.
- Buffer Overflow attacks
 - Port and vulnerability Scans
 - Password cracking
 - Worm or virus outbreak
 - File access failures
 - Unauthorized server or service restarts
 - Unauthorized changes to firewall rules
 - Unauthorized Bidder access to systems
 - SQL injection
 - Cross site scripting
- 4.11.4.6 Bidder operations team at GoUP should send alerts with details of mitigation steps to designated personnel within GoUP and any identified service provider of GoUP.
- 4.11.4.7 Bidder should provide coordinated rapid response to any security incident. Bidder should contain attack and coordinate restoration of services. While Bidder personnel will enlist support of other departments and service providers in GoUP, primary responsibility for incident response will be with the Bidder.
- 4.11.4.8 Bidder should maintain a knowledge base of alerts, incidents and mitigation steps and this knowledge base should be updated with evolving security events within and outside GoUP. Team should send customized alerts advisories to respected teams in GoUP.
- 4.11.4.9 Evidence for any security incident should be maintained in tamper proof manner and should be made available for legal and regulatory purposes, as required.
- 4.11.4.10 Bidder should add or delete or modify rules, reports and dashboards based on GoUP requirements
- 4.11.4.11 Bidder should provide backend support to the onsite team from its own SOC. Such support at the minimum include
- Managing escalations from onsite team for detection and response to new threats and complex attacks that onsite team is unable to resolve.
 - For adding new or updated threat scenarios and other best practices in GoUP SIEM tool for detection and response based on Bidder SOC visibility and experience across other customers.
 - Forensic analysis of attacks or incidents including making available specialists, domain experts, tools.

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4.11.4.12 Bidder should identify threat and incident patterns and devise mitigation plans for the same to facilitate Threat intelligence.

4.11.4.13 Bidder should facilitate Threat Intelligence by regularly updating the knowledgebase of personnel by providing access to various sources (OEM based, cloud based, govt. portals etc.) containing updated information pertaining to new threats, attacks, malwares, etc.

4.11.5 Vulnerability Assessment: This section provides an outline of the various items to be investigated during our Vulnerability Assessment phase. The said activities should follow the various guidelines for cyber security including GoUP policies and guidelines, NCSP, IT Act and Cert-In Guidelines. This part has to be offered by the bidder as a service. The bidder does not have to procure a tool for GoUP for this service. The bidder is required to provision for tools or software or hardware or appliance as a part of its technical solution that have the required technical specifications to ensure quality.

The activities performed should be included but not limited to the following:

- Web Application based vulnerability assessment: To provide proper evaluation of security vulnerabilities associated with web applications – Apache, IIS, Tomcat, Sun and Oracle, thereby, recommend solutions to problems.
- OS level vulnerability assessment: To provide proper evaluation of security vulnerabilities associated with operating systems – Unix, Linux, Sun OS, Windows, thereby, recommend solutions to problems.
- Database Vulnerability assessment: To provide proper evaluation of security vulnerabilities associated with database, thereby, recommend solutions to problems. Vulnerability Assessment will include checks like Port scan, unnecessary or vulnerable services, file permission, user access control, password protection, system vulnerability etc.
- The bidder has to be provision for authenticated mode VA. This will include assessment by providing credentials of assets in the VA process.
- Android Vulnerability Assessment – The bidder shall provide the facility of Vulnerability Assessment of Android platform that will be running on the MDTs.

4.11.6 Penetration Testing: The Penetration Testing will include activities but not limited to the test should simulate activities in conjunction to IT Act, National Cyber Security Policy and Cert-In guidelines. The bidder does not have to procure a tool for GoUP for this service. These activities should be carried by an expert team, who bear certified by industry recognized bodies. These activities should identify specific exploitable vulnerabilities and expose potential entryways to vital or sensitive data. The results should clearly articulate security issues and recommendations and create a compelling event for the entire management team to support a security program. A complete project based approach should be followed that covers areas including but not limited to the following:

- Network Security
- Network Surveying
- Port Scanning
- System Identification
- Services Identification
- Vulnerability Research and Verification
- Application Testing and Code Review
- Router Testing
- Firewall Testing

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- Intrusion Detection System Testing
- Trusted Systems Testing
- Password Cracking
- Denial of Service Testing
- APT Testing

Penetration Testing shall be done for either sample of MDT devices or all. The sample should be chosen in a way that one device from each of the device type is captured. The sample to be taken for assessment will be mutually discussed and agreed upon between GoUP and the successful bidder.

- 4.11.7 OS Hardening: OS Hardening will include activities but not limited to the removal of all non-essential tools, utilities, and services with other system administration by activating and configuring all appropriate security features. The entire scope of this service will differ on different Operating System basis.
- 4.11.8 Secure Code Review
- Code review is a way of ensuring that the application has been developed so as to be “self-defending” in its given environment. It is a method of assuring application developers are following secure development techniques.
 - This part has to be offered by the bidder as a service. The bidder does not have to procure a tool for GoUP for this service. The bidder is required to provision for tools or software or hardware or appliance as a part of its technical solution to ensure quality.
- 4.11.9 Infrastructure Security Management: The Bidder shall provide services (monitoring and management) for the following infrastructure systems related to information security. It should be noted that the activities performed by the Bidder will be under the supervision of GoUP.
- 4.11.10 Firewall Monitoring and Management
- Installation and maintenance of the firewall
 - Firewall Hardening with initial configuration
 - Performance Monitoring
 - Regular Monitoring of the LAN errors
 - Firewall Rule based policy changes
 - Create and maintain Network Access Policy (NAP) document (the access specification) agreed between the parties from time to time.
 - Log File review and analysis of information on traffic flow
 - Log File trend upgrade and analysis
 - Compliance Testing
 - Design, configure and maintain all Network Address Translation (NAT) services.
 - Access control management through creation of the Network Access Policy and firewall rules
 - Implementation and maintenance.
 - Manage access to F or W logs policies and performance statistics for viewing through secure web portals in conjunction with SOC tools
 - Manage the functioning of Regular Reports in conjunction with SOC tools so as to provide detailed auditing of configuration history and change of journals. Alerts

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include critical configuration changes, potential malicious activity and operational alarms

- Incidence response
- Lifecycle Management of all Hardware and Software components
- Firewall Backup

4.11.11 Virtual Private Network Monitoring and Management

- Configuration and maintenance of the VPN gateway to meet customer's specific requirement of VPN - Client to Site and Site to Site.
- Monitoring of the local and remote VPN gateway availability
- Monitoring of the VPN tunnel availability through artificial traffic inside the VPN tunnel
- Monitoring of the VPN tunnel delays and detection of slow VPN connections
- Transparent VPN tunnel (virtual connection) between pairs of sites using technology specification
- Cryptographic services according to IPsec specification with strong encryption and pre-shared secrets authentication.
- Access control management through creation of the Network Access Policy and firewall rules

4.11.12 Patch Management: The bidder will be required to provide services related to Patch Management. The security administrators should be aware of security precautions in place in their environment. If they do not personally manage the company firewall they should obtain configuration information from the firewall administrator. Ensure that there is available documentation as to what traffic is being allowed through to the internal network. This will help in the evaluation of threats posed by known vulnerabilities and assign a risk factor to them.

Personnel designated to evaluate patch stability should have expertise in mission critical systems and be capable of verifying stability of systems after patch installation. Before any patch is installed, a full backup of all data and server configuration information must be made. Best practices for disaster recovery recommend periodic testing of the restore process to ensure the integrity of the backed up data. The patch management should be executed efficiently for all kinds of environments like for operating systems like Windows and Linux, Data bases like DB2, Postgre SQL, MS SQL, Oracle, and My SQL. The activities mentioned above are indicative in nature. The bidder will be required to provide services related to Patch management as per organizational Security Policy.

4.11.13 Key Management Service: One of the key services to be delivered through the SOC would be the Key Management Service in which the generation, distribution and management of cryptographic keys have to be managed by the bidder and it should be only Tool based Key management

4.11.14 Data Leakage Prevention Services: The key objectives to be achieved through this service are:

- i. Locate and catalog sensitive stored information.
- ii. Monitor and control the movement of sensitive information across the network.
- iii. Monitor and control the movement of sensitive information on end-user systems.

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4.11.15 IT Infrastructure at the SOC

- The bidder has to ensure the proposed SOC services can be operated from SOC.
- Bidder has to provide required Desktops with OS and other relevant software.
- Bidder has to provide the required network connectivity to operate SOC.

4.11.16 Security management dashboard

- Bidder is required to provide a Security Management Solution Console for reporting all the SOC activities including incidents from HIPS, Firewall, SIEM, vulnerability scan reports, remediation process progress etc.
- This service will help GoUP to centralize the management of security products like SIEM, Firewall APT etc. and to have tight control on the security rules.
- The SIEM solution should provide dashboard functionality for all the above requirements.
- The dashboard solution should be on premise and not a hosted solution. There should be a feature to create any kind of report from any of the available data from the feeds like top incidents by application, by hosts, users etc.

4.12 Emergency Operations Centre (EOC)

4.12.1 An Emergency Operations Centre (EOC) must be set up in ITECCS, which should be activated for large-scale emergencies and other planned events, which require coordinated response from multiple government departments and agencies at the State level. The EOC would be extremely useful in managing situations like natural disasters, floods, riots and also events involving large scale public gatherings like Kumbh Mela etc.

4.12.2 This will have pool of Officers to monitor and control large events and major incidents

4.12.3 A 25-seater EOC room will be available with two Screens with feeds and desktops to set up EOC in case of planned or unplanned events. Based on the type of event, units are set up under the IG of UP Police 100

4.12.4 Emergency Operation Center (EOC) will develop and maintain a viable all-hazard emergency operations plan. The EOC shall be used to supplement guidance from ITECCS in the major emergency specific response

4.12.5 EOC will establish directions on set priorities, establish operational objectives, determine the operational period and add accountability by standard procedures in large events like Kumbh Mela, large scale –rallies, communal riots etc.

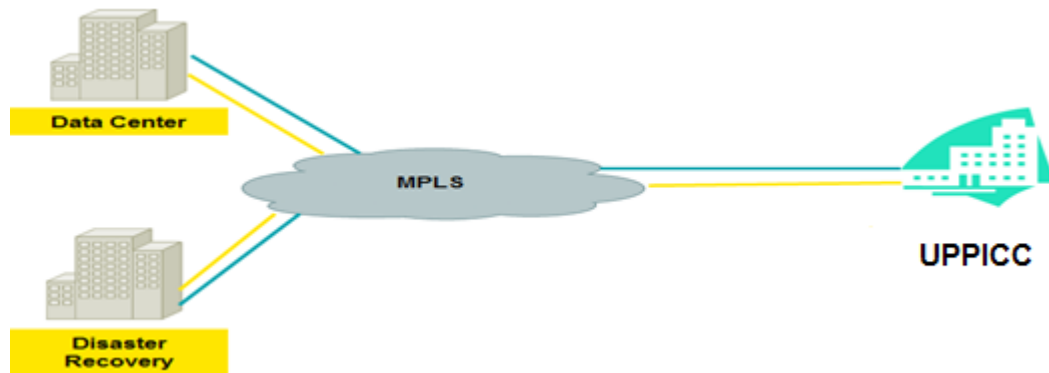
4.12.6 EOC management application will be integrated part of CAD, EOC application will be used for high priority emergencies where large scale human loses, property damages, severe riots will be involved

4.12.7 EOC management with CAD will involve input from EOC management team, EOC action plans, guides and Public information material

4.12.8 EOC management application will involve system activities like assesses, determine whom to contact and how, prioritises, communicates, liaises, support management and orientation of EOC staff

4.13 Infrastructure at UP POLICE 100 of ITECSS

- 4.13.1 UP POLICE 100 (Uttar Pradesh Police Integrated Call 100 Center) shall function as an emergency response center and would be accessible throughout the State of Uttar Pradesh handling a population over 200 million
- 4.13.2 UP POLICE 100 will be supported by 2 Other Monitoring Centers (OMC) established at Agra and Varanasi. These Centres would be 100% operational with 15% capacity at each center. Any call queueing at Lucknow would be routed to Agra and Varanasi. In any unseen circumstances when Lucknow center would not be operational, Agra and Varanasi would act as the emergency response Centres till the time Lucknow is operational again
- 4.13.3 Bidder should provide all necessary IT infrastructures like multi-screen desktops, printers, copiers, UPS etc. in UP POLICE 100 and OMCs to make them operational
- 4.13.4 Bidder would provide primary and secondary connectivity (two separate providers and separate routes) between UP POLICE 100 to DC and DRC sites
- 4.13.5 All voice and data messages would mature at UP POLICE 100
- 4.13.6 Bidder will provide video walls at call 100 for monitoring emergencies and related MIS.
- 4.13.7 The Bidder will provide the equipment's for training rooms in terms of projector, screens, speakers etc.



- 4.13.8 Bidder has to setup of Surveillance and access control system is covering the entire building complex for central monitor activities
- 4.13.9 Dish TV Cable connection
- The Agency will provide Dish TV cable connections for all Televisions and Video walls at UP POLICE 100 and OMCs.
 - Bidder will ensure relay of all news channels and other major channels in UP POLICE 100
- 4.13.10 Safety and security System
- 4.13.10.1 Surveillance and Security System
- Bidder has to setup of Surveillance and access control system in the entire building complex for centrally monitoring activities at UP POLICE 100 or ITECSS

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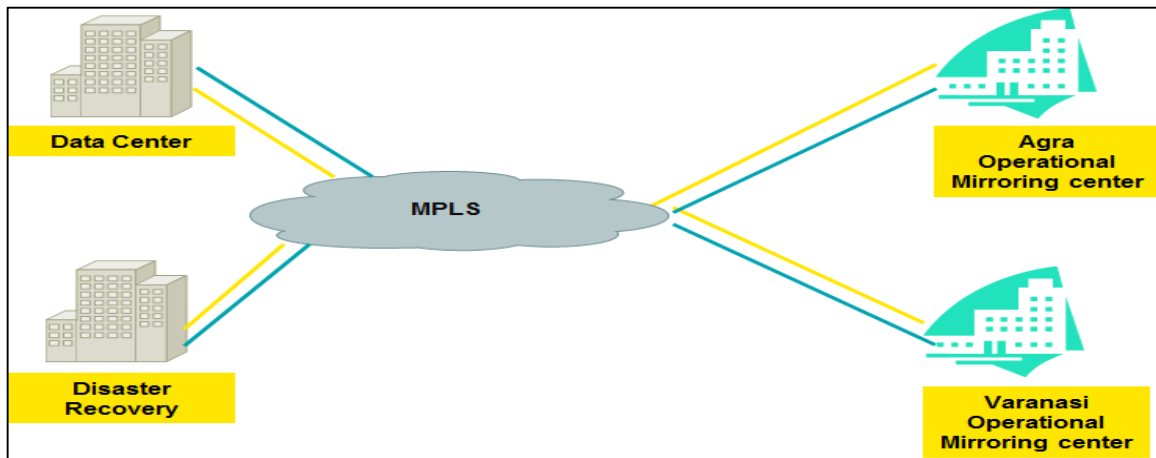
- Bidder should ensure that the entire area of the ITECCS is covered using CCTV at strategic locations and addresses the following as minimum specifications:
- Bidder should ensure that the entire area of the ITECCS is using Closed Circuit Video Surveillance, Recording and Replay facilities. The ITECCS covered with IP based CCTV surveillance solution and should function on the POE technology; this CCTV solution should be capable of storing one month CCTV logs. CCTV logs should be saved in archive. The bidder is required to provide CCTV – Still and movable cameras in appropriate places to provide maximum coverage. All the modes should follow the below mentioned specifications wherever appropriate. The use of all the variants will be judiciously decided.
- The CCTV surveillance system should support operations in duplex communication (record and relay) mode. The CCTV system should not only provide recording facilities but also support relay functionality whenever required. The CCTV proposed should have higher light sensitivity, dual encoding in MJPEG or MPEG4 and external alarm input.
- Alerts and sensor data should be posted to web servers using built-in HTTP port support, or can be forwarded to other systems using FTP data delivery.
- The data should be viewed using a web browser or the client Advanced View Application
- The system should support interfaces like Integrated 10 or 100 Mbps Ethernet Network interface, optional 802.11a or b/g, GSM, SMS, PPP modem etc.
- The resolution and frame rate minimum requirement of 720 x 480 or 576 @ 30 or 25 fps (D1) or higher.
- The system should provide with indicators like Device status, alert, network, speed and network activity LEDs
- The system should have professional quality audio or video monitoring solution, which provides digital video monitoring capabilities combined with a built in imager.
- The camera should have motion based detection system.

4.13.10.2 Access Control System

- The entry of personnel into the UP POLICE 100 or ITECESS shall be restricted. For critical areas like NOC, SOC rooms and staging room entry points should be covered with authentications by use of proximity or contact less card. Only pre-authorized officials shall be allowed into the Monitoring room using authentication procedures.
- The Bidder should keep spare inactivated proximity or contact less cards and provide a facility for onsite access card activation in case of emergency requirement of entering the UP POLICE 100 or ITECCS.
- The Access control system should manage Card Access Control. The software should connect and communicate with TCP or IP protocol. The standard options should at least include features like the access control with Alarm Management, backup and restore facilities of master and swipe data, reports on employee master and swipe data.

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- 4.14 Network bandwidth at UP POLICE 100 or ITECESS
- 4.14.1 Bidder would provide primary and secondary connectivity (two separate vendors and separate routes) between UP POLICE 100, DC and DRC sites.
- 4.14.2 Bidder would be responsible for the network bandwidth throughout the contract period.
- 4.15 Facility Management Services
- 4.15.1 Bidder shall deploy required manpower at UP POLICE 100 as per Clause 14
- 4.15.2 FMS staff would be responsible to manage the IT system at the UP POLICE 100 and OMC.
- 4.15.3 Detailed responsibility of FMS staff is provided in Clause 7 of this section
- 4.16 Operational Mirroring Centers (OMC)
- 4.16.1 OMCs will be functional in case the number of incoming emergencies exceeds normal routine calls or in case of a disaster at UP POLICE 100 and for special cases which require special monitoring.



Operational Mirroring Centers

- 4.16.2 Backup operational centers (at Agra and Varanasi) at eastern and western part will be designed for operational mirroring of Call 100 with a 45-seater Centre performing the functions of Call receiving and dispatching (functionally 100% enabled)
- 4.16.3 Bidder will provide the connectivity to DC and DRC for accessing applications and will be equally operationalized as Call 100 to handle emergencies
- 4.16.4 Bidder has to provide the support for UP POLICE 100 operations on a demand basis from OMC
- 4.16.5 Bidder will provide the equipment for video conferencing as well as projector with audio system facilities
- 4.16.6 Bidder has to setup of Surveillance and access control system is covering the entire building complex for central monitor activities
- 4.16.7 Safety and security System
- 4.16.7.1 Surveillance and Security System
- Bidder has to setup of Surveillance and access control system in the entire building complex for central monitor activities at OMC
 - Bidder should ensure that the entire area of the OMC is covered using CCTV at strategic locations and addresses the following as minimum specifications:

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- Bidder should ensure that the entire area of the ITECSS is using Closed Circuit Video Surveillance, Recording and Replay facilities. The ITECCS covered with IP based CCTV surveillance solution and should function on the POE technology; this CCTV solution should be capable of storing 7 days CCTV logs. CCTV logs should be saved in archive. The bidder is required to provide CCTV – Still and movable cameras in appropriate places to provide maximum coverage. All the modes should follow the below mentioned specifications wherever appropriate. The use of all the variants will be judiciously decided.
- The CCTV surveillance system should support operations in duplex communication (record and relay) mode. The CCTV system should not only provide recording facilities but also support relay functionality whenever required. The CCTV proposed should have higher light sensitivity, dual encoding in MJPEG orMPEG4 and external alarm input.
- Alerts and sensor data should be posted to web servers using built-in HTTP port support, or can be forwarded to other systems using FTP data delivery.
- The data should be viewed using a web browser or the client Advanced View Application
- The system should support interfaces like Integrated 10 or100 Mbps Ethernet Network interface, optional 802.11a orb org, GSM, SMS, PPP modem etc.
- The resolution and frame rate minimum requirement of 720 x 480 or576 @ 30 or25 fps (D1) or higher.
- The system should provide with indicators like Device status, alert, network, speed and network activity LEDs
- The system should have professional quality audio or video monitoring solution, which provides digital video monitoring capabilities combined with a built in imager.
- The camera should have motion based detection system.

4.16.7.2 Access Control System

- The entry of personnel into the OMC shall be restricted.
- The Bidder should keep spare inactivated proximity or contact less cards and provide a facility for onsite access card activation in case of emergency requirement of entering the OMC.
- The Access control system should manage Card Access Control. The software should connect and communicate with TCP or IP protocol. The standard options should at least include features like the access control with Alarm Management, backup and restore facilities of master and swipe data, reports on employee master and swipe data.

4.17 Network bandwidth at OMC

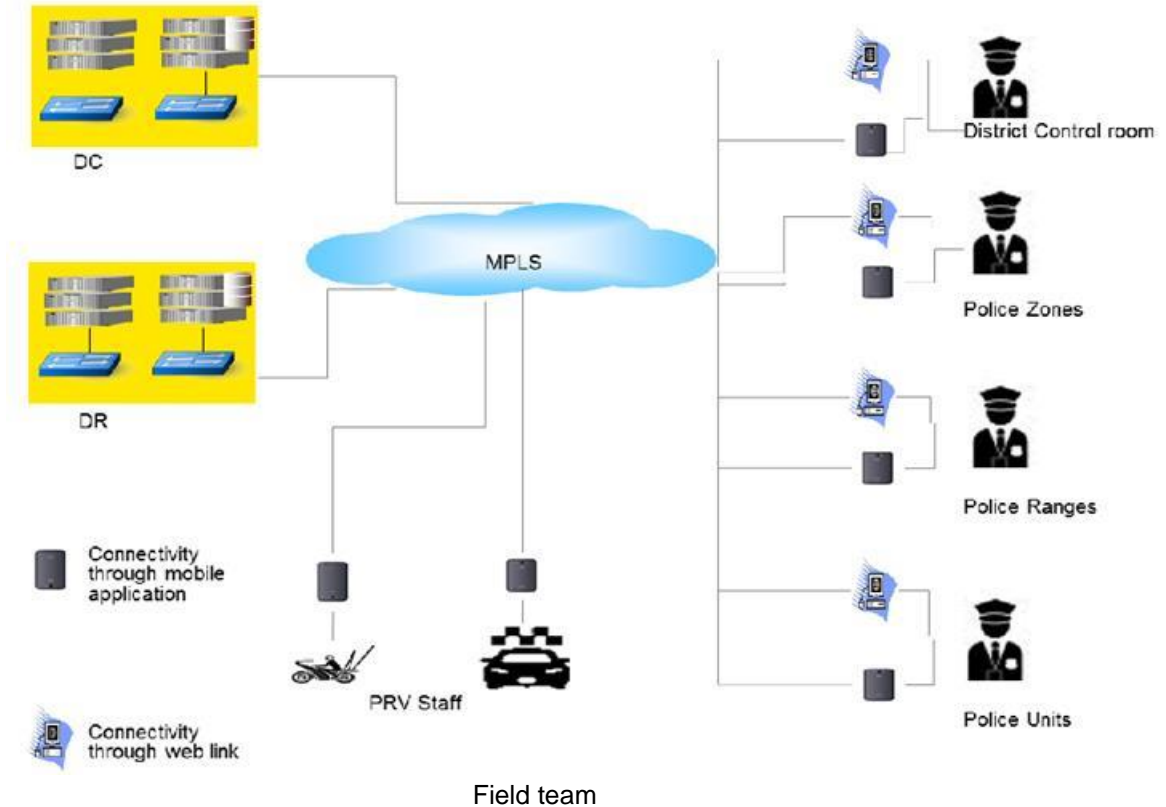
- 4.17.1 Bidder would provide primary and secondary connectivity (two separate vendors and separate routes) between OMC, DC and DRC sites
- 4.17.2 Bidder would be responsible for the network bandwidth throughout the contract period.

4.18 Facility Management Services

- 4.18.1 Bidder shall deploy required manpower as provided in Clause 14 at each OMC.
- 4.18.2 FMS staff would be responsible to manage the IT system at OMC.
- 4.18.3 Detailed responsibility of FMS staff is provided in Clause 7 of this section

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4.19 Monitoring by Field Supervisors



- 4.19.1 The Police officers of 75 districts control rooms, 8 Police zones of State, 18 ranges of State Police and 25 Police Units will be able to track emergency in their jurisdiction area
- 4.19.2 The bidder has to procure and install the 2 desktops, MDT device, bandwidth and wireless equipment to track emergency for each 75 District Control rooms
- 4.19.3 The bidder has to procure and install the ROIP solution and Radio devices at 126 locations.
- 4.19.4 The bidder has to procure and install the IP Phone and web based Video conferencing facility at 126 locations
- 4.19.5 Police Station Officers, Circle Officers, Additional SPs of district police and SSP or SP at field level will access web application to locate emergencies under their purview and would be able to monitor the incidents reporting on web application
- 4.19.6 Bidder would provide primary and secondary connectivity (two separate vendors and separate routes) at all other sites of 4Mbps.
- 4.19.7 Bidder will be responsible to repair or replace the MDT and wireless radio devices at field level if there is any fault or damage in the devices.

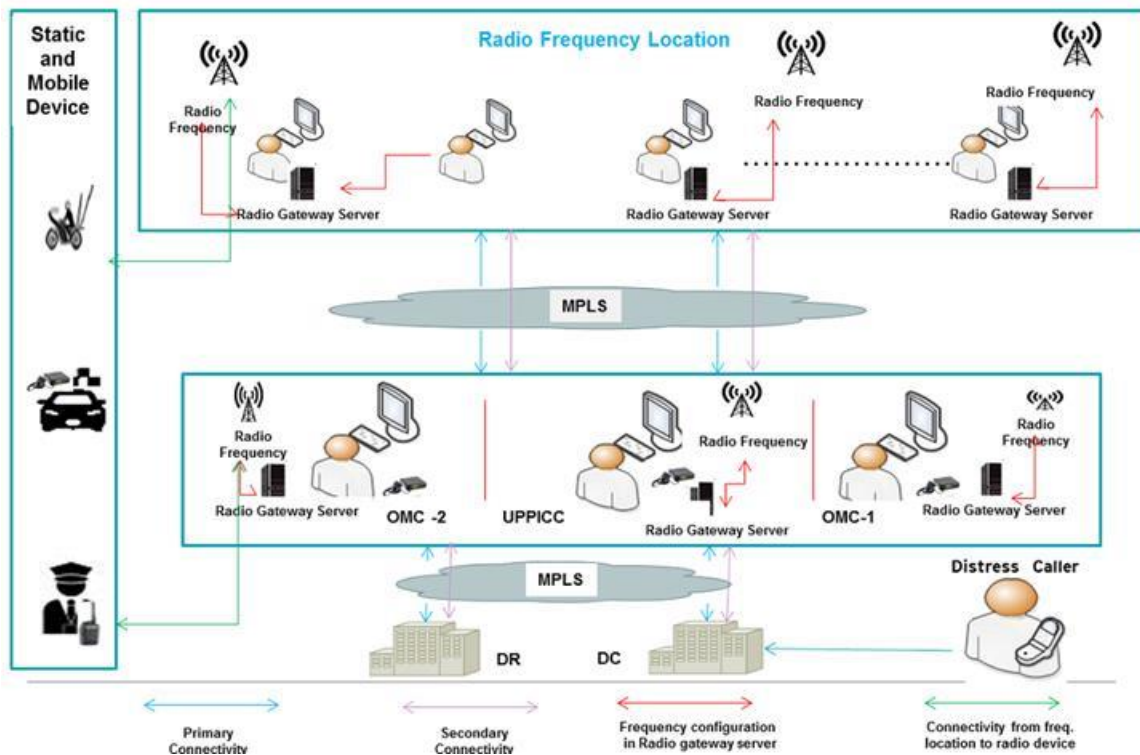
4.20 ROIP Communication

- 4.20.1 Radio Frequency devices will be integrated with UP POLICE 100 application connected on MPLS network and provides the communication path between the DO console and the existing wireless radio equipment. RF communication will act as part of communication system for alternate path over IP network. All the wireless radio

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equipment present in police mobile vehicle is wirelessly connected to the RADIO Server in broadcast mode over RF. The given below diagram is for reference purpose only.

- Host the radio application at UP POLICE 100 DC and DR
- Solution should any source to multicast
- Host the radio console web application at UP POLICE 100 and OMCs
- Configure the city level radio frequencies in radio server through ports
- ROIP hardware and software and other relevant components will be provided in 75 districts control rooms, UP POLICE 100, 2 Operational mirroring centers ,8 Police zones of State, 18 ranges of State Police and 25 Police Units
- Each PRV will be provided with VHF wireless device, 2 mobile handsets for 4W and 1 for 2W and MDT
- Bidder will provide VHF Radio static and mobile handsets
- Bidder will provide batteries, required antennas and mast for static as well as handheld devices
- Bidder will ensure that all consumables of Wireless communication like battery will include replaceable warranty
- Bidder has to ensure that all Wireless equipment including VHF sets, batteries, antennas to keep in spare for replacement or sudden demand.
- Bidder should submit Complete and Satisfactory "Type Test Report" from Authorised Govt. Laboratory to meet all the tests mentioned in JIS C 8702 Or 2009 (Part 1) with technical bid.
- The radio devices provider should have AIP (Agreement in principles)
- The indicative diagram is given below for reference purpose to propose the ROIP solution with digital radio devices.



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4.21 Field (MDT)

- 4.21.1.1 MDT devices would be provided to the police vehicles which would be tracked through GPS at data center.
- 4.21.1.2 MDT devices will be provided to Fire PRVs (Fire Brigdaes) and Fire stations
- 4.21.1.3 Bidder will be responsible to repair or replace the MDT devices if there is any fault in the MDT device
- 4.21.1.4 Information about the incident would be sent to the field officers through MDT devices in terms of messages, mails and calls
- 4.21.1.5 Bidder will ensure that all consumables of MDT like battery will include replaceable warranty

4.22 Field (Radio Devices)

- 4.22.1.1 Radio devices (VHF) devices would be provided to the police vehicles.
- 4.22.1.2 Bidder will procure and install the radio devices with all other accessories like antenna, dock station etc. in vehicles and other location
- 4.22.1.3 Bidder will be responsible to repair or replace the Radio devices if there is any fault in the Radio device
- 4.22.1.4 Information about the incident would be sent to the field officers through Radio devices in terms of wireless calls from Radio over IP solution.

4.23 Network

- 4.23.1 The bidder should ensure that the bandwidth estimated and proposed should meet the locations requirements duly meeting the expected performance level. In case of degradation in performance due to bandwidth inadequacy is observed, the bidder shall need to upgrade the bandwidth to the required level at bidders own cost.
- 4.23.2 To meet the requirement for a stable core solution in the future, the network should be scalable. It should also facilitate upgrades to the existing network and networking components, leased line bandwidths and should accommodate additional links. The bidder should determine this scalability which is to be achieved either through the upgrade of hardware modules on the existing routers or switches as per the free slots available.
- 4.23.3 Network Connectivity at DC and DR
 - 4.23.3.1 DC and DR should be connected through Primary and Secondary links
 - 4.23.3.2 For redundancy on links at UP POLICE 100 and OMC, offered solution will provide 20 PRI lines at DC with 30 channels linked to each PRI line with last mile connectivity on different media (Copper, Fiber and RF). Required Telecom Service Provider services for various help lines needs to be activated and configured for PRI lines. The 20 PRI lines will be procured from 2-3 different Telecom Service Providers and they will be providing redundancy over PRI by routing lines to different last mile connectivity medium. Similarly

Section 5: Scope of Work

10 PRI lines will be provided at DR to provide last mile connectivity and redundancy in links for UP POLICE 100 and OMCs. PRI line will provide features as mentioned below:

- 4.23.3.3 Direct Inward Dialing: For each PRI line, the service provider would provide more numbers which can be used by outsiders to call the extension directly, instead of having to go through the PBX Auto-attendant.
- 4.23.3.4 Caller ID: Since all the extensions have their own number, this unique number will be displayed in the phones that they are calling to.
- 4.23.3.5 It is possible to offer both voice and data in the PRI line. Some service providers have dynamic offerings where data is transmitted in all the channels that are free (not occupied by voice) at that given point of time.
- 4.23.3.6 Call hunting (Where the call lands in any channel that is free, instead of the called number PRI lines can be used for voice connectivity, data connectivity, video conferencing, faxing, and all the above can be done simultaneously too (on different channels).
- 4.23.3.7 PRI lines will be end-to-end digital lines
- 4.23.3.8 It is harder to tap into digital lines and listen to the conversations
- 4.23.3.9 PRI lines take lesser time to establish calls when copper or fiber connectivity is down .Then RF primarily, analog trunk lines secondarily and Mobile over CUG will be established as part of redundancy over channels of PRI line
- 4.23.3.10 Some service providers offer flexible plans where instead of the full 30 channels, they provide and charge for only 20 channels etc. This makes PRI lines more economical for smaller companies.
- 4.23.3.11 Connectivity between DC-DR and Telecom Service Provider (preferably more than one) will be primarily through copper line and secondary will be RF links. Also connectivity will be available through Analog line and Mobile links over CUG connections. No two medias like copper and fiber should come from same path over land
- 4.23.3.12 PRI lines distribution for inbound at UP POLICE 100 would be as follows:

PRI Link Description at UP POLICE 100	PRI inbound channels
RF PRI Links	300
CUG mobile PRI Links	150
Analog PRI Links	75
Copper or OFC	3975

PRI Link Description at UP POLICE 100	PRI outbound channels
Copper or OFC	500

- 4.23.3.13 The bidder should adequately size the bandwidth requirements between DC-DR sites considering that the link can adequately take care of backup or replication traffic between DC-DRC sites
- 4.23.4 Network connectivity at UP POLICE 100 and OMC
- 4.23.4.1 Call 100 at UP POLICE 100 and OMC should be connected to DC and DR over primary and secondary links on MPLS
- 4.23.4.2 Bidder needs to size the bandwidth for the following, the below mentioned details may be considered for network estimation
- 4.23.4.2.1 UP POLICE 100 and OMC sites should be connected to the MPLS backbone on an Optical Fiber Channel (OFC) based last mile link from two different service providers.

Section 5: Scope of Work

- 4.23.4.2.2 UP POLICE 100 to Data Centre sites should be connected to the MPLS backbone on an Optical Fiber Channel (OFC) based last mile link wherever applicable
- 4.23.4.2.3 Operations Monitoring Centre to Data Centre sites should be connected to the MPLS backbone on an Optical Fiber Channel (OFC) based last mile link wherever applicable.
- 4.23.4.3 The bandwidth should be procured from different telecom service providers
- 4.23.4.4 Wireless (VHF) network from Call 100 center to vehicles as additional asset over Telecom Service Provider links
- 4.23.4.5 External bandwidth will be provided for video conferencing at UP POLICE 100 and OMCs
- 4.23.5 Network connectivity at Field
- 4.23.5.1 126 locations including 75 districts Control room, 25 Police Units, 18 ranges of police station, 8 police zones of state, will be provided bandwidth over MPLS as primary and secondary connectivity for bandwidth. This will ensure establishment of connectivity between UP POLICE 100 and offices mentioned below:

- 75 Districts control rooms
- 8 Police zone of states
- 18 range of state police
- 25 Police Units

This will ensure connectivity between above field offices to UP POLICE 100.

- 4.23.5.2 Secure U SIM will be provided in each PRV MDT to establish connectivity from UP POLICE 100 and OMCs
- 4.23.5.3 Fleet will be equipped with mobile handsets, two in 4W and 1 in 2W will be connected using GSM or GPRS network with secure SIM. Mobile handset SIM service provider will be different from MDT SIM service provider
- 4.23.5.4 Bidder to conduct assessment of various locations for availability of GPRS/GSM network by different vendors available in UP. Based on this assessment and approval from GoUP, Bidder to procure SIM cards for MDT and Mobile.
- 4.23.5.5 Bidder will have to change backend service provider of SIM, if network is poor for SIM in that area.
- 4.23.5.6 Bidder should have excess SIM card in spare
- 4.23.5.7 MDT will be connected using GSM or GPRS network.
- 4.23.5.8 Radio devices will be connected in range of deployed frequencies at that particular area.

4.24 Scope of work

- 4.24.1 The whole project is divided into two phases: implementation phase and operations and maintenance phase
- 4.24.2 Implementation phase: In this phase, Bidder shall provide services for design, customization, installation; commissioning, integration and rollout of the emergency

Section 5: Scope of Work

response system within 5 months from the date of signing of contract would be considered as implementation phase. The following services shall be provided by Bidder.

- 4.24.2.1 Project Planning with timelines and will deliver all required documentation like FRS, SRS, Design documents, test cases etc.
- 4.24.2.2 Supply, installation, configuration, testing and commissioning of compute infrastructure (hardware and software) such as Servers, Operating systems and Databases, Storage at the proposed DC , DRC , Monitoring Centre, UP POLICE 100 , OMC and other sites.
- 4.24.2.3 Supply, installation, configuration, testing and commissioning of Network infrastructure like core, manage access switches etc. at DC, DRC, Monitoring Centre, UP POLICE 100, OMC and other sites.
- 4.24.2.4 Bidder will ensure Development, testing and deployment of mobile app for GIS data collection
- 4.24.2.5 Supply, installation, configuration, testing and commissioning of Security infrastructure like Firewalls, Network Intrusion Prevention Systems etc.
- 4.24.2.6 Supply, installation, configuration, testing and commissioning of all field hardware including desktops, Radio devices, MDT, printers and IP phones etc.
- 4.24.2.7 Providing PRI lines at the DC and DRC sites
- 4.24.2.8 Providing Network bandwidth at all locations (DC, DRC, Monitoring Centre, UP POLICE 100, OMC and other sites)
- 4.24.2.9 Setting up of DC, DRC, Monitoring Centre, UP POLICE 100, OMC sites
- 4.24.2.10 Setting up of power backup such as diesel generator, UPS etc. at all required sites
- 4.24.2.11 Provide Training to all officials such as communication officers, dispatch officers, supervisors, police officials and other identified staff
- 4.24.3 Operations and Maintenance (O&M) Phase: In this phase, Bidder would be responsible of operations and maintenance of the entire solution for the contract period. This will be applicable after Go-Live. The following services should be provided by Bidder:
 - 4.24.3.1 O&M phase planning and monitoring
 - 4.24.3.2 Ongoing Administration and Maintenance requirements
 - Operation of Monitoring Centre (including Help Desk)
 - Support at DC and DRC sites
 - Support for NOC and SOC sites
 - Maintenance of Solution (hardware, applications, network, security etc.)
 - AMC Applicable after go-live of the system
 - MDT, Radio devices support and UP POLICE 100 and OMC support
 - Technology refresh documents
 - Security audits
 - Quality audit
 - 4.24.3.3 Facility Management Services at UP POLICE 100 and OMC
 - 4.24.3.4 MIS Reports and Incident Reporting
 - 4.24.3.5 Integration of Women Powerline 1090 and Fire services with Call 100

Section 5: Scope of Work

- 5 Technology Requirement and Specification of Solution
- 5.1 Schedule of Requirements
- 5.1.1 The ICT infrastructure at the DC and DRC site will require various set of components for running the system. The bidder should propose solution that is in accordance with the RFP Tender specifications.
- 5.1.2 The following is high level but not limited to list of categories of components that the bidder is expected to supply:
- Enterprise-class computing Infrastructure such as Servers, Operating Systems and Databases etc.
 - Network Infrastructure such as core, distribution and access switches etc.
 - Security infrastructure such as Firewall etc.
 - Enterprise class storage system, SAN switches etc.
 - Enterprise Management System
 - Radio over IP solution implementation
 - All application as per clause 6 above of this section
 - Other Software and monitoring tools
- 5.1.3 The above list is indicative. The Bidder will be required to provide an infrastructure which is scalable and provides for latest technologies like virtualization, cloud computing etc. The Bidder is free to add any additional components that are deemed necessary for providing the solution as a whole. Bidder will provide detailed technical architecture.
- 5.1.4 Size and propose for network devices (like Routers or switches etc.), security equipment including firewalls, IPS or IDS, IPSec routers, etc. at all locations with the required components or modules, considering redundancy and load balancing
- 5.1.5 Size and provision the bandwidth requirements across locations considering the application performance, replication, data transfer and other requirements.
- 5.1.6 Liaise with service providers for commissioning and maintenance of the links.
- 5.1.7 Size and provision the hardware in line with business operations load of contact center.
- 5.1.8 Furnish a schedule of delivery of DC and DRC IT Infrastructure items
- 5.1.9 Ensure all the hardware requirements of the application suite (including third party applications), databases, OS and other software are taken care of.
- 5.1.10 GoUP may at its sole discretion evaluate the hardware sizing document. The bidder needs to provide necessary explanation for sizing document to the GoUP
- 5.1.11 Storage requirements for the application suite will have to be assessed by the bidder and the storage solution shall be sized and procured accordingly.
- 5.1.12 Ensure that the proposed servers are able to accommodate newer versions of processors, memory, etc. that support enhanced capability (e.g. lower power footprint, higher working temperature, smaller process architecture, higher frequency) of operation if required, whenever they are available. To further clarify, motherboard, controllers, etc. provided should be of latest architecture available that supports such newer version. It has to be substantiated with proof and migration is to be furnished preferably with an undertaking to replace the processors as and when such processors of highest level of frequency are supported.
- 5.1.13 The proposed server models wherever applicable should be 1U blade servers with key board, monitor, etc. wherever required shared to minimize the requirement of rack space

Section 5: Scope of Work

- in DC considering any space constraints. The model however should not pose constraints in performance.
- 5.1.14 The hardware, applications (hardware and software licenses) and other devices are required to be in High Availability to avoid single point of failure in DC and DRC.
 - 5.1.15 The solution architecture should have No Single Point of Failure and shall be committed for uptime as per SLAs.
 - 5.1.16 Bidder shall ensure standardization at unit building blocks. Bidder shall design the overall solution such that the variety of server models in the entire architecture is minimized in order to improve the management of the overall solution.
 - 5.1.17 Bidder shall offer latest and proven technologies that are available for items including but not limited to Processor model as referred in the minimum specifications for hardware requirements under section 5B of this RFP with similar or higher clock speed processor, I or O, Memory, Cache, FC interface and bandwidth, Security products, etc.
 - 5.1.18 The power supplies, cables or connectors for all servers or equipment should be for Indian power specifications of voltage, frequency and phasing.
 - 5.1.19 The Bidder should ensure that all the peripherals, accessories, sub-components required for the functionality and completeness of the solution, including but not limited to the devices, equipment, accessories, patch cords (copper or fiber), fiber LIU, cables software, licenses, tools, etc. should also be provisioned according to the requirements of the solution.
 - 5.1.20 Bidder to specify the no. of rack requirements (size, power, etc.) that shall be required at the DC and DRC sites.
 - 5.1.21 Bidder will ensure to have proper precision cooling, installations of devices with complete set with all sensors like temp, humidity, smoke, door switch, fire suppression, false ceiling, WLDS. Beacon etc. in consultation with civil vendor
 - 5.1.22 Bidder should design architecture for implementation of the replication of data between DC and DRC sites. It is expected that bidder will draw knowledge from industry best practices and its experiences to implement the replication solution and BCP policy that is best suited for the critical applications. Bidder shall document the blueprint for BCP policy and cohesive replication architecture and obtain approval from the GoUP prior to actual implementation.
 - 5.1.23 Bidder shall assist the GoUP in audit of replication envisaged to be undertaking every quarter. Bidder must provide all information, replication logs in a readily accessible manner as requested by the GoUP as part of this exercise.
 - 5.1.24 GoUP will not be responsible if the Bidder has not provisioned for any components, sub-components, assemblies, sub-assemblies as part of bill of material in the bid. The Bidder will have to provision to meet the solution requirements the same at no additional cost and time implications to the GoUP.
 - 5.1.25 PRV staff will ensure to upload the feed of Dash cameras from District Control room to DC on regular intervals
 - 5.1.26 Bidder will ensure to arrange for Pre-Delivery Inspection of all hardware and software entities
 - 5.1.27 Some of the key considerations for designing the Data Centre and Disaster Recovery sites are given below:
 - i. Scalability
All components of the DC and DRC sites must support scalability to provide continuous growth to meet the requirements and demand to support the functions of the contact

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center. A scalable system is one that can handle increasing numbers of requests without adversely affecting the response time and throughput of the system. The DC and DRC should support both vertical (the growth of computational power within one operating environment) and horizontal scalability (leveraging multiple systems to work together on a common problem in parallel). Modular design of the compute infrastructure at Data Center and Disaster Recovery would be an excellent strategy to address growth without major disruptions. A scalable Data Center and Disaster Recovery shall easily be expanded or upgraded on demand. Scalability is important because new computing component is constantly being deployed, either to replace legacy component or to support new missions and technologies.

ii. Availability

All components of the DC and DRC must provide adequate redundancy to ensure high availability of the contact center applications and other related services. Designing for availability assumes that systems will fail, and therefore the systems are configured to mask and recover from component or server failures with minimum application outage. The bidder shall make the provision for high availability for all the services at the data center and disaster recovery.

iii. Interoperability

The entire system or subsystem should be interoperable, in order to support information flow and integration with other systems. Operating systems and storage technologies from several vendors must interact well with each other. These systems should also support the open architecture solutions such as XML, LDAP, SOAP, etc. where information or data can be ported to any system, whenever desired.

iv. Security

The Data Centre and Disaster Recovery must provide an end-to-end security blanket to protect applications, services, data and the infrastructure from intentional, unintentional or malicious attacks or theft from external (through internet) and internal (through intranet and or physical) hackers or malicious intent. Such attacks and theft should be controlled and well supported using Firewalls, IPS systems and infrastructure protection mechanisms. Furthermore, all the system logs should be properly stored and achieved for future analysis and forensics whenever desired. It should be noted that at different layers of security the make or model of the similar appliances should be different.

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- 5.2 Technology specifications of IT infrastructure
Following indicative IT components are proposed at all sites such as DC, DRC, UP POLICE 100, OMC and other sites including vehicles. Please refer Section 5 A and 5B for detailed specifications.
- 5.2.1 PRI lines:
- i. Bidder has to ensure end to end call connectivity with the maximum latency of 200 ms. which is from the caller to the officer.
 - ii. Bidder needs to procure PRI lines from more than one agency for providing redundancy with each agency having its own Backup line.
- 5.2.2 Core Router: Router will be installed in a HA mode at the DC and DRC
- i. The bidder has to size and propose for Core Routers at DC and DRC sites with the required components or modules, considering redundancy and load balancing.
 - ii. The bidder has to implement a VPN Router with IPSec using Advanced Encryption Standard (AES) and 3 Data Encryption Standard (DES) encryption mechanisms. However, the same may be enabled on the core routers in case the routers support such requirements, if required.
 - iii. The bidder has to propose any other routers required at DC and DRC sites as per the bidders proposed architecture.
 - iv. Please refer Section 5B - Technical Requirement Specifications for detailed specifications.
- 5.2.3 Core Switch: Will control and automate network access for both managed and un-managed traffic.
- i. The bidder has to size and propose new Core Switches at DC and DRC sites with the required components or modules considering redundancy and load balancing.
 - ii. The bidder should size and propose other switches, required for interconnecting various segments, Operations Centre related infrastructure etc.
 - iii. Please refer Section 5B - Technical Requirement Specifications for detailed specifications.
- 5.2.4 Managed Access switches: The access switches shall allow the application servers to connect to core components such as firewall, IPS etc. Please refer Section 5B - Technical Requirement Specifications for detailed specifications.
- 5.2.5 Internet Router: Router will be installed in a HA mode at the Data Centre sites. Please refer Section 5B - Technical Requirement Specifications for detailed specifications.
- 5.2.6 IP PBX Server: IP PBX should receive record and route the calls with integrated CTI or ACD or Voice recording server to provide emergency response facility for caller during emergencies. Bidders are expected to provide IP telephony solution to work seamlessly.
- 5.2.7 Application Server: Servers would take care of the necessary workflow between various applications e.g. ACD, CAD, CTI, GIS, etc. Blade server would be seamlessly integrated to provide high availability and performance. With the use of load balancers, user requests would be distributed among various clustered or common servers. The Blade

Section 5: Scope of Work

servers will be configured in high availability mode and in cluster mode and shall also have the database configured accordingly.

- 5.2.8 Database Servers: The database or repository provides all the relevant information required to process the applications. Database server would be required to store and access data with ease. This would also be integrated with multiple applications, residing at the DC and DRC site. Please refer Section 5B - Technical Requirement Specifications for detailed specifications.
- 5.2.9 Document Repository Server: The document repository server provides the version controlling of all kind of documents like latest development code, designs document etc. of the applications. It would require to store and access the document with ease. The Bidder may use open source technology as per requirement.
- 5.2.10 Web Server: The web server would be used for providing access to the applications through internet or intranet. Using portal, relevant contents of the applications can be easily enabled, updated and deployed at the earliest. Portal would provide a base template to users who want to access the application via internet. The portal server shall allow users to access the application from internet and the same shall be configured in cluster mode.
- 5.2.11 Backup server: Backup server would be used for backing up the key data on regular interval. The backing up of the data would be an automated process. Whenever desired the backed up data can be restored or retrieved to the desired system configuration
- 5.2.12 SAN Storage
 - i. Storage requirements for the application suite will have to be assessed by the bidder and the storage solution shall be sized and procured accordingly.
 - ii. The Storage Area Network (SAN) storage shall be configured in DC and DRC. The SAN shall at least be a combination of RAID 1 and RAID 5.
 - iii. Please refer Section 5B - Technical Requirement Specifications for detailed specifications of SAN Storage and SAN switch.
- 5.2.13 Web Application Firewall
 - i. A web application firewall (WAF) appliance should be provisioned by the bidder in their solution that applies a set of rules to an HTTP conversation.
 - ii. The Web Application firewall that the bidder will provision should be able to provide protection against OWASP top ten vulnerabilities at the minimum.
 - iii. Please refer Section 5B – Technical Requirement Specifications for detailed specifications.
- 5.2.14 Next Generation Firewall
 - i. A Next-Generation Firewall (NGFW) should be provisioned by the bidder that combines a traditional firewall with other network device filtering functionalities such as deep packet inspection ,an intrusion prevention system and / or other techniques such as SSL and

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SSH interception, website filtering, QoS or bandwidth management and antivirus inspection.

- ii. Please refer Section 5B – Technical Requirement Specifications for detailed specifications.

5.2.15 **Host based Intrusion Prevention System (HIPS)**

- i. A host-based intrusion prevention system is an Intrusion Prevention System which monitors the host for suspicious activity by analyzing events occurring within that host. The bidder is required to provision a host based HIPS as a part of its solution.
- ii. Please refer Section 5B – Technical Requirement Specifications for detailed specifications.

5.2.16 **Data Leakage Prevention (DLP)**

- i. Data leakage prevention solution is a system that is designed to detect potential data breach or data ex-filtration transmissions and prevent them by monitoring, detecting and blocking sensitive data while in-use (endpoint actions), in-motion (network traffic), and at-rest (data storage). In data leakage incidents, sensitive data is disclosed to unauthorized

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personnel either by malicious intent or inadvertent mistake. The bidder is required to provision a DLP solution as a part of its solution.

- ii. Please refer Section 5B – Technical Requirement Specifications for detailed specifications.

5.2.17 **Desktops or Workstations**

5.2.17.1 Bidder is expected to provide the desktops with 3 screens for the dispatch officers, double screens for Communication officers and single screen for all other field staff at District control room.

5.2.17.2 75 Districts control rooms will be provided with two desktops with single screen while 8 Police zone of states, 18 range of state police and 25 Police Units will have single screen desktop

5.2.17.3 Bidder will provide desktops to Police and outsourced admin staff of UP POLICE 100 and OMCs.

5.2.17.4 Bidder will provide thin clients and desktops in NOC and SOC

5.2.17.5 The number of desktops required is provided in Clause 14

5.2.17.6 Please refer Section 5B - Technical Requirement Specifications for detailed specifications.

5.2.18 **Multi-function Printers**

5.2.18.1 Bidder is expected to provide latest printers having color copier, FAX and scanner functions as well

5.2.18.2 Printers would be online printers available for all users on LAN

5.2.18.3 The number of printers required is provided in Clause 14

5.2.18.4 Please refer Section 5B - Technical Requirement Specifications for detailed specifications.

5.2.19 **Heavy Duty Printers**

5.2.19.1 Bidder is expected to provide latest printers having copier and scanner functions as well

5.2.19.2 Printers would be online printers available for all users on LAN

5.2.19.3 9 heavy duty printers will be provided in UP POLICE 100 and 2 in OMCs

5.2.19.4 The number of printers required is provided in Clause 14

5.2.19.5 Please refer Section 5B - Technical Requirement Specifications for detailed specifications

5.2.20 **Paper Shredder**

5.2.20.1 Bidder is expected to provide latest paper shredder having facility to shred papers, light card boards, cards, CDs etc.

5.2.20.2 The number of Shredders required is provided in Clause 14

5.2.20.3 Please refer Section 5B - Technical Requirement Specifications for detailed specifications.

5.2.21 **LED TV**

5.2.21.1 Bidder is expected to provide LED Televisions with various sizes like 32 inches, 42 inches, 55 inches length of diagonal of screen.

5.2.21.2 Bidder will install these televisions at UP POLICE 100 and OMCs with DTH connections.

5.2.21.3 The TVs will be smart enough to provide smart functions like screen mirroring, different video modes etc.

5.2.21.4 The number of televisions required is provided in Clause 14

5.2.21.5 Please refer Section 5B - Technical Requirement Specifications for detailed specifications.

5.2.22 **Hardware in conference room**

5.2.22.1 Bidder is expected to provide complete IT solution in conference room which will include bandwidth, video conferencing system, LED touch screen, camera, audio system, table top microphones, control panel system, cables and other fixtures.

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- 5.2.22.2 Bidder will integrate all IT equipment and passive materials related to establish conference rooms with video conferencing facility for capacity of room sizes for 10 and 15 people respectively
- 5.2.22.3 The number of conference rooms and related hardware required is provided in Clause 14
- 5.2.22.4 Please refer Section 5B - Technical Requirement Specifications for detailed specifications
- 5.2.23 **Hardware in board room**
- 5.2.23.1 Bidder is expected to provide complete IT solution in board rooms which will include bandwidth, video conferencing system, LED touch screen, camera, audio system, table top microphones, control panel system, cables and other fixtures.
- 5.2.23.2 Bidder will integrate all IT equipment and passive materials related to establish board rooms with video conferencing facility for capacity of room sizes of 30 people respectively
- 5.2.23.3 The number of board rooms and related hardware required is provided in Clause 14
- 5.2.23.4 Please refer Section 5B - Technical Requirement Specifications for detailed specifications.
- 5.2.24 **Hardware in training room**
- 5.2.24.1 Bidder is expected to provide complete IT solution in training rooms which will include motorized screen, audio system, table top microphones, projectors, cables and other fixtures.
- 5.2.24.2 Bidder will integrate all IT equipment and passive materials related to establish training rooms with capacity of room sizes of 25, 50 and 100 people respectively
- 5.2.24.3 Bidder will provide all necessary infrastructures like desktop with double monitors, microphone, soft phones, required CAD software, streaming solution device and LAN settings for training of 75 people as communication officers.
- 5.2.24.4 Bidder will provide all necessary infrastructure like desktop with triple monitors, soft phone, ROIP peddler, required Wireless, CAD software, MDT, streaming solution device and LAN settings for training of 50 person as dispatch officers
- 5.2.24.5 Bidder will install, integrate all infrastructure for training room each for COs and DOs that will completely simulate the operational environment in the UP Police 100 catering to all trainees planned in a batch. It should enable training of the entire batch of trainees of

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COs and DOs for hands-on the equipment and environment that they would be exposed to in real working scenario.

5.2.24.6 The number of training rooms and related hardware required is provided in Clause 14

5.2.24.7 Please refer Section 5B - Technical Requirement Specifications for detailed specifications.

5.2.25 **Hardware in meeting room**

5.2.25.1 Bidder is expected to provide complete IT solution in board rooms which will include bandwidth, video conferencing system, LED touch screen, camera, audio system, table top microphones, control panel system, cables and other fixtures.

5.2.25.2 Bidder will integrate all IT equipment and passive materials related to establish meeting rooms with video conferencing facility for capacity of room sizes of 20 and 30 people respectively

5.2.25.3 The number of meeting rooms and related hardware required is provided in Clause 14

5.2.25.4 Please refer Section 5B - Technical Requirement Specifications for detailed specifications.

5.2.26 **Video Wall**

5.2.26.1 Bidder shall provision for DLP video walls in UP POLICE 100 with configuration of 20 columns and 3 rows for each video wall

5.2.26.2 Bidder will ensure to provide cube of 70 inches each

5.2.26.3 Bidder will ensure that video walls will be used to display for various feeds like different news channels, data interpretation etc.

5.2.26.4 The number of video walls required is provided in Clause 14

5.2.26.5 Please refer Section 5B - Technical Requirement Specifications for detailed specifications.

5.2.27 **Laptop**

5.2.27.1 Bidder shall provision latest laptops for Dy SP and above rank officers of ITECCS and OMCs. Bidder will ensure to provide pre-loaded OS, necessary software and accessories with laptop

5.2.27.2 Bidder will ensure to provide bag pack with each laptop

5.2.27.3 The number of laptops required is provided in Clause 14

5.2.27.4 Please refer Section 5B - Technical Requirement Specifications for detailed specifications

5.2.28 **Biometric Devices**

5.2.28.1 Bidder shall provision biometric devices at ITECCS, OMCs for access control of staff

5.2.28.2 Bidder will ensure that biometric devices has ability to export report content and other data to MS Excel, CSV, XML and PDF

5.2.28.3 Bidder will ensure that biometric devices feed will be linked to HRMS for payroll

5.2.28.4 Bidder will provide such devices that can be easily integrated with required biometric software. Attendance module will be completely automated for all UP POLICE 100, OMC and PRV staff

5.2.28.5 The number of biometric devices required is provided in Clause 14

5.2.28.6 Please refer Section 5B - Technical Requirement Specifications for detailed specifications

5.2.29 **SAN Storage**

5.2.29.1 Bidder shall provision latest SAN storages

5.2.29.2 Bidder shall ensure high availability of SAN in DC and DR

5.2.29.3 Bidder shall ensure DR will be hosting 100% of active applications while hardware will be almost 50% of DC

5.2.29.4 Bidder will provide rack to accommodate SAN

5.2.29.5 Bidder shall provision Storage Administration based on ITIL framework

5.2.29.6 The number of SAN required is provided in Clause 14

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5.2.29.7 Please refer Section 5B - Technical Requirement Specifications for detailed specifications.

5.2.30 Servers

5.2.30.1 Bidder shall provision blade servers for database, applications and software

5.2.30.2 Bidder shall ensure high availability of servers in DC and DR

5.2.30.3 Bidder shall ensure DR will be hosting 100% of active applications while hardware will be almost 50% of DC

5.2.30.4 Bidder will provide chassis to accommodate servers

5.2.30.5 Bidder shall provision Server and Storage Administration based on ITIL framework

5.2.30.6 The number of servers required is provided in Clause 14

5.2.30.7 Please refer Section 5B - Technical Requirement Specifications for detailed specifications.

5.2.31 Racks

5.2.31.1 Bidder shall provision racks in DC and DR to accommodate servers, routers, SAN switches, SAN, backup system etc.

5.2.31.2 Bidder shall ensure high availability of servers in DC and DR

5.2.31.3 Bidder will also provide network racks at OMCs and district control rooms to accommodate networking items like switch, router etc.

5.2.31.4 The number of DC-DR racks and networking racks required are provided in Clause 14

5.2.31.5 Please refer Section 5B - Technical Requirement Specifications for detailed specifications

5.2.32 UPS

5.2.32.1 Bidder shall provision for UPS at the DC, DRC, UP POLICE 100, OMCs and District control rooms

5.2.32.2 The number of UPS required is provided in Clause 14

5.2.32.3 Please refer Section 5B - Technical Requirement Specifications for detailed specifications.

5.2.33 Load Balancer

5.2.33.1 Bidder shall provision for Load Balancer at DC and DR which will act as a reverse proxy and distributes network or application traffic across a number of servers.

5.2.33.2 The number of load balancers required is provided in Clause 14

5.2.33.3 Please refer Section 5B - Technical Requirement Specifications for detailed specifications

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5.2.34 **Network Switches**

5.2.34.1 Bidder shall provision for Core switches, managed access switches and aggregation switches for UP POLICE 100, OMCs and field location.

5.2.34.2 The number and variety of switches required are provided in Clause 14

5.2.34.3 Please refer Section 5B - Technical Requirement Specifications for detailed specifications

5.2.35 **SAN Switches**

5.2.35.1 Bidder shall provision for SAN switches at DC and DR.

5.2.35.2 The number of switches required is provided in Clause 14

5.2.35.3 Please refer Section 5B - Technical Requirement Specifications for detailed specifications

5.2.36 **Mobile Data Terminal (MDT)**

5.2.36.1 Bidder will provide MDT device to track location of the caller, vehicle and provide required instructions to it.

5.2.36.2 Bidder will also provide MDT to 75 district control rooms to avail information about emergency in respective district by district Control room staff

5.2.36.3 All the instructions or communication to be made by the system would be delivered to field officers through MDT

5.2.36.4 This device would send the location periodically to the system

5.2.36.5 The bidder will provide the MDT devices warranty till end of contract

5.2.36.6 In addition to providing warranty for manufacturing defects, the Warranty period shall include the following, but not limited to:

- Replacement of parts or accessories, as defined by product, including but not limited to cables, scan heads, carrying cases, diskettes, stylus, ribbons, keyboard or keypads for mobile devices, etc.
- Replacement of consumable items like batteries and print heads etc. that have outlived their useful life is also included and shall be payable by the bidder, as and when required. The bidder shall quote the prices for the spare batteries, print heads etc. separately.
- Service or repair due to normal and heavy usage wear and tear and any incidental damages
- Non-remedial work, including but not limited to reprogramming and product configuration
- Repair of problems caused by physical damage, operator error including but not limited to:
 - Excessive dirt or contamination affecting performance
 - Spillage of liquids and other foreign substances on products
 - Scratched, contaminated and or damaged optical components
 - Loose or missing parts, broken, cracked, disfigured, scratched displays, windows, housings or triggers
 - Broken or cracked plastic parts (internal or external)
 - Torn components including flexible parts
 - Damaged external cables
 - Torn keypads, damaged keys etc.
- In case the devices have to be shifted, installed and commissioned at another location after installation and commissioning, at identified location, the cost of such activities will be paid by the bidder only.
- MDT should be used for collection of information from field on a continuous basis-relating to various aspects of emergency services and their mobility in field as per jurisdiction

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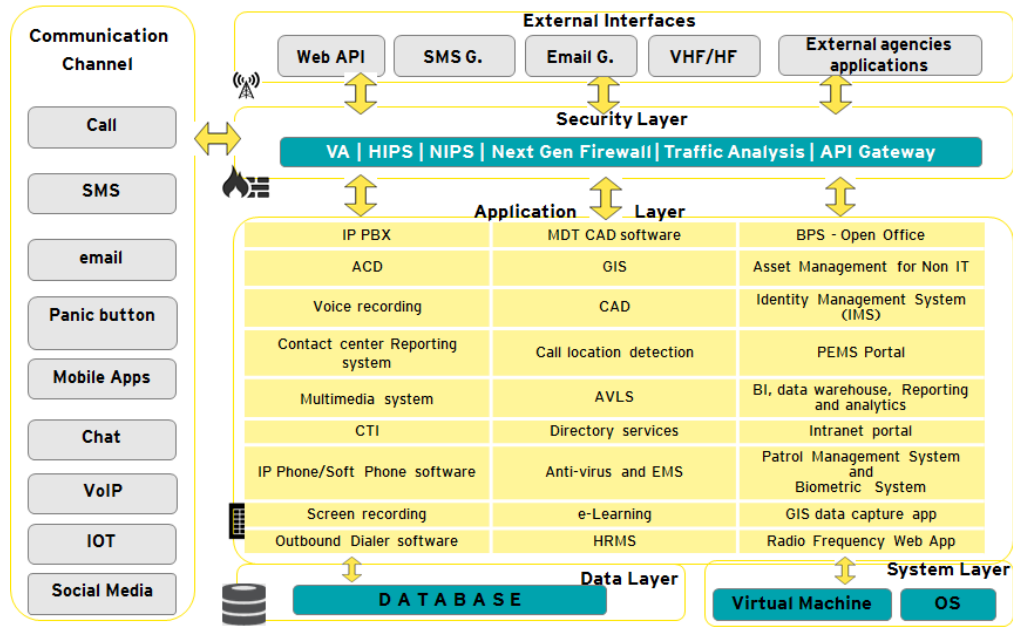
- MDT should have a feature to update the installed applications like MDT CAD, PRV and other applications at regular interval of time.
 - MDT will also be installed in Fire PRVs (Fire Brigades) and Fire stations across Uttar Pradesh
- 5.2.36.7 The number of MDT required is provided in Clause 14. However MDTs would be procured based on the project requirement.
- 5.2.36.8 Please refer Section 5B - Technical Requirement Specifications for detailed specifications
- 5.2.37 **IP phones And Soft Phone**
- 5.2.37.1 Each CO, DO, supervisor and other officials if any would have an IP phone and soft Phone
- 5.2.37.2 Bidder will provide IP Phone and soft phones
- 5.2.37.3 IP phone would be available with wireless headset gear for convenience.
- 5.2.37.4 The number of IP phones required is provided in Clause 14
- 5.2.37.5 Please refer Section 5B - Technical Requirement Specifications for detailed specifications
- 5.2.38 **Generator Sets**
- 5.2.38.1 Bidder shall provision two gen-sets of 200KVA and 100 KVA respectively at ITECCS building
- 5.2.38.2 The number of generator sets required is provided in Clause 14
- 5.2.38.3 Please refer Section 5B - Technical Requirement Specifications for detailed specifications
- 5.2.39 **VHF Radio devices**
- 5.2.39.1 Bidder will provide Radio device to communicate with the field officer and provide required instructions to it.
- 5.2.39.2 Bidder will also provide Radio devices at UP POLICE 100, OMC, Vehicles and other sites
- 5.2.39.3 The bidder will provide the VHF devices warranty till end of contract
- 5.2.39.4 In addition to providing warranty for manufacturing defects, the Warranty period shall include the following, but not limited to:
- Replacement of parts or accessories, as defined by product, including but not limited to cables, carrying cases etc. for Radio devices
 - Replacement of consumable items like batteries that have outlived their useful life is not included and shall be payable by the buyer, as and when required. The bidder shall quote the prices for the spare batteries, etc. separately.
 - Service or repair due to normal and heavy usage wear and tear and any incidental damages
 - Non-remedial work, including but not limited to reprogramming and product configuration
 - Repair of problems caused by physical damage, operator error including but not limited to:
 - Excessive dirt or contamination affecting performance
 - Spillage of liquids and other foreign substances on products
 - Scratched, contaminated and or damaged optical components
 - Loose or missing parts, broken, cracked, disfigured, scratched displays, windows, housings or triggers
 - Broken or cracked plastic parts (internal or external)
 - Damaged external cables
 - In case the devices have to be shifted, installed and commissioned at another location after installation and commissioning, at identified location, the cost of such activities will be paid by the bidder only.

6 Applications Requirement of the Solution

6.1 General Requirement

- 6.1.1 Bidder should provide redundancy for all applications to avoid single point of failure in the system.
- 6.1.2 Bidder will be responsible for the generation and submission of necessary documentation required in both phases. Review and approval of GoUP is required on all such documentation before commencement of activity.
- 6.1.3 Bidder shall document the baseline configurations for all application equipment and facilities and get it approved from GoUP prior to commencement of installation. Bidder shall develop and implement a system to maintain these configurations and ensure adequate controls for change management process on an ongoing basis.
- 6.1.4 Bidder should provide development environment license in the name of the GoUP for the various tools used by the bidder during the development phase of respective solutions. These tools would typically include Application Development Framework or Environment for custom built and COTS based products, Database Schema Designer, Help authoring tool etc.
- 6.1.5 Any additional components, sub-components, assemblies, sub-assemblies that would be required to meet the desired performance requirements will have to be provisioned by the bidder at no additional cost to the GoUP and without any project delays.
- 6.1.6 Bidder should arrange for necessary tools for bug tracking, defect logging, application performance monitoring, automatic testing etc. to deliver the complete software development and maintenance services. The bidder should be enabled to access to test environment from the desks of COs and DOs.
- 6.1.7 Applications will constitute major role for interaction between society and Police. Application will be also a platform for Public information Centre for spreading awareness and notifications among society.
- 6.1.8 Following indicative IT components are proposed at all sites such as DC, DRC, UP POLICE 100, OMC and other sites including vehicles. Please refer Section 5 A and 5B for detailed specifications.

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***LBS** Location Based system; **ACD** : Automatic Call Distribution, **CAD**: Computer Aided Dispatch **CTI**: Computer Telephony Integration, **GIS**: Geographical Information System **AVLS** : Automatic Vehicle Locating System, **OS** – Operating System, **SMS G.** – SMS Gateway, **Email G.** – Email Gateway, **VA** - **Vulnerability Assessment**, **HIPS** - Host-based Intrusion Prevention System, **API** – Application programming interface, **BPS** – Business productivity suite

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6.2 IP PBX

- 6.2.1 Bidder is required to deploy IP PBX software to transfer calls received on PRI lines to the IP network.
- 6.2.2 The proposed IPPBX, PRI gateways and IP phones should be from the same OEM to ensure appropriate integration. However, these proposed products should be able to integrate with products from different OEMs, if required in future.
- 6.2.3 All outbound calls from the UP POLICE 100 and OMC would be routed to PRI lines through IP PBX system
- 6.2.4 IP PBX system should be scalable in future to receive calls
- 6.2.5 Redundancy should be built for IP PBX system to avoid single point of failure
- 6.2.6 IP PBX should ring the IP phone of the identified agent.
- 6.2.7 Provision to broadcast "Greeting Message" whenever a call is received on the system.
- 6.2.8 Please refer Section 5A – Software Requirement Specifications for detailed specifications.

6.3 Automatic Call Distribution (ACD)

- 6.3.1 Routing of the calls to required UP POLICE 100 or OMC and available officer would be done by ACD.
- 6.3.2 ACD would employ a rule based routing strategy
- 6.3.3 ACD should be able to identify available officer and transfer the call accordingly
- 6.3.4 In event of all UP POLICE 100 officers are engaged, critical calls can be diverted to officer to the any of the OMC officer based on the rule engine
- 6.3.5 Call routing to the officer based on the "longest idle basis"
- 6.3.6 ACD shall seamlessly integrate with IP PBX system
- 6.3.7 Please refer Section 5A - Software Requirement Specifications for detailed specifications.

6.4 Call Telephony Integration (CTI)

- 6.4.1 CTI will allow interaction between telephone and a computer to be integrated or coordinated.
- 6.4.2 CTI would run on a server and act as a common interface for integration of all the software applications deployed.
- 6.4.3 CTI functionality shall support relevant screen pop-ups on the officer screen on the basis of call location detection
- 6.4.4 CTI shall pass events and information of officer status and changes in officer status as well as incoming calls to the computer applications
- 6.4.5 Please refer Section 5A - Software Requirement Specifications for detailed specifications.

6.5 Voice recording

- 6.5.1 The voice recording will happen for all calls.
- 6.5.2 System should store voice recording of entire conversation between caller and officer both for incoming call and outgoing call even when calls are transferred from one center to another center
- 6.5.3 Recording should be stored for 3 months and then recordings should be archived on storage media. This would help in post event analysis and if required for judicial purposes.
- 6.5.4 System should be designed such that unauthorized person cannot modify or move or delete any voice recordings.
- 6.5.5 Authorized personnel should be able to access the recordings as required by them.
- 6.5.6 System should prepare a case for each voice recording as per a nomenclature to be decided in consultation with the bidder and the GoUP.
- 6.5.7 System shall be able to search for the voice recordings through various fields and filters such as date, time, caller name, location, case file number, officer etc.
- 6.5.8 Please refer Section 5A - Software Requirement Specifications for detailed specifications.

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6.6 **Screen recording**

- 6.6.1 The screen capture of flow of screen shared between officer and dispatcher would be recorded with the case file for dispatch cases only.
- 6.6.2 Recording should be stored for 3 months of 5 % of total cases in 3 months on random basis and then recordings should be archived on storage media. This would help in post event analysis and if required for judicial purposes.
- 6.6.3 System should prepare a case for each screen recording as per a nomenclature to be decided in consultation with the bidder and the GoUP.
- 6.6.4 Authorized personnel from States should be able to access the recordings as required by them.
- 6.6.5 System shall be able to search for the screen recordings through various fields and filters such as date, time, caller name, location, case file number, officer etc.
- 6.6.6 System should be designed such that unauthorized person cannot modify or move or delete any screen recordings.
- 6.6.7 Please refer Section 5A - Software Requirement Specifications for detailed specifications.

6.7 **Multimedia System**

- 6.7.1 Multimedia System would act as an interface to receive the input from various sources such as SMS, email, chats etc. and convert the input to CAD format
- 6.7.2 It would send notification to the screen of the identified CAD officer.
- 6.7.3 Please refer Section 5A - Software Requirement Specifications for detailed specifications.

6.8 **IP Phone software and Soft phone**

- 6.8.1 System should allow the officer to log into the IP phone device and soft phone software
- 6.8.2 IP PBX would terminate the call at the IP phone or softphone
- 6.8.3 Incoming call should be flashed on the screen of CAD officer as well, from where it can be attended
- 6.8.4 IPhone or soft phone software should be having a feature of echo cancelling.

6.9 **Outbound Dialer**

- 6.9.1 The software will be used for the making outbound calls from the officer to return missed calls, call in case of SMS, email or other input sources.
- 6.9.2 Automatic Call back: The automatic call back function would enable calling back the missed calls which may be received on the system. It has to work in conjunction with the ACD as well.
- 6.9.3 Feedback calls: The outbound dialer software should also have a feature to make calls to the caller whose complaints as per system have been closed. The feedback calls will be connected through the ACD with the available officer
 - For all non-special dispatch calls, feedback to be sought for 50% of these calls randomly. Frequency to be as: within 48hrs, then 2 weeks and then 2 months
 - For all special dispatch calls, feedback to be sought for 100% of these calls. Frequency to be as: within 24hrs, then 1 week and then 3 months

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- 6.9.4 Conference facility: This facility would be required in situations wherein the officer makes a conference call with the caller and the field officer from police to connect both on same call for more clarification.
- 6.9.5 Please refer Section 5A - Software Requirement Specifications for detailed specifications.
- 6.10 **Contact Centre Reporting System**
- 6.10.1 Reporting system should have a provision to provide the contact center reports like call handling, Average handle time of the call etc.
- 6.10.2 System should be able to export the report the report in different kind of format like pdf, text, Xls etc.
- 6.10.3 This system should be integrated with Business intelligence and Analytics reporting system to analyses the contact center data for GoUP on requirement basis
- 6.10.4 Search mechanism should be built to index the files and search the available structured and unstructured data.
- 6.10.5 Please refer section 5 A – Software Requirement Specification for detailed specifications.
- 6.11 **Computer Aided Dispatch (CAD)**
- 6.11.1 All incoming non-emergency calls or data messages should be attended by CAD officer and should be reflected in CAD system.
- 6.11.2 CAD should have various fields for inputs such as name, address, contact number, incident type, incident location, caller location, priority of incident, type of emergency response required etc. and would also have pre-populated information from the location detection (call or IP or latitude-longitude) or subscription details.
- 6.11.3 CAD should open pop up window on the screen of officer receiving the call from IP-PBX
- 6.11.4 After entering the details from the input source (call or SMS or email or mobile application or chat or whatsapp or other), officer will create case with unique id and pass on cases as per the standard operating procedure.
- 6.11.5 The CAD software should have a capability to categories the citizen during the case analysis where the citizen is physically challenged such as Blind, Dumb, deaf and allocate the case to appropriate officer who handle these kind of citizens
- 6.11.6 The officer should be able to communicate with physically challenged citizen through SMS, Mobile chat like whatsapp, facebook, twitter, video relay services
- 6.11.7 Overall the screen of the CAD system will be a user friendly screen and can be customized as per requirement. The customization of the screen would include language or linguistic changes, personalization etc.
- 6.11.8 All forms or information should be available in English, Hindi languages.
- 6.11.9 CAD should have capability to show profile of the other officers in UP POLICE 100 and OMC. This profile would include the languages known. In case of language of incoming call or data message is not known to the attending officer, he or she should be able to transfer the call or data message to the appropriate officer based upon the availability of Officer to that language/dialect
- 6.11.10 CAD will provide feature to classify the volunteers of different foreign languages like Spanish, German, Thai, Nepali etc. available at various time slots round the clock. In case of language of incoming call or data message is not known to the attending officer, he or

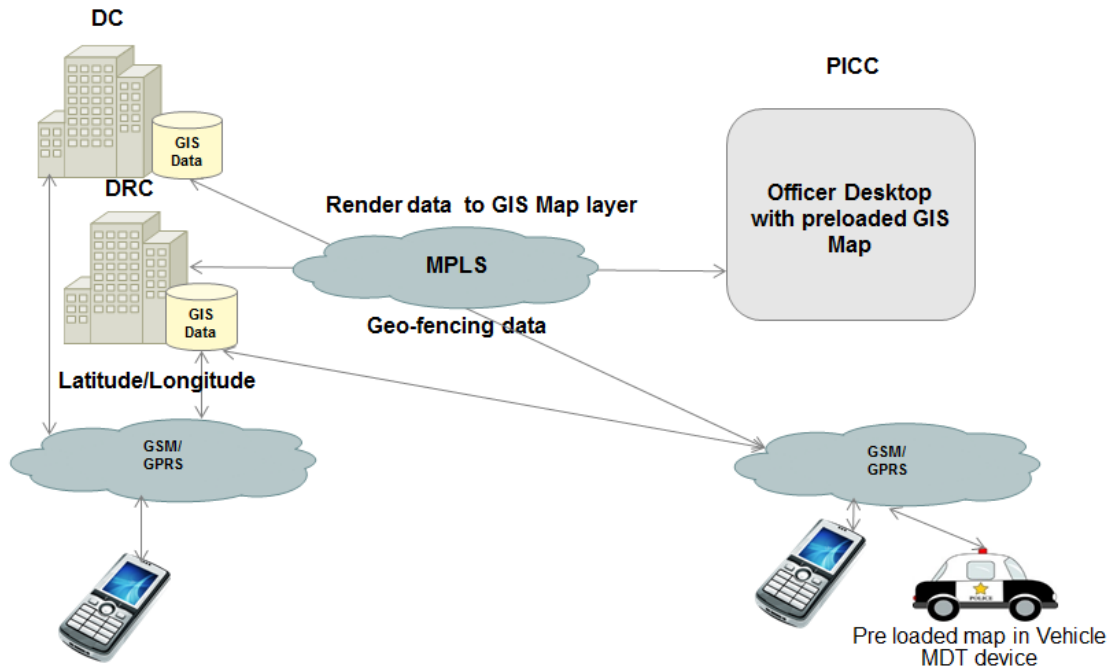
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she should be able to transfer and arrange conference call between dispatcher and volunteer of foreign language

- 6.11.11 CAD should be integrated with enriched GIS where CO would collect information related to incident from the distressed caller. CO will further dispatch the incident with information to DOs pool
- 6.11.12 GIS coordinates of a distressed person should be in the form of longitude or latitude and location of PRVs would be displayed on the screen of the dispatch officer
- 6.11.13 Information about emergency would be passed from CAD system to the identified MDT device installed at PRV by just a button click at the DOs system.
- 6.11.14 Response team at field will complete the case and close the incident through MDT
- 6.11.15 Please refer Section 5A - Software Requirement Specifications for detailed specifications.
- 6.11.16 CAD must have feature for locate Fire brigades and dispatch of Fire services
- 6.11.17 An interface with CAD will be created to make available to investigating officers of police stations all information relating to a specific call and its related content like audio record of first and subsequent calls, other textual, audio or video content provided by one or more callers through different media like phone, SMS, mail, VoIP, WhatsApp, social media etc.

6.12 **Geographical Information System (GIS)**

- 6.12.1 The GIS application will render the distress citizen location or Vehicle location and identify the GIS location with GIS map and GIS map data and will send to the dispatcher desktop and to MDT device
- 6.12.2 Bidder shall provide the key components which would be involved to implement GIS functionality such as GIS map, GIS map data and GIS Server, Geo fencing tools etc.
- 6.12.3 GIS map is a base layer on which GIS map data should be rendered at CAD application and MDT devices in Hindi and English languages.
- 6.12.4 GIS map data is a raw data of multiple point of interest in form of latitude and longitude
- 6.12.5 The Indicative GIS solution diagram is provided below.



Geographical Information System (GIS)

- 6.12.6 Bidder should provide GIS features at least as mentioned below:
 - i. Bidder shall provide the GIS Engine which will be centrally located and fetch data from GIS data based on latitude and –longitude received and renders on base map for viewing
 - ii. The use of GIS should strictly adhere to the End User License. Specifically, the Intellectual Property Rights (IPR) for the Map Image should be as per End User License.
 - iii. The GIS POI which is collated through MDT devices and GIS Data collection mobile application shall be added on incremental basis at centralized GIS data. An application that enables incorporation of GIS Point of interest (POI) captured through an MDT device in field and passed on to NOC into centralized GIS. This feature should enable capture and incorporation of ground features resulting in real-time updation of GIS data, thereby making it current at all times.
 - iv. Scale of the required GIS vector maps of each city: 1:1000 scale for city area and 1:5000 scale for rural area with road positional accuracy of + or- 10 m will be provided by bidder
 - v. The GIS map required should be compatible and must support AVLS and Vehicle Navigation System with routing and driving directions calculation.
 - vi. GIS map for CAD and Navigation on MDT and handheld should support for visual and, voice (preferably) based turn by turn direction and visual should support English and Hindi.

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- vii. Navigation on MDT should display current locations, target place, feature to save routes, time to go, expected time of arrival and distance to go
- viii. GIS map should be locally hosted at police premises and should have features to update the attribute and police level information
- ix. GIS map should work for Security planning and Traffic management
- x. Application should work on mobile platform (iOS/Windows/Android) in the similar functionality as that of the web platform
- xi. Specifications: In order to support routing, the GIS map should be provided in navigation format with specifications as follows:
 - a) Road network should be segmented in a manner that it has unique junction nodes and can supports routing algorithm to navigate and calculate distance to each individual locations.
 - b) Solution has to ensure that the GIS maps have the following essential map features:
 - Drag and Pan
 - Zoom
 - Find and zoom to position
 - Cartographic attributes
 - Search a specific vehicle on the map
 - Dynamically Turn On or Off map layers
 - c) It should be integrated with Location based system (LBS) to render the location of the citizen on the GIS maps
 - d) It should have all interest points of internal security scheme of districts on the GIS Maps
 - e) Roads should be classified properly on the basis of usage, average speed, road conditions, connectivity etc. so that priority of each road segment is properly set
 - f) Bidder shall provide census information and shall map upto the village level and above as published by the registrar general and census department of India. It should be mapped upto the geo entities for village, tehsil and higher upto the state level.
 - g) Road network should be segmented at -
 - Every intersection of two or more roads
 - Every Administrative boundary level
 - Where Rail Track intersects with any road objects
 - Every road segment having a corresponding start and end junction longitude and latitude to create the whole routable road network. Further every segment shall be attributed with a unique identifier; name, if it exists and its length
 - h) Road network continuity shall be maintained to enable navigation or routing.
 - i) Administrative layers shall represent parent-child relationship. For example, each record in locality layer shall have a parent defined as city name. This shall apply to all administrative layer GIS map should support application to find Nearby Points of Interest
 - j) All locations should be available as Point data/ point layer
 - k) List of Layers

A. Administrative

- City boundaries
- District layers
- Locality boundaries
- Building with attributes
- Boundary or Area of Police Station Police (Zoning – area of responsibility of hierarchical police formations/headquarters with geographical boundaries).
- Boundaries or Area of Fire Stations
- Jurisdiction limits

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- Police Zonal and police range, district range, area, circle, Police station and village level classification
- Ward boundaries
- B. Transportation
 - Road network with specifications
 - Rail network
- C. Landmarks
 - Police Head Quarters, Police stations, Police Chowkis and other Police installations
 - All Govt. offices or Institution etc.
 - All major landmarks of the city
- D. Land Use
 - Water bodies
 - Green areas
- E. 3 D
 - All buildings with height attribute

Details of GIS Data layers with attributes

Layer No	Layer Name	Description
1.	District Boundaries	Name coded to Polygon
2.	Different districts layers for Districts	
3.	Colonies	Name coded to Polygon
4.	Boundary or Area of Police Station	Name coded to Polygon
5.	Jurisdiction limits	Name coded to Polygon
6.	Arterial Roads	Symbol
7.	Main Roads	Symbol
8.	Important Roads	Symbol
9.	Industrial area	Symbol
10.	Shopping area	Symbol
11.	Parks and Gardens	Symbol
12.	Railway Stations	Symbol
13.	Water bodies	Symbol
14.	Police Stations	Symbol
15.	Hospitals	Symbol, Name
16.	Fire stations	Symbol
17.	Hotels	Symbol, Name
18.	Restaurants	Symbol, Name
19.	Banks	Symbol
20.	Cinemas	Symbol, Name
21.	Auditorium	Symbol, Name
22.	Post and telegraph offices	Symbol
23.	Historical Places	Symbol, Name
24.	Petrol Pump	Symbol
25.	Airline and travel agency	Symbol
26.	Museums	Symbol, Name
27.	Apartments	Name, House Number (where available)

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Layer No	Layer Name	Description
28.	Buildings	Name, House Number (where available)
29.	Industries	Name
30.	Library	Name
	Parks	Name
31.	Railway Stations	Name
32.	Railway Reservation Centre	Name
33.	Institutions	Name
34.	Shopping Centre	Name
35.	Water feature	Name
36.	Blood Bank	Symbol
37.	Place of worship	Name
38.	Information Centre	Symbol, Name
39.	Art Gallery	Symbol, Name
40.	Education and Training Institutions	Name
41.	Courts	Name
42.	Clubs	Name
43.	Offices	Name
44.	Hostels	Name
45.	Centre Lines of Arterial, Main and Important Roads	One Ways Defined
46.	Rail Lines	Symbol
47.	Other Roads Outlines	Symbol
48.	Arterial road label	Labels of Arterial Roads
49.	Main road label	Labels of Main Roads
50.	Other road label	Labels of Other Roads
51.	Provincial data	Name of locally called famous name
52.	Annotation layer	All important names of Industries,
53.	Geo fencing of Police boundaries	Up to Police station level

- Bidder shall follow the internal security scheme of each district for all other layers which are not available in the above list and will plot on GIS map.
- Bidder shall provide the minimum number of POI for each district of UP state as described in the given below table and cost should be added in GIS map and Map data component under costing format.

#	Category	UP State – Districts	Minimum number of Poi
1	2	Agra	20,000
2	3	Aligarh	15,000
3	2	Allahabad	20,000
4	5	Ambedkar Nagar	7,000
5	5	Auraiya	7,000

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#	Category	UP State – Districts	Minimum number of Pol
6	4	Azamgarh	10,000
7	5	Bagpat	7,000
8	5	Bahraich	7,000
9	5	Ballia	7,000
10	5	Balrampur	7,000
11	5	Banda	7,000
12	5	Barabanki	7,000
13	3	Bareilly	15,000
14	4	Basti	10,000
15	5	Bijnor	7,000
16	5	Budaun	7,000
17	5	Bulandshahr	7,000
18	5	Chandauli	7,000
19	5	Amethi	7,000
20	4	Chitrakoot	10,000
21	5	Deoria	7,000
22	5	Etah	7,000
23	5	Etawah	7,000
24	4	Faizabad	10,000
25	5	Farrukhabad	7,000
26	5	Fatehpur	7,000
27	5	Firozabad	7,000
28	2	Gautam Buddha Nagar	20,000
29	2	Ghaziabad	20,000
30	5	Ghazipur	7,000
31	4	Gonda	10,000
32	3	Gorakhpur	15,000
33	5	Hamirpur	7,000
34	5	Hardoi	7,000
35	5	Hathras	7,000
36	5	Jalaun	7,000
37	5	Jaunpur district	7,000
38	4	Jhansi	10,000
39	5	Jyotiba Phule Nagar	7,000
40	5	Kannauj	7,000
41	2	Kanpur Dehat (Ramabai Nagar)	20,000
42	2	Kanpur Nagar	20,000
43	5	Kanshi Ram Nagar	7,000

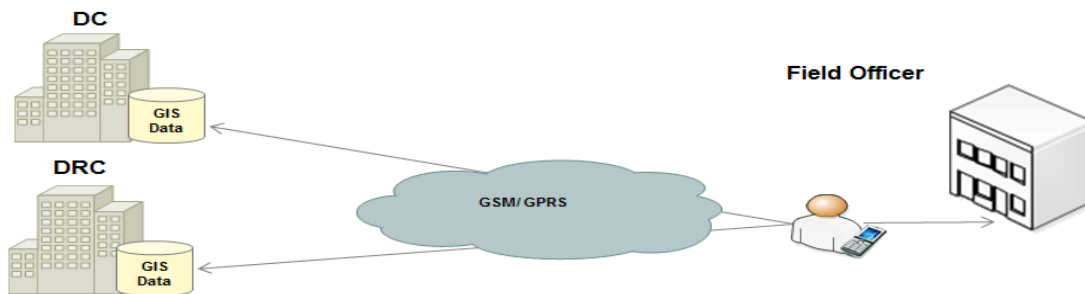
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#	Category	UP State – Districts	Minimum number of Pol
44	5	Kaushambi	7,000
45	5	Kushinagar	7,000
46	5	Lakhimpur Kheri	7,000
47	5	Lalitpur	7,000
48	1	Lucknow	50,000
49	5	Maharajganj	7,000
50	5	Mahoba	7,000
51	5	Mainpuri	7,000
52	5	Mathura	7,000
53	5	Mau	7,000
54	3	Meerut	15,000
55	4	Mirzapur	10,000
56	3	Moradabad	15,000
57	5	Muzaffarnagar	7,000
58	5	Hapur (Panchsheel Nagar)	7,000
59	5	Pilibhit	7,000
60	5	Pratapgarh	7,000
61	5	Raebareli	7,000
62	5	Rampur	7,000
63	4	Saharanpur	10,000
64	5	Sambhal(Bheem Nagar)	7,000
65	5	Sant Kabir Nagar	7,000
66	5	Sant Ravidas Nagar	7,000
67	5	Shahjahanpur	7,000
68	5	Shamli ^[12]	7,000
69	5	Shravasti	7,000
70	5	Siddharthnagar	7,000
71	5	Sitapur	7,000
72	5	Sonbhadra	7,000
73	5	Sultanpur	7,000
74	5	Unnao	7,000
75	2	Varanasi	20,000

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6.13 Mobile Application for GIS Data Collection

- 6.13.1 Bidder has to provide the GIS Data collection mobile application which shall be used to collect the field location data of different areas in the UP state. These data would be used as a point of interest (POI) in the GIS solution.
- 6.13.2 There will be an incremental POI growth in the system which should be added in the central GIS data in DC and DRC.
- 6.13.3 This application will be installed in the mobile devices and shall be provided to the field officer where officer will capture the data at field level like location address, near landmark detail etc. and store the data in the application.
- 6.13.4 Once the data is stored, the officer will then push the data to the DC and DRC GIS database through the mobile application. The indicative diagram given below depicts this process.
- 6.13.5 Please refer Section 5A – Software Requirement Specifications for detailed specifications.



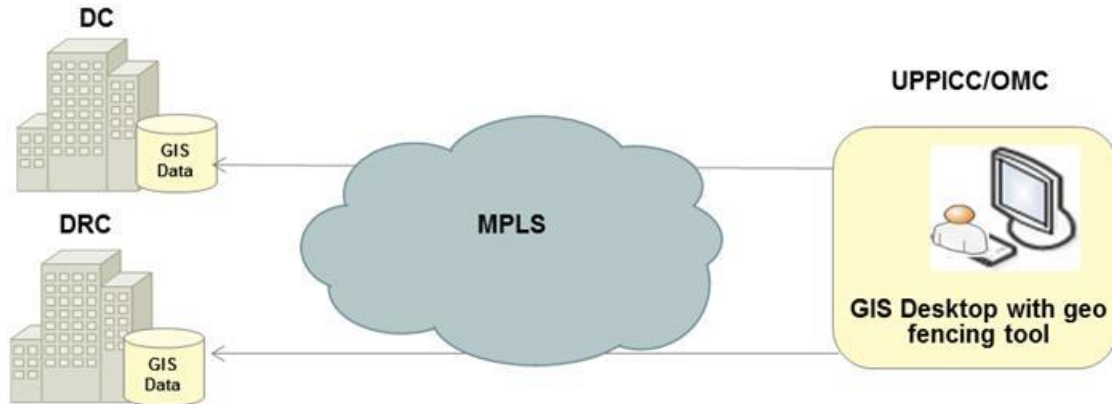
GIS Data Collection (GDC)

6.14 GIS Map Geo-Fencing

Bidder shall provide the Geo-fencing application which will be used to create the boundary of the UP state areas including Police boundaries up to Police stations level, cities, districts, village level etc.

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- 6.14.1 Bidder shall create the geo fencing for police station on GIS vector maps of police stations which will comprise the villages, jurisdictions and other areas.
- 6.14.2 This will be enriched for more than 50 layers. This will help the user to understand the current area and location of the vehicle and distress caller in the system.
- 6.14.3 The diagram given below is for reference purpose only. The indicative diagram given below depicts this process:



6.15 Location Detection Interface

- 6.15.1 Bidder has to identify the citizen location properly through call, SMS, IoT etc. communication channel.
- 6.15.2 Bidder shall provide the Subscription detail record (SDR) and call detailed record (CDR) and will also create a database for SDR and CDR also.
- 6.15.3 Please refer Section 5A – Functional Requirement Specifications for detailed specifications

6.16 Location Based Service (LBS)

- 6.16.1 Bidder has to provide the location based service solution to the GoUP. The LBS solution shall be implemented on pilot basis for few cities. After successful implementation of the solution, this solution shall be implemented for all cities of UP.
- 6.16.2 The required key features of this solution are as follows:
- 6.16.3 Location of the distressed caller should be made available to the Control Room for distressed callers who are using landline as well as mobile phones, irrespective of whether the distressed caller is carrying a basic or feature phone or a smartphone. Data connectivity and mobile based applications should not be required for this purpose
- 6.16.4 The distressed caller may call or send a SMS, in either case, location of the caller needs to be tracked and made available to the Control Room
- 6.16.5 The location of the distressed caller should be tracked and made available to the Control Room during the course of the emergency (i.e. not just the location when call was initiated, but the location at any point during the entire emergency period)
- 6.16.6 A centralized Location Gateway should be set up for this purpose
- 6.16.7 Location Gateway should be hosted at a State owned DC or DRC
- 6.16.8 Location information should be made available to UP POLICE 100 and OMC over industry standard APIs using a secured network connection
- 6.16.9 Location Gateway should have necessary authentication, authorization, and accounting (AAA) controls to avoid unauthorized access or misuse of location information
- 6.16.10 Location Gateway should be able to integrate with Telecom Operator's GMLC or HLR database for Emergency Response Services
- 6.16.11 In case the Telecom Operator does not have LBS infrastructure or does not have the requisite capacity in its LBS infrastructure, then the Location Gateway should act as a

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hosted GMLC in itself, and should be able to directly talk to Telecom Operator's HLR or MSC to obtain caller location information. This would reduce Government's

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- dependency on Telecom Operators having LBS infrastructure or exposing the same for emergency purpose
- 6.16.12 Location Gateway should integrate with all the Telecom Operators operating in State of Uttar Pradesh
 - 6.16.13 Location Gateway must integrate with Mobile Network Portability (MNP) service provider to identify the caller's Telecom Operator
 - 6.16.14 On one end, the Location Gateway should be able to integrate with network elements of multiple telecom operators, while on the other end it should be able to on board or service or provide location information to UP POLICE 100 and OMC
 - 6.16.15 Location Gateway should identify the type of subscriber (mobile or fixed line or SMS) and use this information to query the Mobile Telecom Operator or Fixed line subscriber database accordingly
 - 6.16.16 The Location Gateway should also possess a fixed-line caller information service or database at the backend, so that when the caller number is identified as a fixed-line caller, then its location can be derived from the said service or database
 - 6.16.17 To ensure privacy of citizens, location information should only be shared for emergency calls. Control Room staff should not be able to view location of any mobile number entered through CAD or other application
 - 6.16.18 The detection of the caller location should be identified with in 10-15 sec in the system.
 - 6.16.19 The GoUP will not pay any cost of development, installation and deployment of this solution for Pilot release. Only complete roll-out costs will be paid by the GoUP as per section 4 costing format.
 - 6.17 **MDT – CAD and other software**
 - 6.17.1 It should be security tested and hardened
 - 6.17.2 CAD, PRV and other supported application should be installed in MDT devices
 - 6.17.3 Field officers would be able to access the location of the caller, nearby vehicles, nearby police station etc. on the MDT GIS
 - 6.17.4 MDT GIS would also help in finding shortest route to the incident site
 - 6.17.5 MDT health including its availability, performance and usage should be continuously monitored
 - 6.17.6 User should be able to login as a single sign on user and mark the attendance in the system also.
 - 6.17.7 MDT once installed should be discovered by Enterprise Management System
 - 6.17.8 MDT should have various status like available, away, on case, unavailable etc. to let dispatcher know the current availability of MDT vehicle
 - 6.17.9 In case all MDTs under a Police Station are shown as unavailable or away, it should raise alert to Dispatcher
 - 6.17.10 Please refer Section 5A – Functional Requirement Specifications for detailed specifications
 - 6.18 **MDT management**
 - 6.18.1 MDT health including its availability, performance and usage would be continuously monitored
 - 6.18.2 MDT once installed would be discovered by Enterprise Management System
 - 6.18.3 MDT would have various status like available, away, on case, unavailable etc. to let dispatcher know the current availability of MDT vehicle
 - 6.18.4 CAD, Fire PRVs (Fire Brigades) and other supported application should be installed in MDT devices placed at Fire Services
 - 6.19 **Video Conferencing**

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- 6.19.1 Video conferencing shall be there between 75 districts Control room, 25 Police Units, 18 ranges of police station, 8 police zones of state, UP POLICE 100 and 2 OMCs
- 6.19.2 IP Phones provided to the 126 locations at field offices will be used for video conferencing as well as RF connectivity over IP network
- 6.19.3 Video conferencing software shall allow the users to do video chat with each other
- 6.19.4 Logged in user in conference can also share the private text message through the software

- 6.20 **Provision of Video Calling integration**
- 6.20.1 The bidder shall provision for future requirement of video calling by users. The system should be so designed that users will be able to connect directly to the Cos for Emergency requirements through video calls. Also dispatcher should be able to have video call with the police officer at the incident location. This would give clear picture to the dispatcher.

- 6.21 **BI, Data warehouse, Reporting and Analytics**
- 6.21.1 System should be able to extract reports as per requirement of the GoUP. These reports would assist the supervisor and other senior officials to take decisions. The system shall be able to provide real time reports with refreshed data from the system.
- 6.21.2 System should be able to collate the data collected through various applications and convert the same in useful information
- 6.21.3 BI tools would help to create the reports and dashboards required to facilitate the monitoring of the entire system, performance check of the system and also to draw patterns of the incident for better resource planning.
- 6.21.4 There should be a mechanism to conduct non-structured search across the database irrespective of any parameter or database structure.
- 6.21.5 The PRV vendor would need to maintain proper records of operations including PRV personnel logs, Breakdown or Maintenance or Out of Service schedule, Maintenance

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Files for 2W and 4W PRVs, inventory of consumables and any other relevant data and present the same to the Department through the Central MIS application

6.21.6 Bidder will provide the following analysis reports. Please refer section 5 A for more detail and reports may increase based on the GoUP requirement at later stage:

- Hot spot analysis
- Crime pattern analysis
- Predictive analysis
- Incident analysis
- Time series analysis
- Geo Spatial analysis
- Call trending analysis
- Case handling analysis
- Dispatch analysis

6.21.7 Please refer Section 5A – Software Requirement Specifications for the indicative reports required under each module.

6.21.8 All date and time related analytics should be possible with Hindi Calendars (Saka and Vikram both) and Islamic Calendars in addition to Gregorian calendar.

6.22 **Citizen Portal**

6.22.1 Bidder would develop portal which would be interface provided for the citizens to interact with the emergency response system

6.22.2 Portal should have some standard content as provided by GoUP

6.22.3 It should provide option to citizens to register their phones or devices along with GIS coordinates of their homes, offices, schools etc. to be able to connect with UP POLICE

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100 and OMC in case of emergency It should have provision to initiate email, chat with the officer of UP state.

- 6.22.4 Portal will also be interface for grievance cell, suggestions, developments activities and latest news. Portal will also act as Public information Centre for dissemination of important information, spreading awareness in Public, road safety measures and notifications.
- 6.22.5 An effective presence on all major social media platforms like Facebook, twitter, YouTube, Instagram etc. will be created and kept undated. This will be integrated with the citizen portal
- 6.22.6 Please refer Section 5A – Software Requirement Specifications for detailed specifications.

6.23 **UP POLICE 100 Intranet Portal**

- 6.23.1 Bidder would develop intranet portal which would be interface provided to the internal user
- 6.23.2 Portal should have some standard content as provided by GoUP
- 6.23.3 It should provide platform to integrate with application like HRMS, Finance management, Patrol management, IT helpdesk, Inventory management etc.
- 6.23.4 User may access different type of application through this portal as per user roles and permission on the particular application
- 6.23.5 Portal will also be interface for grievance cell, suggestions, developments activities and latest news
- 6.23.6 Please refer Section 5A – Software Requirement Specifications for detailed specifications.

6.24 **Mobile application for Citizen**

- 6.24.1 Mobile application will be available on latest versions of iOS, Android, Windows OS platform and be upgradable.
- 6.24.2 Citizen should be able to download the app from Application Store or official website of the GoUP
- 6.24.3 Citizen will be able to register in the mobile application and will get information and can contact UP Police 100 through Mobile application.
- 6.24.4 This will also aim to provide communication medium for Public Information Centre. UP Police 100 will aware and inform public through application about jams, route diversion etc.

6.25 **Mobile application for Police Official**

- 6.25.1 Mobile application will be provided to Police officials and Fire Brigade employees
- 6.25.2 The Mobile Application shall provide tools for Monitoring of cases, case updates and dashboards for senior Police and Fire Brigade officers
- 6.25.3 Application will have authentication and access features at Police station, Fire station , Senior Police and Fire officers level

6.26 **Application for Incident or Death Management on large scale of Incidents for Citizen or Police Official**

- 6.26.1 Mobile application will be available on latest versions of iOS, Android, Windows OS platform and be upgradable.
- 6.26.2 Police officials or Citizen should be able to download the app from Application Store or official website of the GoUP

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- 6.26.3 Police officials or Citizen will be able to register in the mobile application and will get information and can contact UP Police 100 through Mobile application.
- 6.26.4 Police officials or citizen should be able to upload the pictures of the injured or deaths, contact details of persons and should be able to submit the case to UP Police 100.
- 6.26.5 Application should have a feature which can assist the citizen to identify the injured or dead. It should assist in all aspects of further management.
- 6.26.6 Application should be integrated with the CAD solution to register a case with all details fedded through mobile app by citizen or police officials
- 6.26.7 Police officials/Citizen should be able to track the status of registred case in the system
- 6.26.8 This will also aim to provide communication medium for Public Information Centre. UP Police 100 will aware and inform public through application about incidence, provide faciities required by citizens
- 6.26.9 Application should have a facility which can assist the citizen or police officials in other required leagal activities.
- 6.27 **Application for Operation Smile and Missing Persons**
- 6.27.1 Mobile application will be available on latest versions of iOS, Android, Windows OS platform and be upgradable.
- 6.27.2 Citizen should be able to download the app from Application Store or official website of the GoUP
- 6.27.3 Citizen will be able to register in the mobile application and will get information and can contact UP Police 100 through Mobile application.
- 6.27.4 Citizen should be able to upload the details along with pictures of the missing persons, other details of persons and should be able to submit the case to UP Police 100 system. Information about the traced persons should be disseminated to related persons including citizens and concerned police stations.
- 6.27.5 Application should identify characteristics (birthmarks, scars, etc.) after upload the photo
- 6.27.6 Citizen should be able Set and send your phone's location as your child's last known location
- 6.27.7 Application should have a module like "Know what to do" for the following activities:
 - Get safety tips on keeping your child out of harm's way
 - Learn what to do in first few critical hours after a child goes missing
 - Visit additional links with resources for families and victims.
- 6.27.8 Application should have a module like "Get Information to Authorities in an Emergency"
 - Quickly Call to Dial 100.
 - E-mail your child's pictures and information to authorities
 - Show identifying information to security or law enforcement officers on the spot.

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6.28 **Directory Services**

- 6.28.1 Directory services should have a provision to create, update and modify the LDAP directory
- 6.28.2 It should have a provision to integrate with the Identity and access management
- 6.28.3 It should be used to define the roles and permission of different kind of users in the system
- 6.28.4 Directory services should have proper integrations with DNS, DHCP. Email and other infrastructure components and services.
- 6.28.5 Please refer section 5 A- Software Requirement Specification for detailed specifications.

6.29 **Document Management System (DMS)**

- 6.29.1 DMS should have functionality to manage the purchase documents with updated version and categorization of the documents
- 6.29.2 DMS should have a provision to detect the user roles and permission and show the relevant functionality to the user as per requirement
- 6.29.3 DMS should have an administrator console to manage all the documents, user and other features of the portal
- 6.29.4 Please refer section 5 A – Software Requirement Specification for detailed specifications

6.30 **Anti-Virus**

- 6.30.1 In order to protect all the desktops, field devices and servers and other solution components from any kind of virus or worm or Trojan attack and any other security threat, bidder should provision and implement an enterprise wide Anti-Virus and Anti-Spam solution for all IT assets, which will include the following:
 - Agent for Desktop
 - Agent for Servers
 - Agent for MDT
 - Anti-Virus and Anti-Spam Gateway
 - Virus and spam scanner for SMTP
- 6.30.2 Bidder should propose the latest version of the proposed Anti-Virus solution available in the market on the day of submission of the bid. However, it is mandatory that bidder

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should deploy the latest version of the Anti-virus available at the time of implementation in case newer version is available after the submission of bid.

- 6.30.3 Anti-virus should have auto update feature, it should be able to push signature from the centralized server to all the clients.
- 6.30.4 The solution should be able to take action based on the category and sensitivity level in which Spam is detected.
- 6.30.5 Bidder should propose the required hardware for the entire solution
- 6.30.6 Bidder should provide requisite licenses for all the software required for the Anti-virus and Anti-spam Solution.
- 6.30.7 Please refer Section 5A – Software Requirement Specifications for detailed specifications.

6.31 **Enterprise Management System (EMS)**

- 6.31.1 It is envisaged that the entire IT infrastructure of including servers and devices at all locations (center, state and field) and network shall be managed through this solution.
- 6.31.2 The agents required for the EMS solution shall be deployed on all the desktops or servers or devices to be monitored.
- 6.31.3 Bidder shall propose infrastructure that shall be sufficient for leveraging all the capabilities of the EMS suite to the fullest extent
- 6.31.4 Bidder shall provide requisite licenses for all the software required for the EMS suite, along with EMS database, add-on tools or modules, etc.
- 6.31.5 EMS solution will be monitored by authorized personnel and bidder is expected to provide adequate training on EMS to the identified personnel.
- 6.31.6 EMS would be used to automate and monitor SLAs and generate the log of any defaults.
- 6.31.7 EMS would be used for asset management also.
- 6.31.8 Please refer Section 5A – Software Requirement Specifications for detailed specifications.

6.32 **SMS Service**

- 6.32.1 Both incoming and outgoing SMS service needs to be provided by the Bidder.
- 6.32.2 SMS service will be used to send and receive the SMS from the distress citizen
- 6.32.3 SMS service will be used to send and receive the feedback from the distress citizen
- 6.32.4 SMS service will be used to send the messages to the vehicle mobile phones in case of vehicle dispatch are required at field level.
- 6.32.5 SMS service will be used to send the messages to the supervisor and senior official about the emergency cases and dispatch requirement from the system
- 6.32.6 Bidder will procure, install and integrate the SMS service in the system

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6.33 **Identity and Access Management Software (IAMS)**

- 6.33.1 System shall be able to identify and authorize and authenticate the user and would allow access to the applications and database based on the user identity.
- 6.33.2 Identity and access management system would be able to identify the rights available with the user in terms of viewing, addition, deletion, modification of the data and generation of various reports through MIS.
- 6.33.3 The system shall have log data facility for the users which are logging in the system, log out time with IP address etc.
- 6.33.4 It should be possible to revoke the rights of users as per requirement of GoUP or other competent authority.
- 6.33.5 Please refer Section 5A – Software Requirement Specifications for detailed specifications.

6.34 **E-Learning**

- 6.34.1 E-Learning capabilities are required to enhance self and anytime learning of the users of Emergency Response system located all across the country.
- 6.34.2 Bidder shall prepare interactive Online Training Module for the applications and SOPs for the project.
- 6.34.3 Interactive modules should be available in English, Hindi languages.
- 6.34.4 It should be accessible to all the users of system based on their requirements.
- 6.34.5 Changes in the training modules of e-Learning should be pushed through centrally.
- 6.34.6 Please refer Section 5A – Software Requirement Specifications for detailed specifications.

6.35 **Web Learning Software**

- 6.35.1 As per the Department guidelines, the conferencing solution shall be open-source based with the Department having full ownership of the source-code that can support future enhancements or modifications as required
- 6.35.2 The conferencing solution should be able to provide integrated audio, video and web conferencing for at least 50 ports so that 50 participants can simultaneously attend conferences
- 6.35.3 The conferencing system should support collaboration features like desktop or application sharing, white boarding, annotations, polling, chat, voice and video recording
- 6.35.4 The conferencing system should be browser-neutral and must be accessible through any internet browser
- 6.35.5 The conferencing solution should be Operating-System (OS), platform neutral and should be operable on any of the commercially available OS for desktops and mobiles
- 6.35.6 The conferencing solution must be able to support analytics data that can allow the bidder to optimize the webinar sessions in real-time
- 6.35.7 System should allow for integration with Social Media platforms for an ability to share the recorded sessions on different social networks for wider dissemination

6.36 **Operating System (OS)**

- 6.36.1 Bidder should provide adequate number of licenses of proposed OS for all desktops, servers, MDT and other systems as required.

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6.37 **Business productivity suite**

6.37.1 GoUP intends to implement a business productivity suite for internal officers.

6.37.2 Bidder should ensure installation and maintenance including arrangement of downloads patches etc. or any other specific requirement for business productivity suite.

6.38 **Human Resource Management Software**

6.38.1 Solution will facilitate in enabling effective monitoring and supervision of UP POLICE 100 staff. HRMS software would be designed for Call 100 operations. This would cover the electronic supervision and measurement of the following indicative personnel processes and transactions related to:

- Time and attendance
- Payment to agency
- Leave management
- Travel management of staff
- Transportation
- Transfer or promotion of outsourced staff
- Rewards and recognition received
- Training conducted
- Code violations if any
- Complete life cycle of personnel from selection, evaluation to exit
- Grievance redressal

6.38.2 Please refer Section 5A – Software Requirement Specifications for detailed specifications.

6.39 **Biometric Attendance**

6.39.1 Centralized biometric attendance system will be there for Call 100 personnel and two OMCs

6.39.2 Centralized biometric system will be integrated with attendance software on MDT to capture the attendance of PRV staff

6.39.3 Reporting System, encryption facility will be there for biometrics solution

6.39.4 Please refer Section 5A – Software Requirement Specifications for detailed specifications.

6.40 **Patrol Management System**

6.40.1 The Patrol Management System should enable us to define, assign and monitor the routes, allocation and utilization of resources. The application will cover the following:

- Define landmarks
- Define routes
- Add or Update details of personnel available
- Send and Receive patrols
- Reports or MIS

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- 6.40.2 It should be possible to assign groups of patrolling PRVs to DOs for monitoring and supervision.
- 6.40.3 Please refer Section 5A – Software Requirement Specifications for detailed specifications.
- 6.41 **Finance Management System**
- 6.41.1 Bidder would provide the finance management system to facilitate the payments which are linked to the project
- 6.41.2 It should be integrated with HRMS system and UP POLICE 100 intranet portal
- 6.41.3 System should have provision for allowances and reimbursements.
- 6.41.4 FMS will be integrated with payment gateway to facilitate transfer of funds online
- 6.41.5 Please refer Section 5A – Software Requirement Specifications for detailed specifications.
- 6.42 **Inventory Management**
- 6.42.1 Bidder would provide an inventory management software to maintain the inventory items used for this project
- 6.42.2 System should be able to monitor inventory on an ongoing basis
- 6.42.3 Please refer Section 5A – Software Requirement Specifications for detailed specifications.
- 6.43 **Other Software and services integration**
- 6.43.1 Audit log management: An appropriate audit log solution would be required to record and maintain the events occurring on servers and other components or devices. It shall also provide a secure mechanism of keeping a log of all the events on all the servers and devices.
- 6.43.2 Workflow management: Workflow Management module shall enable the workflows for various business processes. This shall include process tasks and routing. Workflow management shall allow the configuration of various users such as officers from various offices, different roles etc. into the business processes for various kinds of approvals or rejections. Workflow is mainly required for the internal UP POLICE 100 processes.
- 6.43.3 Exception Management: Exception Management takes care of the various exceptions that might arise out of the system. These exceptions are captured and managed providing suitable abstraction to the user.
- 6.43.4 Interface with other applications: Police department has futuristic view that a single central Call 100 system will be integrated to avail any other emergency services or Police related emergency services State wide Call 100 will be integrated with all other external agencies as mentioned below to have one dial system for any Police emergency system in future:
- Other emergencies like Medical and Fire brigades
 - Elderly and children helpline
 - Women Powerline 1090
 - Integrated Traffic Management System(ITMS)
 - City Surveillance
 - CCTNS
 - Mobile apps for receiving complaints on lost documents
 - Highway Police
 - ITMS(Intelligent Traffic Management System)
 - Integration with email gateway such as NIC as GoUP requirement
- 6.43.5 Integration with Video Surveillance (City surveillance projects)
UP state have either installed CCTV surveillance cameras or are in phase of planning for the same. These are being monitored through UP POLICE 100 and OMC established in

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the same city. State-wide emergency response system should be so designed that it should be able to receive IP surveillance camera feeds on the dispatcher screen (third monitor). Only specific feed of identified camera should be streamed to the dispatcher module. The streaming of feed may be done through VPN connectivity over the Internet.

6.43.6 Integration with existing security apps

The bidder shall be responsible for integrating the central integrated Emergency Response system with existing applications on women security like “1090” Women helpline mobile application launched by the UP govt. for the safety of women in UP state and other UP govt. mobile applications.

6.43.7 Integration with CCTNS

The bidder shall be responsible for integrating the centralised integrated emergency response system with existing CCTNS system launched by UP govt., for cross referencing of call for service (CFS) / case id converted into FIR in CAD solution of Emergency Response System.

6.43.8 Integration with Dial 108 System

The bidder shall be responsible for integrating the centralised integrated emergency response system with existing Dial 108 system to exchange the information between systems.

6.44 Access to applications

6.44.1 Below provided applications would be accessed by following personnel at least. User roles and permission can be changed on later stages as per GoUP requirement Bidder should plan the solution accordingly.

S. No.	Application	Users
1.	CAD, ROIP, IP Phone software or Softphone and Biometric etc.	<ul style="list-style-type: none"> CO, DO and Supervisor Relevant personnel at Monitoring Centre
2.	Asset Management ,HRMS, Finance Management etc.	<ul style="list-style-type: none"> Relevant personnel of police officials
3.	GIS Map And Map Data	<ul style="list-style-type: none"> CO, DO and supervisors Relevant personnel at Monitoring Centre
4.	SOC and NOC applications	<ul style="list-style-type: none"> Relevant personnel at Monitoring Centre Relevant personnel at DC sites
5.	MDT applications, GIS data collection	<ul style="list-style-type: none"> Field officers in District Police Control rooms and PRV staff
6.	Monitoring Application (Supervisors and Police officials) – Mobile Application and Web Application	<ul style="list-style-type: none"> SSP or SP rank officers Supervisors at UP POLICE 100 75 districts Control room staff 25 Police Units staff 18 ranges of police station staff 8 police zones of state staff UP POLICE 100 staff OMCs staff
7.	EMS	<ul style="list-style-type: none"> SSP or SP rank officers

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S. No.	Application	Users
		<ul style="list-style-type: none"> Supervisors at UP POLICE 100 75 districts Control room staff 25 Police Units staff 18 ranges of police station staff 8 police zones of state staff UP POLICE 100 staff OMCs staff
8.	e-Learning	<ul style="list-style-type: none"> SSP or SP rank officers Supervisors at UP POLICE 100 75 districts Control room staff 25 Police Units staff 18 ranges of police station staff 8 police zones of state staff UP POLICE 100 staff OMCs staff

7 Technical Manpower

7.1 Overview

7.1.1 Bidder shall provide adequate number of personnel each responsible for a specific role within the project. Bidder must provide clear definition of the role and responsibility of each individual personnel.

7.1.2 Bidder shall have a defined hierarchy and reporting structure for various teams that shall be part of the project.

7.1.3 Changes in Manpower deployment will have to be approved by the GoUP.

7.1.4 The following table provides an indicative list of resource categories and the minimum resource requirements estimated for the different sites. However, bidder shall independently estimate the teams size required to meet the requirements of Service Levels as specified as part of this tender. Bidder shall propose qualified personnel with adequate skills levels to manage the infrastructure.

Table 1: Minimum Resource requirement during Implementation phase

S. No.	Description	Key Personnel	No. of resources (Min)	Minimum Qualifications	Min. Experience required	Desirable Certifications	Min. Deployment Percentage
1.	Project Director	Yes	1	MBA or M.Tech or B.E/B.Tech	15 years		20%
2.	Project Manager	Yes	1	M.Tech or B.Tech or B.E or MCA	12 years	PMI or Prince2 certification	100%
3.	Solution Architect (DC, DRC)	Yes	1	M.Tech or B.Tech/B.E or MCA	10 years		100%
4.	Solution Architect - Application	Yes	1	M.Tech or B.Tech/B.E or MCA	10 years		100%

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S. No.	Description	Key Personnel	No. of resources (Min)	Minimum Qualifications	Min. Experience required	Desirable Certifications	Min. Deployment Percentage
5.	Solution Architect (Network)	Yes	1	M.Tech or B.Tech/B.E or MCA or BSc.(Computer) or MSc. (Computer) or Diploma in IT or Networking or Graduate In IT	10 years	CCNA or CWNA or CCNP etc.	100%
6.	Solution Architect (Information Security)	Yes	1	M.Tech or B.Tech/B.E or MCA or MSc.(Computer Science or IT)	10 years	CISSP or CISC or CISA	50%
7.	Database Architect or Modeler	Yes	1	M.Tech or B.Tech/B.E or MCA or MSc.(Computer Science or IT)	10 years	-	100%
8.	Database Admin	Yes	1	B.E./B.Tech or MCA	6 years	DBA Certification for the proposed database	75%
9.	System Admin	Yes	2	B.E./B.Tech or MCA	6 years	Relevant certifications for proposed OS such as UNIX, LINUX MCSE, etc.	100%
10.	Network Admin	Yes	1	B.E./B.Tech or MCA	6 years	CCNA or CWNA or CCNP etc.	75%
11.	Business Analyst	Yes	3	Graduate in any discipline	5 years		100%
12.	CAD Expert (from OEM of the proposed product)	Yes	2	M.Tech or B.Tech or M.Sc. or B.Sc.	10 years	OEM certifications	50%
13.	GIS Expert (from OEM)	Yes	1	Graduate in any discipline	10 years	OEM certifications	50%

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S. No.	Description	Key Personnel	No. of resources (Min)	Minimum Qualifications	Min. Experience required	Desirable Certifications	Min. Deployment Percentage
	of the proposed product)						
14.	Telephony & ACD expert (from OEM of the proposed product)	Yes	1	Graduate in any discipline	10 years	OEM certifications	50%
15.	Radio over IP specialist (from OEM of the proposed product)	Yes	2	M.Tech or B.Tech/B.E or M.Sc. or B.Sc.	10 years	from OEM of the proposed product)	100%
16.	Monitoring center integration expert	Yes	1	B.E/B.Tech or MCA	6 years		50%
17.	Monitoring center configuration and customization expert	Yes	1	B.E./B.Tech or MCA	6 years		50%
18.	Application Developers	No	6	M.Tech or B.Tech/B.E or MCA or MSc.(Computer Science or IT)	-		100%
19.	QA Manager	Yes	2	M.Tech or B.Tech/B.E or MCA or MSc.(Computer Science or IT)	10 years	ISTQB	75%
20.	Test Analysts	No	4	M.Tech or B.Tech/B.E or MCA or MSc.(Computer Science or IT)	-	ISTQB	100%
21.	Master Trainer	Yes	4	M.Tech or B.Tech/B.E	10 years		100%

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S. No.	Description	Key Personnel	No. of resources (Min)	Minimum Qualifications	Min. Experience required	Desirable Certifications	Min. Deployment Percentage
				or M.Sc. or B.Sc.			
22.	Documentation Specialist	Yes	6	Graduate in any discipline	5 years		100%
23.	GIS Data Support Staff	Yes	2	Graduate in any discipline	5 years		100%
24.	Geo Fencing Staff	Yes	2	Graduate in any discipline	5 years		100%

Table 2: Resource requirement after Go-live of the UP state

S. No.	Description	No. of resources (Min)	Minimum Qualifications	Min. Experience required	Desirable Certifications	Min. Deployment Percentage
1.	Project Director	1	MBA or M.Tech or B.E/B.Tech	15 years		10%
2.	Project Manager	1	M.Tech or B.Tech/ B.E or MCA or MSc.(Computer Science or IT)	12 years	PMI or Prince2 certification	50%
3.	Solution Architect (DC, DRC)	1	M.Tech or B.Tech/B.E or MCA or MSc.(Computer Science or IT)	10 years		25%
4.	Solution Architect (Applications)	1	M.Tech or B.Tech/ B.E or MCA or MSc.(Computer Science or IT)	10 years		25%
5.	Solution Architect (Network)	1	M.Tech or B.Tech/B.E or MCA or BSc.(Computer) or MSc. (Computer) or Diploma in IT or Networking or Graduate In IT	10 years	CCNA or CWNA or CCNP etc.	25%
6.	Solution Architect (Information Security)	1	M.Tech or B.Tech/B.E or MCA or MSc.(Computer Science or IT)	10 years	CISSP or CISC or CISA	50%
7.	Database Architect or Modeler	1	M.Tech or B.Tech/B.E or MCA or MSc.(Computer Science or IT)	10 years	-	25%

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S. No.	Description	No. of resources (Min)	Minimum Qualifications	Min. Experience required	Desirable Certifications	Min. Deployment Percentage
8.	Database Administrator	1*	B.E./B.Tech or MCA	6 years	DBA Certification for the proposed database	100%
9.	System Administrator	1*	B.E./B.Tech or MCA	6 years	Relevant certifications for proposed OS such as UNIX, LINUX MCSE, etc.	100%
10.	Network Administrator	1*	B.E./B.Tech or MCA	6 years	CCNA or CWNA or CCNP etc.	100%
11.	Business Analyst	1	B.E./B.Tech or MCA and emergency response system domain knowledge experience	5 years		25%
12.	CAD Expert (from OEM of the proposed product)	1	M.Tech or B.Tech/B.E or M.Sc. or B.Sc.	10 years	OEM certifications	25%
13.	GIS Expert (from OEM of the proposed product)	1	Graduate in any discipline	10 years	OEM certifications	25%
14.	Telephony & ACD expert (from OEM of the proposed product)	3	Graduate in any discipline	10 years	OEM certifications	100%
15.	Radio over IP specialist (from OEM of the proposed product)	1	M.Tech or B.Tech/B.E or M.Sc. or B.Sc.	10 years	from OEM of the proposed product)	50%
16.	Monitoring center Manager	2	B.E./B.Tech or MCA	6 years		100%
17.	Application Developers	2	M.Tech or B.Tech/B.E or MCA	-		20%

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S. No.	Description	No. of resources (Min)	Minimum Qualifications	Min. Experience required	Desirable Certifications	Min. Deployment Percentage
			or MSc.(Computer Science or IT)			
18.	QA Manager	2	M.Tech or B.Tech/B.E or MCA or MSc.(Computer Science or IT)	10 years	ISTQB	50%
19.	Test Analysts	2	M.Tech or B.Tech/B.E or MCA or MSc.(Computer Science or IT)	-	ISTQB	50%
20.	Master Trainer	2	M.Tech or B.Tech/B.E or M.Sc. or B.Sc.	10 years		50%
21.	Documentation Specialist	1	Graduate in any discipline	5 years		100%
22.	GIS Data Support Staff	1	Graduate in any discipline	5 years		100%
23.	Geo Fencing Staff	1	Graduate in any discipline	5 years		100%
24.	Process and Compliance Manager	1	B.E./B.Tech or M.C.A or BCA or M.Sc. or BSc or Diploma in IT	5 years		100%
25.	SOC Analyst	1*	B.E./B.Tech or MCA.	5 years	At least one industry leading SIEM product and preferably other leading certifications in security, such as CISA, CISM, CRISC. Product and preferably other leading certifications in security, such as CISA, CISM, CRISC.	100%
26.	VAPT Analyst	1	B.E./B.Tech or MCA	5 years	- Must be CISSP Certified - Certification in at least one industry leading SIEM product and preferably	100%

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S. No.	Description	No. of resources (Min)	Minimum Qualifications	Min. Experience required	Desirable Certifications	Min. Deployment Percentage
					other leading certifications in security, such as CISA, CISM, CRISC	
27.	Build and Release Manager	1	B.E./B.Tech or M.C.A or BCA or M.Sc. or BSc or Diploma in IT	5 years		100%
28.	IT Security Manager	20	M.Tech or B.Tech/B.E or MCA or MSc.(Computer Science or IT)	10 years	CISSP or CISC or CISA	100%
29.	IT Helpdesk Staff	1*	Graduate in any discipline	3 years		50%
30.	DC support Staff	4*	Graduate in any discipline	3 years		100%
31.	DR Support Staff	2*	Graduate in any discipline	3 years		100%
32.	Software Developer/ support staff for minor changes / configurations / updates**	2	B.E./B.Tech or M.C.A or BCA or M.Sc. or BSc or Diploma in IT	3 years		100%

*For three shifts in a day.

** The project will require custom reports, customisation and other updates in the software. This set of resources will do all such changes avoiding requirement of any Change Order for such changes.

7.2 Resource Profiles

7.2.1 Project Director

- i. (S)He shall be responsible for organizing, planning, directing, and coordinating the overall program effort.
- ii. (S)He shall be responsible for allocating resources to the project.
- iii. (S)He shall review the quality of project deliverables to ensure compliance with the agreed quality measures and standards.
- iv. (S)He shall participate in all project meetings and project review meetings.
- v. (S)He shall be responsible for conflict management, issue and dispute resolution.
- vi. (S)He shall ensure compliance to the terms and conditions of the Contract

7.2.2 Project Manager

- i. (S)He shall be responsible for organizing, planning, directing and coordinating the program effort.

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- ii. (S)He shall be at the onsite office as designated by GOUP.
 - iii. (S)He shall be responsible for overall Project Planning.
 - iv. (S)He shall be responsible for managing the team resources and ensuring their optimum allocation.
 - v. (S)He shall review the solution proposed and the integration plan for completeness and correctness.
 - vi. (S)He shall manage the solution implementation in close coordination with all the Solution Architects, administrators, experts, support staff, multiple agencies, vendors, project stakeholders etc.
 - vii. (S)He shall be responsible for organizing, planning, directing, and coordinating FMS staff at the field locations.
 - viii. (S)He shall participate in the steering committee meetings.
 - ix. (S)He shall have extensive experience and proven expertise in managing complex multi-task contracts
 - x. (S)He shall have a thorough understanding and knowledge of the principles and methodologies associated with program management, vendor management, quality assurance metrics and techniques, and configuration management tools.
 - xi. (S)He shall be available onsite for full time during project implementation.
 - xii. (S)He shall be responsible for the overall contract performance and shall not serve in any other capacity under this contract.
- 7.2.3 Solution Architect (Data Center and Disaster Recovery Center)
- i. (S)he should have experience in formulating functional and technical specifications for the physical infrastructure components of large scale DC's and DRC's
 - ii. (S)He shall be responsible for designing the Disaster Recovery Plan (DRP) and Business Continuity Plan (BCP) that should include but not limited to, data replication strategies between DC and DR, DC-DR connectivity and failover procedures
 - iii. (S)he would interact with other architects, project management to determine the solution interdependencies and interfacing requirements with DC and DR
 - iv. (S)he should be able to identify improvements areas or upgradation needs in DC-DR services
 - v. (S)He shall have a thorough understanding of the technical and quality standards and ensure adherence to those in order to maximize the future investment value and minimizing costs in the DC or DR operations.
- 7.2.4 Solution Architect (Applications)
- i. (S)He would be responsible to conceptualize and interpret new architecture designs and requirements into an architecture and design that shall become the blueprint for the solution being created as required by the GoUP
 - ii. (S)He would be responsible for implementing the applications as defined in the application architecture using appropriate technologies and thereby design secure applications.
 - iii. (S)He should possess extensive knowledge and experience in applications for Computer Aided Dispatch systems, CTI, LBS, ACD, Case Record Management, Dialer, EMS, AVLS, ESB etc. and would provide detailed inputs on the design considerations for these ER applications
 - iv. (S)He should have comprehensive knowledge of overall software architecture and software engineering methodologies, principles and practices

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- v. (S)He would be responsible to research, analyze and interpret highly complex technical data for comprehension at various organizational levels and provide recommendations
- vi. (S)He should have the ability to work with the other consultants in applying solutions to business problems, and fit solutions to the enterprise architecture across all viewpoints
- vii. (S)He should have the ability to troubleshoot and resolve highly complex software problems that require highly creative solutions
- viii. The Solution Architect should have the capability to address key requirements of the overall solution.

7.2.5 Solution Architect (Network)

- i. (S)He would be responsible for interacting with other project stakeholders, agencies and solution architects for defining the network requirements for seamless interfacing of all project components.
- ii. (S)He would be responsible for sizing the required Network bandwidth and for Server Load Balancing requirements.
- iii. (S)He should have experience in design of network architecture for large scale distributed and heterogeneous environments
- iv. (S)He should have experience in integration of public or private networks like SWAN, mobile networks etc.
- v. (S)He should have experience in design of network security architecture for large-scale distributed and heterogeneous environments, including firewall, intrusion detection systems, intrusion prevention systems, encryption, PKI and key management and would be responsible for defining the integrated security architecture in close coordination with the other ER system components.
- vi. (S)He should have knowledge of installation, configuration and trouble-shooting of switches, Routers, Firewalls, and IPS. VLAN configuration etc., Knowledge of Networking protocols. (S)He should also have Knowledge of network security appliances such as firewall, IPS, Application firewall etc.
- vii. (S)He shall possess extensive working knowledge and acumen in enterprise architecture best practices, including, but not limited to, logical and physical data architectures, network communications, operating systems, applications, data base servers, application servers, web servers, server consolidation, server performance, middleware etc.
- viii. (S)He shall possess extensive knowledge in implementing similar solutions in a complex environment for computer aided dispatch.
- ix. (S)He shall have the ability to address specialized and complex infrastructure architectural issues.
- x. (S)He shall have extensive experience in infrastructure architecture discipline(s) of similar complexity as described in the tender.

7.2.6 Solution Architect (Information Security)

- i. The Information Security Solution Architect shall be responsible for designing information security architectures for the project and identify the gaps, strategic impacts, financial impacts and the risk profile in the technical solutions
- ii. (S)He shall work closely with IT architects, other functional area architects and security specialists to ensure adequate security solutions are in place throughout all the IT systems proposed in the project and mitigate the identified risks sufficiently
- iii. (S)He shall serve as a security expert during application development, database design, and network and or platform (operating system) efforts, helping project teams comply with enterprise and IT security policies, industry regulations, and best practices.

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- iv. (S)He shall contribute to the development and maintenance of the information security strategy
 - v. (S)He should have experience in design and implementation of Information Security policy for complex and large scale IT application deployments
 - vi. (S)he should have done assignments involving assessment of information security policies and should be able to identify areas of improvements in the information security architecture
 - vii. (S)he should have designed information security architectures for large internet-based applications for safeguarding against security threats, vulnerabilities, cyber and phishing attacks
 - viii. (S)He should have specialization on a range of solutions, including, but not limited to, making appropriate use of PKI, intrusion detection or prevention, VPN, single sign-on, firewalls, and all elements of network-level security.
 - ix. Desirable to have Industry standard security certifications
- 7.2.7 Database Architect or Modeler
- i. Database Architect or Modeler shall be responsible for database design activities like data modelling, table creation, indexing, performance optimization, stored procedures, constraints, normalization, integration with different types of databases etc.
 - ii. (S)He should have Hands-on experience in design and development of large databases including workload analysis
 - iii. (S)He should have experience in sizing and design of server specifications
 - iv. (S)He should have experience in designing OLTP and high performance distributed applications
 - v. (S)He should have experience in designing storage, back-up, replication architectures for large IT systems
 - vi. (S)He should have experience in integrating servers, databases, and storage technologies
 - vii. (S)He should be familiar with server virtualization and cloud computing technologies
- 7.2.8 Database Administrator
- i. (S)He shall provide highly specialized technical expertise towards administration of Databases
 - ii. (S)He shall be responsible for installation of database, creation of schemas, table spaces, define number of users in the database, create user profiles, memory utilization, caching etc.
 - iii. (S)He shall be able to assist in tasks, including, but not limited to, the monitoring and maintenance of databases, installation of database software patches, monitoring of database backups, standardization and implementation of databases to improve the management of production and test environments, support users by resolving problems with applications' databases
 - iv. (S)He shall be able to assist in the day-to-day tasks, including, but not limited to, monitoring and allocating volumes, creating and managing zones, LUN, etc., managing fabric security, analysis of utilization and resources, performance tuning, coordination of system updates or fixes
 - v. (S)He shall have extensive experience in administering databases of similar size and criticality as described in the tender
 - vi. Certification on the storage products proposed shall be preferable.

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- vii. The Database Administrator shall handle the database maintenance so that maximum availability of the database is ensured
 - viii. (S)He will ensure proper backup and restore, database validity, database consistency and security
- 7.2.9 System Administrator
- i. The systems administrator will be responsible for maintaining the optimum performance of the Emergency Response system as a whole.
 - ii. (S)He shall provide highly specialized technical expertise to handle System Administration challenges for complex and large scale systems
 - iii. (S)He shall be able to assist in the day-to-day tasks, including, but not limited to, monitoring of system activities, analysis of system utilization and resources, capacity control, performance tuning, coordination of system updates or fixes, adding or deleting users from the system, and generating reports as required.
 - iv. (S)He will also ensure the systems security by ensuring usage policies, the systems backup and restore, etc.
 - v. (S)He will grant access and permission to various users to the system.
 - vi. (S)He will not make any changes without the instructions of the GoUP.
- 7.2.10 Network Administrators
- i. The Network Administrator shall provide support for tasks, including, but not limited to installation, setup or configuration, troubleshooting, tuning, diagnostics and maintenance of networking and related equipment.
 - ii. The network administrator shall also coordinate with the other vendors or agencies to resolve all network related issues.
 - iii. (S)He shall have extensive experience in troubleshooting and management of network technologies as described in this tender.
 - iv. (S)He shall have technical expertise to manage deployment and maintenance of IT Security infrastructure, including, but not limited to, administration of appropriate access protection; system integrity or reliability; audit control; system recovery methods and procedures, prevention of breaches, intrusions, and or system abuses, awareness training, and compliance with IT security policy directives and regulations of GoUP.
 - v. (S)He shall have the technical expertise to monitor various devices or tools such as content filtering and blocking, virus protection and vulnerability protection.
 - vi. (S)He shall escalate any security breaches and make sure patches are installed in case of threats related to OEM products.
 - vii. (S)He shall maintain an updated knowledge base of all the published security vulnerabilities and virus threats for related software and microcode, including, but not limited to, operating systems, application servers, web servers, databases, security solutions, messaging solutions.
- 7.2.11 GIS Expert (from OEM)
- i. (S)He shall closely interact with the GoUP, other project stakeholders and the associated agencies to gauge system and interface requirements and accordingly customize and configure the OEM GIS solution followed by assistance in implementation across all the project locations
 - ii. (S)He would be required to monitor all the OEM GIS databases for accuracy and data integrity

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- iii. (S)He shall possess knowledge about GIS systems specifically deployed for emergency response systems in India
 - iv. (S)He should be able to develop and implement standards, processes and procedures for data input and maintenance of the respective OEM's GIS system
 - v. (S)He shall possess experience of handling complex projects that involved large scale usage of GIS
 - vi. (S)He shall have ability to address the complexities of the project with relation to hardware being deployed at the states to have GIS software
 - vii. (S)He should have hands-on training on deployment on similar projects with MDTs
 - viii. (S)He should be able to perform complex spatial data processing including geodatabase management, data collection, detailed editing, reporting etc.
 - ix. (S)He should provide training and technical assistance to agencies in the use of GIS data and computerized mapping programs
- 7.2.12 Computer Aided Dispatch (CAD) Expert (from OEM)
- i. (S)He would be responsible for reviewing and overseeing the implementation of OEM developed CAD system, product design diagrams, documents, test plans and results to ensure the design and delivery of a sound CAD architecture that meets all the Emergency user needs.
 - ii. (S)He would contribute to the efforts of Solution Architects in documenting the CAD product capabilities, participating in formal customer acceptance testing, reviewing potential CAD product enhancements
 - iii. (S)He must be familiar with the key aspects of emergency call receiving, emergency data message received, processing of information, voice and screen logging and recording, automatic call distribution technologies, network and call center operations.
 - iv. (S)He must possess an in-depth practical working knowledge of public safety call center operations and technologies.
 - v. (S)He must have experience of designing a large scale complex CAD systems
 - vi. (S)He would be required to work in close conjunction with multiple agencies, project stakeholders, system designers, architects etc. to understand the CAD interfacing requirements and ensure that the CAD system is integrated into the system as a whole
 - vii. (S)He should be able to provide technical assistance and consultant oversight related to the CAD system with overall project implementation including installation, configuration, testing, reporting, migration and transition etc.
- 7.2.13 Radio over Internet Protocol (ROIP) System Expert (from OEM)
- viii. (S)He would be responsible for reviewing and overseeing the implementation of OEM developed ROIP system, product design diagrams, documents, test plans and results to ensure the design and delivery of a sound ROIP architecture that meets all the Emergency user needs.
 - ix. (S)He would contribute to the efforts of Solution Architects in documenting the ROIP product capabilities, participating in formal customer acceptance testing, reviewing potential ROIP product enhancements
 - x. (S)He must be familiar with the key aspects of radio frequency wireless setup, emergency data message received, processing of information, voice logging and recording, network and radio wireless operations.
 - xi. (S)He must possess an in-depth practical working knowledge of public safety call center operations and technologies.
 - xii. (S)He must have experience of designing a large scale complex ROIP systems

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- xiii. (S)He would be required to work in close conjunction with multiple agencies, project stakeholders, system designers, architects etc. to understand the ROIP interfacing requirements and ensure that the CAD system is integrated into the system as a whole
 - xiv. (S)He should be able to provide technical assistance and consultant oversight related to the CAD system with overall project implementation including installation, configuration, testing, reporting, migration and transition etc.
 - xv.
- 7.2.14 Telephony and ACD expert (from OEM)
- i. (S)He shall closely work with the solution architects for designing the entire Telephony and ACD system that shall act as the key constituent of the Contact Centre systems
 - ii. (S)He shall be responsible for configuration, installation and customization of the OEM supplied applications and shall closely work with the administrators and the GoUP for ensuring the acceptance of the same based on the acceptance criteria as defined by the GoUP
 - iii. (S)He should be familiar with the components of a centralized contact centre's infrastructure e.g. Trunk lines, PBX solution etc. and should be able to complement the efforts of Solution Architects and experts from Network and Security Point of View
- 7.2.15 Contact Centre Integration, Configuration and Customization Expert (from OEM)
- i. (S)He shall closely work with the solution architects and other experts (from the different OEM's based on the applications being installed) to ensure seamless integration of all the components. This shall involve detailed integration or design planning, Method of Procedure (MOP) development.
 - ii. (S)He would need to work closely with the QA Analysts for the design of integration test plan, test scripts
 - iii. (S)He must be familiar with all the Contact Centre system components e.g. IP PBX, ACD, CTI, Case Record Management, LBS etc. and should be able to assist in the configuration, installation and customization of these applications
 - iv. (S)He should have experience of designing and implementing the Contact Centres for large scale complex projects
 - v. (S)He should have hands-on experience of integrating the Contact Centre with other critical components of the Emergency Response System
 - vi. (S)He would be responsible for gathering all Contact Centre solution requirements and then customize and configure the OEM solution and assist in its implementation
 - vii. (S)He would be responsible for providing technical assistance and consultant oversight related to the Emergency Response Contact Centre with overall project implementation including installation, configuration, testing, reporting, migration, transition and cutover activities etc.
 - viii. (S)He should have worked on the Case Record Management solution that shall be required to support the Contact Centres
- 7.2.16 Application Developers
- i. (S)He shall Work closely with analysts, solution architects, database designers and the GoUP to customize the ER applications as planned
 - ii. (S)He shall gather business requirements and develop specifications for the ER applications
 - iii. (S)He shall produce the detailed specifications and writing the program codes
 - iv. (S)He shall unit-test the software work-products in controlled, real situations before going live

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- v. (S)He shall be responsible for preparation of training manuals for users
 - vi. (S)He shall assist the System administrators in maintaining the systems once they are up and running
- 7.2.17 QA Manager
- i. (S)He shall have expert knowledge of the entire QA (Quality Assurance) management landscape and deep understanding of data analytics, analysis, certification, modelling, quality improvement and large scale complex implementation projects
 - ii. (S)He shall identify and manage implementation of test plans and cases based on leading edge techniques and statistical evaluation.
 - iii. (S)he shall work closely with the Solution Architects, Application Developers and Support staff for defining the project Test Strategy, Testing Plans, Test Scripts and should ensure the comprehensiveness through effective usage of the Traceability Matrices
 - iv. (S)He should periodically inspect the completed quality control checklists, forms and other documents for conformance to prescribed standards.
- 7.2.18 Test Analysts
- i. (S)He shall be responsible for developing and executing software Test Plans
 - ii. (S)He shall identify and facilitate issue resolution with functional and technical groups
 - iii. (S)He shall work closely with the systems, database administrators and application support staff to efficiently test the incremental changes being made to the applications that are a part of the overall ER solution landscape
 - iv. (S)He shall work with the Documentation Specialist for documenting the test results and reporting them to the senior management
 - v. He shall be having an experience on automation testing tool as per required solution
 - vi. Automation testing tool should be mentioned into scope of work
- 7.2.19 Documentation Specialist
- i. (S)He shall assist the Solution Architects, administrators, Developers, QA staff, Trainers etc. in clearly articulating and documenting the artefacts that are created by them during Implementation as well as Post-Implementation phase
 - ii. (S)He must have experience in writing Technical documents like SRS, FRS etc.
 - iii. (S)He must have experience with Government or PSU agencies
- 7.2.20 Master Trainers
- i. (S)He shall coordinate with the Project Manager and GoUP to plan the training calendar for all the project stakeholders
 - ii. (S)He shall organize the required qualified resources for the identified training courses.
 - iii. (S)He shall have expertise in the usage and training of all the Emergency Response solution components viz. LBS, CTI, Identity Management, IP PBX, Reporting, Recording, ACD, Case Record Management, Dialer, EMS, AVLS, and GIS etc.
 - iv. (S) He shall also be responsible for giving “Train the Trainer” training to identified personnel at each state who shall then be responsible for providing the Refresher courses through class-room or e-Learning training modules as shall be prepared by the bidder
 - v. (S)He shall be responsible for designing the training materials.
 - vi. (S)He shall ensure proper conduct of training sessions and also ensure continuous training sessions are organized for the officers.
 - vii. (S)He shall ensure collection and collation of Trainee Feedback for all training sessions.

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- viii. (S)He shall ensure any issues or concerns raised by the participants are documented and shared with the Project Manager and GOUP.
- 7.2.21 Monitoring Center Manager
 - i. The Monitoring Centre manager shall be responsible for ensuring 24X7 operations of the Security Operations Centre (SOC) and the Network Operations Centre (NOC)
 - ii. (S)He would be responsible for resolving the incidents related to SOC and NOC in a timely manner, ensuring that the service SLAs are met
 - iii. (S)He would supervise, mentor and train the NOC engineers and should be able to continuously develop and improve the SOPs
 - iv. (S)He would lead the end-to-end security vulnerability assessments for network elements including security for user data, management and control planes, risk analysis and security design or implementation
 - v. (S)He must have working knowledge of network troubleshooting
 - vi. (S)He will be accountable for the organization, execution, planning and administration of the SOC and NOC functions
 - vii. (S)He should be responsible to oversee, direct and enhance the operational functions of SOC to detect, analyze and respond to advanced and emerging cyber threats
 - viii. (S)he should be able to direct, guide, oversee the activities of SOC staff who are charged with the analysis and management of threat identification information from a variety of sources
 - ix. (S)He should recommend courses of action based on analysis of both existing and emerging internal or external threats to the emergency response applications and deliver reports, briefings and assessments to the GoUP while facilitating understanding of cyber threat entities and environments.
 - x. (S)he should be able to provide technical investigative support to other Law Enforcement Agencies or any other stakeholders as required
- 7.2.22 Monitoring center Integration expert
 - i. (S)He would lead the end-to-end security vulnerability assessments for network elements including security for user data, management and control planes, risk analysis and security design or implementation
 - ii. (S)He must have working knowledge of network troubleshooting and integration of network and security components
 - iii. (S)He will be accountable for the organization, execution, planning and administration of the SOC or NOC functions
 - iv. (S)He should be responsible to oversee, direct and enhance the operational functions of SOC to detect, analyze and respond to advanced and emerging cyber threats
- 7.2.23 Monitoring center configuration and customization expert
 - i. (S)He should recommend courses of action based on analysis of both existing and emerging internal or external threats to the emergency response applications and deliver reports, briefings and assessments to the GoUP while facilitating understanding of cyber threat entities and environments.
 - ii. (S)He should be able to configuration and customization in the deployed components of SOC or NOC
 - iii. (S)he should be able to provide technical investigative support to other Law Enforcement Agencies or any other stakeholders as required
- 7.2.24 SOC Analyst
 - i. Should be responsible for 24 X 7 monitoring basis with onsite personnel.

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- ii. Should be responsible for reporting of security alerts and incidents.
 - iii. Should be responsible for detecting internal and external attacks on NICCA infrastructure.
 - iv. Should be responsible for capturing data from all devices on real time basis.
 - v. Should be responsible for providing security reports to NIC on daily, weekly, monthly, quarterly and yearly basis.
- 7.2.25 Business Analyst
- i. Responsible for implementation of Project Governance Systems and Procedures in consultation with GoUP
 - ii. Planning and Project Management of all transition and scaling activities of requirements.
 - iii. Responsible for analysis of macro-level inputs from GoUP for scaling
 - iv. Responsible for managing resources, procurement, forecasting and demand management of services in requirements.
 - v. Design and manage cost and process improvement initiatives
 - vi. Requirement gathering, business analysis and functional testing of proposed Software System
 - vii. Shall participate in all fortnightly or monthly project meetings and project review meetings
- 7.2.26 Geo fencing Expert
- i. Responsible for doing the geo-fencing on map for each city in the guidance of police officials
- 7.2.27 GIS data support staff
- i. Responsible for collecting the GIS data at filed level and assist the police official to push the data to central server at DC and DRC
- 7.2.28 VAPT Analyst
- i. Should have prior experience of working with standards such as ISO 27001, ISO 20000, COBIT framework, ITIL.
 - ii. Should have understanding of applicable laws, regulatory requirements and frameworks. Should possess good IT auditing skills coupled with characteristics like reliability, pro-activeness and attentiveness.
 - iii. Should have comprehensive knowledge on regular network scanning, firewall logging, penetration testing and related domains.
 - iv. Should be capable of analyzing network scans and pen test results, firewall logs or vulnerability scan results to find anomalies that suggest a malware attack or other malicious event has taken advantage of security vulnerability, or could possibly do so.
 - v. Should be capable of performing rigorous analysis to identify and ascertain vulnerabilities, risks and threats.
 - vi. Should be able to test customized patching solutions.
 - vii. Manage the compliance efforts of all internal and outsourced functions that have one or more information security-related responsibilities, to ensure that IT security compliance efforts are consistent.
- 7.2.29 Process and Compliance Manager
- i. Responsible to conduct periodic internal reviews to ensure that compliance procedures are followed
 - ii. Conduct or direct the internal investigation of compliance issues.

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- iii. Assess product, compliance, or operational risks and develop risk management strategies.
 - iv. Identify compliance issues that require follow-up or investigation.
 - v. Disseminate written policies and procedures related to compliance activities.
 - vi. File appropriate compliance reports with regulatory agencies.
 - vii. Evaluate testing procedures to meet the specifications of environmental monitoring programs.
 - viii. Verify that software technology is in place to adequately provide oversight and monitoring in all required areas
- 7.2.30 Build and release manager
- i. Responsible for each build and release for test, QA and production environment
 - ii. Responsible to prepare a check list of change functionality or any component and get the approval from stakeholder to deploy in all kind of environment
- 7.2.31 IT security manager
- i. Responsible for all required audit and detailed reports
 - ii. Responsible to meet the governance compliance and security principles defined in section 5 of this RFP
 - iii. Responsible to oversee, direct and enhance the operational functions to SOC to detect, analyze and respond to advanced and emerging cyber threats etc.
- 7.2.32 IT Helpdesk staff
- i. IT Helpdesk staff shall be the dedicated personnel for GOUP – Contact center, responsible for handling all IT related problems.
 - ii. The reporting office and day-to-day assignments for the IT Helpdesk staff shall be controlled by the Project Manager and the GOUP Representative.
 - iii. (S)He shall be qualified enough to do first level diagnosis and troubleshooting the problems relating to network, IP phones, applications etc.
 - iv. (S)He shall also be qualified enough to do first level diagnosis and troubleshooting the problems relating to standard software such as OS, Internet Explorer, Open Office, messaging solutions, Anti-virus, etc.
 - v. (S)He shall also be capable of troubleshooting problems encountered by the end users in the application from the states.
 - vi. (S)He would be required to monitor and respond quickly and effectively to requests received through the IT helpdesk
 - vii. (S)He shall have formal training and experience of managing and troubleshooting the problems under proposed environments and others like Operating system, LAN or WAN, PCs and associated peripherals, backup or restoration using various tools, etc.
- 7.2.33 FMS Staff
- i. FMS staff shall be the dedicated personnel for handling problems related to the facility.
 - ii. The reporting office and day-to-day assignments for the FMS staff shall be controlled by the Project Manager He shall be qualified enough to do first level diagnosis and troubleshooting the problems related to hardware and software installed at the office locations
 - iii. Basic understanding of MDT, Radio devices, Desktop, Network and Telephony and other software deployed
 - iv. He shall be familiar with reporting and dashboard usage for effective monitoring and reporting of the facility management services.

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- v. Should be able to provide basic training on the software and hardware to the state officials
- 7.2.34 DC and DR Support Staff
- i. DC and DR Support staff shall be deployed at the Data center and Disaster recovery to address any exigencies whenever they arise. They should be able to ensure the reliability and availability of the Data Center
 - ii. Should be able to address the challenges with the servers, storage, software and networking equipment that constitute a data center
 - iii. Support staff should be conversant with the key architectural and design parameters of a DC and DRC e.g. Rack, Cooling, Power Distribution, Generator, Availability and Reliability, Physical Infrastructure Management, Fire Protection methods, General Design considerations etc. and should be able to come up with solutions or should be aware of complete escalation procedures for resolving the issues that may surface in the Data Centre
 - iv. Should be able to effectively coordinate with the system, database, network administrators etc. for ensuring seamless operations at the DC and DRC
 - v. The Support staff should be familiar with the different types of Disaster Recovery Services (Cold, Warm, Hot) and should be able to resolve the corresponding issues or escalate to the appropriate author IT as required
 - vi. (S)He should have knowledge of Data Replication (Host based or Storage based) or Business Continuity solutions or DR Solutions. Knowledge of Data Replication, Applications configuration, DR mock drills etc.

8 Operationalization of UP POLICE 100

It is envisaged that ITECCS will also have a centralized contact center i.e. UP POLICE 100, established in Lucknow. Agra and Varanasi would be used as back-up operational mirror centres for Lucknow. Agra and Varanasi would have 100% operational capacity with 15% manpower capacity of the Lucknow UP POLICE 100.

Other than the police officers, the UP POLICE 100 will also comprise of trained women Communication Officers (COs) who would be the first level contact point for the callers. COs are divided into following categories:

- ▶ Inbound voice CO: CO attending the inbound calls on the toll free emergency number. CO would answer incoming call, understand the situation and forward the call to SI Dispatch for further action
- ▶ Outbound voice CO: CO responsible to call back the citizens. Call backs may happen in case of missed calls, dropped calls, SMS or email regarding call backs. The outbound CO will take feedback from calls with dispatch case. The feedback should be taken by the CO within 4 hours of the case closure
 - For all non-special dispatch calls, feedback to be sought for 50% of these calls randomly. Frequency to be as: within 48hrs, then 2 weeks and then 2 months
 - For all special dispatch calls, feedback to be sought for 100% of these calls. Frequency to be as: within 24hrs, then 1 week and then 3 months
- ▶ Non-voice CO: This category would be managing the non-voice services such as SMS, email, IoT, panic buttons, VoIP, messengers, sign language used by differently abled (deaf and dumb) persons etc. . Non-voice CO would create case for the received message with available details and forward the same to dispatch officers.

The COs would be under the supervision of Head Constable and SI.

8.1 Resource deployment requirement

- a. The bidder should provide trained women Communication Officers (COs), CO monitoring staff and training staff as mentioned in Section 14.2 of this section of RFP. The staff should be a mix of COs with understanding of Hindi and its local dialects, English, major foreign language used by Foreign tourist visiting Uttar Pradesh and the sign language used by differently abled (deaf and dumb) persons. The percentage of differently abled COs will be provided to the selected agency during contract signing. The agency should consider fair representation from all communities of society. The activities to be undertaken by COs are mentioned in clause 3 of this section of RFP document
- b. The bidder should make deployment of COs in a phased manner wherein 50% staff would be deployed within 2 months of contract signing and remaining staff before Go-Live. The actual deployment may increase or decrease depending upon the number of calls received at Call 100 centre. Indicative resource requirement of Communication Officers at Lucknow, Varanasi and Agra is presented below:

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Table 1: Manpower assessment at UP POLICE 100 and OMC centers

Manpower	Lucknow	Agra	Varanasi	Total
Communication officer	515	79	79	673
CO Monitoring Staff	6	2	2	10
Total	521	81	81	683

- c. The bidder should be in compliance to the minimum qualification criteria while proposing names of outsource staff in UP Police 100,. The qualification criteria, desired skills and roles and responsibilities are mentioned in clause 8.1.4 of Section 5 of this RFP document.
- d. The bidder should provide to and fro transport facility to COs from home to Call 100 centre, as required. The bidder should ensure timely availability of COs in the UP POLICE 100 as per the shift timings mentioned in Clause 8.3: Resource Availability Requirement of this section of this RFP. The agency should ensure optimum availability of fleet for this purpose.
- e. The agency should provide 2 pairs of uniforms and 1 pair of shoes to all COs deployed at UP POLICE 100 and OMC centers. The uniforms should also comprise of winter clothes. The agency should also ensure re-allocation of uniforms including winter clothes and shoes after every two year till the end of contract or on need basis. In case of any replacement of resource or resource leaving UP POLICE 100, it should be the agency's responsibility to collect all such belongings
- f. The GoUP would conduct a screening process wherein if GoUP rejects any CV due to any reason, it will be the bidder's responsibility to replace the concerned CV with equally capable resource within 5 days.
- g. The bidder should ensure that each deployed CO should comply with the codal formalities of ITECCS like timely availability in office, in uniform with shoes, moral behavior, way of talking with the callers and internal ITECCS staff, maintaining decorum of ITECCS and adherence to policy and guidelines
- h. The bidder should also ensure that the COs meet all service levels as mentioned in clause 44.6 and 45.8 of Section 3 of the RFP document in order to avoid penalty. During the time of payments, the GoUP will refer all SLAs reports and accordingly payments will be made.

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8.2 Resource availability requirement:

- a. The contact center will be operational 365 days, 24X7 and will operate in 3 shifts
- b. The shift timings will be monitored and managed by Shift-In-Charge. The shift timings along with envisaged capacity would be as follows:

Shift	Shift time	Envisaged capacity
Shift 1	9 am – 2 pm	80% manpower
Shift 2	2 pm – 9 pm	100% manpower
Shift 3	9 pm – 9 am	40% manpower

- c. It is the bidder responsibility to maintain availability of manpower as per the table mentioned above.
- d. Shift timings of training staff would be mutually worked out between the agency and GoUP during the time of contract signing
- e. Agency would be responsible for overlap between two shifts and managing staggered lunch breaks during the shift timings.

8.3 Qualification criteria and responsibilities

Name of post	Required Qualification and Experience	Desired Skills	Roles and responsibilities (illustrative)
Communication Officer (CO)	<ul style="list-style-type: none"> ▶ Intermediate with proficiency in Hindi. ▶ Understanding of English and other local languages of U.P. ▶ Proficiency in knowledge of office suits, simple computer application and internet etc. ▶ 0-6 months of call taking experience in police call center or BPO operations 	<ul style="list-style-type: none"> ▶ Soft spoken ▶ Active listening and understands the situation of other person ▶ Patient while conversing with person in distress ▶ Excellent oral and written communication skills ▶ Strong interpersonal skills ▶ Trained on process flows and call center operations ▶ IT skills ▶ Should be able to read and 	<ul style="list-style-type: none"> ▶ Answer all incoming calls ▶ Collect primary information from the caller with regards to name, address, contact details and type of emergency ▶ Interact and understand the message effectively ▶ Enter all information into the computer-aided dispatch system (CAD) ▶ After collecting primary information, forward screen and voice to SI Dispatch ▶ Adhere to SLAs ▶ Deliver quality service to callers ▶ Strictly follow SOPs ▶ Responsible for taking feedback from callers on a rating scale of 1, 2, 4 and 5. ▶ Should make outbound calls to citizens in case of call drop, feedback or to seek any

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Name of post	Required Qualification and Experience	Desired Skills	Roles and responsibilities (illustrative)
	<ul style="list-style-type: none"> ▶ 1-2 years as sign language interpreter for handling non-voice calls of people with special needs ▶ Age: Max. 30yrs ▶ 25 words per minutes Typing on the system ▶ Good communication skills and geographical knowledge of UP state 	understand sign language	<p>information etc. (Outbound caller)</p> <ul style="list-style-type: none"> ▶ Should respond to SMS, emails and other inputs channel and effectively communicate with people of special needs
CO Monitoring Staff	<ul style="list-style-type: none"> ▶ Minimum Graduate ▶ Proficiency in knowledge of office suits, simple computer application and internet etc. ▶ Understanding of English and other local languages of U.P. ▶ 3+ years in the relevant field 	<ul style="list-style-type: none"> ▶ Good communication skills ▶ Strong interpersonal skills ▶ Supervisory skills ▶ Team Management skills ▶ Co-ordination skills ▶ Active listening and soft spoken 	<ul style="list-style-type: none"> ▶ SPOC for all CO related queries. ▶ Responsible for overall deployment and work activity of COs ▶ Ensure performance of COs is up to the mark ▶ Monitor attendance and behaviour of COs and motivate them ▶ Internally resolve issues of COs if any and ▶ Ensure seamless change in shifts of COs ▶ Assist Shift In charge of contact center and co-ordinate with other departments if required.
Training	<ul style="list-style-type: none"> ▶ Management degree in relevant field ▶ 6 Years exp. in the relevant field 	<ul style="list-style-type: none"> ▶ Good communication skills ▶ Change management skills ▶ Planning skills ▶ Training oversight ▶ Awareness about call 	<ul style="list-style-type: none"> ▶ Identify training needs ▶ Adhere to agreed terms and conditions ▶ Conduct training as per the agreed training plan ▶ Arranging place of training, overhead projector, CCTV monitoring, furniture, power backup, mineral water bottles, tea-coffee, internet facility etc. ▶ Review feedback of trainees and take corrective action

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Name of post	Required Qualification and Experience	Desired Skills	Roles and responsibilities (illustrative)
		centre or Call 100 operations	<ul style="list-style-type: none"> ▶ Ensure SLAs are met ▶ Ensure availability of trainers ▶ Maintain quality standard of training ▶ Co-ordinate with other departments if required

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8.4 Training requirement

- a. The bidder should conduct training sessions of all COs before deployment at UP POLICE 100 and OMC centers. Bidder should ensure regular refresher training courses to all COs regarding technical and soft skills.
- b. In case bidder calls for any external experts to impart training to the ITECCS staff, such expenses of travel and lodging should be borne by the bidder.
- c. Bidder should provide necessary trainings to all staff of ITECCS including field level officers as per the indicative plan mentioned in clause 8.1.9 of Section 5 of this RFP document. Based on this indicative plan, the bidder should submit their detailed training plan for approval to the GoUP
- d. Bidder should prepare the training plan, manuals and other materials and submit it to GoUP for review and approval. The training manuals are to be prepared bilingual (English and Hindi). Once approved then only the manuals and materials should be circulated to the users
- e. Bidder should be required to provide regular trainings using video modules, e-learning modules and training material. It shall be the bidder's responsibility to conduct, manage and close the training program. The agency should bear cost of preparation of course curriculum, printing of training material, training material, presentation material and other consumables etc.
- f. It shall be the bidder's responsibility to setup all necessary equipment to conduct end user training. The training program should be conducted in a centralized location at Lucknow or at any identified location in UP as identified by GoUP and other stakeholders.
- g. A welcome kit would be distributed to all trainees during the induction program. Indicative contents of this kit should be training manuals in Hindi and English, project details, list of SOPs, guidelines, policy, procedures etc.
- h. The bidder should ensure the quality of training and active participation of trainees in the training programs. It is desired that the maximum size of a batch should not exceed 50. It shall be the bidder's responsibility to plan the number of Trainers and number of sessions based on the indicative trainee plan as depicted in the clause 8.1.9 of Section 5 to the satisfaction of the GoUP.
- i. Bidder should ensure that the trainers are adequately trained on all the functional and technical aspects of the contact center solution and trainers should be courteous, polite and co-operative with the staff.
- j. Bidder will provide certificates to the trainees on successful completion of training. A transparent mechanism shall be devised by the selected bidder and approved by the GoUP for certifying completion of training for the trainees.
- k. Performance of Bidder during these trainings shall be assessed based on the trainee feedback collected for each training course. Bidder shall design the trainee feedback

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template in consultation with the GoUP. Bidder shall collate the trainee feedback and submit a report after the training session to the GoUP. Individual trainee feedback shall also be submitted as part of this report.

- l. Bidder shall update all training manuals, procedures and deployment or Installation guides, e-learning modules etc. on timely basis to reflect the latest changes to the solutions implemented in consultation with the GoUP
- m. Bidder would design templates for weekly, fortnightly or monthly review status reports or as per the requirement of the GoUP. Post approval of the templates, Bidder shall adhere to the reporting plan approved by the GoUP.
- n. Bidder shall provide Master Trainer for leading Call 100 training and capacity building exercises and having the following qualifications:

Table 2: Required qualification of Master Trainer

Name of post	Required Qualification and Experience	Roles and responsibilities
Master Trainer for capacity building or training	<ul style="list-style-type: none">▶ 10+ years of experience in corporate HR trainingOR▶ With police or law enforcement experience as police trainers for 5+ yrs.OR▶ Training experience in Police or defence training academics or schools for over 8+ yrs.	<ul style="list-style-type: none">▶ Design of training programmes and curriculum▶ Deliver trainings▶ Understand police functioning or SOPs for Call 100

- o. If the trainer is unable to deliver required performance, the GoUP reserves the right to get the trainer replaced. Bidder shall in such circumstance replace the trainer within the stipulated time as communicated by the GoUP
- p. The training location can be in Lucknow or other districts of UP as well. Bidder should conduct trainings at the site communicated by the GoUP

8.5 Types of Trainees

Senior officers	Officers from UP Police like DIG, IG and ADG etc.
Functional users	Field police personnel and the staff of Call 100 Centre like COs, SI Dispatch, SI-Special Dispatch Unit etc.
District level trainers	District identified trainers for 'Train the trainer' programs like SI, Inspector, ARO, Dy. SP, ASP and SP

8.6 Types of Training

Following would be the indicative type of trainings to be provided

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General training	This training shall include the general IT skills that are required for operating the IT components involved in the overall Emergency Response solution e.g. Desktop operations, basic trouble-shooting etc.
Functional training	This training would focus on the use of Call 100 applications installed at UP POLICE 100 and other OMC sites, so that the users are kept abreast with the system and are able to implement the overall process defined by GoUP for an optimum use of the system.
Soft skills training	Bidder would be required to provide soft skills training to the communication officers, dispatchers and other identified staff, to be able to communicate in a defined manner. Call etiquettes and call scripts should be provided to the trainees.
Senior officials' training	This training would focus on how to use and access the MIS reporting functionality of the system for day-to-day monitoring. The training should also focus on extracting various MIS reports from the system etc.

8.7 Modes of Training

► Classroom Training:

The trainings as defined in the table below shall be classroom trainings that would be conducted by trained and qualified Master Trainers in a classroom setting. To maintain consistency across trainings, standard templates shall be used for each component of a module. The class room courses for all the core trainings as mentioned in the table below will have the following components:

- Course Presentation (PowerPoint or an Interactive Audio-Video presentation)
- Instructor Demonstrations (Application training environment)
- Hands-on Exercises (Application training environment)
- Application Simulations
- Course Evaluations

► E-Learning modules:

- a. To keep abreast with the latest developments, trainers would have to ensure all e-Learning modules of key components of Call 100 system are available. These e-Learning modules should be easily accessible by the concerned users as and when needed. This would help officers at UP POLICE 100 and field staff to continually expand their knowledge, keep themselves updated with the latest changes and hone their skills.
- b. Bidder shall design the e-Learning modules for General IT Skills as well as for the Functional aspects of the overall ER solution e.g. Usage of ACD, IP PBX, HRMS, GIS, CTI, MDT, MIS, and PMS etc.
- c. Bidder should ensure that the e-Learning modules are not limited to Technical aspects of the solution but should also include the SOP's as defined by the GoUP
- d. Bidder should develop, test and deploy e-Learning modules and host them in DC-DR. The bidder should bear all cost related to development, testing and deployment of e-Learning modules

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- e. Bidder should ensure that these e-Learning modules are accessible by the learners at their respective operation centers (through a web-URL based Learning Management System)
- f. For the police personnel on the field, bidder shall design e-Learning module that can be accessed through the MDT devices installed in their vehicles
- g. In order to track the effectiveness of training programmers, Bidder should also provide an online catalogue of e-Learning modules and allow for Training and Competency Assessment through online tests

► Webinar Trainings:

Bidder would also be required to provide a web-based conferencing solution in order to provide additional flexibility to the trainees. The webinars shall act as a powerful medium to provide interactive and high-quality learning experience to the system users when needed

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8.8 Indicative Training Plan

The training plan and number of trainees may be finalized during the contract signing by the agency and GoUP. An indicative training plan along with indicative number of trainees is mentioned below:

Training Basic	Type of Training	Content	Applicability	Duration	Method of delivery	Trainer	Frequency	Indicative no. of trainees
General Training	Induction Training	About UP Police, Call 100 concept, Organizational structure, Overview of emergency response system, Importance, implications, roles and responsibilities, legalities, protocols, performance evaluation, expectations, timings of work, shifts, attendance, work culture, grievance procedure etc.	Call 100 Operations staff, Field staff, District control room staff and Admin Staff	1 Day	Classroom Training	Bidder and UP Police department	Before project Go-live and special classes for new joiners	~3000
	Basic IT Skills	Desktop operations, User admin, application installation, basic computer troubleshooting, Open Office, Operating Systems etc.	Identified Call 100 and field staff	2 days	Classroom Training	Bidder	Before project Go-live and special classes for new joiners	~1750
	Soft Skills	Voice quality, Call etiquettes, control of conversation, professional writing,	Entire UP Police 100 staff and field staff	2 days	Classroom Training	Bidder and UP Police department	Before project Go-live and special classes for new joiners	~3000

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Training Basic	Type of Training	Content	Applicability	Duration	Method of delivery	Trainer	Frequency	Indicative no. of trainees
		self-management and attitude, methods of questioning, stress management, decision making, managing emergencies etc.					Refresher courses to be given during the implementation phase and also as per citizen feedback	
Functional Training	Role based	Individual role and responsibilities, Emergency response centre operations, SOPs, and usage of technology	UP Police 100 staff and identified field staff	1 day	Classroom Training	Bidder	Before project Go-live and special classes for new joiners	~3000
	MDT Functionality	Receiving the case file, interpreting, recording and reporting incidents, updating actions, case closure, updates regarding petrol, driver attendance etc.	Head Constable (field), Constable (field) and Pilot	4 hrs	Classroom Training	Bidder	Refresher courses to be given during the implementation phase	~3000
	MIS Software	Data mining and generation and usage of the following: <ul style="list-style-type: none"> ▶ ACD Reports ▶ Officer Login or Logout Reports ▶ Queue Reports ▶ Abandon Call Reports 	Identified Senior police officials	1 day	Classroom Training	Bidder	Senior officers of UP Police 100 to be trained on a need basis after regular courses	~160

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Training Basic	Type of Training	Content	Applicability	Duration	Method of delivery	Trainer	Frequency	Indicative no. of trainees
		<ul style="list-style-type: none"> ▶ Call by Call Details Report ▶ Officer or CO Performance Reports ▶ Call Volume Reports 						
Operations Centre Training (On-going)	Functional or Operational training on Emergency Response System components and IT basics (for new operators and identified existing personnel)	<ul style="list-style-type: none"> ▶ Basic refresher courses to the selected existing personnel and new operators ▶ Induction training ▶ Instructor Led Training courses on key system components (H or W, S or W) ▶ Soft skills trainings 	Identified UP Police 100, field staff and senior police officials	1 day	Classroom training and e-Learning online modules	Bidder	Before project Go-live and special classes for new joiners Refresher courses to be given during the implementation phase	~130
	Train the trainer	<ul style="list-style-type: none"> ▶ Overview of police emergency concept ▶ Process flow ▶ Role based training for district control room ▶ SOPs ▶ Basic soft skills 	Identified police officers of each district	2 day	Classroom training	Bidder	Before project Go-live	~100

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Training Basic	Type of Training	Content	Applicability	Duration	Method of delivery	Trainer	Frequency	Indicative no. of trainees
	Refresher Trainings for Senior Management	Short e-learning modules like courses on MIS report generation, analysis etc.	Identified Senior police officials	1 day	e-Learning online modules	Bidder	Refresher courses every 3 months	~160

9 Implementation and rollout requirements

Bidder shall plan the rollout of solutions in stages. The indicative stage-wise rollout plan is mentioned in Clause 12 of this section. The requisite hardware and other equipment shall also be rolled out in stages along with the solutions implemented. Bidder will also provide sample design, product and picture of items like uniforms, MDT etc in the proposal and present them during demonstration. The indicative bill of material is provided in Clause 14. The following services at the minimum shall be provided by Bidder as part of implementation and rollout.

9.1 Project planning and monitoring

9.5.1 Bidder is expected to adopt a comprehensive and efficient Project Management methodology to ensure that project milestones are tracked and met. Bidder will be required to finalize the Project plan in order to determine and agree on the project expectations, ground rules, work plan, communication matrix, timelines etc. within 30 days of effective date of signing of the contract with the GoUP. Following activities would be covered under Project planning and monitoring:

- Finalize a set of activities for the project with identification of resource assignments, roles and responsibilities against each activity
- Prepare a project plan including milestones
- Communicate the project plan to stakeholders
- Measure project deadlines and budget utilization figures
- Project Quality Plan shall document specific process elements and the quality actions that the project intends to implement. This shall include the derivation of quality goals, standards followed, schedule of quality assurance activities in the project, defect control, correction and preventive methodology, handling process deviations.
- Configuration Management Plan shall contain procedures to be implemented for managing the configuration of the software solution to be produced by the project. In this plan, bidder shall identify configuration items, responsibilities of configuration controller, access restrictions, directory structure needed for configuration management, procedure for change control, method of tracking the status of configuration items, backup procedure, configuration audits, release management, archival procedure, procedure for version or revision numbering.

9.5.2 The detailed project plan shall clearly specify the various project milestones and project deliverable schedules. It shall also include the following:

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- Project Organization and Management plan
- Software Design and Development plan
- Implementation plan
- Pre-commissioning, Operational and User Acceptance Testing Plan
- Design, Delivery and Installation Plan for Hardware and Network
- Training Plan
- Support Service Plan
- Task, Time, and Resource Schedules (List of tasks, the dependency among the tasks, the duration to perform the tasks, the resources allocated to perform the tasks, the scheduled start and finish dates for the task)
- Post-support Service Plan
- Technical Support Plan
- Quality Assurance and Control Process details which must include (but not limited to) detailing on Metrics, Reviews, Problem Reporting and Corrective action etc.
- Technical and Operational Process which must include (but not limited to) detailing on Methods, Tools, Techniques etc.

9.5.3 The detailed project plan shall be internally reviewed for completeness and correctness by Bidder and subsequently delivered to the GoUP for its review and acceptance. The mutually agreed Project Plan will form the basis for regular project monitoring.

9.5.4 Bidder shall hold fortnightly review meetings with the GoUP providing detailed report on the progress of the project (Project Progress Report) clearly highlighting the activities completed in the reporting period, activities planned for the next reporting period, deviations from the planned dates, issues or concerns affecting the project progress, impact on the overall project timelines, project related risks with their mitigation plans.

9.5.5 Bidder shall ensure proper configuration management functions are being performed as per the configuration management plan. Bidder's Project Manager shall review the activities periodically.

9.5.6 Bidder's independent quality assurance team shall conduct regular reviews of the project and ensure that the project adheres to the project plan documents.

9.2 **Software development, customization, rollout of applications**

9.2.1 Guidelines for software development and testing

9.2.1.1 Bidder needs to setup the Development and Testing, Staging, Production environments and should be separate at the DC-DRC, establish the required secure connectivity of its development centers with the DC-DRC and carry out the development and testing exercise from its development centers. Staging and Production environment will be deployed at both DC-DRC separately.

9.2.1.2 Bidder shall be responsible for installation and roll-out of all the solution components at all the identified project locations

9.2.1.3 Bidder shall ensure that the COTS solution, if any selected are such that they are configured or customized with minimal modifications to the source code.

9.2.1.4 Bidder shall implement quality standards like CMM or CMMi for the entire life cycle of the project. The quality process shall include adequate processes for coding, change

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management, defect tracking, testing, review as per the Software Development Life Cycle processes that shall ensure a high quality system

9.2.1.5 The following sections describe the development activities based on traditional development methodology to be performed by the Bidder.

9.2.2 Software Requirement Analysis and Specification

9.2.2.1 Software Requirement Analysis and specification is a key stage in the project and recognizing its pivotal role in the subsequent phases, sufficient time will be provided to the bidder to capture the requirements from all the project stakeholders accurately.

9.2.2.2 Bidder shall understand the processes related to Emergency Response Systems and other related documents and seek clarifications from the GoUP, if any. Bidder shall then hand over these documents to the GoUP.

9.2.2.3 Bidder shall interact with the stakeholders such as agency, Internet Service Providers (ISP's) and other associated agencies etc. as well as the GoUP project team to gather requirements. It is expected that Bidder gathers requirements through structured questionnaires, focused discussions with different stakeholders.

9.2.2.4 If found necessary to modify the designed processes and other documents for successful implementation, the same shall be discussed and the relevant documents shall be modified as and when required during the solution implementation

9.2.2.5 After the requirements analysis, Bidder shall prepare all type of technical documentation like software requirement specification (SRS), FRS, design documents etc. SRS shall contain the objectives and scope of the overall Emergency Response (ER) system, the various levels of requirements, the process model, data model, data dictionary etc. User Role wise mapping to the various business functions with details regarding their access rights (insert or update or delete or view etc.) shall also be included in this document. Acceptance Criteria shall also be included explicitly promoting clear understanding with the GoUP about what it considers acceptable.

9.2.2.6 The SRS document shall be reviewed and approved by the GoUP.

9.2.3 Software Design specifications

9.2.3.1 In this phase, Bidder shall develop a logical view of the Emergency Response solution to meet the GoUP and other stakeholder requirements. This logical view shall consist of the functional architecture of the application and the new database design. Bidder shall also define standards for coding, documentation; user interfaces etc., if the same is not already defined.

9.2.3.2 Bidder shall document the high level design as System Design Document (SDD) consisting of project standards, the functional design and the database design. The SDD document shall be reviewed and approved by the GoUP.

9.2.4 Preparation of Databases design

9.2.4.1 Bidder shall design the Logical Data Model of all the Databases as proposed for the ER Solution e.g. Location Database, Case Record Management Database, MDT Database, GIS Database etc. based on the understanding of the information needs of the GoUP and existing information items. The Logical Data Model shall include the definition of data structure or schema diagram and data dictionaries and metadata developed explaining specific entities, relationships and dimensions identified as a part of the Logical Data Model.

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9.2.5 Build Stage – Coding and Unit Testing

9.2.5.1 Bidder shall carryout detailed design (Low Level Design, High Level Design), Coding and Unit testing and document should be approved by the bidder architect. And all release plans should be approved by GoUP. GoUP may opt to get third party agency for SPQC testing.

9.2.6 Regression Testing

9.2.6.1 For any subsequent changes, enhancements to the applications or fixes made to any bugs or defects in the applications, it shall be bidder's responsibility to perform comprehensive regression testing on the system to ensure that the existing applications work as expected even with the new changes.

9.2.6.2 It shall be bidder's responsibility to create the Regression Testing Plan and Test Scripts with all possible scenarios.

9.2.6.3 Bidder may use an automated testing tool for quicker execution of Regression Test Cases if it so desires

9.2.7 Roll out

9.2.7.1 Bidder, in coordination with the GoUP, shall set up the production environment at the Data Centre and Disaster recovery, install all the applications in the production environment, create application databases, application user profiles, load the legacy data etc. Production environment would not be accessible through Bidder's Development Centre. It would be accessed only through the Monitoring Centre of the GoUP.

9.2.7.2 Bidder shall coordinate with the GoUP to resolve any problems encountered during or after rollout. All post implementation issues shall be documented and the necessary fixes or resolutions shall be implemented by the Bidder.

9.2.7.3 Bidder shall ensure that necessary support is provided to resolve defects. Bidder shall document the defects or bugs encountered during this phase as well as document the resolution of the same. Bidder shall also prepare and maintain a database of Consolidated List of Common Errors and their Resolution.

9.2.7.4 The bidder should transfer all the software development documents like Software Requirement Specifications, design document etc., configuration of both hardware, software including Operation System, custom built software or executables or application and the customized components of COTS applications or systems, implemented during execution of this project, to the GoUP at the time of acceptance procedures of various Phases of the project. In the case of custom built software or customized components of COTS applications the SI should transfer the customized component source code to the GoUP to ensure that the GoUP may independently undertake any changes to the system at a later stage.

9.2.7.5 The bidder should update the development environment in synchronization with the production environment at the DC sites at the time of acceptance of various Phases of the project. This is important to ensure the concurrency of data across all the environments.

9.2.7.6 The bidder should ensure that all solutions are sized adequately to meet the acceptance criteria. In case additional servers, equipment, components, sub-components, licenses

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etc. are required to meet the acceptance criteria, the same will have to be provisioned by the Bidder at no additional cost to the GoUP and without any project delays.

9.2.8 Change Requests Management

9.2.8.1 The bidder should note that the system should be designed so that any rules, alerts, triggers, reports as required by the GoUP should be catered to. The bidder is required to study the requirements and present the required changes in the system to the GoUP and implement the changes in the system. The Bidder should define a formal process to manage the requirement changes as defined for illustration below:

9.2.8.2 The GoUP shall be responsible to present the change requests initiated by user-groups and forward to the selected bidder.

9.2.8.3 The bidder should assess the need to implement the suggested changes, take necessary approvals to implement the suggested changes and present the change control note to the GoUP for approvals.

9.2.8.4 Bidder shall maintain a change request log to keep track of the change requests. Each entry in the log shall contain a Change Request Number, a brief description of the change, the effect of the change, the status of the change request, and the key dates.

9.2.8.5 Bidder shall assess the effect of the change by performing impact analysis.

9.2.8.6 Bidder shall maintain the change request log with updated information and provide the same to the GoUP as and when desired.

9.2.9 Performance Testing

The bidder shall carry out the performance test run of the complete system after satisfactory installation or implementation. Training of identified officers of UP POLICE 100 and OMC shall be done as in consultation with the GoUPs.

9.3 Installation, Commissioning and Rollout of servers and all IT hardware

The Bidder is expected to undertake the following tasks with respect to roll-out of hardware:

9.3.1 Planning and Scheduling for Installation and commissioning of hardware and equipment at all the locations including Data Centre and Disaster Recovery Center sites, Monitoring Centre, UP POLICE 100, OMC, Other sites like DHQ, Mobile Police Vehicles, etc.

9.3.2 Pre-installation planning at all the locations including Monitoring Centre, UP POLICE 100, OMC, Mobile Police Vehicles, Data Centre, Disaster Recovery but not limited to space planning, structured cabling, power points, check on utility services, environmental conditions, etc.

9.3.3 Delivery, Installation and commissioning of the hardware servers and related equipment in the DC and DRC sites shall be carried out by Bidder.

9.3.4 The plan and layout design for the placement of equipment in the provisioned datacenters is required to be carried out by Bidder. Bidder shall provide an elevation plan for each of the DC and DRC sites for housing of the servers and other equipment.

9.3.5 The plan and layout design for DC and DRC sites shall be developed in a manner so as to optimally and efficiently use the resources and facilities available or being provisioned

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- at the respective datacenters and disaster recoveries viz. space, racks, power, air-conditioning, cabling, etc.
- 9.3.6 The plan and design documents thus developed shall be submitted to the GoUP for approval and the acceptance shall be obtained prior to commencement of installation.
- 9.3.7 Bidder shall carry out installation of equipment in accordance with plans and layout design as approved by the GoUP.
- 9.3.8 MDT and Radio device Distribution, Installation, Configuration in the vehicles:
- 9.3.8.1 The bidder shall be responsible for distribution of Radio devices and MDT devices and the associated accessories like MDT Docking stations, wiring etc. at the offices of the respective Police departments. Bidder has to visit to the district level to place the MDT and Radio devices in vehicles. If due to any operational constraints, some police vehicles are not able to join the MDT and Radio device installation drive at the office on the given date(s), the bidder shall hand over the MDT and Radio devices to a person-in-charge (duly identified by the GoUP and trained on MDT and Radio device installation and configuration by the bidder's master trainers). The GoUP identified personnel shall then be responsible for installation and configuration of the devices in vehicles at the respective police stations.
- 9.3.8.2 Bidder shall be responsible for installation and configuration of the software including, but not limited to, Operating System (OS), System software, etc. on the servers shall be responsibility of Bidder. Bidder shall also tune parameters for optimal performance of the OS.
- 9.3.8.3 Bidder shall undertake necessary changes to harden the OS to prevent against malicious and unwarranted attacks.
- 9.3.8.4 The tuning of appropriate parameters in the application, database etc. software to ensure optimal performance shall also be undertaken.
- 9.3.8.5 Bidder shall undertake Installation and configuration of clustering software wherever provisioned.
- 9.3.8.6 Configuration or re-configurations or tuning of all the installed equipment and software
- 9.4 Integration and testing of installed systems or subsystems or equipment or Software
- 9.4.1 Bidder shall facilitate solution acceptance testing and certification by coordinating and providing complete support to the nominated agency for acceptance testing and 3rd party audit certification
- 9.4.2 Bidder shall provide for testing of changes or updates or patches in the testing environment before applying them on production environment
- 9.5 Development and Test Environment
- 9.5.1 It would be required to deploy a separate set of servers for Development and Test environment where all the new services will be developed and deployed before it is brought on to the staging and production servers. There shall be provision of the hardware for separate Development and Test System for each software application so that staging and production system shall not get affected in case of application of patches, versions change etc. The development and testing server shall make provision for all different system software platform used along with all required compilers and libraries. It shall have all application software and utilities along with the provision to customize and test the applications. It shall also have provision for version control and version management. Test and Development set up shall be the exact miniature replication of production

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environment in 3-tier architecture with hardware as per sizing from respective application vendors.

9.6 Staging Environment or QA

9.6.1 A staging environment or QA environment will be having everything as closely replicated to the production environment as possible to maximize the chances of finding any bugs before any release of the software in production. Even the hardware that is used for the staging environment is often the same as the hardware used in the production environment.

9.6.2 Production Environment

9.6.3 In Production environment, software and other products are actually put into operation for their intended uses by end users. Bidder needs to make sure the following activities in production environment.

- i. Plan releases as per the requirements for the approved changes
- ii. Build release packages for the deployment for approved changes into production
- iii. Test and implement procedures (mechanisms) for the distribution of approved changes to production environment
- iv. Effectively communicate and manage expectations of the customer or internal stakeholders or end customer during the planning and rollout of new releases
- v. Monitor, Control, and Report the distribution and installation of changes to all concerned stakeholders
- vi. Deploy the release as per release guidelines

9.7 Preparation of Technical and End-User Documents

9.7.1 Bidder is expected to prepare technical documents including but not limited to:

9.7.2 Inception Report containing the project plan

9.7.3 Software Requirement Specifications Document (SRS)

9.7.4 Software Design Document (SDD) consisting of the following:

9.7.5 Functionality requirements of Applications (with internal and external access)

9.7.6 Server Side Detailed Hardware Specifications including related networking components

9.7.7 Software Development Document which will contain documentation pertaining to the development of each unit or module, including the code or software, approvals, etc.

9.7.8 Unit and Integration Testing Plan and Procedure

9.7.9 User Acceptance Testing Plan and Procedure

9.7.10 Test cases for all tests

9.7.11 Test input data set, test results

9.7.12 Hardware configuration Documents

9.7.13 Network and Security Configuration Documents

9.7.14 Version Control Mechanism document

9.7.15 Operational Procedures Manual

9.7.16 Roll Out Completion Report

9.7.17 Contingency Plan document containing emergency response procedures; backup arrangements, procedures, and responsibilities; and post-disaster recovery plans, procedures and responsibilities

9.7.18 Exit Management Plan

9.7.19 Bidder must ensure that the Emergency System modules that are being developed are thoroughly documented with comprehensive manuals and adhere to standard

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methodologies in software development as per ISO and or CMM models. The documents including but not limited to are:

- 9.7.20 Quality Assurance or Testing Plan documenting containing information on the software test environment to be used for independent testing, the test cases to be performed, and the overall testing schedule to ensure that the software developed will conform to the functional and technical requirements with traceability to those requirements. This includes methodology, schedule, resources, tools, procedures, environment definition, test cases, and software test results.
- 9.7.21 Documentation on interface characteristics of one or more systems and documents agreements between interface owners e.g. integration with Telecom service providers etc. as envisaged through this solution. This document should contain information on both the physical and data element requirements that are necessary to make the transfer of information between the two different systems feasible.
- 9.7.22 Preparation and maintenance of end-user documents including but not limited to user manuals. The manuals and documents etc. shall be in English and in soft and or hard copy and equal to the number of the deliverables. Some of the user manuals are:
- 9.7.23 Operations Manual providing instructions for installing the application, troubleshooting, interpreting message logs, and FAQs (Frequently Asked Questions)
- 9.7.24 Maintenance Manuals
- 9.7.25 Administration Manual
- 9.7.26 Security Manual
- 9.7.27 Applications manual and others (if any) as per acceptable standards
- 9.7.28 Systems Manual Detailing the data structure, table, forms and report structures.
- 9.7.29 Installation and maintenance manual for the servers and other hardware, Trouble Shooting Guide or Handbook for helpdesk which describes the various trouble shooting methods

10 Ongoing Administration and Maintenance requirements

10.1 Operational Support

This section describes the operational requirements of the project including project management requirements, acceptance testing and certification and solution maintenance and support. Bidder shall provide operational support and maintenance services for the contract period at the Monitoring Centre, UP POLICE 100, OMC, DC and DRC sites and other project locations. Operational support shall ensure that the system is functioning as intended and meeting the service levels. Operational support will include:

- 10.1.1 Project status reporting
 - Bidder shall submit progress reports on periodic basis. The progress report shall include the following:
 - 10.1.1.1 Tasks completed or Results achieved during the period (fortnight)
 - 10.1.1.2 Tasks or Results to be completed in the subsequent period
 - 10.1.1.3 Cumulative deviations to date from schedule of progress on milestones Corrective actions to be taken to return to planned schedule of progress; Revision to planned schedule provided
 - 10.1.1.4 Other issues and outstanding problems, and actions to be taken from each stakeholder
- 10.1.2 Software solution maintenance
 - 10.1.2.1 The objective of application maintenance is to provide application maintenance and support services, including request based services (problem requests or defect fixes),

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enhancements, configuration management and post release support. As part of these services,

- 10.1.2.2 Bidder shall provide support for bug fixes, enhancements, operational support, and assistance to the GoUP.
- 10.1.2.3 Bidder should be required to undertake the Application maintenance and Support services. This service should not be sub contracted to third party.
- 10.1.2.4 Bidder should commit to provide all necessary resources and expertise to resolve any issues and carry out required changes, optimizations and modification so that complete system as a whole works according to the specified requirements and satisfaction of the GoUP.
- 10.1.2.5 Bidder should ensure that the entire solution as a whole is operational and run according to stipulated performance standards.
- 10.1.2.6 Bidder should ensure efficient knowledge transfer on a continuous basis so as to ensure that application knowledge is passed on to new members subsequently joining the team.
- 10.1.2.7 The services that bidder needs to provide during this phase shall include:
 - i. Bug-fixes and end-user problem resolution
 - The end user support shall include all activities related to resolving the bugs or defects reported by solution users. Every bug or defect shall be logged. Every bug or defect shall be categorized on the severity levels.
 - Bidder shall identify the solution and take necessary approvals from the GoUP and release the patch for UAT after fixing the defects.
 - Bidder shall document defects or bugs encountered as well as document the resolution of the same.
 - Ensure re-installations, in the event of system crash or failures
 - ii. New development and enhancements
 - The solution may require modifications or enhancements in the functionality. The enhancements or new development may also be required to fix some complex problem requests or defect fixes.
 - Bidder shall ensure that correct version of the application or program units are being considered to carry out application enhancements or new development through configuration management plan for configuration management and version control using the version control software.
 - Bidder shall support the GoUP in carrying out the UAT for the modifications or enhancements.
 - iii. Configuration management and Version Control
 - As the solution and its underlying component applications, Servers, Network, storage, databases undergo enhancements and modifications due to problem requests, upgrades and patches provided by the vendors and OEMs, defect fixes and change requests, it becomes increasingly important to have version control on

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the deployed applications, Track all the configuration changes in the and report changes at regular intervals to the GoUP.

- Bidder should adhere to the configuration management process as defined in conjunction with the GoUP

iv. Release management

- Release management procedure shall be defined in conjunction with the GoUP to ensure smooth transition of the application changes from release environment to production environment.
- As part of the release management, Bidder shall perform the following activities:
 - Bidder shall group the related change requests, assess their development progress and accordingly prepare a schedule for their release
 - Bidder shall in consultation with the GoUP prepare a detailed release plan for every release. This plan shall include the release number and date of release. It shall also contain details about the change request to be released.

v. Maintenance of post implementation support environment

- Bidder should provide an environment with the necessary application and database licenses, development and run-time licenses for solutions proposed, etc. to support post implementation activities such as debugging of problems reported, enhancements or developments, subsequent user acceptance, etc.
- Bidder would be responsible for ensuring appropriate OS, Database versions and patches are installed on the respective servers in this environment.

10.1.3 AMC Administration

10.1.3.1 The bidder should ensure availability of AMC support with all the OEMs for proposed software and hardware components. This AMC support period should commence from the deployment of software and hardware components till the end of contract.

10.1.3.2 Bidder should track the Annual Maintenance Contracts for all the IT assets at the locations identified for the project: Data center and Disaster Recovery Center, Monitoring Center (SOC and NOC), UP POLICE 100, OMC, Radio devices, Mobile devices Terminals and

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official locations and initiate procedure for renewal of the same at appropriate points in time.

10.1.4 Software Inventory Management

10.1.4.1 Manage Software licenses of all types including OEM, node locked, server based, floating, time bound, CAL, Enterprise, concurrent, Volume Licensing, trial, free, open source etc.

10.1.4.2 Provide license compliance reports, listing all used and unused assets or licenses

10.1.4.3 The software licenses should not be restricted to a location

10.1.4.4 Maintain an inventory for all software components – details of software version, patches installed, and details of the server where the software is installed

10.1.5 IT infrastructure management

10.1.5.1 The Bidder shall provide complete support for the entire IT infrastructure of the system including all the items supplied or procured and installed as part of the contract, for the contract period.

10.1.6 Administration of System, Database and Network

10.1.6.1 Bidder will be required to perform tasks including but not limited to setting up servers, configuring and apportioning storage space, creating and updating of information about Police officials, vehicles etc., management and integration of databases, implementing security on the Internet or Intranet, setting up of firewalls and authorization systems, performing periodic backup of data and automating reporting tasks, and executing hardware and software updates when necessary in accordance with guidelines as specified by the GoUP

10.1.6.2 Bidder should assign onsite support as specified in the clause 7, Manpower details to diagnose, troubleshoot and resolve issues with the equipment or components supplied. The onsite support should possess capability for supporting the equipment and components proposed, but not limited to undertaking preventive and break-fix maintenance, troubleshooting, resolving problems, tuning, etc.

10.1.6.3 The Bidder shall be responsible for tasks including but not limited to setting up servers, configuring and apportioning storage space, account management, performing periodic

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backup of data and automating reporting tasks, and executing hardware and software updates when necessary.

- 10.1.6.4 The Bidder shall provision skilled and experienced manpower resources to administer and manage the entire IT Infrastructure solution at the Data Centre and Disaster recovery center.
- 10.1.6.5 Bidder may be required to assist the system users in performing periodic health check of the systems, troubleshooting problems, analyzing and implementing rectification measures.
- 10.1.6.6 The Bidder shall implement and maintain standard operating procedures for the maintenance of the IT infrastructure based on the policies formulated in discussion with GoUP and based on the industry best practices or frameworks. The Bidder shall also create and maintain adequate documentation or checklists for the same.
- 10.1.6.7 The Bidder shall be responsible for managing the user names, roles and passwords of all the relevant subsystems, including, but not limited to servers, other devices, etc. The bidder will be required to set up the Directory server
- 10.1.6.8 Bidder will be responsible for not only the new systems provided as part of this tender but also ensuring the upkeep of existing systems that would be reused and also incorporate necessary changes for new applications if any during the tenure of the contract.
- 10.1.6.9 On an ongoing basis, Bidder shall be responsible for troubleshooting issues in the infrastructure, network and applications for the centralized ER solution to determine the areas where fixes are required and ensuring resolution of the same.
- 10.1.6.10 Bidder should be responsible for identification, diagnosis and resolution of problem areas pertaining to the solution and maintaining assured SLA levels.
- 10.1.6.11 The Bidder shall be responsible for management of passwords for all relevant components and devices under his purview and implement a password change mechanism in accordance with the security policy formulated in discussion with GoUP and based on the industry best practices or frameworks like ISO 27001, ISO 20000 etc.
- 10.1.6.12 The administrators will also be required to have experience in latest technologies like virtualisation and cloud computing so as to provision the existing and applicable infrastructure on a requirement based scenario
- 10.1.6.13 Bidder may be required to manage the user names, roles and passwords of all the relevant systems, including, but not limited to servers, applications, devices, etc. Bidder may be required to manage passwords for all relevant components and devices under

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their purview and implement a password change mechanism in accordance with the security policy of the GoUP. User account management includes and is not limited to:

- i. Setting up new user accounts for all system users
- ii. Granting access and review
- iii. Removal of user accounts
- iv. Privilege management
- v. Password management
- vi. Access to OS, databases and applications
- vii. Monitoring access and usage
- viii. Logging
- ix. Session time-out

10.1.6.14 Bidder should be responsible for the synchronization of system clocks and automatic lockout of the terminal after defined inactivity time.

10.1.6.15 Bidder should be responsible for maintenance of logs of user Internet activity, failed login attempts, etc.

10.1.6.16 Bidder will be required to download the patches and updates for OS, Anti-virus, firewalls, IPS, IDS, RDBMS and other systems using a two-step procedure. In the first step, patches and updates should be downloaded to a standalone system. In the second step, the patches and updates should be updated to the relevant systems.

10.1.6.17 Bidder should provision a dedicated team consisting of Operations Centre Manager, System Administrator, Network Administrator and Database Administrator etc. for a minimum period specified in Clause 7, Section 5 to perform the activities mentioned in the following sections:

- i. System administration:
 - System administration services for management of server environment to maintain performance at optimum levels.
 - 24*7*365 monitoring and management of the servers in the Data Center and Disaster recovery center.
 - The Bidder shall ensure proper configuration of server parameters. The Bidder shall be the single point of accountability for all hardware maintenance and support the IT infrastructure at the DC and DRC.
 - Operating system administration, including but not limited to management of users, processes, resource contention, preventive maintenance and management of patches to ensure that the system is properly updated. Bidder is also responsible for re-installation in the event of system crash or failures.
 - Bidder shall also ensure that the bottlenecks in the infrastructure are identified and fine tuning is done for optimal performance.
 - Facilitate application migration in coordination with application owners or GoUPs
 - The Bidder shall appoint system administrators to regularly monitor and maintain a log of the monitoring of servers to ensure their availability to the GoUP at all times.
 - Regular analysis of events and logs generated in all the sub systems including but not limited to servers, operating systems, databases, applications, security devices, messaging, etc. Bidder shall undertake actions in accordance with the results of the

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log analysis. The system administrators shall also ensure that the logs are backed up and truncated at regular intervals.

- Adopt a defined process for change and configuration management in the areas including, but not limited to, changes in parameter settings for application, servers, operating system, devices, etc., applying patches, etc.
- Managing the trouble tickets, diagnosis of the problems, reporting, managing escalation, and ensuring rectification of server problems as prescribed in SLA.
- Bidder shall provide administration services related to user access including administrative support for user registration, creating and maintaining user profiles, granting user access and authorization, providing ongoing user password support for users.
- The system administrators should provide hardening of servers in line with the defined security policies
- The system administrators should provide integration and user support on all supported servers, data storage systems etc.
- The system administrators should provide directory services such as local LDAP services and DNS services and user support on all supported servers, data storage systems etc.
- The system administrators will be required to trouble shoot problems with web services, application software, desktop or server relationship issues and overall aspects of a server environment like managing and monitoring server configuration, performance and activity of all servers.
- Documentation regarding configuration of all servers IT Infrastructure etc.
- The administrators will also be required to have experience in latest technologies like virtualization and cloud computing so as to provision the existing and applicable infrastructure on a requirement based scenario

ii. Storage Administration

Certain minimum deliverables sought from the Bidder with regards to Storage Administration are provided below:-

- The Bidder shall be responsible for the management of the storage solution including, but not limited to, storage management policy, configuration and management of disk array, SAN fabric or switches, virtual tape library, etc.
- The Bidder shall be responsible for storage management, including but not limited to management of space, SAN or NAS volumes, RAID configuration, LUN, zone, security, business continuity volumes, performance, etc.
- GOUP would additionally remotely manage the storage system and components and appropriate setup should be provided by the Bidder
- The storage administrator will be required to identify parameters including but not limited to key resources in the storage solution, interconnects between key resources in the storage solution, health of key resources, connectivity and access rights to storage volumes and the zones being enforced in the storage solution.
- The storage administrator will be required to create or delete, enable or disable zones in the storage solution
- The storage administrator will be required to create or delete or modify storage volumes in the storage solution
- The storage administrator will be required to create or delete, enable or disable connectivity and access rights to storage volumes in the storage solution
- To facilitate scalability of solution wherever required.

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- The administrators will also be required to have experience in latest technologies like virtualisation and cloud computing so as to provision the existing and applicable infrastructure on a requirement based scenario
- iii. Security administration
- Management of security environment to maintain performance at optimum levels.
 - Address ongoing needs of security management including, but not limited to, monitoring of various devices or tools such as content filtering and blocking, virus protection and vulnerability protection through implementation of proper patches and rules.
 - Maintain an updated knowledge base of all the published security vulnerabilities and virus threats for related software, including, but not limited to, operating systems,

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application servers, web servers, databases, security solutions, messaging solutions, etc.

- Ensure that patches or workarounds for identified vulnerabilities are patched or blocked immediately.
- Respond to security breaches or other security incidents and coordinate with respective OEM in case of a new threat is observed to ensure that workaround or patch is made available for the same.
- Maintenance and management of security devices, including, but not limited to detecting intrusions or unauthorized access to networks, systems, services, applications or data, protecting email gateways, servers, desktops from viruses.
- Operating system hardening through appropriate configuration and patch updates on a regular basis.

iv. Database administration

- Management of database environment to maintain performance of each database at optimum levels
- End-to-end management of the databases on an ongoing basis to ensure smooth functioning of the same
- Tasks including, but not limited to managing changes to database schema, disk space, storage, user roles.
- Conduct code and configuration reviews to provide inputs to the GoUP in order to improve the performance or resolve bottlenecks if any.
- Performance monitoring and tuning of the databases on a regular basis including, preventive maintenance of the database as required.
- Back up of data. Report backup status on a regular basis.
- Manage database patch update as and when required with minimal downtime.
- Bidder shall co-ordinate with Datacenter operators or engineers for back-up activities.
- Use of DBA tools to perform database creation, maintenance and database monitoring related tasks.
- Management of storage environment to maintain performance at optimum levels.
- Management of the storage solution including, but not limited to, storage management policy, configuration and management of disk array, SAN, Virtual tape library, etc.

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- Storage management, including but not limited to management of space, volume, RAID configuration, LUN, zone, security, business continuity volumes, performance, etc.

v. Backup or Restore

- The Bidder shall be responsible for backup of storage as per the policies of GoUP at the DC and DRC. These policies would be discussed with the Bidder at the time of installation and configuration.
- The Bidder shall be responsible for monitoring and enhancing the performance of scheduled backups, schedule regular testing of backups and ensuring adherence to related retention policies
- The Bidder shall be responsible for prompt execution of on-demand backups of volumes and files whenever required by GoUP or in case of upgrades and configuration changes to the system.
- The Bidder shall be responsible for real-time monitoring, log maintenance and reporting of backup status on a regular basis. The Bidder shall appoint administrators to ensure prompt problem resolution in case of failures in the backup processes.
- The administrators shall undertake media management tasks, including, but not limited to, tagging, cross-referencing, storing, logging, testing, and vaulting in fire proof cabinets (onsite and offsite).
- Backup should be available on the network also.
- The Bidder shall also provide a 24 x 7 support for file and volume restoration requests at the Data Centre and Disaster recovery center.

10.1.7 Network Monitoring

- 10.1.7.1 Provide services for management of network environment to maintain performance at optimum levels.
- 10.1.7.2 The Bidder shall provide services for management of network environment to maintain performance at optimum levels on a 24 x 7 basis.
- 10.1.7.3 The Bidder shall be responsible for monitoring and administering the network within the DC and DRC up to the integration points with WAN. The Bidder will be required to provide network related services for routers, switches, load balancer, NTP services etc.
- 10.1.7.4 The Bidder shall be responsible for creating and modifying VLAN, assignment of ports to appropriate applications and segmentation of traffic.
- 10.1.7.5 The Bidder shall co-ordinate with the DC and DRC Site Preparation agency in case of break fix maintenance of the LAN cabling or maintenance work requiring civil work.
- 10.1.7.6 Coordinating with the Network Provider and ensure integration and monitoring of the network within the DC and DRC sites, Monitoring Center, UP POLICE 100, OMC and other locations etc.
- 10.1.7.7 Polling or collecting of server, devices and desktops security logs from all the systems on Network at pre-defined intervals.
- 10.1.7.8 Ensure smooth routing of network traffic to the active DC and DRC site in case of disaster or drill.

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10.1.8 DC and DRC Operations and Administration

- 10.1.8.1 The Bidder shall provide comprehensive onsite support to GoUP on a 24 x 7 x 365 basis to ensure an uptime of 99.9% for the IT infrastructure solution at the Data Centre and Disaster recovery center in accordance with the Service Level Agreement mentioned as part of this tender.
- 10.1.8.2 The Bidder shall commit to provide all necessary manpower resources onsite to resolve any issues or incidents and carry out required changes, optimizations and modification.
- 10.1.8.3 Bidder is responsible to resolve any problems and issues related to the datacenter.
- 10.1.8.4 Bidder is responsible to make any changes that may be required towards the placement and layout of infrastructure within the datacenter.
- 10.1.8.5 Prepare a list of equipment, software and configuration installed in the datacenters and the same shall be approved by the GoUP. Bidder shall maintain and modify the list in accordance to the modifications.
- 10.1.8.6 Any breach of security or non-compliance on part of the datacenter facilities should be immediately brought to the notice of the GoUP with suggestions for improvements.
- 10.1.8.7 Maintain at the datacenter, a log of all Bidder personnel entering or visiting the datacenter. Such a log should be provided to the GoUP whenever required.
- 10.1.8.8 Manage an inventory of critical components and spares that are provisioned onsite and co-ordinate with the OEM to ensure replenishment of the same whenever required.
- 10.1.9 Disaster Administration
 - 10.1.9.1 Bidder shall provide services for management of disaster environment to maintain performance at optimum levels and as required in case of a disaster or drill.
 - 10.1.9.2 Bidder shall ensure that Disaster documentation is up to date and the site is in full readiness for switch over in case of any disaster.
 - 10.1.9.3 Bidder shall manage the data synchronization processes in co-ordination with the DC provider to ensure that data and application is updated at DC site.
 - 10.1.9.4 Bidder shall ensure that configuration of equipment and application maintained at the DC site is replicated regularly at the DRC site and vice versa.
 - 10.1.9.5 Mock drills and plan updates shall be carried out once or twice in a year and report submitted to the GoUP as per GoUP policy.
 - 10.1.9.6 Bidder shall test, review and monitor the business continuity plan bi-annually for its effectiveness and provide test results to the GoUP.
 - 10.1.9.7 Bidder shall provide training to the GoUP users in order to apprise them of the Disaster plan and of their involvement for business continuity.
 - 10.1.9.8 Bidder has to ensure restoring all databases, servers etc. as per disaster and recovery policy of the GoUP.

10.1.10 Software Change Management

- 10.1.10.1 Bidder shall be responsible for managing the changes that happen to the DC and DRC sites setup on an ongoing basis, including but not limited to, changes in hard or soft configurations, changes to system software, changes to policies, applying of updates or patches, etc.
- 10.1.10.2 Bidder shall undertake planning required for changes, draw up a task list, decide on responsibilities, co-ordinate with the GoUP users, establish and maintain communication

with the GoUP to identify and mitigate risks, manage the schedule, execute the change, ensure and manage the port change tests and documentation.

10.1.11 MIS Reports

The following is an indicative list of MIS reports. The Bidder should draw an exhaustive list of reports along with the GoUP. Bidder should submit the reports on a regular basis in a mutually decided format.

10.1.11.1 Weekly reports

- Log of backup and restoration undertaken.
- Log of component-wise downtime, replaced components at the Data center and Disaster recovery center
- Summary of resource utilization of critical components

10.1.11.2 Fortnightly reports

- Project Progress Report with schedule slippage details
- Overall performance reports including the analysis of queries completed, queries pending, queries escalated, completion time, responsiveness, concern areas, etc.
- Network availability report
- Summary of resource utilization of all components in the Data Center and Disaster recovery center
- Summary of measured end user application response time for selected business transaction

10.1.11.3 Monthly reports

- Network Availability and Utilization Report
- Asset modification report at Monitoring Centre, UP POLICE 100, OMC, Field locations (for MDT and Radio devices), DC, DRC and other locations.
- Summary of component wise uptime in the DC and DRC sites
- Summary of resource utilization of all components in the DC and DRC sites
- Log of preventive or break-fix maintenance undertaken
- Summary of usage of tape media provisioned.
- Summary of changes undertaken in the DC and DRC sites including major changes like configuration changes, release of patches, database reorganization, storage

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reorganization, etc. and minor changes like log truncation, volume expansion, user creation, user password reset, etc.

- Consolidated SLA or non-conformance report

10.1.11.4 Quarterly Reports

- Asset database report and Asset Audit report
- Summary of incidents reported like Application down, Components down, overall downtime, security vulnerabilities detected, hacker attacks or security threats, peaking of utilization etc.
- Feedback report from users for the services rendered.

10.1.11.5 Incident Reporting (as and when it occurs)

- Complete system down – with root cause analysis
- Peaking of resource utilization on any component
- Bottlenecks observed in the system and the possible solutions and workarounds.

10.1.11.6 Security Incident Reporting (as and when it occurs)

- Detection of security vulnerability detection with the available solutions or workarounds for fixing
- Hacker attacks, Virus attacks, unauthorized access, security threats, etc. – with root cause analysis and plan to fix the problems.
- Any hazards or events like fire, environmental conditions, physical security, etc. at the Data Center and Disaster recovery center.

10.1.11.7 System Reports (as and when it occurs)

- System reports should be generated based on State, district, zone, range, village level etc.
- The following are the minimum MIS reports of the system. Detail of each report is defined in section 5 and 5 A. There should be a provision to generate the other reports based on the GoUP requirement on later stages of the project
 - 1) Automatic call distribution reports – Officer Login and logout
 - 2) Officer state changes report
 - 3) Queue report
 - 4) Abandon call report
 - 5) Call by calls detail report
 - 6) Communication officer performance report
 - 7) Call volume report
 - 8) Call detail report
 - 9) Outbound calls report
 - 10) Non voice call cases report
 - 11) GIS Analysis report
 - 12) Response time report
 - 13) Dispatch cases report
 - 14) Vehicle status report
 - 15) Physical Disable citizen cases report
 - 16) Hot spot analysis report
 - 17) Trend Analysis report
 - 18) Suspect Analysis report
 - 19) Crime forecasting report

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- 20) Journey to crime report
- 21) Repeat Callers report
- 22) Change over Time mapping report
- 23) Neighborhood Analysis report
- 24) Serial sex offender tracker report
- 25) Patrol Charts report
- 26) Crime against women report
- 27) SMS delivery report
- 28) Officer Attendance report
- 29) HRMS report
- 30) Finance management report
- 31) Asset Management system report
- 32) Field POI collection report etc.

10.1.11.8 SLA Reports

- All type of reporting should be submitted periodically as per SLA measurement interval to the GoUP
- The following are the minimum SLA reports of the different components. Detail of each component is defined in clause 43.8 under section 3. There should be a provision to generate the other reports based on the GoUP requirement on later stages of the project
 - 1) UP POLICE 100 and OMC related performance levels report
 - 2) Other site (75 Districts, 8 police zones, 18 ranges, 25 Police units) related performance levels reports
 - 3) Data center and Disaster Recovery sites related performance levels reports
 - 4) Network related performance levels report
 - 5) Manpower related performance (technical) level report
 - 6) Audit related performance level report
 - 7) Issue resolution report
 - 8) Other performance level report
- The following are the minimum SLA reports of the different components. Detail of each component is defined in clause 44 under section 3. There should be a provision to generate the other reports based on the GoUP requirement on later stages of the project
 - a) UP POLICE 100 and OMC related performance levels report

10.1.12 Vendor Management Services

Certain minimum deliverables sought from the Bidder with regards to vendor management are provided below:-

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- 10.1.12.1 Bidder has to ensure that the user problems and issues are resolved in accordance with the SLA of the vendor. The Bidder should also ensure that unresolved items are escalated in accordance with the escalation matrix.
- 10.1.12.2 Maintain database of the various vendors with details like contact person, telephone nos., escalation matrix, response time and resolution time commitments etc.
- 10.1.12.3 The Bidder shall also coordinate with vendors of other Government agencies and ensure that the issues are resolved in accordance with the SLA signed between the Government agencies and the vendors. Bidder shall maintain a track of SLA performance for such vendors.
- 10.1.12.4 Draw a consolidated quarterly SLA performance report across vendors for consideration of GoUP
- 10.1.12.5 The SLA performance acceptance of the bidder will have to be certified by GoUP
- 10.1.13 IT Helpdesk Services
 - 10.1.13.1 The bidder needs to provide IT Helpdesk services at the Monitoring Centre for all the system users (Communication officers, Field personnel, Dispatchers, Supervisors, Support staff, FMS staff etc.) to address and assist in troubleshooting any IT related issues they might face on a day to day basis.
 - 10.1.13.2 The IT Helpdesk should be accessible by the users through a dedicated 24 X 7 helpline and through the helpdesk sub-module of the EMS system and shall be the single point of contact for issue management and resolution for all the users. It shall be integrated with the EMS and shall be designed to meet the SLA response and resolution timelines
 - 10.1.13.3 The IT Helpdesk staff should be able to log a ticket based on the user queries related to any component of the Emergency Response system as defined under the scope of work and assign them a unique number.
 - 10.1.13.4 The IT helpdesk staff shall assign severity level to each query; assign the queries to the appropriate personnel for resolution e.g. System or Network or Database or Security administrators for queries or issues related to any of the corresponding areas.
 - 10.1.13.5 The IT helpdesk staff shall track each query to resolution, escalate the queries, to the Project Manager if necessary and provide feedback to users on the current status of their ticket.
 - 10.1.13.6 The IT helpdesk must always maintain high user satisfaction levels
 - 10.1.13.7 The IT helpdesk must maintain the SLA statistics and submit monthly report to the GoUP
 - 10.1.13.8 Help Desk Coordinators shall generate reports using a call logging and reporting tool which should have the following reporting capabilities:
 - i. Call Analysis
 - ii. Call Trend
 - iii. Call History Report
 - iv. Daily Call Completed and pending Reports
- 10.1.14 Facility Management Services
 - 10.1.14.1 Bidder shall be responsible for providing 24X7 Facility Management Services (FMS) at the UP POLICE 100 and OMC for addressing any issues related to basic IT Infrastructure like Desktops, networking and Telephony services.
 - 10.1.14.2 Bidder shall ensure that the FMS staff is conversant with issue resolution and troubleshooting of IT Infrastructure, networking concepts and telephony and should be able to provide prompt responses to the problems the UP POLICE 100 and OMC Operators, Dispatchers and Supervisors may face.

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10.1.15 L3 level support by OEM

10.1.15.1 This project envisages L3 level support by OEM's for all the Hardware and Software components being configured, installed and customized by them.

10.1.15.2 The L3 level support staff as provided by OEM shall work in close coordination with the bidder during all the phases of the project and shall be responsible for troubleshooting all the problems or bugs or issues arising in the hardware or software components supplied by them

10.1.15.3 The L3 level support should include Onsite Support along with the provisions of Remote Support for component problems that can be addressed from a remote location

10.1.15.4 The L3 level support shall include responsible to run engineering diagnostic for unidentified errors or existing bugs in the hardware and software applications that they have installed

10.1.15.5 The L3 level support shall be responsible for generating end-user workarounds

10.1.15.6 The L3 level support shall track issue descriptions, bug fixes, case status, and case root cause analysis

10.1.16 Third Party Audit Support

10.1.16.1 The GoUP reserves the right to inspect and monitor or assess the performance or maintenance of the project systems at any time during the course of the contract. The GoUP may demand and upon such demand being made, the GoUP or its authorized Third Party Audit Agency (TPA) shall be provided with any documents, data, materials or any other information which it may require, to enable it to assess the progress or performance of the project.

10.1.16.2 The GoUP also have the right to conduct itself or through another third party audit agency as it may deem fit, an audit to monitor the performance by the bidder on its obligations or functions in accordance with the standards committed to or required by the GoUP undertake to cooperate with and provide to the GoUP or Audit agency, all documents and other details or information as may be required by them for this purpose. Any deviation or contravention identified as a result of such audit or assessment would need to be rectified by the bidder.

10.1.16.3 The core objective for Third Party Audit (TPA) is to provide objective assurance to monitor and assess the conformance by the Bidder on various project activities and add value to improve the project operations. It would help the GoUP to accomplish the project objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of infrastructure, operations, service level management and control and governance processes.

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- 11 Technology Refresh and Technology Change Management (TCM)
Since the Technology associated with Emergency Response Systems is constantly improving and costs are coming down, the same must be passed on to the system as envisaged by the GoUP. All the TCM processes must be followed for introducing new technologies into the Emergency Response Solution.
- 11.1 TCO management
- 11.1.1 Introduction
Continuous improvement to Emergency Response Technology Solution costs and management of the Total Cost of Ownership ("TCO") will be one of the key responsibilities of the bidder. This section outlines key objectives of cost optimization and TCO management and the bidder's scope of work and deliverables associated with this.
- 11.1.2 Objective
- 11.1.2.1 Bidder is required to optimize cost in all areas of bidder's work through various measures that could include automation, deployment of tools and optimizations in management of services.
- 11.1.2.2 The key areas of focus expected from the bidder in this regard are the following:
- i. Continuous measureable reduction in overall cost of providing Emergency Response services to Personal in distress
 - ii. Optimizations in DC and DRC operations including optimization of:
 - Manpower required to manage the DC and DRC
 - Overall power requirements of the DC and DRC
 - Power Utilization Efficiency ("PUE")
 - Overall DC and DRC space requirement
 - IT Hardware at the DC and DRC sites
 - iii. The GoUP expects a decline in the Total Cost of Ownership of the Emergency Response Technology Solution over the contractual period. The TCO reduction benefits would be deployed for the purposes of bringing in more efficiency in the way the Emergency Response solution functions
- 11.1.2.3 Scope of work and components where cost optimization is expected
- 11.1.2.4 This section outlines some of the key components where the GoUP is expecting the bidder to carry out cost optimization. The bidder is expected to identify similar components during the course of the assignment for optimization.
- 11.1.2.5 Optimization of DC operations: Bidder shall perform the following tasks as part of optimization of DC operations:
- 11.1.2.6 Once the DC is fully operational, bidder shall undertake a study to assess the current overall power, manpower, IT hardware and space requirements of the data center.
- 11.1.2.7 Study and improvement of PUE: The bidder shall undertake a detailed study of the Current PUE factor of the data center and based on study of local conditions in India, identify the feasible PUE factor for Indian conditions. Benchmarking with leading industry standards should also be carried out as part of this assessment.
- 11.2 Technology Refresh
Considering the long term nature of Emergency Response system's operations and with technology changes leading to introduction of new Emergency Response solutions, service models, advanced IT Infrastructure etc. and the critical nature that DC play in

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successful operations of the system, the bidder shall have an opportunity for improving the performance and efficiencies of the operations of DC sites of the proposed Emergency Response system.

11.2.1 Technology Refresh scope

11.2.1.1 The bidder shall be responsible for the following activities as part of technology refresh:

11.2.1.2 Track key technology trends and determine key technology refresh areas e.g. new OS and upgraded or advanced IT Infrastructure components at the Data Centre and Disaster recovery sites

11.2.1.3 Identify potential alternative technologies and solutions that can be deployed in the DC and DRC sites and co-develop analysis parameters with the GoUP

11.2.1.4 Prepare and submit a technology refresh proposal to the GoUP for approval. This proposal shall comprise of:

11.2.1.5 Drivers for technology refresh (e.g. Change in the Emergency Response solution components – Telephony, Network, Database and storage technology etc.)

11.2.1.6 Key options and evaluation of each option (Cost-Benefit analysis, Degree of Social Impact the refreshed solution shall have etc.)

11.2.1.7 Detailed plan for implementation of technology refresh at the DC and DRC sites

11.2.1.8 Likely impact, if any, on service level agreements with the OEM's, bidder etc.

11.2.1.9 Expected cost reduction due to induction of new technology

11.2.1.10 Expected process and SLA improvements

11.2.2 Technology Refresh Feasibility Study: Bidder shall be responsible for performing a feasibility study, prepare an improvement plan and implement the same. This is part of the overall responsibility of bidder for TCO reduction end to end Project operations. Technology refresh has to be conducted by the Bidder annually.

11.2.2.1 Automation of data center operations

- i. Following transition of the data center operations and deployment of automated management tools as proposed by the bidder, the bidder shall study the current state of automation of data center operations.
- ii. The impact on services and associated manpower requirement of the data center on account of automation shall also be assessed.
- iii. Bidder shall benchmark the current state of operations against leading industry standards for data center operations and prepare a detailed improvement plan focused around automation of data center operations. This improvement plan shall also outline the overall impact on TCO on account of automation of data center operations.
- iv. The solution implemented for automation of data center operations shall be reviewed every year.

11.2.3 Third Party Independent Assessment

- i. Bidder shall be responsible for getting the Third Party assessment done independently for the Data Center components identified for optimization. Based on the results of third party assessment and the proposed benefits from the technology refresh exercise, the actual refresh process shall start.

11.3 Deliverables

11.3.1 First Report on Technology Refresh every year from steady operations of the DC and DRC sites and acceptance of the Emergency Response Technology Solution

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successfully deployed by the bidder. Subsequently, the report shall be prepared every year.

11.3.2 TCO reduction report at the time of Technology Refresh

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12 Project Milestones

Project timelines and deliverables are provided below. Bidder needs to adhere to these timelines throughout the project period.

S. No	Milestone	Timeline	Deliverable
		(In month)	
1	Letter of Signing of contract or issuance of Lol by GoUP and submission of PBG	T	
Manpower deployment			
2.A	50% of key resources	T+15 days	1. Letter of deployment with team names 2. NDA with team members
2.B	100% of all required resources	T+ 1	
Document delivery			
3	Preparation of detail project plan with timelines for DC, DR, UP POLICE 100 and OMC including hardware and software deployment at DC or DR, network plan, IT security plan, application architecture plan and other components	T+1	1. Project inception report including project plan and test plan
4	Preparation of detail project plan for other location like District HQ including network plan, IT security plan and other components	T+1.5	1. Project inception report including project plan and test plan
5	Preparation of documentation like system requirement specification, design documents	T+2	1. SRS document including system design, DB design, application arch etc. 2. FRS document 3. High level design document 4. Low level design document 5. Deployment document in development, QA and Production environment 6. Deployment checklist 7. Test cases
6	Development, testing and deployment of mobile app for GIS data collection	T+2	
Setup Data center and disaster recovery			
7	Supply, installation and testing of hardware components like server, switches, security components at DC and DR	T+2.5	1. Specification of OEM component 2. Copy of OEM purchase order 3. Test report
8	Supply , installation and testing of network components like router, switches etc.	T+2.5	1. Specification of OEM component

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S. No	Milestone	Timeline	Deliverable
		(In month)	
			2. Copy of OEM purchase order
9	Installation and testing of contact center components like IPPBX, ACD etc. at DC and DR	T+3	1. Specification of OEM component 2. Copy of OEM purchase order
10	Installation and testing of CAD. MDT CAD and GIS components at DC and DR	T+3	1. Specification of OEM component 2. Copy of OEM purchase order
11	Installation and testing of ROIP application and gateway server at DC, UP POLICE 100, OMC	T+3	1. Specification of OEM component 2. Copy of OEM purchase order
12	Installation and testing of EMS solution	T+3.5	1. Specification of OEM component 2. Copy of OEM purchase order
13	Installation and commissioning of BI, Data warehouse and analytics, Intranet portal, HRMS, Biometric application at DC and DR	T+4	1. Specification of OEM component 2. Copy of OEM purchase order
14	Installation and commissioning of other components like internet portal, integration of mobile applications etc. at DC and DR	T+4	1. Specification of OEM component 2. Copy of OEM purchase order
Setup of UP POLICE 100, OMC and other location			
15	Supply, installation and testing of hardware components like desktop, IP phone, foot paddle, radio devices, biometric devices etc.	T+2	1. Specification of OEM component 2. Copy of OEM purchase order 3. Test report
16	Supply, installation and testing of network components like router, switches etc.	T+3	1. Specification of OEM component 2. Copy of OEM purchase order
Setup of network and security			
17	Setup and testing of network for all location like DC, DR, UP POLICE 100, OMC and other locations	T+4	1. Specification of OEM component 2. Copy of OEM purchase order
Setup of MDT devices at vehicles			
18	Supply, installation and testing of MDT and Radio devices at vehicles with MDT and ROIP application like CAD, GIS, PVR etc.	T+3	1. Specification of OEM component 2. Copy of OEM purchase order

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S. No	Milestone	Timeline	Deliverable
		(In month)	
			order 3. Test report
Integration and testing			
19	Integrate and test all components including software, hardware, network, security etc. for DC,DR,UP POLICE 100, OMC, MDT, VHF devices in vehicles	T+4	1. Test report including test cases and result
20	Integrate and test all the components including software, hardware, network, security etc. for other location except PIC and OMC	T+4.5	1. Test report including test cases and result
Manpower Milestone			
21A	50% deployment of trained manpower at UP Police 100	T+2	Certificate from site supervisor
21B	Remaining deployment of trained manpower at UP Police 100 (before Go-Live)	T+3	Certificate from site supervisor
22	Deployment of trained manpower at OMC sites i.e. Varanasi and Agra	T+4.5	Certificate from site supervisor
23	Training (IT and other Technical training) of 1 batch of 50 officers in 4 hours	T+2	Filled feedback form from each trainee in a batch The agency should complete the training of all manpower (~1600)
User Accepting Testing (UAT) and Go-Live			
21	UAT for DC, DR, UP POLICE 100 and OMC including configured MDT and Radio devices in vehicles	T+4	1. Bugs or issues report with status like resolved, pending etc. 2. UAT approval
22	UAT for other locations including configured MDT and Radio devices in vehicles	T+4.5	1. Bugs or issues report with status like resolved, pending etc. 2. UAT approval
23	Go Live for DC, DR, UP POLICE 100 and OMC including MDT and Radio devices configured in vehicles	T+4.5	1. Deployment checklist approval 2. Go-Live acceptance
24	Go-Live for all other location and MDT and Radio device configured in vehicles	T+5	1. Deployment checklist approval 2.Go-Live acceptance
Technology refresh			
25	Preparation of technology refresh document including DC, DR	T+24	1. Technology refresh including SLA review and reduction of TCO plan
		T+36	
		T+48	
		T+60	

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S. No	Milestone	Timeline	Deliverable
		(In month)	
26	Preparation of training refresh document including technical and soft skills	T+8	Updated training content
Audits			
27	Security audit	T+12	1. Security audit report
		T+24	
		T+36	
		T+48	
		T+60	
28	Quality Audit as per CMMI level 5 for Operation center, Development Center and Call center	T+12	1. Quality Audit report
		T+24	
		T+36	
		T+48	
		T+60	

12.1 Work products or documents or reports required

The below are the minimum reports required but not limited to:

- 12.1.1 Software Requirement Specifications (SRS)
- 12.1.2 System Design Document (SDD) or Process Design Report
- 12.1.3 Testing Stage
 - Integration Test Cases with Results
 - System Test Cases with Results
- 12.1.4 User Acceptance Testing
 - UAT Case and Results
 - Source code and executables
 - Installation Manuals
- 12.1.5 Implementation
 - Implementation Plan including data migration, user training and rollout plan
 - User Manuals
 - Training Manuals
 - FAQ and Trouble Shooting Guide
- 12.1.6 Warranty Support
 - Defect or Bugs log with resolution
 - Consolidated List of Common Errors and their Resolution
- 12.1.7 Requirements Change Management
 - Change Request Log
 - Impact Analysis including changes in effort and schedule
- 12.1.8 Penetration Test Report
- 12.1.9 Vulnerability Test Report
- 12.1.10 Application Assurance Certificate
- 12.1.11 Recommendations on IT Plan
- 12.1.12 Report on Closure of Audit issues (if any)
- 12.1.13 End user Support
 - Defect or Bugs log with resolution
 - Consolidated List of Common Errors and their Resolution
- 12.1.14 Application enhancement and new developments
 - Change Request logs
 - Impact Analysis with Effort Estimates
 - Software Requirement Specifications (SRS)
 - System Design Document or Process Design Document
 - Integration Test cases and results
 - System Test Cases and Results
 - UAT Case and Results
 - Source code and executables
 - Installation Manual
 - Training Manuals or User Manuals
 - FAQ and Trouble Shooting Guide
- 12.1.15 Release Plan and Release Note

13 Acceptance Criteria

13.1 General

- 13.1.1 The bidder should develop user acceptance test cases in line with the minimum acceptance criteria mentioned under Clause 13 of this section with the assistance from the GoUP.
- 13.1.2 The GoUP may have the acceptance test done by its representatives, prospective system users, Testing Committee of the officials from GoUPs, Telecom service provider's, ISP's or consultants or any third party at any time at its own convenience. The bidder would be required to cooperate with such representatives or third party and provide the required support for this activity
- 13.1.3 The acceptance test shall involve successful supply, delivery, installation and commissioning of all hardware and related software in the DC and DRC sites, Monitoring Centre, Police Vehicles, UP POLICE 100, OMC and other sites.
- 13.1.4 All the required hardware and software must be installed and working properly. The bidder can be asked to demonstrate all the features or facilities mentioned in the bid and technical requirement laid in various section of the RFP.
- 13.1.5 During this period, the installed systems must demonstrate its capability of providing the services enumerated in the contract, RFP document and claimed by the bidder in its bid and specified in the catalogues attached with the respective bid. The bidder will arrange the test equipment, if required for performance verification. Successful bidder will also provide documented test results.
- 13.1.6 On the successful completion of the acceptance test and after the GoUP is satisfied with the working of the entire system at DC and DRC sites, Monitoring Centre. The date on which such certificate is issued shall be deemed date of the successful commissioning of the system for the purpose of starting the warranty and project management period.
- 13.1.7 The bidder will prepare test strategy, traceability matrix, detailed Acceptance Testing Plan (ATP) including test parameters, test cases etc. for each of the site components including hardware and software as per the RFP. The test parameters, commitments etc. as decided and approved by the GoUP shall be final and binding on the bidder.
- 13.1.8 If the quality and the quantity of the items supplied by the vendor are found unacceptable, the successful bidder shall be held responsible for covering up the loss in terms of both quantity as well as quality wise. All the related payments to the successful bidder as per the payment schedule mentioned in the RFP would be made after the successful clearance of the following acceptance tests.
- 13.1.9 All the functionality, features and configuration relevant to this project shall be documented and demonstrated by the successful bidder to the GoUP.
- 13.1.10 The entire solution will be monitored under production use for a pre-defined period of time for satisfactory performance of the solutions.
- 13.1.11 In case of any performance issues during this period, the bidder should resolve the issues identified on a prior it basis.

13.2 Criteria for Acceptance

S. No.	Minimum Component	Minimum Acceptance Criteria
DC and DRC Sites		
1.	Hardware (like servers, storage)	<ul style="list-style-type: none"> • Delivery acceptance on completion of installation, connectivity and POST including test run of offered specifications. • Installation and Commissioning Acceptance: On successful integration in the system and Go-Live. • Item should be captured by EMS
2.	Servers	<ul style="list-style-type: none"> • Delivery acceptance on completion of installation, connectivity and POST including test run of offered specifications. • Installation and Commissioning Acceptance: On successful integration in the system and Go-Live. • Item should be captured by EMS • Demonstrate Hardware RAID functionality by simulating internal disk failure. • Demonstrate High Availability. • Demonstrate Ethernet connectivity in dual homing configuration. • Demonstrate Fiber Channel Host Bus Adaptors (HBA) in redundant mode (applicable for servers that are connected to SAN). • Demonstrate redundancy and Hot-swap of power supplies. • Verify that none of the servers are populated with any writeable media except Server for Backup.
3.	Backup Solution	<ul style="list-style-type: none"> • Delivery acceptance on completion of installation, connectivity and POST including test run of offered specifications. • Installation and Commissioning Acceptance: On successful integration in the system and Go-Live. • Item should be captured by EMS • Demonstrate capability to take backup of servers that are not connected to SAN. • Demonstrate backup or restore of SAN data. • Demonstrate backup or restore of data from internal hard disks of servers. • Demonstrate the backup software functionality for configuring automated backups. • Demonstrate capability to read and write to multiple tape and servers.

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S. No.	Minimum Component	Minimum Acceptance Criteria
4.	EMS	<ul style="list-style-type: none"> Validation of all specified technical specifications of the EMS. Demonstrate functioning of all the relevant components of EMS solution for respective phases
5.	Network switching	<ul style="list-style-type: none"> Delivery acceptance on completion of installation, connectivity and POST including test run of offered specifications. Installation and Commissioning Acceptance: On successful integration in the system and Go-Live. Item should be captured by EMS Demonstrate the network switching from DC to DRC and access of applications or solutions at the DC and DRC from Monitoring Centre. The network switching should be transparent to end user without the need for any manual changes at the sites.
6.	Replication	<ul style="list-style-type: none"> Demonstrate 364sync Replication of SAN data from DC to DRC and vice-versa ensuring its consistency.
7.	Integrated testing	<ul style="list-style-type: none"> Seamless integration of all Hardware components. Seamless integration of Network components. Completion of all passive installations. Deployment of all applications Seamless co-working of all HW, SW and installed applications. Delivery of all functional requirements Comprehensive integrated testing of all the solutions to re-validate the Phase-wise acceptance criteria.
8.	Acceptance of DC and DRC sites	<ul style="list-style-type: none"> Hardware, applications and other components delivered, installed and configured as per agreement with the GoUP All components as described above are tested and accepted Sites are connected with primary and secondary network Installation of all applications (as agreed during project implementation) Applications can be accessed from both the DC and DRC sites Training is completed for all DC and DRC personnel
Monitoring Centre		
9.	Presentation Layer	<ul style="list-style-type: none"> Demonstrate the accessing and serving of emergency response applications Demonstrate test cases as prepared by Bidder

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S. No.	Minimum Component	Minimum Acceptance Criteria
10.	Information Security Solution	<ul style="list-style-type: none"> • Conduct a comprehensive penetration testing covering all the solutions implemented. A penetration testing report should be submitted to GoUP. • Conduct a threat and vulnerability assessment with a view to demonstrate that GoUP infrastructure is adequately secured against internal and external attacks. The assessment report should be submitted by Bidder • In addition following policy documents would be completed: <ul style="list-style-type: none"> • Network policy • Service access policy • Firewall design policy • Authentication policy • Test cases minimally for verification of security against following attacks would be run successfully: <ul style="list-style-type: none"> • Ping Sweep • Port Scan • Email reconnaissance • SYN flooding or DoS • Application specific DoS attack • IP Spoofing • Packet sniffing • DNS transfer • Trojan horse, back doors and spy ware • Close mutually agreed issues observed during Security Audit.
11.	Acceptance of Monitoring Centre	<ul style="list-style-type: none"> • Hardware, applications and other components delivered, installed and configured as per agreement with the GoUP • All components as described above are tested and accepted • Hardware components can be tracked through EMS • All phones connected and working • Monitoring center area in UP POLICE 100 is connected with both DC and DRC sites • Applications can be accessed from Monitoring Centre • Training is completed for all Operations center personnel
UP POLICE 100 and OMC		
12.	Hardware (like desktop, IP phones)	<ul style="list-style-type: none"> • Delivery acceptance on completion of installation, connectivity and POST including test run of offered specifications. • Installation and Commissioning Acceptance: On successful integration in the system and Go-Live. • Item should be captured by EMS

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S. No.	Minimum Component	Minimum Acceptance Criteria
		<ul style="list-style-type: none"> Testing of hardware functioning by UP POLICE 100 and OMC supervisor
13.	Presentation Layer	<ul style="list-style-type: none"> Demonstrate the accessing and serving of emergency response applications Demonstrate test cases as prepared by Bidder
14.	Acceptance of UP POLICE 100 and OMC	<ul style="list-style-type: none"> Hardware, applications and other components delivered, installed and configured as per agreement with the GoUP Installation and working of IP phones Connected with DC and DRC sites with primary and secondary network Installation and working of video wall Installation and working of LED TV Installation and working of other hardware like printers, scanner Installation and working of Biometric solution Installation and working of surveillance system and access control Applications can be accessed from UP POLICE 100 and OMC Test cases can be run from the UP POLICE 100 and OMC GIS map shows the position of all installed MDTs Wireless communication of all installed Radio device Establishment and acceptance of training room as per specification Training is completed for all UP POLICE 100 and OMC personnel
Other sites and field Location		
15.	Other sites connectivity	<ul style="list-style-type: none"> Hardware, applications and other components delivered, installed and configured as per agreement with the GoUP Hardware components can be tracked through EMS Network connectivity at other sites like DHQ, range officers
16.	Acceptance of MDT	<ul style="list-style-type: none"> MDT should be listed in EMS Tracking of MDT from UP POLICE 100 and OMC Successful test case of sending messages to MDT and closing case through MDT
17.	Acceptance of Radio Devices	<ul style="list-style-type: none"> Radio devices should be listed in EMS Tracking of Radio devices from UP POLICE 100 , OMC and other site location Successful test case of Wireless communication to Radio devices

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14 Volumetric data estimations

14.1 Growth estimation for Call Volume

The centralized integrated State-wide Emergency Response system envisions providing prompt emergency response to citizen in distress. The system has been designed to handle a large volume of calls daily with a significant busy hour call volume percentage that shall ensure that maximum number of calls can be handled in an hour in peak-load conditions.

The system envisages best-in-class average Officer call handling time that includes the entire cycle of receiving the call, recording the incident, locating the appropriate mobile vehicles and dispatching to the incident location. Total number of PRI's (Primary Rate Interface) based on the call volume estimates have been estimated keeping into consideration the PRI's for Inbound and Outbound calls.

As the popularity of centralized system increases, the call volume is also expected to rise proportionally. The system has been designed to be scalable for handling the increased number of calls. Given below is the Year-On-Year growth chart for call volume for the entire duration of project:

Call Volume Data

	Year 1	Year 2	Year 3	Year 4	Year 5
Yearly call volume	7,20,00,000	7,92,00,000	8,71,20,000	9,58,32,000	10,54,15,200
Monthly Call Volume	60,00,000	66,00,000	72,60,000	79,86,000	87,84,600
Daily Call Volume	2,00,000	2,20,000	2,42,000	2,66,200	2,92,820

Call volume data for first year in quaterly basis:

	Year 1				Year 2
	Q1	Q2	Q3	Q4	Q1
Quarterly call volume range	90,00,000-1,12,50,000	1,12,50,000-1,35,00,000	1,35,00,000-1,57,50,000	1,57,50,000-2,00,00,000	1,80,00,000-2,02,50,000
Monthly Call Volume	30,00,000	37,50,000	45,00,000	60,00,000	60,00,000
Daily Call Volume	1,00,000	1,25,000	1,50,000	1,75,000	2,00,000

Foot Note:

- 1) GoUP reserves the rights to procure the license on quaterly basis in first year based on actual deployment and AMC will be applicable whenever the licenses are procured and deployed till end of the contract

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The given below assumption or parameter is size the system and scalability capability for 2lakh emergency calls at end of first year:

- Inbound voice communication officer parameters
 - Busy Hour Call Volume – 14000
 - Average Handle Time of Calls at Communication officer (sec) – 30 seconds
 - Average Call Waiting (ACW) at CO – 0 (zero) seconds
- Outbound voice communication officer parameters
 - Daily outbound call attempts – 700
 - Average Handle Time of Calls at Communication officer (sec) – 120 seconds
 - Average Call Waiting (ACW) at CO – 0 (zero) seconds
- Dispatch officer parameters
 - Busy hour call volume – 896
 - Average Handle Time of Calls at Dispatch officer (sec) – 180 seconds
 - Average Call Waiting (ACW) at CO – 0 (zero) seconds
- Special Dispatch unit parameters
 - Busy hour call volume – 224
 - Average Handle Time of Calls at SI unit (sec) – 300 seconds

14.2 UP POLICE 100 and OMC officers distribution

One of the most critical components of the centralized integrated Emergency Response system is the number of Communication officer at the UP POLICE 100 and OMC. In order to handle the large volume of calls as projected, there needs to be an optimum provisioning of officers i.e. Communication officers, Dispatchers and Supervisors, SI (Special dispatch unit). Based on the daily minimum call volume, the optimum number of officers has been derived and depicted as below as minimum number:

14.2.1 UP POLICE 100 and OMC (Agra and Varanasi) officers distribution for year 1

S.No.	Description	Year 1				Year 2
		Q1	Q2	Q3	Q4	Q1
Communication Officers						
1	Total Inbound Voice Communication officers	73	92	110	128	146
2	Total Outbound Voice Communication officer	10	12	14	17	19
3	Total number of non-caller CO for SMS , EMAIL , CHAT etc.	4	5	6	7	8
4	Communication officer in Agra and Varanasi	26	32	39	46	52
5	CO monitoring staff	2	2	2	2	2
6	CO monitoring staff in Agra and Varanasi	2	2	2	2	2
7	Total no. HC (Communication Unit)	6	7	9	10	12
Dispatch Officers						

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8	Total no. of Dispatch officers	28	35	42	49	56
9	Total no. of SI (Dispatch Unit)	3	4	4	5	6
10	Dispatch officers in Agra and Varanasi	8	11	13	15	17
Special Dispatch Unit Officers						
11	Total no. of SI (Special Dispatch Unit)	12	15	18	21	24
12	Total number of Inspectors (Special Dispatch Unit)	2	3	4	4	5
Shift in-charge						
13	Total number of Shift In-charge	1	1	1	1	1
Total		177	221	264	307	350

Foot Note:

- 1) GoUP reserves the rights to procure the license on quaterly basis in first year based on actual deployment and AMC will be applicable whenever the licenses are procured and deployed till end of the contract
- 2) There may be additional users for GIS applications when other services get integrated i.e. up 400 users within ITECSS. Bidder should plan the procurement accordingly.

14.2.2 Application users:

S.No.	Application	Minimum no. of users per month
1	Citizen Portal	300000
2	UP POLICE 100 Intranet Portal	10000
3	Human Resource Management System	10000
4	Finance Management	1000
5	Patrol Management	10000
6	Document Management System	5000
7	Data ware house, Business Intelligence (BI), Reporting and Analytics	50
8	Asset Management	50
9	Inventory Management	50
10	ROIP Application	175

14.3 Bandwidth requirement estimates

14.3.1 Bandwidth requirement at UP POLICE 100 and OMC:

Considering the huge volume of calls expected everyday, the Centralized and Integrated Emergency Response system needs the availability of sufficient bandwidth that can handle the system load requirements and ensure uninterrupted delivery of emergency services to women or citizen in distress. The bandwidth requirements need to be

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calculated across the locations considering the application performance, replication, data transfer, DC, DRC and other requirements. It's a bidder responsibility to provide dedicated and non dedicated bandwidth as per requirement of the solution at UP POLICE 100 and OMC. For more details, please refer clause 4.18 of this section in RFP.

14.3.2 Bandwidth requirement at field location:

- 126 locations including 75 districts Control room, 25 Police Units, 18 ranges of police station, 8 police zones of state, will be provided bandwidth over MPLS as primary and secondary connectivity for bandwidth of 4 Mbps over MPLS. This will ensure establishment of connectivity between UP POLICE 100 and offices mentioned below :
 - 75 Districts control rooms
 - 8 Police zone of states
 - 18 range of state police
 - 25 Police Units
- Secure SIM will be provided in each PRV MDT to establish connectivity from UP POLICE 100 and OMCs
- Fleet will be equipped with mobile handsets , two in 4W and 1 in 2W will be connected using GSM or GPRS network with secure SIM

This will ensure connectivity between above field offices to UP POLICE 100. For more details, please refer clause 4.18 of this section in RFP

14.4 Bill of Quantity (BoQ)

14.4.1 Hardware at DC

Sr. No.	Description	Minimum No. of Units
1.	Biometric	1
2.	SAN Storage (90GB / 3months)	
3.	VTL (120 TB/Year)	
4.	Voice gateway	
5.	Database server	
6.	Blade chassis	
7.	Rack	
8.	Blade server – 2 CPU	
9.	Blade server – 4 CPU	
10.	Load Balancer	
11.	UPS	
i.	50 kVA	2
ii.	1 kVA	2
iii.	70 kVA	2
12.	Core Switch	

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Sr. No.	Description	Minimum No. of Units
13.	Managed Access Switch for 24 ports	
14.	SAN Switch	
15.	Aggregation Switch	
16.	Internet Router	
17.	Core router	
18.	Web Application Firewall	
19.	NextGen Firewall	
21.	Security Incident and Event Management (SIEM)	
22.	Data Leakage Prevention (DLP)	
23.	Network Access Control (NAC)	
24.	Host Based Intrusion Prevention System (HIPS)	
25.	Silent Diesel Generator – 100 kVA	1
26.	Silent Diesel Generator – 200 kVA	1

* Bidder has to supply all entities which is not even covered in BoQ and required for implementation

14.4.2 Hardware at DRC

Sr. No.	Description	Minimum No. of Units
1	SAN Storage	As per requirement
2	VTL	As per requirement
3	Voice gateway	
4	Database server	
5	Blade chassis	
6	Rack	
7	Blade server – 2 CPU	
8	Blade server – 4 CPU	
9	Load Balancer	
10	UPS 15kVA	2
11	Core Switch	
12	SAN Switch	
13	Aggregation Switch	
14	Internet Router	
15	Core router	
16	Web Application Firewall	
17	NextGen Firewall	
18	Security Incident and Event Management (SIEM)	
19	Data Leakage Prevention (DLP)	
20	Network Access Control (NAC)	

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Sr. No.	Description	Minimum No. of Units
21	Host Based Intrusion Prevention System (HIPS)	

* Bidder has to supply all entities which is not even covered in BoQ and required for implementation

14.4.3 Hardware at UP Police 100

Sr. No.	Description	Minimum No. of Units
1.	Biometric	17
2.	Desktops including Hindi Key pad on Keyboard with two monitors	193
3.	Desktops including Hindi Key pad on Keyboard with triple monitors	200
4.	Desktops including Hindi Key pad on Keyboard with single monitor	233
5.	Desktop Thin client including Hindi Key pad on Keyboard	10
6.	IP Phones with Headset	671
7.	Laptop	35
8.	Printer , scanner and copier(multi-function)	10
9.	Heavy Duty printer	9
10.	Laser jet printer	10
11.	Paper shedder	5
12.	Smart TV – 32 Inch.	15
13.	Smart TV – 42 Inch.	2
14.	LED TV – 55 Inch.	3
15.	3 Conference room with equipment of capacity 15 people	
i.	Display device	3
ii.	Audio System	3
iii.	Control System	3
iv.	Video Conferencing at 6Mbps	3
v.	Others	
16.	2 Conference rooms with equipment of capacity 10 people	2
i.	Display device	2
ii.	Audio System	2
iii.	Control System	2
iv.	Video Conferencing at 6Mbps	2
v.	Others	

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Sr. No.	Description	Minimum No. of Units
17.	2 Conference rooms with equipment of capacity 8 people	
i.	Display device	2
ii.	Audio System	2
iii.	Control System	2
iv.	Video Conferencing at 6Mbps	2
v.	Others	
18.	3 Meeting rooms with equipment of capacity 20 people	
i.	Display device	3
ii.	Audio System	3
iii.	Control System	3
iv.	Video Conferencing at 6Mbps	3
v.	Others	3
19.	1 Meeting room with equipment of capacity 30 people	
i.	Display device	1
ii.	Audio System	1
iii.	Control System	1
iv.	Video Conferencing at 6Mbps	1
v.	Others	
20.	2 Board rooms with equipment of capacity 30 people	
i.	Display device	2
ii.	Audio System	2
iii.	Control System	2
iv.	Video Conferencing at 6Mbps	2
v.	Others	
21.	2 Training rooms with equipment of capacity 25 people	

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Sr. No.	Description	Minimum No. of Units
i.	Screen	2
ii.	Projector	2
iii.	Audio system	2
iv.	Lapel Microphone	1
v.	Others	
22.	2 Training rooms with equipment of capacity 50 people	
i.	Screen	2
ii.	Projector	2
iii.	Audio system	2
iv.	Lapel Microphone	2
v.	Others	
23.	1 Training rooms with equipment of capacity 50 people (35 DOs live training room)	
i.	Screen	1
ii.	Projector	1
iii.	Audio system	1
iv.	Lapel Microphone	2
v.	Others	
vi.	Streaming Solution Device	
vii.	Desktops with triple monitors	35
viii.	IP Phone with headset	35
ix.	Table top microphone	35
x.	Foot paddle	35
xi.	Access Switch	
xii.	20 kVA UPS	1
xiii.	MDT	2
24.	1 Training rooms with equipment of capacity 100 people	
i.	Screen	1
ii.	Projector	1
iii.	Audio system	1
iv.	Lapel Microphone	2
v.	Others	

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Sr. No.	Description	Minimum No. of Units
25.	1 Training rooms with equipment of capacity 100 people (75 COs live training room)	
i.	Screen	1
ii.	Projector	1
iii.	Audio system	1
iv.	Lapel Microphone	2
v.	Others	
vi.	Access Switch	
vii.	Table top microphone	75
viii.	Streaming Solution Device	
ix.	Desktops with double monitors	75
x.	IP Phone with headset	75
xi.	20 kVA UPS	1
26.	Video conference equipment for 15 locations	15
27.	Digital light processing (DLP) video wall	3
28.	Radio Gateway	
29.	Foot paddle	200
30.	VHF static radio device	29
31.	Battery of VHF Static device	29
32.	Lattice Mast and antenna for VHF static set	1
33.	Network Rack	
34.	Managed Access Switch – 24 ports	
35.	Interactive Screen for EOC	2

* Bidder has to supply all entities which is not even covered in BoQ and required for implementation

14.4.4 Hardware at OMC

Sr. No.	Description	Minimum No. of Units
1.	Desktops including Hindi Key pad on Keyboard with two monitors	58
2.	Desktops including Hindi Key pad on Keyboard with triple monitors	32
3.	Laptop	16
4.	IP Phones with Headset	106
5.	Printer , scanner and copier(multi-function)	4
6.	Laser jet printer	4
7.	Heavy Duty printer	2

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Sr. No.	Description	Minimum No. of Units
8.	Battery of VHF Static Device	58
9.	VHF static radio device	58
10.	Lattice Mast and antenna for VHF static set	2
11.	Foot paddle	32
12.	Radio Gateway	
13.	2 Meeting rooms with equipment of capacity 20 people	
i.	Display device	2
ii.	Audio System	2
iii.	Control System	2
iv.	Video Conferencing at 6Mbps	2
v.	Others	
14.	Smart TV – 32 Inch.	2
15.	Smart TV – 42 Inch.	2
16.	Printer , scanner and copier(multi-function)	2
17.	Network Rack	
18.	Managed Access Switch – 24 ports	
19.	Intranet Router – 500 Mbps	
20.	UPS 20 kVA	4
21.	Biometric	6

* Bidder has to supply all entities which is not even covered in BoQ and required for implementation

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14.4.5 Hardware at Field

Sr. No.	Description	Minimum No. of Units
1.	Desktops including Hindi Key pad on Keyboard with single monitor	201
2.	Laptop	26
3.	Mobile Data Terminal Devices (MDT) min 7 inches screen	3275
4.	Mobile Data Terminal Devices (MDT) 5 inches screen	1600
5.	Mobile Data Terminal Devices (MDT) min 7 inches screen (Fire Services)	280
6.	Mobile Data Terminal Devices (MDT) 5 inches screen (Fire Services)	380
7.	UPS 1 kVA	126
8.	Network Rack	126
9.	IP Phones with Headset	151
10.	VHF 4W antenna	3200
11.	Lattice Mast and antenna for VHF static set	126
12.	VHF static radio device	3326
13.	Battery of VHF Static Device	3326
14.	Battery of VHF Hand Held Radio Device And Charger of Battery pack	1600
15.	VHF Hand held radio device	1600
16.	Foot paddle	126
17.	Radio Gateway	
18.	Managed Access Switch – 24 ports	
19.	Intranet Router – 20 Mbps	

* Bidder has to supply all entities which is not even covered in BoQ and required for implementation

14.4.6 Software Licenses

Sr. No.	Description	Minimum No. of Units
1.	IP PBX license	
2.	Automatic Call Distribution (ACD) license	
3.	Voice Recording and Quality Monitoring license	
4.	Multimedia System license	
5.	Computer Telephony Interface (CTI)	
6.	Outbound Dialer	
7.	Contact Center Reporting System	

Section 5: Scope of Work

Sr. No.	Description	Minimum No. of Units
8.	Computer Aided Dispatch (CAD) license	
i.	Communication officer license	
ii.	Dispatch officer license	
iii.	Supervisor and Special dispatch unit license	
9.	Web and Desktop Application for Monitoring - Police officials	1
10.	Mobile Application for Police officials	1
11.	Mobile Application for citizen	1
12.	Mobile application for GIS Data collection	1
13.	CAD Mobile Software For MDT License	
14.	Citizen Portal	
15.	UP POLICE 100 Intranet Portal	
16.	E-Learning Software	
17.	Web Based Training Application	
18.	Patrol Management system	
19.	Human resource management system (HRMS)	
20.	Finance management system	
21.	Document management system	
22.	Data ware house, Business Intelligence (BI), Reporting and Analytics	
23.	Enterprise Management System (EMS)	
24.	Identity and access management system	
25.	Asset Management	
26.	Anti-virus license for laptop and desktop	1114
27.	Directory services	
28.	Backup Software	
29.	ROIP web application license	
30.	Soft Phone License	
31.	LBS software	
32.	Database licenses	
33.	GIS Map (Map, Map Data, POI) for complete UP state	
34.	GIS Software License	
35.	SMS Gateway	
36.	OS License and Support	
37.	Inventory Management	
38.	Application for large scale Incidence and Death Management for Citizen and Police	

Section 5: Scope of Work

Sr. No.	Description	Minimum No. of Units
39.	Application for Operation Smile and Missing Person	
40.	Others	

* Bidder has to supply all entities which is not even covered in BoQ and required for implementation

14.4.7 Network

Sr. No.	Description	Minimum No. of Units
1.	PRI Lines at DC	20
2.	PRI lines at DR	10
3.	Primary connectivity between DC and DR	
4.	Secondary connectivity between DC and DR	
5.	Primary Connectivity between DC and UP POLICE 100	
6.	Secondary Connectivity between DC and UP POLICE 100	
7.	Primary Connectivity between DR and UP POLICE 100	
8.	Secondary Connectivity between DR and UP POLICE 100	
9.	Primary Connectivity between OMC Agra and DC	
10.	Secondary Connectivity between OMC Agra and DC	
11.	Primary Connectivity between OMC Agra and DR	
12.	Secondary Connectivity between OMC Agra and DR	
13.	Primary Connectivity between OMC Varanasi and DC	
14.	Secondary Connectivity between OMC Varanasi and DC	
15.	Primary Connectivity between OMC Varanasi and DR	
16.	Secondary Connectivity between OMC Varanasi and DR	
17.	MPLS Connectivity	
18.	Internet lease line – DC and DRC from 2 different service provider	

Section 5: Scope of Work

Sr. No.	Description	Minimum No. of Units
19.	4 Mbps connectivity at 75 Districts control rooms,8 Police zone of state,18 range of state police,25 Police Units	126 locations
20.	6Mbps for video conferencing	15 location
21.	Phone line (outbound)	2,50,000 Minutes /year
22.	MDT GSM U SIM Card including GPRS or2G or3G or4G	4875
23.	MDT GSM U SIM Card including GPRS or2G or3G or4G (Fire Services)	660
24.	MDT GSM U SIM Card including GPRS or2G or3G or 4G(Training room)	2
25.	SIM of Mobile phones for vehicles	4800
26.	Incoming SMS	50 lakh /year
27.	Outgoing SMS	1 crore/year
28.	Public IP Address	5

* Bidder has to supply all entities which is not even covered in BoQ and required for implementation

14.4.8 Miscellaneous

Sr. No.	Description	Minimum No. of Units
1.	Cabling tray	
2.	CCTV equipment	
3.	Fiber cables	
4.	Fiber LIU	
5.	Dish TV connection for Televisions	23 connection
6.	ID card printer	
7.	Printing charges (at UP POLICE 100 and OMC)	
8.	Miscellaneous like cabling, Patch panel etc.	
9.	Others	

* Bidder has to supply all entities which is not even covered in BoQ and required for implementation.

14.5 FMS staff distribution

Sl. No.	Location	Indicative No. of FMS staff (Considering 1 FMS personnel per 10 officers)
1	UP POLICE 100	50
2	OMC at Agra	10
3	OMC at Varanasi	10
	Total	70

15 Payment Milestone

The payment milestones have been defined separately for eight different components required in this project. Explanations for each of these are elucidated below. . The bidder is required to obtain prior approval of the GoUP before placement of orders to the OEMs/service providers. Payment terms are associated with goods and services rendered with quantities pre-approved by the customer (the quantities mentioned in RFP are indicative numbers; actual numbers could vary in some cases). The warranty/AMC of goods and services rendered at a date later than initial date would require additional warranty for differential period.

1. DRC

Capital expenditure (CAPEX1) incurred in setting up of Disaster recovery center (DRC) would be classified under this category. It would include hardware and application software installed at DRC. The incurred costs of the constituents of DRC should be provided by the Bidder in Section 4 in table A2, B1, B2 and G. The payment milestones for CAPEX1 are as under:

S. No.	Milestone	Payment
1.	Supply, Installation and testing of hardware and asset entry in the Asset Manager	40% of CAPEX1
2.	Functional and Integration testing of entire system including hardware, software, network and other components	20% of CAPEX1
3.	Go-Live DRC	20% of CAPEX1
4.	Go-Live + 6 months	10% of CAPEX1
5.	Go-Live + 12 months	10% of CAPEX1

2. DC + Monitoring center

Capital expenditure (CAPEX 2) incurred in setting up of Data Centre (DC) and Monitoring Centre would be classified under this category. It would include hardware and application software installed at DC and monitoring centre. The incurred costs of the constituents of DC and Monitoring Centre should be provided by the Bidder in Section 4 in tables A1, B1, B2 and G. The payment milestones for CAPEX 2 are as under:

S. No.	Milestone	Payment
1	Supply, Installation and testing of hardware and asset entry in the Asset Manager	40% of CAPEX2
2	Functional and Integration testing of entire system including hardware, software, network and other components	20% of CAPEX2
3	Go-Live at DC, DRC and Monitoring center and their integration	20% of CAPEX2
4	Go-Live + 6 months	10% of CAPEX2

Section 5: Scope of Work

5	Go-Live + 12 months	10% of CAPEX2
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3. UP POLICE 100

Capital expenditure (CAPEX3) incurred in setting up of UP POLICE 100 would be classified under this category. The incurred costs for all constituents of UP POLICE 100 should be provided by the bidder in Section 4 tables A3, B1, B2 and G. Payment milestones for this category are as under:

S. No.	Milestone	Payment
1.	Supply, commissioning and testing of hardware including MDT and Radio devices and asset entry in the Asset Manager	40% of CAPEX3
2.	Go-Live of the UP POLICE 100	20% of CAPEX3
3.	Integration with DC and DRC	20% of CAPEX3
4.	Stabilization Period (Go-Live +6 months)	10% of CAPEX3
5.	After Go-Live + 12 Months -	10% of CAPEX3

4. OMCs

Capital expenditure (CAPEX4) incurred in setting up of OMCs would be classified under this category. The incurred costs for all constituents of OMCs should be provided by the bidder in Section 4 tables A4, B1, B2 and G. Payments for the two OMCs should be made separately based on their respectively Go-live. Payment milestones for this category are as under:

S. No.	Milestone	Payment
1	Supply, commissioning and testing of hardware including MDT and Radio devices and asset entry in the Asset Manager	40% of CAPEX4
2	OMC	20% of CAPEX4
3	Integration with Dc and DRC	20% of CAPEX4
4	Stabilization Period (Go-Live +6 months)	10% of CAPEX4
5	After Go-Live + 12 Months -	10% of CAPEX4

5. Other sites locations including fields equipment

Capital expenditure (CAPEX5) incurred in setting up other site location including field equipment would be classified under this category. The incurred costs for all constituents of other sites locations including fields equipment should be provided by the bidder in Section 4 tables A5, B1, B2 and G. The payment for other sites including field equipment would be made in ten parts, each comprising of Go-live of 10% of the field locations. Payments of one part need not wait Go-Live of another part. Payment milestones for this category are as under:

Section 5: Scope of Work

S. No.	Milestone	Payment
1	Supply, commissioning and testing of hardware including MDT and Radio devices and asset entry in the Asset Manager	40% of CAPEX5
2	Go-Live of the site	20% of CAPEX5
3	Integration with DC/DRC	20% of CAPEX5
4	Stabilization Period (Go-Live +6 months)	10% of CAPEX5
5	After Go-Live + 12 Months -	10% of CAPEX5

6. Manpower and Annual Maintenance (OPEX)

This would include AMC of actual deployed hardware and application software as well as cost for actual manpower deployed. Annual maintenance payment, license and support cost for any hardware or application component would start after Go-live of deployment. The charges for the same should be clearly given out in relevant columns of Section 4 tables A1, A2, A3, A4, A5, B1, B2, C, F and G,

Sl. No.	Milestone	Payment
1.	Manpower, license and annual maintenance of UP POLICE 100 including DC and Monitoring center, DRC, OMCs, Other sites, MDT and Radio devices	Quarterly payment of the actual operational cost calculated on basis of per unit cost of actual deployment.

7. Manpower at UP POLICE 100, Lucknow and OMC sites at Agra and Varanasi

The charges for the same should be clearly given out in Section 4 tables E1, E2 and E3,

Sl. No.	Head	Payment terms
1	Charges of outsourced manpower working as CO and admin staff	Monthly invoices along with supporting documents to be submitted by selected SI in ITECCS accounts department for clearance

8. Network

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Bandwidth cost of connecting all sites including DC, DRC, Monitoring center, UP POLICE 100, OMCs, other sites location would be paid under this category. Payment for network bandwidth for links connecting two Go-live component could be claimed after establishment of links and Go-live of linked components. Payment for PRI lines would be made similarly. The charges for the same should be clearly given out in Section 4 table D.

S. No.	Milestone	Payment
1.	Maintenance of Network bandwidth between sites (DC, DRC, Monitoring center, UP POLICE 100, OMCs). This is based on actual commissioned and functional links.	Quarterly payment of the actual bandwidth charges
2.	Maintenance of Network bandwidth between all other sites (DC, DRC, Monitoring center, other sites locations). This is based on actual commissioned and functional links.	Quarterly payment of the actual bandwidth charges

16 Abbreviations

Term	Definition
ACD	Automatic Call Distribution
AIP	Agreement in principle
API	Application Programming Interface
BCP	Base Condemnation Percent
CAD	Computer aided dispatch
CCTNS	Crime and Criminal Tracking Network and Systems
CCTV	Closed Circuit Television
CMDB	Configuration Management Database
COTS	Commercial Off The Shelf
DB	Database
DBA	Database administrator
DC	Data center
DDOS	Distributed Denial of Service
DHCP	Dynamic Host Configuration Protocol
DMZ	Demilitarized Zone
DNS	Domain Name Server
DR/DRC	Disaster Recovery/ Disaster recovery center
EMS	Enterprise Management System
FMS	Facility Management Services
FTP	File Transfer Protocol
GIS	Geographical information system
GPRS	General Packet Radio Service
GSM	Global System for Mobile Communications
GUI	Graphical User Interface

Section 5: Scope of Work

Term	Definition
HDD	High level design document
HF	High frequency
HIPS	High Integrity Protection System.
ICT	Information and Communication Technologies
IDS	Interface Data Sheet
ILL	Internet lease line
IMS	Integrated Management Systems
ISO	International Organization for Standardization
ITECCS	Integrated Technology Enabled Citizen Centric Services
IPS	Intrusion Protection System
KPI	Key Performance Indicators
LAN	Local Area Network
LBS	Location based system
LDD	Low level design document
MDT	Mobile data terminals
MPLS	Multi-Protocol Label Switching
NCSP	National Cyber Security Policy
NMS	Network Management System
NoC	Network Operation Centres
OEM	Original Equipment Manufacturer
OFC	Optical Fiber Channel
OMC	Operational mirroring center
OS	Operating system
OWASP	Open Web Application Security Project
POE	Power over Ethernet

Section 5: Scope of Work

Term	Definition
POI	Point of Interest
PRI	Primary Rate Interface
PRV	Police Response Vehicle
PSTN	Public Switched Telephone Network
RAID	Redundant Array of Inexpensive Disks
RCA	Root Cause analysis
RDBMS	Relational database management system
RoIP	Radio over IP Gateway
SAN	Storage Area Network
SANS	SAN Storage
SDD	System design Document
SDLC	Software Development Life Cycle
SIEM	Security Information and Event Management
SLA	Service level agreement
SMLC	Serving Mobile Location Center.
SMTP	Simple Mail Transfer Protocol
SNMP	Simple Network Management Protocol
SOA	Service-Oriented Architecture
SoC	Service Operation Centres
SoP	Standard Operating Procedures
SQL	Structured Query Language
SRS	Software requirement specification
SSL	Secured Socket Layer
STQC	Standardization Testing and Quality Certification
TCP	Transmission Control Protocol

Section 5: Scope of Work

Term	Definition
ToS	Terms Of Service
UAT	User Acceptance Testing
UDP	User Datagram Protocol
UP POLICE 100	Uttar Pradesh Police Emergency Response Center
VAPT	Vulnerability Assessment and Penetration Testing
VHF	Very high frequency
VLAN	Virtual Local Area Network
VoIP	voice over Internet Protocol
VPN	Virtual Private Network
WAN	Wide Area Network
WASC	Web Application security consortium

Section 5A

Minimum Software Requirements Specifications

Section 5: Scope of Work

Instructions for filling Section 5 – A	
1	It is mandatory to fill up all sheets provided under this Section 5 – A
2	Bidder should fill up the specification sheets in the given format.
3	Bidder should ensure that none of the listed parameters are modified, deleted and no additional parameter is added. (Remarks, if any, should be indicated separately in the Remarks column)
4	In case the Bidder is proposing any additional product category that is not listed in this section, he may use additional sheets.
5	Wherever minimum requirements are specified, it is mandatory to indicate with a YES or NO, whether the solution being offered complies to the minimum requirements stated. In case of non-compliance, Details or remarks must be provided.
6	Incomplete or missing information or information not adhering to the prescribed format may not be considered during evaluation of bid and for award of marks.
7	The bidder is advised not to make any changes to any information in the functional requirements. For example, insert a row or delete a row or modify any other information like change the functionality required, etc. In case the bidder modifies any information the response would be rejected.

Section 5: Scope of Work

#	Description
1	IP PBX Server And Gateway
2	Automatic Call Distribution (ACD)
3	Voice Recording & Quality Monitoring
4	Multimedia System
5	Computer Telephony Interface (CTI)
6	Outbound Dialer
7	Contact Center Reporting System
8	Location Detection Interface
9	Computer Aided Dispatch (CAD)
10	Web and Desktop Application for Monitoring - Police officials
11	Mobile Application for Police officials
12	Mobile Application for citizen
13	Mobile application for GIS Data collection
14	CAD Mobile Software For MDT
15	Citizen Portal
16	UP POLICE 100 Intranet Portal
17	E-Learning Software
18	Web Based Training Application
19	Patrol Management system
20	Human resource management system (HRMS)
21	Finance management system
22	Document management system
23	Data Warehouse, Business Intelligence (BI), Reporting & Analytics
24	Enterprise Management System (EMS)
25	Identity and access management system

Section 5: Scope of Work

#	Description
26	Asset Management
27	Anti-virus
28	Directory services
29	Backup Software
30	Inventory Management
31	Operation Smile and Missing Person
32	Mobile Application for large scale Incidence and Death Management for Citizen and Police

Section 5: Scope of Work

IPPBX Server And Gateway						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes or No)	Standard or Customized or Bespoke	Provide Name of COTS product or component if relevant	Bidder's Comments
IPSG.REQ.001	General Requirement	IPPBX (Hardware & Software) shall be provided in high availability configuration.				
IPSG.REQ.002	Technology	The system should support IP or SIP as well as TDM. The TDM can be supported through an external Gateway.				
IPSG.REQ.003	Interface	Should be compatible with all telecom interfaces or Telecom Service providers				
IPSG.REQ.004	Type Of Interfaces	It should compatible with ISDN PRI, Analogy trunks, H.323 trunk, SIP trunk. It should also provide facility to integrate with GSM, Radio devices.				
IPSG.REQ.005	Type of Extension Support	Analogy, Digital, IP,SIP(3rd party SIP phone), Wireless IP Phone				
IPSG.REQ.006	Expansion of Extensions	IP Telephone extensions should be expanded based on quantities of data switch ports available.				

Section 5: Scope of Work

IPPBX Server And Gateway						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes or No)	Standard or Customized or Bespoke	Provide Name of COTS product or component if relevant	Bidder's Comments
IPSG.REQ.007	System Design	The IP PBX should be modular, expandable, embedded IP server-gateway/server based architecture, having Unix or Linux or equivalent operating system software based platform. The system shall have hot standby/Active-Active arrangement so that it should continue to operate in case of failure or maintenance of main processor or power supply or interfacing card or CPU etc. The system should support IP or SIP as well as TDM. The TDM can be supported through an external Gateway.				
IPSG.REQ.008	Conferencing	Conference bridge that can manage multiple calls (min 5) simultaneous conferees.				
IPSG.REQ.009	ACD And CTI Support	Support for ACD Call Centre with CTI and advance call routing				

Section 5: Scope of Work

IPPBX Server And Gateway						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes or No)	Standard or Customized or Bespoke	Provide Name of COTS product or component if relevant	Bidder's Comments
IPSG.REQ.010	Call Center Communication Support	Support Standard SIP based IP Platform, Session Initiation Protocol over an MPLS or Multiple Label Switching Protocol for connectivity of call center to other call center communications,				
IPSG.REQ.011	Outbound Calling Support	The system shall allow outbound calling from the IP Phones.				
IPSG.REQ.012	General Requirement	The system shall support local announcements and music on hold.				
IPSG.REQ.013	General Requirement	The system shall be able to provide interface to ISDN PRI				
IPSG.REQ.014	Features	The system shall be able to provide following features like Basic Call Setup, Name and Number Support, Transit Counter, called or Calling or Busy or Connected Name and Number, Name Identification, Diversion (Call forwarding), Diversion (Call forwarding) with Reroute, Call transfer.				

IPPBX Server And Gateway						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes or No)	Standard or Customized or Bespoke	Provide Name of COTS product or component if relevant	Bidder's Comments
IPSG.REQ.015	General Requirement	<p>The system shall have inbuilt web-based software for administration and maintenance of the system. It shall provide the following features:</p> <ul style="list-style-type: none"> ▶ The software shall provide GUI based interface for configuration and management of the system. ▶ The Software shall provide real-time information or alerts and reports regarding health status e.g. up or down status, performance & resource utilization statistics etc. of the system and its components. ▶ The system shall maintain the accounting and authorization logs of the users accessing the components of the telephony system. The logs shall include information about users who have login into the system. ▶ It shall be possible to schedule tasks. The tasks could be one or more operations that the user can specify to run at a predetermined date and time. 				

Section 5: Scope of Work

IPPBX Server And Gateway						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes or No)	Standard or Customized or Bespoke	Provide Name of COTS product or component if relevant	Bidder's Comments
		<p>► It shall provide reports about station alarms, trunk analysis, processor occupancy, system capacity etc.</p> <p>The system shall have inbuilt web-based software for administration and maintenance of the system. It shall provide the following features:</p> <p>► The software shall provide GUI based interface for configuration and management of the system.</p> <p>► The Software shall provide real-time information or alerts and reports regarding health status e.g. up or down status, performance & resource utilization statistics etc. of the system and its components.</p> <p>► The system shall maintain the accounting and authorization logs of the users accessing the components of the telephony system. The logs shall include information about users who have login</p>				

Section 5: Scope of Work

IPPBX Server And Gateway						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes or No)	Standard or Customized or Bespoke	Provide Name of COTS product or component if relevant	Bidder's Comments
		<p>into the system.</p> <ul style="list-style-type: none"> ► It shall be possible to schedule tasks. The tasks could be one or more operations that the user can specify to run at a predetermined date and time. ► It shall provide reports about station alarms, trunk analysis, processor occupancy, system capacity etc. 				
IPSG.REQ.016	General Requirement	The IP PBX system should provide complete inbuilt encryption capabilities or features without any external firewall, with the ability to encrypt all traffic (media and call control signalling) between IP phones, soft phones, call controllers and all other associated endpoints via a strong encryption algorithm like IPSec or SRTP etc.				
IPSG.REQ.017	General Requirement	The system shall provide features viz. silence suppression, comfort noise and voice activity detection.				

Section 5: Scope of Work

IPPBX Server And Gateway						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes or No)	Standard or Customized or Bespoke	Provide Name of COTS product or component if relevant	Bidder's Comments
IPSG.REQ.018	General Requirement	<p>It shall provide some features as give below but not limited to these this list. It can be expand further based on requirement</p> <ul style="list-style-type: none"> ▶ Call forward all, Call forward while busy, Call forward if no answer ▶ Call hold , Call Drop and retrieve ▶ Call Waiting and Retrieve (with configurable audible alerting) ▶ Call Join ▶ Call status (state, duration, number) ▶ Conference for atleast 5 parties ▶ Missed call information on IP phone ▶ Directory dial from phone ▶ Hands-free, speakerphone ▶ Last number redial ▶ Malicious Call ID and Trace ▶ Abbreviated Dial, Speed Dial 				
IPSG.REQ.019	General Requirement	The system should have IP address and connected to the network				

Section 5: Scope of Work

IPPBX Server And Gateway						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes or No)	Standard or Customized or Bespoke	Provide Name of COTS product or component if relevant	Bidder's Comments
IPSG.REQ.020	General Requirement	The system must support log services for both Internal and External commands and configuration history for at least a 30 days				

Section 5: Scope of Work

Automatic Call Distributor (ACD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes or No)	Standard or Customized or Bespoke	Provide Name of COTS product or component if relevant	Bidder's Comments
ACD.RE Q.001	General Requirement	ACD (Hardware & Software) shall be provided in high availability configuration.				
ACD.RE Q.002	General Requirement	ACD should be capable to identify Officers availability into the particular state call center and route the call to the identified call center. ACD should support selective call routing based on Officer capability. Eg. 112, 181 and 108				
ACD.RE Q.003	General Requirement	The ACD system shall be able to handle call & IP Phone as per capacity defined in scope				
ACD.RE Q.004	General Requirement	ACD functionality should be supported to propose Operating system				
ACD.RE Q.005	General Requirement	System should support skill base routing, multiple group support, priority handling and Queue status indicator. It is desirable that calls to certain trunk groups or to certain dialed numbers be assigned a higher priority than other calls and that calls which overflow from another split be queued ahead of other calls.				

Section 5: Scope of Work

Automatic Call Distributor (ACD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes or No)	Standard or Customized or Bespoke	Provide Name of COTS product or component if relevant	Bidder's Comments
ACD.RE Q.006	General Requirement	System should support all call center Officers as per requirement on a server and can be scalable by 50% minimum of existing Officer				
ACD.RE Q.007	General Requirement	The ACD should support help or assist on Officer's phone. Officer can use this functionality to request help from the split supervisor. This functionality automatically dials the split supervisor's extension and connects the Officer to the supervisor. Current call should go on hold as the Officer use this functionality.				
ACD.RE Q.008	Call overflow	The system should support call overflow routing e.g. if there is a queue in particular ACD group and another group is sitting idle, system should be able to transfer the calls to another group based on the settings defined by the administrator.				

Section 5: Scope of Work

Automatic Call Distributor (ACD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes or No)	Standard or Customized or Bespoke	Provide Name of COTS product or component if relevant	Bidder's Comments
ACD.RE Q.009	Virtual Seating or Free Seating	The proposed system must support the concept of virtual seating. Officers can log-on from any "soft phone" instrument within the system. Officers on the proposed system will be logically defined, rather than requiring a "soft phone" extension and termination. Each Officer on the system must have an individually assigned log- on identification number which permits individual statistics to be collected by the ACD management information system.				
ACD.RE Q.010	General Requirement	Automatic call distributor device should have capability to distribute the calls based on Skill level of the Officer like efficiency of the Officer and work load				
ACD.RE Q.011	General Requirement	Automatic call distributor device should have Least Occupied Officer details				
ACD.RE Q.012	General Requirement	Automatic call distributor device should have some functionality where Supervisor can observe the Officer pattern or silently monitor the Officer.				

Section 5: Scope of Work

Automatic Call Distributor (ACD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes or No)	Standard or Customized or Bespoke	Provide Name of COTS product or component if relevant	Bidder's Comments
ACD.RE Q.013	General Requirement	Automatic call distributor device should have functionality to provide best service to the caller like listen only, listen and talk only etc.				
ACD.RE Q.014	General Requirement	Automatic call distributor device should have local treatment for IP & ISDN				
ACD.RE Q.015	General Requirement	Automatic call distributor device should allow to compare specified skills, identify the skill that will provide the best service to a call, and deliver the call to that resource. If no Officers are currently available in that skill, the call is queued. To respond to changing conditions and operate more efficiently				
ACD.RE Q.016	General Requirement	Automatic call distributor device should have expected Time for waiting in routing and				
ACD.RE Q.017	General Requirement	Automatic call distributor device should have Call Center Location Preference Distribution				
ACD.RE Q.018	General Requirement	Automatic call distributor device should have Call Center Support for Locally Sourced Music and Announcements for calls that have been put on wait				

Section 5: Scope of Work

Automatic Call Distributor (ACD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes or No)	Standard or Customized or Bespoke	Provide Name of COTS product or component if relevant	Bidder's Comments
ACD.RE Q.019	General Requirement	Automatic call distributor device should have an integrated call center functionality for IP or non-IP Officers.				
ACD.RE Q.020	General Requirement	Automatic call distributor device should support load balancing of all calls				
ACD.RE Q.021	General Requirement	Automatic call distributor device should support for multiple announcements be played to a caller.				
ACD.RE Q.022	General Requirement	Automatic call distributor device should be able to track remote activity. The tracking for off-premises Officers must be the same as that for on-premises Officers.				
ACD.RE Q.023	General Requirement	Automatic call distributor device should support to provide Officer to be seen in a real-time view on a supervisor's workstation & Officer's activity should also show up on standard report				
ACD.RE Q.024	General Requirement	Automatic call distributor device should redirect unanswered calls.				

Section 5: Scope of Work

Automatic Call Distributor (ACD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes or No)	Standard or Customized or Bespoke	Provide Name of COTS product or component if relevant	Bidder's Comments
ACD.RE Q.025	General Requirement	Automatic call distributor device should provide the capability to the supervisors for logout Officers from their own voice terminal without having to go to the Officer's desk & it could be possible from a remote location.				
ACD.RE Q.026	General Requirement	The proposed system should support all states call center environment with multiple distinct sites as a single virtual call center operation. It should also have a capability to allocated call between sites based upon Officer skills, Officer availability, queue times, and other criteria.				
ACD.RE Q.027	General Requirement	Automatic call distributor device should support automated load-balancing capabilities and customized conditional routing capabilities. Proposed system should allow the comparisons to be made in queue conditions before routing calls so that split or skills are not overloaded or it can be made in queue conditions after routing calls to determine if calls should be re-routed to alternate destinations.				

Section 5: Scope of Work

Automatic Call Distributor (ACD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes or No)	Standard or Customized or Bespoke	Provide Name of COTS product or component if relevant	Bidder's Comments
ACD.RE Q.028	General Requirement	Automatic call distributor device should be able to collect request information, such as a zip code or account code, before the call is sent to an Officer and then route the call based upon that information. The system must have the ability to prompt a caller for information in terms of digit				
ACD.RE Q.029	General Requirement	All calls for each ACD group (Skilled or Hunt) must be redirected to a different extension after hours. Supervisors must be able to activate this from their voice terminal. Each group may have different hours of operation.				
ACD.RE Q.030	General Requirement	Automatic call distributor device should provide alternate routing automatically based upon time of day and day of week				
ACD.RE Q.031	General Requirement	Automatic call distributor device should use the estimated wait time or average speed of answer to make routing decisions.				
ACD.RE Q.032	General Requirement	The routing commands of the Automatic call distributor device should obtain information from another source like				

Section 5: Scope of Work

Automatic Call Distributor (ACD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes or No)	Standard or Customized or Bespoke	Provide Name of COTS product or component if relevant	Bidder's Comments
		TSP interface or a database before routing the call				
ACD.RE Q.033	General Requirement	Both Officers and supervisors should be notified via the telephone indicators when thresholds are reached for individuals and groups.				
ACD.RE Q.034	General Requirement	Automatic call distributor device should have a capability for Officers to record personalized greetings that can be played to the caller prior to connection to the Officer.				
ACD.RE Q.035	General Requirement	Calls can be queue to an individual Officer. Officer should be notified and a delay announcement be provided if the call queues for an individual Officer who is on another call.				
ACD.RE Q.036	General Requirement	Automatic call distributor device should support to force the Officers to be put into an ACW (After call work) state for a predefined period of time in order to provide rest time between calls, pace calls to the Officers, or limit the amount of time an Officer spends in completing wrap-up work				

Section 5: Scope of Work

Automatic Call Distributor (ACD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes or No)	Standard or Customized or Bespoke	Provide Name of COTS product or component if relevant	Bidder's Comments
ACD.RE Q.037	General Requirement	Automatic call distributor device should be capable to define certain Officers as "reserve" Officers for certain skill sets.				
ACD.RE Q.038	General Requirement	When interflowing calls between sites, automatic call distributor device should take advantage of Network Call Transfer and Deflection provided by the public switch telephone network to redirect an incoming ISDN call without requiring trunks to be tied up at the original destination after the call rerouting takes place.				
ACD.RE Q.039	General Requirement	Automatic call distributor device should allow to change or add or remove Officer skill dynamically while Officers are on calls.				
ACD.RE Q.040	General Requirement	Call should be routed to IP Phone and call related signal should be exchanged with the PC attached to the respective Officer				
ACD.RE Q.041	General Requirement	ACD or CTI should provide interface to signal call release, call hold, requests from call taker Officers				

Section 5: Scope of Work

Automatic Call Distributor (ACD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes or No)	Standard or Customized or Bespoke	Provide Name of COTS product or component if relevant	Bidder's Comments
ACD.RE Q.042	General Requirement	ACD system shall allow a call facility for Officer. If a call taker enters clerical mode that will be signalled to ACD call will not be routed to that Officer until it becomes free.				

Section 5: Scope of Work

Voice Recording System and Quality Monitoring						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes or No)	Standard or Customized or Bespoke	Provide Name of COTS product or component if relevant	Bidder's Comments
VRS.REQ.001	Recording	Voice Recording system shall be provided in high availability configuration.				
VRS.REQ.002	Recording	The recording software must use the recording interface provided by ACD or PBX API and should provide 100% voice call recordings.				
VRS.REQ.003	Recording	The recording software must provide a single license that can support recording on all IP Phones.				
VRS.REQ.004	Recording	The recording software must be able to record calls coming on any type of trunk line like PRI/IP and system should also record internal calls.				
VRS.REQ.005	Recording	The recording software should also be able to record IP endpoints				
VRS.REQ.006	Recording	The software should supports SIP or IP or TDM (Time Division Multiplexing) endpoints				
VRS.REQ.007	Recording	The software should record inbound calls and outbound calls				

Section 5: Scope of Work

Voice Recording System and Quality Monitoring						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes or No)	Standard or Customized or Bespoke	Provide Name of COTS product or component if relevant	Bidder's Comments
VRS.REQ.008	Recording	The software should support for search and replay of calls				
VRS.REQ.009	Recording	The software should have Rules-based storage and recording				
VRS.REQ.010	Recording	"Tag" or classify calls with user-defined labels for simplified search and replay				
VRS.REQ.011	Quality Recording	The software shall provide screen recording by 5% of total recording for quality and training purpose				
VRS.REQ.012	Quality Recording	The software should allow for voice only, data only, or voice and data recording based on specific event triggers				
VRS.REQ.013	Quality Recording	The software should support selective recording based upon user-defined business rules				
VRS.REQ.014	Quality Recording	The system should show the status of the Officers, which Officers are logged on.				
VRS.REQ.015	Quality Recording	The software should allow for the automatic refresh of the logged on Officer display.				
VRS.REQ.016	Quality Recording	The software should be able to provide real-time Officer monitoring.				

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Voice Recording System and Quality Monitoring						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes or No)	Standard or Customized or Bespoke	Provide Name of COTS product or component if relevant	Bidder's Comments
VRS.REQ.017	Storage	The software shall be able to provide online, and offline storage capability in any combination.				
VRS.REQ.018	Storage	Desires an open storage platform that can provide instant access to any recording with any amount of SAN storage desired.				
VRS.REQ.019	General Requirement	Should provide facility to store voice digitally in central database or to a hierarchical file system in any of the standard format like wav, mp3 etc.				
VRS.REQ.020	Storage	Archival to network attached storage or network drive should be included as a standard component with the recording platform				
VRS.REQ.021	General Requirement	Recording of each call should be stored In the system. Recording should be available for citizen to download the file through citizen mobile application also.				

Section 5: Scope of Work

Multimedia System (Email, Chat, SMS)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes or No)	Standard or Customized or Bespoke	Provide Name of COTS product or component if relevant	Bidder's Comments
MS.REQ.001	General Requirement	Multimedia system shall be provided in high availability configuration.				
MS.REQ.002	General Requirement	The system should allow non-voice communication channel like email, web chat and SMS to be routed to Non-voice Officer based on skill set and Officer availability				
MS.REQ.003	Email Channel	System should give queuing priority to emails received from users				
MS.REQ.004	Email Channel	System should assign different queuing priorities to the first email a user sends and all subsequent emails they send as part of the same conversation				
MS.REQ.005	Email Channel	System should automatically inform the contact (via email) that their email has been received				
MS.REQ.006	Email Channel	System should be capable to distribute mails based on keywords in the subject or the body of the emails. Different rules can be used to route the mail to the right Officer or queue				
MS.REQ.007	Chat Channel	The Web chat solution is required for users that prefer web chat as a medium to communicate with the Officer				

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MS.REQ.008	Chat Channel	The web chat solution must route the chat user to the respective non voice Officer in the relevant state				
MS.REQ.009	Chat Channel	An administrator should be able to configure the standard chat messages that will be presented during establishment of a chat session				
MS.REQ.010	SMS	The proposed solution is required for the users that prefer SMS as a medium				

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Computer Telephony Integration (CTI)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes or No)	Standard or Customized or Bespoke	Provide Name of COTS product or component if relevant	Bidder's Comments
CTI.REQ.002	General	The CTI shall be capable of integrating with other application like CRM as per requirement.				
CTI.REQ.003	General	The OS hosting the core CTI functionality shall be a flavour of UNIX or LINUX or Windows or any other supporting OS				
CTI.REQ.004	General	The CTI platform shall be able to provide the caller's CLI (Caller Identification) information. It shall be possible to send & populate Officers Desktop with CLI information				
CTI.REQ.005	General	The CTI link shall be able to pass events and information of Officer states and changes in Officer states as well as incoming calls to the computer applications, e.g.:- If the customer calls from the same no. from which caller had called earlier (registered Or unregistered), the CTI platform shall be able to automatically fetch and display at least last 5 service requests details for that customer.				
CTI.REQ.006	General	The CTI shall maintain the accounting and authorization logs of the users accessing the components of the telephony system. The logs shall include information users who have logged-in into the system and the specific commands entered by them.				

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Computer Telephony Integration (CTI)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes or No)	Standard or Customized or Bespoke	Provide Name of COTS product or component if relevant	Bidder's Comments
CTI.REQ.007	General	Management Access to the system shall be secure. Access mechanisms viz. SSH, HTTPS shall be used to facilitate user authentication, authorization, accounting (AAA) using LDAP or Active directory or Directory services etc. and provide information about users who have login into the system and the specific commands entered by them.				
CTI.REQ.008	General	It shall have web-based GUI console for administration, configuration & management of the system, Real-time information or alerts and reports regarding health status e.g. up or down status, performance & resource utilization statistics etc. of the system shall be available through this console.				
CTI.REQ.009	General	The system shall be SNMP (Simple Network Management Protocol) manageable such as SNMP v1, SNMP v2c and SNMP v3 protocols. It shall be able to send SNMP traps to the configured Network Management System (NMS).				

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Outbound Dialer						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes or No)	Standard or Customized or Bespoke	Provide Name of COTS product or component if relevant	Bidders Comments
OBD.REQ.001	General Requirement	The dialer should be an integrated part of the proposed contact center solution				
OBD.REQ.002	General Requirement	The Officer should be able to dial the particular distress caller number in case of emergency				
OBD.REQ.003	General Requirement	The dialer should support outbound preview dialing, either automated or Officer-initiated				
OBD.REQ.004	General Requirement	The dialer should provide campaign management tool for supervisors to manage the campaigns				
OBD.REQ.005	General Requirement	The dialer should have the capability to fetch missed calls data from the ACD and dial out whenever the Officer is available				
OBD.REQ.006	General Requirement	The system should be able to perform a screen pop with caller information based on the campaign				
OBD.REQ.007	General Requirement	The dialer should support campaign management for data selection.				
OBD.REQ.008	General Requirement	The dialer should support Do not call list				

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Contact Center Reporting System						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes or No)	Standard or Customized or Bespoke	Provide Name of COTS products or component if relevant	Bidder's Comments
RS.REQ.001	General	The reporting system (hardware or software) shall be provided in hot standby configuration.				
RS.REQ.002	General	Reporting System Should be able to support Automatic call distributor (ACD)				
RS.REQ.003	General	The system should support up all the configure Officers				
RS.REQ.004	General	The system shall provide both real-time information and historical reports.				
RS.REQ.005	General	The system shall allow the user to set threshold on the Contact Center parameters, which shall be notified in the form of different colour on the screen of the users				
RS.REQ.006	Search or filter Criteria	There shall be provision to sort and filter the reports based on various criteria via date and time, Officer ID etc.				

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Contact Center Reporting System						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes or No)	Standard or Customized or Bespoke	Provide Name of COTS products or component if relevant	Bidder's Comments
RS.REQ.007	Report Type	<p>Following category of real-time information & historical reports shall at least be available with specific dates and time with options of hourly, daily weekly and monthly, yearly in report criteria.</p> <ul style="list-style-type: none"> i. ACD Reports: Officer Login and Logout Reports ii. Officer State Changes Report iii. Queue Reports iv. Abandon Call Reports v. Call by Call Details Report vi. Officer or Call taker Performance Reports: Average Hold Time per Officer or call taker, Average Call Handle Time per Officer, No. of calls handled per hour or per shift per Officer, Login & Logout duration per Officer vii. Call volume reports - number of calls during each hour, number of abandoned calls, number of incomplete calls, busy signals and rollovers, length of calls, percentage of calls answered and serviced vs. total calls received, etc. 				
RS.REQ.008	Summary and Detailing	Both summary and detailed reports shall be available by the system				
RS.REQ.009	Detail Report	Display call detailed reports including caller numbers, dialed number, call transfers etc.				
RS.REQ.010	Outcalls Detail	Allow reports on outcalls made using system to which number and by which Officer or call taker				

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Contact Center Reporting System						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes or No)	Standard or Customized or Bespoke	Provide Name of COTS products or component if relevant	Bidder's Comments
RS.REQ.011	Calls data Detail	Provides detailed data for calls in which the caller waited in queue, using the following parameters: i. Queue time ii. Caller abandons iii. Specified set of skills				
RS.REQ.012	Hold Call Detail	Provide details of calls in which the caller is placed on hold, using the following parameters: i. Hold time ii. Number of holds per call iii. Caller abandoned from hold iv. Officer or Call taker disconnected first				
RS.REQ.013	Customization reports feature	The reporting platform shall provide report customization capability.				
RS.REQ.014	Report format	It shall be possible to export, save and print the reports in various formats viz. Excel, pdf and text files				
RS.REQ.015	Statistics	The system shall provide Officers with the real time statistics on their desktop in form of a wallboard. Officers should get a notification if they exceed any pre-defined thresholds in form of a colour change on this wallboard. eg. the wallboard display changes if a live call duration exceeds a threshold defined for calls				

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Contact Center Reporting System						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes or No)	Standard or Customized or Bespoke	Provide Name of COTS products or component if relevant	Bidder's Comments
RS.REQ.016	Schedule Report	It shall have feature to schedule generation of reports and automatic delivery of scheduled reports to e-mail. It shall also allow automatic delivery of both manually generated and scheduled reports to a file directory or folder				
RS.REQ.017	Archive	It should be possible to archive or store certain data for more than one year. Such selected data could be electronically flagged to enable easy classification and then separate storage also.				
RS.REQ.018	BI Integration	System should be capable to integrate the data with BI tools for data analysis				

Section 5: Scope of Work

Location Detection Interface						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS products Or component if relevant	Bidder's Comments
Call Location Detection						
LD.REQ.001	Call Location Detection	System should be capable to detect the location of the caller through subscriber detail record (SDR) database and call detail record (CDR).Bidder shall create the database for SDR and CDR details also.				
IOT Device Location Detection						
LD.REQ.002	IOT location	User will register on UP POLICE 100 portal with their IoT device information. If any case comes into CAD through registered devices. System should be capable to capture the latitude & longitude coordinates from registered devices (which are connected to the internet) and detect the location of the user.				
Mobile Application Location Detection						
LD.REQ.003	Mobile Apps	System should be capable to receive the latitude & longitude coordinates and detect the location of the user and Also should be able to integrate with CAD to send the location.				

Section 5: Scope of Work

SMS Location Detection						
LD.REQ.004	SMS	System should be capable to receive the SMS with mobile number and text message. It should detect the location of the sender based on SDR and CDR database				

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Computer Aided Dispatch (CAD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
Call taking module						
CAD.REQ.001	All Communication Channel	The CAD software should be capable to receive call (Mobile, Landline),SMS, chat, email, VOIP (like Skype to Skype),social media like Facebook, Twitter, IOT (internet of things) like sensors, panic button and mobile apps to create an appropriate case and send the relevant case to the Dispatch Officer after case assessment.				
CAD.REQ.002	Communication Channel - Call	The software should be able to display caller name, caller number and caller address on officer desktop. Data from Location Detection Interface: Automatic display of data on CAD screen Manual Data of the location: officer should be capable to enter the location of the caller on CAD Screen				
CAD.REQ.003	Communication Channel - SMS	The software should be able to automatically create a case using SMS data (Phone No. & Message) and display on the officer desktop				

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Computer Aided Dispatch (CAD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
CAD.REQ.004	Communication Channel - SMS	The officer should be able to assess the SMS case and send the case to Outbound call officer Or Dispatch Officer after assessment				
CAD.REQ.005	Communication Channel - Email	The software should be able to automatically create a case using Email data (Email content) with attachment (not more than 7 MB) if any and display on the officer desktop.				
CAD.REQ.006	Communication Channel - Email	The software should be able to send the case to Outbound dialer Or Dispatch Officer after assessment.				
CAD.REQ.007	Communication Channel - VOIP	The software should be able to integrated with VOIP channel like Skype where officer can speak with the users on skype and can do chat on Skype and officer can create a case into CAD based on case assessment.				
CAD.REQ.008	Communication Channel - IOT	The software should be able to receive the data from Internet of things (IOT) devices like sensors, panic button with location of the user & display on the officer desktop.				
CAD.REQ.009	Communication Channel - IOT	The officer should be able to send the case to the Outbound dialer Or Dispatch Officer after assessment				

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Computer Aided Dispatch (CAD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
CAD.REQ.010	Communication Channel - Chat	The software should have a functionality where officer can receive the chat which is initiated by the web user in real time through UP POLICE 100 portal. The officer should be able to chat with the user in real time with the user.				
CAD.REQ.011	Communication Channel - Chat	If an officer is offline then the citizen should be able to send the messages to chat window and message should be received as an email to officer				
CAD.REQ.012	Communication Channel - Chat	The software should be able to automatically create a case using Chat history (Message and any attachment during chat) and display on the officer desktop				
CAD.REQ.013	Communication Channel - Chat	The software should be able to create a case with chat history and should be able to send the case to Outbound dialer Or Dispatch Officer after assessment.				
CAD.REQ.014	Communication Channel - Social Media	The CAD should be able to create case with data received from Facebook, Twitter, WhatsApp and any two more open source API of social networking site. These other two open source API will be decided at later stage.				

Section 5: Scope of Work

Computer Aided Dispatch (CAD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
		This case will be created manually by officer into CAD software				
CAD.REQ.015	Merger the cases for voice and social media	The CAD should merge the cases if the citizen is calling from call and sharing the data through social media (Facebook, twitter, WhatsApp) like images, audio file, video file in the system. Data should be collated in one case in these kind of scenarios				
CAD.REQ.016	Communication Channel - Mobile Application	The CAD software should be integrated with Mobile Apps (registered with GoUP) to receive location of the caller and caller number.				
CAD.REQ.017	Call Classification	<p>The officer should be able to classify the case into distress case, enquiry case, departmental case, administrative, crank case, outbound call case etc. All such Classifications must be logged in the system. GoUP can add more classification at later stage.</p> <p>System will facilitate the CO to classify and transfer the call to available CO and DO based on regional languages and dialects of UP state. This will ease the communication with users calling from different geo region of the state</p>				

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Computer Aided Dispatch (CAD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
CAD.REQ.018	Call Transfer Or Call Forward	<p>CAD will provide feature to classify the volunteers of different foreign languages like Spanish, German, Thai, Nepali etc. available at various time slots round the clock. CO should be able to transfer and arrange conference call between dispatcher and volunteer of foreign language to assist the foreigner</p> <p>CAD officer should be capable to transfer the call to the call center officer in other states Or same state Or transfer to dialled number by the officer</p> <p>Caller's Call should not be disconnected during call forwarding Or Transferring into the system</p>				
CAD.REQ.019	SMS Case Transfer	A case to be considered where SMS is sent in Hindi and can't be read by the officer. Provision for profile of officers to be available to forward the SMS to appropriate officer				
CAD.REQ.020	Duplicate Calls	An incident may attract more than one call but each call is important as it may give details about eye witnesses and other supportive evidence. The system should suggest the possibility of a duplicate call based on the location, time, classification etc. Duplicate calls				

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Computer Aided Dispatch (CAD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
		should be cross referenced for easily retrievable through Grouping.				
CAD.REQ.021	Duplicate Calls	It should be possible to merge duplicate calls depending upon the situation. To achieve this, the system should have the capability for cross referencing of Case. Whenever a call is merged, the system should not generate a new dispatch.				
CAD.REQ.022	Duplicate Calls	The software should alert the communication officer, Dispatch officer, Supervisor etc. or about the possibility of a single incident - Duplicate call situation				
CAD.REQ.023	Voice Recording	Integration with Voice recording software provided by Bidder				
CAD.REQ.024	Case History	In some cases previous history of the caller can be important. It should be possible to create a reject list where crank callers could be added. Call 100 and 1090 caller history should be mapped to each other system				
CAD.REQ.025	Case creation and Appraisal	System should facilitate Case creation, by providing 'a drop down menu' for various functions like creation of an Case, files				

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Computer Aided Dispatch (CAD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
		attachment, location of nearby Case and other information related to an Case should be recorded and updated.				
CAD.REQ.026	Soft Phone Integration	<p>The software should have a capability of a Telephone window allowing officers to dial, answer, end a call, keep the call in busy status, and free a specific call. The functionality should also provide the status of incoming and outgoing calls.</p> <p>Soft phone should have a feature to select the state for call forwarding Or transferring Or conference call.</p>				
CAD.REQ.027	Emergency Call	The software should have capabilities to create Hot Calls like fire in a building, disaster emergency. The officer should fill minimum information for a Hot call. Dispatch Officer and Supervisor should receive the alert Or notification for the same. Dispatch Officer should be able to initiate action for quick response. To facilitate quick response to emergency calls Or hot call, there should be special and dedicated hot call button in the officer software.				

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Computer Aided Dispatch (CAD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
CAD.REQ.028	Case Status Display And Search	The officer GUI screen must be provided with 'Case Status Window' displaying the status of all Case like 'Pending', 'Open', 'Dispatched', 'Closed' etc. The software should be able to search the Cases using various search option. Like Case status, Case ID, phone no, Date & Time, over the time, Case Type etc.				
CAD.REQ.029	Archive Search	The officer should be able to search the archive records from the system.				
CAD.REQ.030	Location of Interest (LOI)	Once a Location of the incident is marked in the map, The officer shall have the facility to see for various 'Location of Interest (LOI)' in the vicinity of an case location like nearest Hospital, Blood Bank, Fire brigades. (Applicable in Dispatch Officer module also).				
CAD.REQ.031	Display of Station Name	The software should have the facility in the system to populate within it, the relevant Police Station name, Police Zone name (Based on Case Location through GIS), Police officers etc., Hospitals, Fire stations/Fire PRVs(Fire brigades), whenever a new case is created to save precious time in effective response to a distress call.				
CAD.REQ.032	Update Existing Case	The software should allow the officer to update Or modify existing case details for any additional or supplementary information related				

Section 5: Scope of Work

Computer Aided Dispatch (CAD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
		to the same. Also there should be provision to attach relevant files like pdf, Word etc. to the event, for ensuring an effective response.				
CAD.REQ.033	Alert Notification	Software should have capability to alert an officer or supervisor if a case is not attended in pre-defined time duration.				
CAD.REQ.034	Pre-defined Q&A	A freely configurable structured query script should be available within the software to assist the officer with pre-defined Q&A to ask for during the call, SMS response and web response. Based on the Case and Case subtype, the response for officer should be prompted.				
CAD.REQ.035	User-defined Alarm	The application should be configured with user-defined alarm modules that will be flashed on all the other screens in case of major incident, for ex. Terrorist attack.				
CAD.REQ.036	Case Cancel Or Close	The Case like rally should be expired automatically by the system once the time defined for the Case gets over or software should have a provision that supervisor can close Or Cancel Or postponed the Case manually into the system				

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Computer Aided Dispatch (CAD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
CAD.REQ.037	Call back	Officer should be able to call back the caller with the click of the mouse.				
CAD.REQ.038	Caller Address conflict handling	It should be possible to find the numbers whose subscriber information and caller information recorded by the officer are different and generate a report for the concerned agency.				
CAD.REQ.039	Case Acknowledgement	System should be capable to send an SMS to the caller stating the Case Number, acknowledgment, brief text of the complaint and caller or non Caller can verify the status through email Or SMS to Non Emergency helpline				
CAD.REQ.040	Incident scheduling and Mapping	Incident-scheduling functionality should be available in proposed software for future Cases like, VIP Visit, Rally, Festival etc. The software shall have provisions of setting the date and time for the particular Case, automatic Case should be generated on that date.				
CAD.REQ.041	Incident scheduling and Mapping	The Scheduled Case feature should allow operators to create, edit, delete, and search for a scheduled Case.				
CAD.REQ.042	Language Support	It should be possible to switch between English, Hindi language. Software should have support for Hindi, English language. Display				

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Computer Aided Dispatch (CAD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
		and input both functionality of given languages should be provided in the application.				
CAD.REQ.043	General Requirements	The system should support the use of primary incident type and a sub incident type to narrow down certain generic incidents. For example, a primary incident type could be "Robbery", sub incident type could be "Commercial", "Residential" etc.				
CAD.REQ.044	Call Conference	officer should be able to do conference call with officers in same center or operation mirroring center Or Other dialled number by the officer. Caller's Call should not be disconnected during the conference call by the system				
CAD.REQ.045	Other officer Status For Call Conference Or Forward Call	officer should be able to see the officers status (like busy Or Free) with officer extension and forward Or transfer Or conference call with the caller				
CAD.REQ.046	Transfer Call	Officer should be able to transfer the call to the dispatch officer to further assessment in emergency case				

Section 5: Scope of Work

Computer Aided Dispatch (CAD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
CAD.REQ.047	Outbound Call	officer should be able to see any type of call like Missed call Or Drop Call Case and can call back from the application.				
CAD.REQ.048	Outbound Call	officer should be able to dial the international number in case of international caller is in distress and contact to the proposed system.				
CAD.REQ.049	General Requirement	CAD Should have a capability to merge or split the case if the cases are of same type or different however it all depends on the situation				
CAD.REQ.050	General Requirement	The software should have the facility to receive the information from the other government agencies like Ministry of surface and transport data, existing emergency response system like dial 100, 1091 etc.				
CAD.REQ.051	Intelligent Login facility	The software should have a feature called intelligent Log-in & Log-out facility where same user should not be able to Log-in simultaneously at different machines when operating on LAN.				
CAD.REQ.052	Standard Operating Procedures (SOP's)	The software should have capabilities to set the Standard Operating Procedures (SOP) for officers. The same needs to be invoked during Case creation by the officer. It should also be possible to remodel the Case, Case sub types,				

Section 5: Scope of Work

Computer Aided Dispatch (CAD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
		priorities and type of service required by using a remodelling tool.				
CAD.REQ.053	Location History Storage and Optimization	The software should store Or update the location history of the caller in CAD database. This history should be gradually increased and optimized in the system as per requirement				
CAD.REQ.054	Physically Challenged Citizen	The CAD software should have a capability to categorise the citizen during the case analysis where the citizen is physically challenged such as Blind, Dumb, deaf and allocate the case to appropriate officer who handle these kind of citizens				
CAD.REQ.055	Physically Challenged Citizen	The officer should be able to communicate with physically challenged citizen through SMS, Mobile chat like whats app, facebook, twitter, video relay services				
Dispatch Module						
CAD.REQ.056	Dispatch vehicles to incident sites	The Software should suggest the patrol units of jurisdiction and/ or closest to the location of incident. The dispatcher shall choose which				

Section 5: Scope of Work

Computer Aided Dispatch (CAD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
		unit(s) to dispatch and it should be possible to do so with drag-and-drop ease.				
CAD.REQ.05 7	Dispatching	The Case, once classified and detailed by the communication officer, shall be passed by the system to Dispatch officer screen with the call of the user				
CAD.REQ.05 8	Case Information	The software should display all the information entered by the communication officer (CO) for a case. It should display the location as identified by the CO on the map. The Dispatch officer should also have the option of relocating the case.				
CAD.REQ.05 9	Dispatch Decision	The software should suggest vehicle for dispatch based on a pre-defined algorithm. The conditions could include jurisdiction, proximity, specialization, on duties resources etc. The Dispatch Officer shall choose which vehicles to dispatch and it should be possible to do so with a click of a button.				

Computer Aided Dispatch (CAD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
CAD.REQ.060	MDT Notification	The Dispatch Officer should be able to send SMS Or GPRS on MDT device, send push notification into MDT CAD application. Dispatch officer should be able to call the vehicle person through driver in case of emergency also				
CAD.REQ.061	Police Station Supervisor	The Dispatch Officer should be able to send SMS to the nearest police station supervisor and broadcast the same to multiple receivers if required.				
CAD.REQ.062	Case Status By Vehicle	The Dispatch Officer should be able to enter the status of the case as reported by the Responding Vehicle as an option, if the MDT cannot updated the status directly.				
CAD.REQ.063	Call Taking and Dispatching	Upon discovering that a call is of an emergency nature, the officer should be able to alert the Dispatch officer and other official users. They should begin dispatching as the call proceeds. Therefore, the case form should be displayed on the Dispatch console as it is				

Section 5: Scope of Work

Computer Aided Dispatch (CAD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
		being populated by the officer and updated.				
CAD.REQ.06 4	Vehicle Tracking and Status update	The GIS map should display the assigned, unassigned Vehicles using appropriate and intuitive graphical symbols. The Dispatch officer can command an assigned Vehicle to proceed to the case location through defined media or through dispatching the case information.				
CAD.REQ.06 5	Vehicle Tracking and Status update	The software should be capable of displaying the vehicles on the GIS map with colour coding according to their current status. Vehicle icon colour should change automatically with their change in status i.e., dispatch, en-route, at scene, available etc. The entire movement of a vehicle from being assigned to an case till arrival upon scene should be time stamped and monitored by the Dispatch Officer.Appropriate alerts should be				

Computer Aided Dispatch (CAD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
		generated when a PRV does not send its GPS location for a defined (changeable dynamically) time.				
CAD.REQ.06 6	Case Update	The software should have the capabilities to record all case related information changes Or updations made after the creation of case by the same or different officers, Dispatch Officers, Supervisors.				
CAD.REQ.06 7	Vehicle Playback	Proposed software should have the tools to provide the playback of the vehicle movement data, displayed on the integrated GIS Map.				
CAD.REQ.06 8	Alarm for new case	The software shall provide an alarm or alert for every new case entered in the system				
CAD.REQ.06 9	GUI based Pre-Defined Route	The software should have the provision available within GUI for daily patrolling of the Police Vehicles and their patrol locations. Tools for route creation should be provided and Police vehicles assigned				

Computer Aided Dispatch (CAD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
		for regular patrolling, to those pre-defined routes as per the requirement of Police.				
CAD.REQ.070	Audio - Visual Indication	The Software should provide with an indicator to indicate that an case has exceeded the predetermined time in its current status.				
CAD.REQ.071	Case Status	There should be facility for case symbolization. To facilitate easy identification of case status (pending, open, closed), cases should be displayed on map with different colours.				
CAD.REQ.072	Geo-fencing	The proposed software should have geo-fencing capability. Software tools should facilitate in allocating areas for all patrolling Vehicles depending on Police needs. It should suggest alternate routes and naka bandi check-points				

Section 5: Scope of Work

Computer Aided Dispatch (CAD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
CAD.REQ.07 3	Shortest Path indication	There should be provision for shortest route to guide Vehicles. Dispatch Officer can find from the GIS based map the shortest path from the dispatched vehicle to the case location and convey the shortest path direction to the dispatched vehicle. The shortest path feature allows user to identify the shortest path or route between the source and destination. The Dispatch Officer can direct the vehicle and assist them to reach the location using the shortest path.				
CAD.REQ.07 4	Display of resources & case on Map	There should be provision for display of field resources and case on map.				
CAD.REQ.07 5	Recording of all vehicle movements on map	There should be provision for recording of all vehicle movements on map - date wise, vehicle wise.				
CAD.REQ.07 6	Viewing	The software should facilitate viewing of cases and vehicle chronology. Status of all vehicles and cases on the map Police stations on the map.				

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Computer Aided Dispatch (CAD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
CAD.REQ.077	General Requirement	The Dispatch Officer should be able to dispatch the incidents to the Mobile Data Terminal fitted in the Police Vehicles over GPRS Or 2G Or 3G Or 4G (not limited to) and SMS as per requirement				
CAD.REQ.078	Security	The system should be secure and feature an intelligent Log-in & Log-out facility. The same user should not be able to login simultaneously at different machines when operating on LAN.				
CAD.REQ.079	Interoperability	Software should be capable of swapping between Dispatch Officer-Supervisor based on the User authentication, without the need to have separate licenses in each category.				
CAD.REQ.080	Standard Operating Procedures (SOP's)	The software should have the capabilities to set the Standard Operating Procedures (SOP's) for Dispatch Officer. The same needs to be invoked during creation of case or dispatch the vehicles.				
CAD.REQ.081	case Attachments	The software should have a provision to attach any file to an case. The file could be an image, video, audio etc.				
CAD.REQ.082	case Attachments	When the case is listed in the case list, there should be an indication that an case has a file				

Section 5: Scope of Work

Computer Aided Dispatch (CAD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
		attachment. The indication can be any icon for attachment				
CAD.REQ.083	case Attachments	All case attachments should be stored in the CAD database for easier backup				
CAD.REQ.084	General Requirements	A Dispatch Officer has the ability to create an incident for a vehicle per a vehicle's request based on the vehicle's observation of an activity (on view field case)				
CAD.REQ.085	General Requirements	A Dispatch Officer has the ability to dispatch an multiple number of vehicles on an incident or non-incident activity				
CAD.REQ.086	General Requirements	The originating Dispatch Officer will receive a notification when the stacked case has been worked by someone else				
CAD.REQ.087	General Requirement	A timer can be configured to notify the Dispatch Officer who originally stacked the call that the partial case has not been completed.				

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Computer Aided Dispatch (CAD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
CAD.REQ.08 8	Configuration & Creation of CAD Master Data base	<p>The software or a separate interface should create Or configure various master database as follows but not limited to the these databases. The list may increase based on solution requirement and functional specification</p> <ol style="list-style-type: none"> 1. Users & Roll creation of officers 2. Dispatch Zones Or Groups & Police Stations 3. Vehicles information 4. cases & cases Sub-type 5. Shift Master 6. Skill Master 7. LOI Creation 8. Add Agencies 9. Schedule Report 10. Schedule Backup 11. Language setting and dictionary creation 12. Response Plan 				
CAD.REQ.08 9	General Requirement	<p>Solution should have fully integrated GIS module and be able to identify the location of the caller, vehicle location on pre-loaded map (GIS Maps) into officer desktop. It should have the capability and tools to view attribute details of any object.</p>				

Section 5: Scope of Work

Computer Aided Dispatch (CAD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
CAD.REQ.090	General Requirement	There should be provision to display map from other sources in addition to the GIS map which is used in the system.				
CAD.REQ.091	Desktop GIS	GIS maps will be pre-loaded into the officer desktops for faster performance and data will be rendered on the maps from the center on real time				
CAD.REQ.092	GIS Functionality	Software should support the following GIS Functionality - a) Event and address objects- for duplicate Or repetitive calls b) GPS interface- for Patrol Vehicle tracking c) Any scale- map display d) Route module- regular & frequent monitoring of any particular location.				
CAD.REQ.093	GIS Interface	The user should be able to draw a fence on the map and determine points of interests that are within that fence. The POIs could be Hospitals, Health centres etc. The fence can be drawn as a polygon, rectangle or a circle				

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Computer Aided Dispatch (CAD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
CAD.REQ.094	GIS Interface	The user should be able to find closest POIs (Hospitals, Police Stations etc.) from a point identified on the map OR from an event location OR a MDT location.				
CAD.REQ.095	Real time location of the vehicle	The Software should enable the Dispatch Officer to see the real time vehicle location on the integrated GIS Map. Dispatching tools should have the facility to track the vehicle on the said map .				
CAD.REQ.096	Ability to track vehicles in dispatch mode	Tools must be provided to facilitate the Dispatch Officer to be able to monitor the assigned vehicle in various modes like – Dispatch mode, End-route mode, Arrive mode and Available mode. The entire movement of a vehicle from being assigned to any incident till arrival upon scene should be time stamped and monitored by the Dispatch Officer.				
CAD.REQ.097	GIS Functionality	Software should support at least the following GIS Functionality - a) MDT interface- for Patrol Vehicle tracking b) Scale- map should be displayed as per solution requirement and can be scalable further c) Route module- regular & frequent monitoring of any particular location. b) Event and address objects - for each type of				

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Computer Aided Dispatch (CAD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
		call and non call case (in case of SMS, chat, email etc.)				
CAD.REQ.09 8	Shortest Path Indication	There should be provision for shortest route to guide Vehicles. Dispatch Officer can find from the GIS based map the shortest path from the dispatched vehicle to the event location and convey the shortest path direction to the dispatched vehicle. The shortest path feature allows user to identify the shortest path or route between the source and destination. The Dispatch Officer can direct the vehicle and assist them to reach the location using the shortest path.				

Computer Aided Dispatch (CAD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
CAD.REQ.09	Case Location Free Draw	The software should support registering the Case locations not only in the form of point spots but also as line or polygon area. This is to handle situations wherein the affected Or reported points is an area e.g. accident on a road segment or riot in an area. The Dispatch officer should be able to freely draw to record such locations in the system.				
CAD.REQ.100	Hold Case	The software should support holding the Case for availability of specific vehicle Or responding unit. Once the field unit is available it gets dispatched automatically to the specified Case				
CAD.REQ.101	Support for Mobile Devices	Should support a latest OS like Windows, Linux etc.				
CAD.REQ.102	Archive Search	The officer should be able to search the archive records in the system				
CAD.REQ.103	SMS Delivery	SMS should be delivered by the system whenever a vehicle is allocated for dispatch. The message should be delivered to the vehicle mobile phone, Supervisor, Police station officer, District HQ officer of that				

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Computer Aided Dispatch (CAD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
		particular region or location of the caller, range officer etc.				
CAD.REQ.104	Notification	A Notification should be delivered by the system in the MDT CAD software whenever a vehicle is allocated for dispatch. The message should be delivered to the vehicle mobile phone, Supervisor, Police station officer, District HQ officer of that particular region or location of the caller, range officer etc.				
Supervisor Module						
CAD.REQ.105	Event monitoring	The software should facilitate supervision of Control Room operations. The Supervisor should be able to examine each event and ensure appropriate legal action is taken. The officer shall be able to call up the complainant to solicit feedback and satisfaction report. The Supervisor workstation should have the provisions for the functionalities of both communication officer and Dispatcher. Supervisor should be able to issue instruction pertaining to an event while it is in progress.				

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Computer Aided Dispatch (CAD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
CAD.REQ.106	Dashboard	Supervisor should have a bird view dashboard to monitor the activity of the Communication officer, dispatch officers				
CAD.REQ.107	General Requirements	Status of all Call Takers and Dispatchers are updated in real time on the supervisor's screen.				
CAD.REQ.108	General Requirements	The status of each call and the assignment of resources are updated on the view of supervisor.				
CAD.REQ.109	General Requirements	Supervisor shall have all facilities of call taker and dispatcher				
CAD.REQ.110	General Requirements	Supervisor should be able to issue instructions pertaining to a CFS or Case id while it is in progress.				
CAD.REQ.111	General Requirements	Planning & Scheduling for VIP movements: There should be provision for Planning and Scheduling of Events and Resource Movements. Events can be pre-planned in case of any future incidents. Resources can be pre-scheduled for dispatching in case of VIP movements				

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Computer Aided Dispatch (CAD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
CAD.REQ.112	General Requirements	Patrol Response Planning and Compliance: It should be possible for the operations commander and the web supervisors to plan the patrol response i.e. which static positions to hold, when; which areas need mobile patrolling, when.				
CAD.REQ.113	General Requirements	The software should have the provision available within GUI for daily patrolling of the Police units and their patrol locations.				
CAD.REQ.114	Archive Search	The officer should be able to search the archive data in the system				
CAD.REQ.115	Digitization and Assignment of routes	The software should have the provision of tools for creation of digitized patrolling route (daily, weekly etc.) assign one or more Police vehicles to these pre-defined routes along with check points.				
CAD.REQ.116	Planning of Patrol, Response & compliance monitoring	It should be possible for the Supervisors to monitor the patrol response i.e. which static positions to hold, when, which areas need mobile patrolling, when. It should be possible to analyse the extent to which the				

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Computer Aided Dispatch (CAD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
		prescription was followed by matching with actual AVLS information.				
CAD.REQ.117	System Settings	The Supervisor software should be able to undertake various system settings and configuration such as				
CAD.REQ.118		Allotment of telephone extension number				
CAD.REQ.119	System Settings	Screen setting (Single & Dual)				
CAD.REQ.120	System Settings	Map Path Setting				
CAD.REQ.121	System Settings	CCTV camera icon display on GIS Map				
CAD.REQ.122	Unlock of event	The Supervisor software should be able to unlock the assigned event in process and reassign to another dispatcher to take further action.				

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Computer Aided Dispatch (CAD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
CAD.REQ.12 3	Over the Air (OTA) Configuration	The Supervisor software GUI should have the provision to configure the GPS modems installed in the vehicles by sending the SMS commands such as vehicle location refresh rate, restart and any other commands supported by the GPS modem.				
CAD.REQ.12 4	Response Plan	The Supervisor software should be configure/ create the response plan based on Incident type like, Accident, Robbery, Terrorist attack etc.				

Computer Aided Dispatch (CAD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
CAD.REQ.12 5	Patrol Planning and Compliance	<p>a) The supervisor shall be able to assign stationary patrol locations and areas to be patrolled during a shift. It should also be possible for the supervisor to see if his instructions were complied. All this should be possible by simple operations of the mouse or a stylus. The Patrolling task should be assign using GIS map.</p> <p>b) Patrolling task shall be assigned to the patrol units. It should be possible to assign, report compliance and, review these Patrolling tasks. The Patrolling tasks would be surveillance of criminals, visit to senior citizens and victims, service of summons, warrants and other court processes, etc. It should be possible to add new kind of Patrolling tasks as well. There shall be several user-definable options for patrol charts like a chart for week days, another for Sundays and holidays, one for Fridays (Nawaz).</p> <p>c) Real time report of units deviating from the assigned chart shall be generated so that the dispatcher and the supervisors can take remedial action. Responding to a</p>				

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Computer Aided Dispatch (CAD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
		<p>CFS does not constitute a deviation.</p> <p>d) In different colours/ icons it should be possible to see the prescribed patrol positions/ area patrols on map for a number of units or for one unit over a period of time.</p>				
CAD.REQ.12 6	Patrol Planning Analysis on GIS Map	<p>It should be possible to overlay patrol charts, actual positions and, crimes reported over a period of times. This is to analyse tactical the decisions. Were the patrol positions well chosen, did units adhere to it, even then which crimes occurred.</p> <p>It should be possible for the supervisors to</p>				

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Computer Aided Dispatch (CAD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
		monitor the patrol response i.e. which static positions to hold, when; which areas need mobile patrolling, when. It should be possible to analyse the extent to which the prescription was followed by matching it with actual MDT information				
CAD.REQ.12 7	Create and View BOLO database	It should be possible to Create and View the BOLO (Be On Look Out) database, such as stolen vehicle etc.				
CAD.REQ.12 8	Closure Case	The supervisor software should be able to close the cases also				
Remote Viewer for Monitoring and Report Generation for Supervisor						
CAD.REQ.12 9	General Requirements	System shall send a SMS to the caller stating the CFS / Case Number, acknowledgment, brief text of the complaint and, the password for accessing his CFS /Case information on the police website				
CAD.REQ.13 0	General Requirements	Remote Viewer will be a web-based software monitoring tool to be used by the senior officers for monitoring of limited				

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Computer Aided Dispatch (CAD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
		CAD functionalities using LAN/WAN (Intranet) or Internet				
CAD.REQ.13 1	Monitoring	The software should support monitoring of all event. Critical functionality which related to Police control room namely - Event Monitoring, Police Vehicles Fleet Monitoring, Reports, Charts and Analysis.				
CAD.REQ.13 2	GIS Map	The software should have integrated GIS map with Zoom In, Zoom Out, PAN functionalities. GIS map should display the current scale.				
CAD.REQ.13 3	Event Monitoring	The software should support active event monitoring with detail information and location & Id on the map.				
CAD.REQ.13 4	Live Vehicle Tracking	The software should support live vehicle tracking of the response units with details. Like Vehicle Call sign, Police Station, Time Stamp, Speed and Current location.				
CAD.REQ.13 5	Play back history	The software should view vehicle history data of the response units with details. Like Vehicle Call sign, Police station, Time Stamp, Speed and Current location. Using				

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Computer Aided Dispatch (CAD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
		various search option like Date wise, Latest No. of Records.				
CAD.REQ.13 6	Geo-fencing	The proposed software should have 'Geo-fencing' capability. Software tools should facilitate in allocating areas for patrolling units depending on Police needs and also receive the Notification when vehicles cross the Geo-fence.				
CAD.REQ.13 7	Reports	The software should have in built web based Reporting module which should be able to generate the reports as per the requirement of UP Police. The reporting module should have an ability to create various reports using various options like Date wise, Police Station, Police Zone, event Type, Sub Type etc.				
CAD.REQ.13 8	Reports	The application should have a variety of reports(which includes but not limited to)following;				
CAD.REQ.13 9	Reports	1. Call Details				

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Computer Aided Dispatch (CAD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
CAD.REQ.140	Reports	3. Average Response Time				
CAD.REQ.141	Reports	4. Blank Calls, Crank Calls, Emergency Calls, Hot Calls, Information Calls				
CAD.REQ.142	Reports	5. Call per hour				
CAD.REQ.143	Reports	6. Police Station wise Response time				
CAD.REQ.144	Reports	7. Daily PCR				
CAD.REQ.145	Reports	8. Event Audit Logs				
CAD.REQ.146	Reports	9. Event Details, events Statistics				
CAD.REQ.147	Reports	10. Events Sub Type				
CAD.REQ.148	Reports	11. Fleet Summary				

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Computer Aided Dispatch (CAD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
CAD.REQ.149	Reports	12. Geo Fence IN / OUT				
CAD.REQ.150	Reports	13. Police Station / Police Zone wise Report				
CAD.REQ.151	Reports	14. Operator Status				
CAD.REQ.152	Reports	15. Operator activity Break code				
CAD.REQ.153	Reports	16. Vehicle activity, Daily activity summary, Dispatch response, stop				
CAD.REQ.154	Reports	17. Vehicle Status summary				
CAD.REQ.155	Reports	18. Vehicle Modem Maintenance Summary				
CAD.REQ.156	Reports	19. Vehicle Response Time				
CAD.REQ.157	Reports	20. Vehicle Stoppages				

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Computer Aided Dispatch (CAD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
CAD.REQ.158	Reports	21. Vehicle Daily Activity Summary				
CAD.REQ.159	Reports	22. Active event By event Types				
CAD.REQ.160	Reports	23. Zone and Police Station Wise Daily, Weekly				
CAD.REQ.161	Reports	24. Zone and Police Station Wise events & Vehicles				
CAD.REQ.162	Reports	25. Zone and Police Station wise event Count				
CAD.REQ.163	Dashboards	There shall be dashboards for different supervisory levels to give them graphical picture of the performance of those within their jurisdictions.				
CAD.REQ.164	Dashboards	1. Call Trend – day, week and month				
CAD.REQ.165	Dashboards	2. Average Response Time for call taking, dispatching and responding units.				

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Computer Aided Dispatch (CAD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
CAD.REQ.166	Dashboards	3. By Event Type				
CAD.REQ.167	Dashboards	4.By Police stations and Fire stations				
CAD.REQ.168	Dashboards	5. Vehicle Activity – Run Time and Halt Time				
CAD.REQ.169	Dashboards	6. CFS or case status (open, in progress, resolved, close etc.)				
CAD.REQ.170	Analysis	The reporting module should have an ability to create various GIS Analysis Reports. It should be possible to select the data on the basis of Police Zones, Police Stations, events, event Sub-type, Priority & date and time.				
CAD.REQ.171	Analysis	1. Incident Query				
CAD.REQ.172	Analysis	2. Incident Count				
CAD.REQ.173	Analysis	3. Repeat Incident				

Section 5: Scope of Work

Computer Aided Dispatch (CAD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
CAD.REQ.174	Vehicle Dash board	The reporting module should have inbuilt dashboard to view the performance and health check of GPS devices fitted in the patrol vehicles.				
CAD.REQ.175	Tools for Analysis	There should be software tools for response analysis, mapping and hot spot analysis. It should be possible to select the data on the basis of jurisdictions, date and time of the day range and other data fields. It should be possible to create Thematic Maps like pin mapping, Incident count mapping and repeat Incident count Mapping. It should be possible to do detailed analysis at least the following ways – Hot Spot Analysis, Trend Analysis, Neighborhood Analysis and Change over Time Analysis.				
Administrative Tool for Supervisor						
CAD.REQ.176	Configuration & Creation of CAD Master Data base	The application software should offer administration tool for optimum utilization of resources, master database creation and other analytical purposes. It shall enable the Systems Administrator to				

Section 5: Scope of Work

Computer Aided Dispatch (CAD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
		define users & configure their access privileges				
CAD.REQ.177	Configuration & Creation of CAD Master Data base	The software should create / configure various master database like:				
CAD.REQ.178	Configuration & Creation of CAD Master Data base	1. Users & Roll creation of operators				
CAD.REQ.179	Configuration & Creation of CAD Master Data base	2. Dispatch Zones / Groups & Police Stations				
CAD.REQ.180	Configuration & Creation of CAD Master Data base	3. Vehicles				
CAD.REQ.181	Configuration & Creation of	4. events & events Sub-type				

Section 5: Scope of Work

Computer Aided Dispatch (CAD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
	CAD Master Data base					
CAD.REQ.18 2	Configuration & Creation of CAD Master Data base	5. Shift Master				
CAD.REQ.18 3	Configuration & Creation of CAD Master Data base	6. Skill Master				
CAD.REQ.18 4	Configuration & Creation of CAD Master Data base	7. LOI Creation				
CAD.REQ.18 5	Configuration & Creation of CAD Master Data base	8. Add Agencies				
CAD.REQ.18 6	Configuration & Creation of	9. Schedule Report				

Section 5: Scope of Work

Computer Aided Dispatch (CAD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
	CAD Master Data base					
CAD.REQ.187	Configuration & Creation of CAD Master Data base	10. Schedule Backup				
CAD.REQ.188	Configuration & Creation of CAD Master Data base	11. Language setting and dictionary creation				
CAD.REQ.189	Configuration & Creation of CAD Master Data base	12. Response Plan				
CAD.REQ.190	General Requirements	CAD Mobile application is to provide the Mobile Workforce with full access to the police event data empowering them to make informed decisions while in the field. It will enable the mobile workforce to remain in communication with the command center allowing event				

Section 5: Scope of Work

Computer Aided Dispatch (CAD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
		assignment information to be delivered to the devices as required.				
CAD.REQ.19 1	Display Dispatch Message	The Mobile Application Software should display all the Dispatch related transactions assigned to the respective units. All the event information as dispatched by the dispatcher must be captured and displayed.				
CAD.REQ.19 2	Update Dispatch Status	On activating an assigned event by the mobile unit staff, the mobile application software should also display the Event & Vehicle Status – i.e. dispatch, en-route, at scene, back to base and closed.				
CAD.REQ.19 3	Event Details	On activating an assigned event by the mobile unit staff, the mobile application software should also display event information – i.e. Event-id, Event-Type, Caller Phone Number, Caller Name, Caller Address, on browser and Event location on map window.				

Section 5: Scope of Work

Computer Aided Dispatch (CAD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
CAD.REQ.194	MDT Software Interface	The system should have a provision for the MDT software to facilitate data communication link with the vehicle mounted location devices (GPS).				
CAD.REQ.195	MDT Software Interface	The MDT software should provide tools to manage all data message communication, including real-time vehicle positioning information, between the Dispatch Console and the vehicles.				
CAD.REQ.196	MDT Software Interface	The software must have facility to poll a specific GPS receiver of a vehicle to transmit its current positional information.				
CAD.REQ.197	MDT Software Interface	The software should have capability of detecting vehicles with speeding violations. In order to ensure the data security, the communication server software should be an integral part of the CAD software and not a 3rd party supply item.				
CAD.REQ.198	Remote Supervisory Interface	The CAD Software should support Remote Supervisory functions and provide CAD and GIS view. It should be possible for the Senior Officials in Districts, Police				

Section 5: Scope of Work

Computer Aided Dispatch (CAD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
		Stations belonging to jurisdictions etc. to update the status of the incident. Comprehensive Dashboard, Logs should be available for Jurisdictions and other officials.				
Message Communication Module						
CAD.REQ.199	Messaging	The CAD software should have an ability for messaging between officers (with in call center and other state call center)				
CAD.REQ.200	Messaging	The Messaging module should allow the operator to attach files to the message. These files could be any relevant information like images, videos, documents etc.				
CAD.REQ.201	Messaging	When a message with multiple attachments is opened, each attachment should open up in a tabbed interface within a message window to avoid too many windows being opened and cluttering the user's view				
CAD.REQ.202	Messaging	The software should allow a message to be sent as a broadcast to all logged in users including, communication officer, Dispatch Officers, supervisors and MDT users.				

Section 5: Scope of Work

Computer Aided Dispatch (CAD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
Other						
CAD.REQ.203	General Requirements	The application software should be capable of integrating with Telephony system including IPPBX, ACD and CTI interface.				
CAD.REQ.204	General Requirements	System shall be capable of retaining logs for a period of 3 months				
CAD.REQ.205	General Requirements	After the Case has been logged in by the officer, the CAD shall send a SMS to the Caller stating the Case Or Tracking Number along with a password as acknowledgement to the call made to the control room. The caller can use this number on department website (as and when available) to access the case progress details such as Action Taken Reports (ATR), file attachments, Remarks, or other information's as per the prevailing departmental policy for data sharing.				
CAD.REQ.206	Other agencies or even senior officers can be informed with pre-filled data	The software should have the provision to inform pre-defined case data to senior officers or other agencies				

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Computer Aided Dispatch (CAD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
	about case via SMS					
CAD.REQ.207	Accuracy	Dispatch Officer will be able to rate the accuracy of incident by CAD				
CAD.REQ.208	Acknowledgement of vehicle	CAD should have a facility which will tell the officer about the vehicle that it has been reached to distress caller location or not				
CAD.REQ.209	General Requirements	The software should be able to schedule & automatically generate reports. Web based Report module should have the ability to produce reports with appropriate charts and graphs				
CAD.REQ.210	General Requirements	The report generation tool should have the facility to provide the report in both printed and electronic format.				

Section 5: Scope of Work

Computer Aided Dispatch (CAD)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
CAD.REQ.211	General Requirements	The application should have a variety of reports like: 1. Call Details 2. Event Details 3. Fleet Summary 4. Operator activity 5. Vehicle activity , Daily activity summary, dispatch response 7. Active Event By Event Types 8. Efficiency of call takers speed of response, longest idle time, etc. 9. Facility to generate the various graphical reports.				
CAD.REQ.212	General Requirements	System shall record radio communications; should have provision for integrating with radio system.				
CAD.REQ.212	General Requirements	System will facilitate for Fire services which will include dispatch of incidents related to Fire over MDTs of Fire Brigades and Fire stations. System will facilitate to find out location of MDTs over GIS and dispatch case to the nearest vehicle along with concerned fire station and District Control room				

Section 5: Scope of Work

Web and Desktop Application for Monitoring - Police officials						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
Supervisor Application						
SA.REQ.001	General Requirement	This application will be having a login id and password to access the application.				
SA.REQ.002	Forgot Password	The application should have a functionality like forgot password etc. in case user lost its password. An auto email should be generated to the user with temp password and user can reset the password after entering the temp password into the application				
SA.REQ.003	User Dashboard	The Application should be having a dashboard for Supervisor at center with graphical picture like chart, table and KPIs of the officers etc. It should have a bird view of overall system and should be integrated with CAD software. System should be integrated with Business Analytics and intelligence to provide the detailed MIS reports to the user based on roles and permission in the system				

Section 5: Scope of Work

Web and Desktop Application for Monitoring - Police officials						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
SA.REQ.004	User Dashboard	<p>Each supervisor should be able to see state, district and city level data only on dashboard in graphical format. User should be able to navigate and drill down the data to see the details on click event on dashboard on requirement basis into the application.</p> <p>Some of the features are given below for sample purpose:</p> <ol style="list-style-type: none"> 1. Call Trend – day, week and month 2. Average Response Time for call or Non call cases (SMS, chat, email etc.), dispatching and responding units. 3. Event Type 4. Police stations 5. Vehicle Activity – Run Time and Halt Time 6. Vehicle distance travelled 7. Non Call trend like email, SMS, chat etc. - day, week and month etc. 8. Officer Key Performance Index (KPI) with details based 9. Shift details 10. View the performance and health check of MDT Devices fitted in the patrol vehicles 11. Should be integrated with other application like EMS to see the SLA, Networking data etc. 				
SA.REQ.005	Event monitoring	<p>The application should facilitate supervision of center operations.</p> <p>The Supervisor should be able to examine each case in the system for necessary action</p>				

Section 5: Scope of Work

Web and Desktop Application for Monitoring - Police officials						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
SA.REQ.006	Event Monitoring	The Supervisor shall be able to call up the complainant to solicit feedback and satisfaction report. The Supervisor workstation should have the provisions for the functionalities of all communication officers and Dispatch officers				
SA.REQ.007	Monitoring	The Application shall allow supervisors to monitor communication officer, dispatch officer, Vehicles performance etc. during a shift.				
SA.REQ.008	Unlock of Case	The software should be able to unlock the assigned Case in process and reassign to another dispatcher to take further action.				
SA.REQ.009	Search Options	The Application should have various search option in GUI to get the appropriate search results. Some of the search parameters are as follows for sample purpose: 1. State Name 2. Date & Time 3. Case Type like crime, robbery etc. 4. Case input mode like call, SMS, Email etc.				
SA.REQ.010	Response Plan	The application should be create the response plan based on Incident type like, Accident, Robbery, Terrorist attack etc.				
SA.REQ.011	GIS Map Integration	The application should be integrated with GIS map application to see the vehicles location of the state and				

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Web and Desktop Application for Monitoring - Police officials						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
		should be able to send the SMS and notification in case of emergency to the vehicle MDT.				
SA.REQ.012	Reporting	<p>These are the following sample category of real-time information & historical reports which shall be available and shall provide report customization capability.</p> <ol style="list-style-type: none"> 1. ACD Reports: officer Login and Logout Reports 2. officer State Changes Report 3. Queue Reports 4. Abandon Call Reports 5. Call by Call Details Report 6. Performance Reports: Average Hold Time per officer including dispatcher, Average Call Handle Time per officer, No. of calls handled per hour Or per shift per officer, Login & Logout duration per officer vii. Call volume reports - number of calls during each hour, number of abandoned calls, number of incomplete calls, busy signals and rollovers, length of calls, percentage of calls answered and serviced vs. total calls received, viii. other media communication channel reports like No. of SMS, No. of emails, No. of IOT etc. 				

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SA.REQ.013	Reports	<p>The following daily, Weekly and monthly trending reports must be provided by system in application. The given below reports are for sample purpose only. User should be able to download the report into the PDF Or Xls format.</p> <ol style="list-style-type: none"> 1. Average Speed of Answer 2. Service Level Percentage 3. Calls Offered 4. Calls Handled 5. Abandoned Call Rate 6. Average Talk Time 7. Average Hold Time 8. Average Handle Time 9. Longest Delay Before Answered 10. Outbound Call Volume 11. Outbound Call Duration 12. Average Delay before Abandon 13. Longest Delay before Abandon 14. Number of calls exceeding threshold (i.e. calls waiting in queue longer than given time) 15. Average time in queue by call type 16. After Call Work (Wrap Up) 17. Operator Hours Report 18. Staffing Distribution Report 19. Number of instances the operator found busy 20. Calls made Or referred to stakeholder institutions 21. Call type 22. Development of suitable Management Information System (MIS) <p>for reporting periodical progress in redress of public grievances</p> <ol style="list-style-type: none"> 23. Category Or Sub-Category-wise complaint registration Or resolution status 24. Category Or Sub-Category-wise Complaint escalation status 25. Area wise problem based (emergency and non-emergency) analytical report on monthly Or quarterly basis based on call data base. Prepare and submit problem based schematic maps for 				
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Section 5: Scope of Work

		<p>districts Or groups of districts</p> <p>26. Vehicle distance travelled to the caller Or user location</p> <p>27.Outcalls made using system to which number and by which officer</p> <p>28. GIS reports till village level</p>				
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Web and Desktop Application for Monitoring - Police officials						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
SA.REQ.014	Patrol Planning and Compliance	<p>a) The supervisor shall be able to assign stationary patrol locations and areas to be patrolled during a shift. It should also be possible for the supervisor to see if his instructions were complied. All this should be possible by simple operations of the mouse or a stylus. The Patrolling task should be assign using GIS map.</p> <p>b) Patrolling task shall be assigned to the patrol units. It should be possible to assign, report compliance and, review these Patrolling tasks. The Patrolling tasks would be surveillance of criminals, visit to senior citizens and victims, service of summons, warrants and other court processes, etc. It should be possible to add new kind of Patrolling tasks as well. There shall be several user-definable options for patrol charts like a chart for week days, another for Sundays and holidays, one for Fridays (Nawaz).</p> <p>c) Real time report of vehicles deviating from the assigned chart shall be generated so that the dispatcher and the supervisors can take remedial action. Responding to a CFS does not constitute a deviation.</p> <p>d) In different colours Or icons it should be possible to see</p>				

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Web and Desktop Application for Monitoring - Police officials						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
		the prescribed patrol positions Or area patrols on map for a number of vehicles or for one vehicle over a period of time.				
SA.REQ.015	IT Help Desk Application Integration	This application should be integrated with EMS application to create a ticket for IT help desk for any kind of issue into the center IT operation and can track the status as well.				
SA.REQ.016	Notification	The application should be able to receive the notification on the status of case updated by the officers into the system.				
SA.REQ.017	Call Conferencing	The application should be able to make a call conferencing				
SA.REQ.018	Messaging	The application should have an ability for messaging between officers				
SA.REQ.019	Case Closer	The supervisor should have a facility to update and close the case in to the system				

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Web and Desktop Application for Monitoring - Police officials						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
SA.REQ.020	Application Setting	The Supervisor software should be able to undertake various system settings and configuration such as given below. These features are for sample purpose. It may increase on later stages -Allotment of Telephone extension number -Screen setting (Single & Dual) - Register MDT devices - Register MDT SIM card				
SA.REQ.021	General Requirement	The Supervisor application should support the proposed OS for desktop and support internet browser like IE, Firefox, google chrome etc. which is installed on the supervisor desktop. The web application should be built on HTML5				
SA.REQ.022	General Requirement	The application should be integrated with BI and Analytics application to receive and send the data on regular interval of time into the system.				
Senior Official At State Level (Web Application)						
SA.REQ.023	General Requirement	This application will be having a login id and password to access the application.				
SA.REQ.024	Forgot Password	The application should have a functionality like forgot password etc. in case user lost its password. An auto email should be generated to the user with temp password and				

Web and Desktop Application for Monitoring - Police officials						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
		user can reset the password after entering the temp password into the application				
SA.REQ.025	User Dashboard	The Application should be having a dashboard for Senior official (SO) with graphical picture like chart, table and KPIs of the officers etc.				

Section 5: Scope of Work

Web and Desktop Application for Monitoring - Police officials						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
SA.REQ.026	User Dashboard	<p>Should be able to see their state, district and city level data and report on dashboard in graphical format. It will be restricted to see the other state data. User should be able to navigate and drill down the data to see the details on click event on dashboard on requirement basis into the application.</p> <p>Some of the features are given below for sample purpose:</p> <ol style="list-style-type: none"> 1. Call Trend – day, week and month 2. Average Response Time for call or Non call cases (SMS, chat , email etc.), dispatching and responding units. 3. Event Type 4. Police stations 5. Vehicle Activity – Run Time and Halt Time 6. Vehicle distance travelled 7. Non Call trend like email, SMS, chat etc. - day, week and month etc. 8. officer Key Performance Index (KPI) with details based 9. Shift details 10. View the performance and health check of MDT Devices fitted in the patrol vehicles 11. Should be integrated with other application like EMS to see the SLA, Networking data etc. <p>the user should be able to download the report into the PDF Or Xls format.</p>				

Web and Desktop Application for Monitoring - Police officials						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
SA.REQ.027	Event monitoring	The application should facilitate supervision of Center operations. The Senior officer should be able to examine each case in the system for necessary action				
SA.REQ.028	Search Options	The Application should have various search option in GUI to get the appropriate search results. Some of the search parameters are as follows for sample purpose: 1. State Name 2. Date & Time 3. Case Type like crime, robbery etc. 4. Case input mode like call, SMS, Email etc.				
SA.REQ.029	IT Help Desk Application Integration	This application should be integrated with EMS application to create a ticket for IT help desk for any kind of issue into the application and can track the status as well.				
SA.REQ.030	General Requirement	The application should be a Web based application and should support internet browser like IE, Firefox, google chrome etc. which is installed on the officer desktop. The web application should be built on HTML5				
SA.REQ.031	General Requirement	The application should be integrated with BI and Analytics application to receive and send the data on regular interval of time into the system.				

Web and Desktop Application for Monitoring - Police officials						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
Police Station Officer (Web Application)						
SA.REQ.032	General Requirement	This application will be having a login id and password to access the application.				
SA.REQ.033	Forgot Password	The application should have a functionality like forgot password etc. in case user lost its password. An auto email should be generated to the user with temp password and user can reset the password after entering the temp password into the application				
SA.REQ.034	User Dashboard	The Application should be having a dashboard for officer with graphical picture like chart, table etc.				

Web and Desktop Application for Monitoring - Police officials						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
SA.REQ.035	User Dashboard	<p>Should be able to see their city level data and report on dashboard in graphical format. User should be able to navigate and drill down the data to see the details on click event on dashboard on requirement basis into the application.</p> <p>Some of the features are given below for sample purpose. It may increase on later stages</p> <ol style="list-style-type: none"> 1. Call Trend – day, week and month 2. Average Response Time for call or Non call cases (SMS, chat , email etc.), dispatching and responding units. 3. Case Type 4. Police stations 5. Vehicle Activity – Run Time and Halt Time 6. Vehicle distance travelled <p>The user should be able to download the report into the PDF Or Xls format.</p>				
SA.REQ.036	Search Options	<p>The Application should have various search option in GUI to get the appropriate search results. Some of the search parameters are as follows for sample purpose:</p> <ol style="list-style-type: none"> 1. State Name 2. Date & Time 3. Case Type like crime, robbery etc. 4. Case input mode like call, SMS, Email etc. 				

Web and Desktop Application for Monitoring - Police officials						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
SA.REQ.037	Notification	The officer should be able to receive a notification into the application if the case is assigned to vehicle which is associated to its police station vehicle and user can track the status of the case. If no vehicle is available is available in officer area then notification should be generated into the Application				
SA.REQ.038	Case Update	Police station officer should be able to update the case into the system which is assigned to its police station vehicle.				
SA.REQ.039	IT Help Desk Application Integration	This application should be integrated with EMS application to create a ticket for IT help desk for any kind of issue into the application and can track the status as well.				
SA.REQ.040	Application Setting	The Supervisor software should be able to undertake various system settings and configuration such as given below. These features are for sample purpose. It may increase on later stages -Allotment of Telephone extension number -Screen setting (Single & Dual) - Register MDT devices - Register MDT SIM card				

Web and Desktop Application for Monitoring - Police officials						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
SA.REQ.041	General Requirement	The application should be a web based application and should support internet browser like IE, Firefox, google chrome etc. which is installed on the officer desktop. The web application should be built on HTML5				
SA.REQ.042	General Requirement	The application should be integrated with BI and Analytics application to receive and send the data on regular interval of time into the system.				
Monitoring Center officer (Web Based Application)						
SA.REQ.043	General Requirement	This application will be having a login id and password to access the application.				
SA.REQ.044	Forgot Password	The application should have a functionality like forgot password etc. in case user lost its password. An auto email should be generated to the user with temp password and user can reset the password after entering the temp password into the application				
SA.REQ.045	User Dashboard	The Application should be having a dashboard for users with graphical picture like chart, table and KPIs of the officers etc.				

Web and Desktop Application for Monitoring - Police officials						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
SA.REQ.046	User Dashboard	<p>Should be able to see all states, districts and city level data on dashboard in graphical format. It will not be restricted to see the other states data. User should be able to navigate and drill down the data to see the details on click event on dashboard on requirement basis into the application.</p> <p>Some of the features are given below for sample purpose:</p> <ol style="list-style-type: none"> 1. Call Trend – day, week and month 2. Average Response Time for call or Non call cases (SMS, chat , email etc.), dispatching and responding units. 3. Event Type 4. Police stations 5. Vehicle Activity – Run Time and Halt Time 6. Vehicle distance travelled 7. Non Call trend like email, SMS, chat etc. - day, week and month etc. 8. officer Key Performance Index (KPI) with details based 9. Shift details 10. View the performance and health check of MDT Devices fitted in the patrol vehicles 11. Should be integrated with other application like EMS to see the SLA, Networking data etc. <p>the user should be able to download the report into the PDF Or Xls format.</p>				

Web and Desktop Application for Monitoring - Police officials						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
SA.REQ.047	Search Options	<p>The Application should have various search option in GUI to get the appropriate search results. Some of the search parameters are as follows for sample purpose:</p> <ol style="list-style-type: none"> 1. State Name 2. Date & Time 3. Case Type like crime, robbery etc. 4. Case input mode like call, SMS, Email etc. 				
SA.REQ.048	IT Help Desk Application Integration	This application should be integrated with EMS application to create a ticket for IT help desk for any kind of issue into the application and can track the status as well.				
SA.REQ.049	General Requirement	The application should be a Web based application and should support internet browser like IE, Firefox, google chrome etc. which is installed on the officer desktop. The web application should be built on HTML5				
SA.REQ.050	General Requirement	The application should be integrated with BI and Analytics application to receive and send the data on regular interval of time into the system.				

Section 5: Scope of Work

Mobile Application for Police Officials						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
Supervisor Application						
MA.REQ.001	General Requirement	The Mobile Application shall provide tools for Monitoring of cases				
MA.REQ.002	General Requirement	This application will be having a login id and password to access the application.				
MA.REQ.003	Single Sign On (SSO)	The application should support single sign on feature to avoid need of re-login for various modules Or sections				
MA.REQ.004	Forgot Password	The application should have a functionality like forgot password etc. in case user lost its password. An auto email should be generated to the user with temp password and user can reset the password after entering the temp. password into the application.				

Section 5: Scope of Work

MA.REQ.005	User Dashboard	<p>Supervisor should be able to see state, district and city level data only on dashboard in graphical format based on pre-defined roles and permission to the user. User should be able to navigate and drill down the data to see the details on click event on dashboard on requirement basis into the application.</p> <p>Some of the features are given below for sample purpose:</p> <ol style="list-style-type: none"> 1. Call Trend – day, week and month 2. Average Response Time for call or Non call cases (SMS, chat , email etc.), dispatching and responding units. 3. Event Type 4. Police stations 5. Vehicle Activity – Run Time and Halt Time 6. Vehicle distance travelled 7. Non Call trend like email, SMS, chat etc. - day, week and month etc. 8. Officer Key Performance Index (KPI) with details based 9. Shift details 10. View the performance and health check of MDT Devices fitted in the patrol vehicles 11. Should be integrated with other application like EMS to see the SLA, Networking data etc. 				
MA.REQ.006	Push Notification	the application should be able to receive the push notification for each case which is created and updated in UP-PICC and OMC by the communication and dispatch Officers and other government users who are provisioned to access the application in the system				
MA.REQ.007	Unlock of Case	The software should be able to unlock the assigned Case in process and reassign to another dispatcher to take further action.				
MA.REQ.008	Case Update Or Close	The application should be able to update or close the case in the application.				
MA.REQ.009	GIS Map Integration	The application should be integrated with GIS map application to see the vehicles location of the state and should be able to send the SMS and notification in case of emergency to MDT Device of the vehicle				

Section 5: Scope of Work

MA.REQ.01 1	Call Button	The application should have a call button for the user to make a call. This should be linked to the mobile contact list.				
MA.REQ.01 2	Application Setting	The Supervisor application should be able to undertake various mobile application settings and configuration such as given below. These features are for sample purpose. It may increase on later stages - Disable the Push Notification				
MA.REQ.01 3	General Requirement	Mobile application should be supported on iOS ,Android, Windows OS platform and be upgradable or portable on any latest OS that may come in future.				
MA.REQ.01 4	General Requirement	Mobile application should be able to download from department website over the intranet				
Senior Officer At State Level						
MA.REQ.01 5	General Requirement	The Mobile Application shall provide tools for Monitoring of cases				
MA.REQ.01 6	General Requirement	This application will be having a login id and password to access the application.				
MA.REQ.01 7	Single Sign On (SSO)	The application should support single sign on feature to avoid need of re-login for various modules Or sections				
MA.REQ.01 8	Forgot Password	The application should have a functionality like forgot password etc. in case user lost its password. An auto email should be generated to the user with temp password and user can reset the password after entering the temp password into the application.				

Section 5: Scope of Work

MA.REQ.01 9	User Dashboard	<p>Each senior official should be able to see their state, district and city level data only on dashboard in graphical format. It will be restricted to see the other state data. User should be able to navigate and drill down the data to see the details on click event on dashboard on requirement basis into the application.</p> <p>Some of the features are given below for sample purpose:</p> <ol style="list-style-type: none"> 1. Call Trend – day, week and month 2. Average Response Time for call or Non call cases (SMS, chat , email etc.), dispatching and responding units. 3. Event Type 4. Police stations 5. Vehicle Activity – Run Time and Halt Time 6. Vehicle distance travelled 7. Non Call trend like email, SMS, chat etc. - day, week and month etc. 8. Officer Key Performance Index (KPI) with details based 9. Shift details 10. View the performance and health check of MDT Devices fitted in the patrol vehicles 11. Should be integrated with other application like EMS to see the SLA, Networking data etc. 				
MA.REQ.02 0	Push Notification	The application should be able to receive the push notification for each case which is created and updated in its center by the supervisor				
MA.REQ.02 1	Call Button	The application should have a call button for the user to make a call. This should be linked to the mobile contact list.				

Section 5: Scope of Work

MA.REQ.02 2	Application Settings	The application should be able to undertake various mobile application settings and configuration such as given below. These features are for sample purpose. It may increase on later stages - Disable the Push Notification				
MA.REQ.02 3	General Requirement	Mobile application should be supported on iOS Or Android Or Windows OS platform and be upgradable Or portable on any latest OS that may come in future.				
MA.REQ.02 4	General Requirement	Mobile application should be able to download from department website over the intranet				
MA.REQ.02 5	General Requirement	Mobile application will be formed considering Police and Fire department requirements				

Section 5: Scope of Work

Mobile Application For Citizen						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
MPC.REQ.001	General Requirement	Mobile application should be available on latest versions of iOS, Android, Windows OS platform and be upgradable.				
MPC.REQ.002	General Requirement	Citizen should be able to download the app from Application Store or official website of the GoUP				
MPC.REQ.003	General Requirement	Citizen should be able to register in the mobile application.				
MPC.REQ.004	Registration	Registration should have minimum features as follows. These features are for sample purpose and will be illustrative further: 1. Citizen Name 2. Mobile Number 3. email Id 4. Alternate 2 contact mobile and landline Number				
MPC.REQ.005	One Time Password Or Registration	An SMS and email should be sent to the Citizen with registration key to authenticate the Citizen mobile number and other contact information. This is one time registration process.				

Section 5: Scope of Work

Mobile Application For Citizen						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
MPC.REQ. 006	General Requirement	Citizen should be able to enter the registration key into the application and should be able to access the Mobile app functionality				
MPC.REQ. 007	General Requirement	Citizen should be able to accept the terms and conditions of the mobile app to access the mobile app features				
MPC.REQ. 008	SOS Button	Citizen should be able to send the SOS(Save our soul) alert into the system on click of the button with the current location of mobile app user				
MPC.REQ. 009	SOS Button	On pressing SOS Button on the Mobile application, it must send: -An automatic text message/SMS to registered contacts -Mobile location with coordinates or map link -Audio & Video for 10 Seconds along with the Location to the Control Room. -The Location Information are to be sent at regular intervals to provide real time GPS tracking for the location. -Messages are sent discreetly — without you having to even look at your device.				
MPC.REQ. 010	Call Button	Citizen should be able to call on the system emergency contact number after clicking on the Call button.				

Section 5: Scope of Work

Mobile Application For Citizen						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
MPC.REQ. 011	General Requirement	<p>Citizen should be able to see the other helpline features. Sample features are as follows:</p> <ol style="list-style-type: none"> 1. Frequently asked question (FAQ) based on emergency situations 2. Registration Profile setting 3. Nearest Police station location contact detail 4. Emergency contact no. and email id detail 				
MPC.REQ. 012	General Requirement	An SMS should be sent to alternate contact numbers of the citizen in case of SOS alert by the Citizen				
MPC.REQ. 013	General Requirement	GPS or location services should be auto activated when the user press the SOS alert				
MPC.REQ. 014	General Requirement	The application should get regular updates of app contact details like phone numbers , email IDs etc. Even certain updates like 'instructions' and 'guidance' to citizens automatically.				
MPC.REQ. 015	General Requirement	Mobile application should have user friendly GUI with easy navigation in application of the application features				
MPC.REQ. 016	Public Information centre	It will serve purpose of Public Information centre				

Section 5: Scope of Work

Mobile Application For Citizen						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
MPC.REQ. 017	General Requirement	Application should have a feature where citizen can provide the information to the UP Police 100 and necessary action can be taken by Police.				

Mobile Application for GIS Data Collection						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
GDC.REQ. 001	General Requirement	Application should be able to collect the data from the field in real time				
GDC.REQ. 002	General Requirement	Application should have fields like address, latitude, longitude, landmark etc.				
GDC.REQ. 003	General Requirement	Application should have a capability to click the picture and store the picture in mobile app Database				

Mobile Application for GIS Data Collection						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
GDC.REQ.004	General Requirement	latitude and longitude field should be filled automatically when the picture is saved in the mobile app database				
GDC.REQ.005	General Requirement	User should be able to fill all fields manually also in case automation to populate the field is not working properly				
GDC.REQ.006	General Requirement	user should be able to tag the location also in the mobile app				
GDC.REQ.007	General Requirement	Application should be able to process the data internally and store in the DB in pre defined format which will be synced in DC/DRC database				
GDC.REQ.008	General Requirement	Application should have a capability to plot the captured location on the GIS map and can show in the mobile application also				
GDC.REQ.009	General Requirement	Application should have a capability to put some comments in a text area manually by the user				
GDC.REQ.010	General Requirement	If the application is connected with the internet over GPRS then real time location of the user should be populated				

Section 5: Scope of Work

Mobile Application for GIS Data Collection						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
		automatically in the fields boxes when the user create a new address record in the mobile app				
GDC.REQ. 011	General Requirement	All the collected records should be in form of list with date and time stamp, title of the collected location and status of sync in DC Or DR or not				
GDC.REQ. 012	General Requirement	If the user is trying to save the duplicate address then application should give an alert to the user about the duplicate record				
GDC.REQ. 013	General Requirement	The records (which are new created, modified of the existing records in the mobile app) should be sync in the DC Or DR				
GDC.REQ. 014	General Requirement	The sync records location should be plotted on loaded GIS map in the mobile app also				
GDC.REQ. 015	General Requirement	User should be able to take the picture of real time location in the filed through application				

Section 5: Scope of Work

Mobile Application for GIS Data Collection						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
GDC.REQ.016	General Requirement	Application should remove the picture which has already been synced in DC Or DR database or file system location				
GDC.REQ.017	General Requirement	Application should provide general search also to search the collected data				
GDC.REQ.018	General Requirement	Application should support Hindi and English language including input fields				
GDC.REQ.019	General Requirement	The software should be capable to update Or upgrade the version of the software including GIS maps installed in the mobile application remotely.				
GDC.REQ.020	General Requirement	Mobile application should be available on latest versions of iOS, Android, Windows OS platform and be upgradable				
GDC.REQ.021	General Requirement	Mobile application should be able to download from department website over the intranet				

Section 5: Scope of Work

CAD Mobile Software For MDT						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
MDT.REQ.001	General Requirement	MDT software is to provide the Mobile Workforce with full access to the assigned case with distress GIS Map location to empower them to make informed decisions while in the field.				
MDT.REQ.002	General Requirement	The system will have feature of single sign on to authorize the user and this feature will be integrated with attendance module linked HRMS				
MDT.REQ.003	General Requirement	MDT software will enable the mobile workforce to be in contact with Officer over the call, SMS, CAD Application notification etc.				
MDT.REQ.004	Case Acknowledgement	The Dispatcher shall send cases data to the Vehicle on its MDT and the Vehicle staff shall initiate the response by accepting the Case on the MDT. The software shall be capable of delivering the acknowledgment to the CAD software for receipt of case information on the MDT device.				
MDT.REQ.005	Display Dispatch Message	The Software should display all the Dispatch related transactions assigned to the respective Vehicles.				
MDT.REQ.006	Case Details	On activating an assigned Case by the vehicle staff, the Software should also display Case information – i.e. Case id, Case type, user Phone Number, user Name, user Address, into the Software and user location on map. The map should be provided by GIS Map service provider				

Section 5: Scope of Work

MDT.REQ.007	Update Dispatch Status	On activating an assigned case Or incident by the mobile vehicle staff, Software should also display the user Or caller detail, location & Vehicle Status like dispatch, end-route, at scene, back to base and closed.				
MDT.REQ.008	Update Case Status	It should also enable the MDT users to report case closure.				
MDT.REQ.009	Communication	The MDT users should have the ability to provide information to the call center Officer Or dispatcher Or Supervisor through SMS messages and case closing reports				
MDT.REQ.010	Update GIS Map	MDT GIS map should be for defined local area (such as Police stations etc). And that updated data from central server can be refreshed into it remotely.				
MDT.REQ.011	User Location	The Software should have the capability to display real-time location of the User on the map and tracking of the user on map				
MDT.REQ.012	Vehicle Location (AVLS Software Interface)	The software should be capable to send the location of the vehicle in real time to the data center				
MDT.REQ.013	Action Taken Report	It should also enable the MDT users to report Action Taken by attaching Audio Files, Image Files, Video Files and Text Entry. All Action Taken data should be available to Dispatcher and Supervisor through logs.				
MDT.REQ.014	Communication	The Software should support GPRS Message Or SMS Capabilities between the dispatch consoles and vehicle.				

Section 5: Scope of Work

MDT.REQ.015	MDT User Status	The Software should have functionality to update the Status like Available, Away, Attending to cases, On Break , etc. of the police personnel.				
MDT.REQ.016	Offline Support	MDT user should be able to update the transaction as required in the application even in case of poor or no network connectivity. All the transaction should be stored in the MDT devices and can be sync once the devices is connected				
MDT.REQ.017	Software Update and GIS Map Update	The software should be capable to update Or upgrade the version of the software including GIS maps installed in the MDT remotely.				
MDT.REQ.018	OS support	Mobile application should be available on latest versions of Android OS platform and be upgradable Or portable with latest updates in the application				
MDT.REQ.019	Fire Services	Mobile application for MDT of Fire services will have additional features like contact facility to UP Call 100, District control room and concerned fire stations. Application will also have list of fire causes like chemical, jungle fire, cylinder blast fire and call closure mechanism				

Section 5: Scope of Work

Citizen Portal						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS products Or component if relevant	Bidder's Comments
CP.REQ.001	General requirement	The Portal should be hosted at the data center infrastructure being installed by the bidder				
CP.REQ.002	General requirement	The Portal should be state of the art with user friendly interface, informative, interactive and easily accessible.				
CP.REQ.003	Citizen Registration	The Portal should be able to register citizens on the website.				
CP.REQ.004	Citizen Registration	The registration should include data such as name, contact information, mobile number, IoT device detail, email, address, photo ID, gender, blood group, emergency contacts etc. These fields are for sample purpose. It may modify Or increase on later stages.				
CP.REQ.005	Citizen Registration	The information collected from the registration should be verified with one time password on the Citizen mobile number.				
CP.REQ.006	Citizen Registration	Once the Citizen has registered, the Citizens would be prompted to download the mobile application				
CP.REQ.007	Search Functionality	The Portal should be searchable to query registration patterns, users, regional specifics etc.				
CP.REQ.008	Portal Features	The Portal should have the following features for citizens:				
		Overview about emergency helpline services				

Section 5: Scope of Work

Citizen Portal						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS products Or component if relevant	Bidder's Comments
		Brief statistics of emergency helpline like No. of cases registered, No. of resolutions etc.				
		Administrative setup for GoUP				
		Access to various literature related to rules and regulations				
		Feedback and RSS feed.				
		News Section				
		Contact us				
		Link for administrators for various modules Or components including components for security, database, user administration etc.				
		Information related to Rights to Information Act that may be required to be made public.				
		Information about various acts and sections relevant to emergency helpline services and all services of UP Police				
		MIS reports for citizen, GoUP and identified stakeholders.MIS reports from the BI application also need to be integrated with the portal.				

Section 5: Scope of Work

Citizen Portal						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS products Or component if relevant	Bidder's Comments
		The Portal shall be linked to social media sites (Facebook, twitter etc.) and count should be displayed of no. of likes of the UP POLICE 100 Portal				
		An effective presence on all major social media platforms like Facebook, twitter, YouTube, Instagram etc. will be created and kept undated. This will be integrated with the citizen portal				
		The Portal shall have link for downloading the application from App stores (Android, iOS, Windows etc.)				
		The Portal shall provide the steps for downloading, installation and using the application.				
		The Portal shall also have a short video on how to use the mobile application.				
		The Portal should have a section on Frequently Asked Questions (FAQ) with pre-defined answers.				
		The Portal should have a contact information on emergency numbers Or non-emergency numbers etc.				

Section 5: Scope of Work

Citizen Portal						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS products Or component if relevant	Bidder's Comments
CP.REQ.009	Chat Window	The Portal should be integrated with Chat Window functionality where citizen can do the chat with call center Officer. Citizen should be able to initiate the chat after giving the location of the chat location, citizen name and contact number.				
CP.REQ.010	Common requirements of Portal	The portal should meet and compliant the web design and security guidelines of Govt. of India				
		The system should adhere to Best Or Standard programming practices and other recommended security practices that can help authorized user to easily extend the functionality of the portal.				
		The system shall provide consistent look & feel, Themes, Navigation to the users and the standards defined for content, structure and presentation of the portal shall be applied and followed throughout the portal.				
		All the sections of the portal should be of dynamic nature and must be supported with easy content management and administration of the same.				
CP.REQ.011	Portal Administrator	The Portal should have administrator console where administrator can manage the content, users and can create portal dynamic menus (a common navigation bar should be included on all pages)				
		The Portal administrator should be able to modify Or design custom look and feel of the portal with minimal change in software code.				

Section 5: Scope of Work

Citizen Portal						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS products Or component if relevant	Bidder's Comments
CP.REQ.012	Portal Administrator - Publishing	The system should allow the authorized user to publish Emergency Helpline news, articles, events etc.				
CP.REQ.013	Portal Administrator - News Content	The system should allow the user to upload the emergency helpline NEWS content with following details:				
		• News Heading				
		• Date of publication				
		• News source				
		• Reported by				
		• News room				
		• News search key word				
		• News main content				
		The system should allow the user to attach image related to news				
CP.REQ.014	Multimedia Support	The system should adhere to automatically format images and other rich media based on predefined standards for resolution, size etc.				

Section 5: Scope of Work

Citizen Portal						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS products Or component if relevant	Bidder's Comments
CP.REQ.015	Security	The system shall ensure virus check for all files that are uploaded in Solution e.g. detect malicious executables.				
CP.REQ.016	Security	Where ever documents are involved, the system should allow the user to assign a note Or annotation to a document image.				
CP.REQ.017	Security	The system shall support provide support for HTTPs Or SSL for secured data transfer and session timeouts.				
CP.REQ.018	Single Sign On Access	Internal user should be able to access the internet portal using single sign on and should be able to access the relevant application assigned to the user as per roles and permission				
CP.REQ.019	Internal Application Access	All the internal application like HRMS, Finance Management, Patrol Management etc.. Should be able access by the internal user through this portal based on roles and permission to the user				
CP.REQ.020	Intranet portal access	Portal should be integrated with Intranet portal for internal user				
CP.REQ.021	Internal user detail	Information for Internal user on portal will be available to entire hierarchy of the field officer as per jurisdiction over the internet starting with station house officer, circle officer, additional SP city or rural area, SSP/SP, DIG, IG, IG (law and order), ADG (law and order), DGP based on user roles and permission				

Section 5: Scope of Work

Citizen Portal						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS products Or component if relevant	Bidder's Comments
CP.REQ.022	Audit Trail	The system shall display the date and time of last login when the user logs in.				
CP.REQ.023	Portal Content Management	The system should allow the authorized user, through a user friendly GUI, to manage Or edit the content of the various web pages. It shall allow authorized user to manage and maintain content of website in an efficient manner. User should be able to perform advanced update maintenance jobs on website content with minimal technical knowledge on website development.				
CP.REQ.024	Portal Content Management	The front end user interface must be integrated with content management solution for easy management and change of theme design.				
CP.REQ.025	Portal Content Management	The system should allow the authorized user, through a user friendly GUI, to design and create a web page dynamically and publish it through an approval workflow. It should provide feature to define the position of the web page like center frame, left frame or right frame etc.				
CP.REQ.026	Portal Content Management	The system should allow the authorized user, through a user friendly GUI, to create meta tag search of each web page.				
CP.REQ.027	Portal Content Management	It should allow the authorized user to upload any image, on the page and further allow him to define position of the image on web page				
CP.REQ.028	Portal Content Management	The system should allow the authorized user, through a user friendly GUI.				

Section 5: Scope of Work

Citizen Portal						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS products Or component if relevant	Bidder's Comments
CP.REQ.029	Search Content	The system should be able to search the Fire, Medical, Police and other databases as per requirement.				
CP.REQ.030	Search Archive Content	The system should be able to search the archive content through internet portal				
CP.REQ.031	Reporting access	All reports from BI Or Reporting engine should be available to authorized users. There should be user access control on Citizen portal				
CP.REQ.032	Portal Content Management	The system should allow the user for meta tag basis search option. The search result should show path of the web page with brief description of the page or else first 20-30 words of the page. Solution should further allow drill down to the page.				
CP.REQ.033	Mobile Compatibility	the portal should be accessible on Smartphone also				
CP.REQ.034	IoT Integration	User can register their IOT devices with details on Portal				
CP.REQ.035	Public Information Centre	It will serve purpose of Public Information centre				

Section 5: Scope of Work

UP POLICE 100 Intranet Portal						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
UP POLICE 100.REQ.0 01	General requirement	The Portal should be hosted at the data center infrastructure being installed by the bidder				
UP POLICE 100.REQ.0 02	General requirement	The Portal should be state of the art with user friendly interface, informative, interactive and easily accessible.				
UP POLICE 100.REQ.0 03	Search Functionality	The Portal should be searchable to query registration patterns, users, regional specifics etc.				
UP POLICE 100.REQ.0 04	Other application integration	Portal should be integrated with HRMS, Finance, Asset Management application based on the user pre-defined roles and permission				
UP POLICE 100.REQ.0 05	Helpdesk integration	System should be integrated with IT helpdesk where user can create the ticket for any kind of system issue in the system and that should be linked with EMS				
UP POLICE 100.REQ.0 06	Mobile App store	System should have a mobile app store where user can download the mobile application which are deployed for department usage like supervisor application, GIS data collection ,				

Section 5: Scope of Work

UP POLICE 100 Intranet Portal						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
		monitoring apps, MDT CAD apps etc. based on user defined roles and permissions				
UP POLICE 100.REQ.0 07	Single Sign on Access	System should have a single sign on integration to access the other application which are integrated with this system and that should be based on user defined roles				
UP POLICE 100.REQ.0 08	Internal user detail	Information for Internal user on portal will be available to entire hierarchy of the field officer as per jurisdiction over the internet starting with station house officer, circle officer, additional SP city or rural area, SSP/SP, DIG, IG, IG (law and order), ADG (law and order), DGP based on roles and permission				
UP POLICE 100.REQ.0 09	Portal Features	The Portal should have the following features for citizens:				
		Overview about emergency helpline services				
		Brief statistics of emergency helpline like No. of cases registered, No. of resolutions etc.				

Section 5: Scope of Work

UP POLICE 100 Intranet Portal						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
		Administrative setup for GoUP				
		Access to various literature related to rules and regulations				
		Contact us				
		Link for administrators for various modules Or components including components for security, database, user administration etc.				
		MIS reports for citizen, GoUP and identified stakeholders.MIS reports from the BI application also need to be integrated with the portal.				
		The Portal shall provide the steps for downloading, installation and using the application.				
		The Portal shall also have a short video on how to use the mobile application.				
		The Portal should have a section on Frequently Asked Questions (FAQ) with pre-defined answers.				

Section 5: Scope of Work

UP POLICE 100 Intranet Portal						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
		The Portal should have a contact information on emergency numbers Or non-emergency numbers etc.				
UP POLICE 100.REQ.0 10	Webmail Access	The Portal should be integrated with GoUP email solution where GoUP users can access the email with their login id and password. This access is not for citizens.				
UP POLICE 100.REQ.0 11	Portal Administrator - Publishing	The system should allow the authorized user to publish Emergency Helpline news, articles, events etc.				
UP POLICE 100.REQ.0 12	Portal Administrator - News Content	The system should allow the user to upload the emergency helpline NEWS content with following details:				
		· News Heading				
		· Date of publication				
		· News source				
		· Reported by				

Section 5: Scope of Work

UP POLICE 100 Intranet Portal						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
		· News room				
		· News search key word				
		· News main content				
		The system should allow the user to attach image related to news				
UP POLICE 100.REQ.0 13	Multimedia Support	The system should adhere to automatically format images and other rich media based on predefined standards for resolution, size etc.				
UP POLICE 100.REQ.0 14	Security	The system shall ensure virus check for all files that are uploaded in Solution e.g. detect malicious executables.				
UP POLICE 100.REQ.0 15	Security	Where ever documents are involved, the system should allow the user to assign a note Or annotation to a document image.				
UP POLICE 100.REQ.0 16	Security	The system shall support provide support for HTTPs Or SSL for secured data transfer and session timeouts.				

Section 5: Scope of Work

UP POLICE 100 Intranet Portal						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
UP POLICE 100.REQ.0 17	Audit Trail	The system shall display the date and time of last login when the user logs in.				
UP POLICE 100.REQ.0 18	Portal Content Management	The system should allow the authorized user, through a user friendly GUI, to manage Or edit the content of the various web pages. It shall allow authorized user to manage and maintain content of website in an efficient manner. User should be able to perform advanced update maintenance jobs on website content with minimal technical knowledge on website development.				
UP POLICE 100.REQ.0 19	Portal Content Management	The front end user interface must be integrated with content management solution for easy management and change of theme design.				
UP POLICE 100.REQ.0 20	Portal Content Management	The system should allow the authorized user, through a user friendly GUI, to design and create a web page dynamically and publish it through an approval workflow. It should provide feature to define the position of the web page like center frame, left frame or right frame etc.				

UP POLICE 100 Intranet Portal						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
UP POLICE 100.REQ.0 21	Portal Content Management	The system should allow the authorized user, through a user friendly GUI, to create meta tag search of each web page.				
UP POLICE 100.REQ.0 22	Portal Content Management	It should allow the authorized user to upload any image, on the page and further allow him to define position of the image on web page				
UP POLICE 100.REQ.0 23	Portal Content Management	The system should allow the authorized user, through a user friendly GUI.				
UP POLICE 100.REQ.0 24	Search Content	The system should be able to search the Fire, Medical, Police and other databases as per requirement.				
UP POLICE 100.REQ.0 25	Search Archive content	The system should be able to search the archival data in the portal also				
UP POLICE 100.REQ.0 26	Reporting access	All reports from BI Or Reporting engine should be available to authorized users. There should be user access control on intranet portal				

Section 5: Scope of Work

UP POLICE 100 Intranet Portal						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
UP POLICE 100.REQ.0 27	Portal Content Management	The system should allow the user for meta tag basis search option. The search result should show path of the web page with brief description of the page or else first 20-30 words of the page. Solution should further allow drill down to the page.				

E-Learning						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
EL.REQ.001	E-Learning	The officer should be able to access their assigned eLearning courses in the browser-based interface that they use to manage schedules and request time off from their systems. They have to log in and open a new application window for training session.				

Section 5: Scope of Work

E-Learning						
EL.REQ.002	E-Learning	Quality monitoring evaluation data shall be used to assign targeted learning.				
EL.REQ.003	E-Learning	E-learning software should be able to schedule the training based on skill assessment of the Officers				
EL.REQ.004	E-Learning	E-Learning software should allow access for scheduled training assignments while listening to a recorded interaction.				
EL.REQ.005	E-Learning	Integrated Scorecard should be able to aid in automatic lesson assignments when a KPI falls below an excepted goal				
EL.REQ.006	E-Learning	The software should provide a provision where training clips can be developed based on best practice calls. The recorded interactions should be used to rapidly build learning content with assessment information.				
EL.REQ.007	E-Learning	The E-Learning software should support remote access.				
EL.REQ.008	E-Learning	The E-Learning content development software should allow adding and or recording narration directly into the application without additional software requirement				
EL.REQ.009	E-Learning	The E-Learning content should be in English and Hindi language for the user				

Section 5: Scope of Work

Web Based Training Application						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes/ No)	Standard/ Customized/ Bespoke	Provide Name of COTS product/ component if relevant	Bidder's Comments
WBT.REQ.001	General requirement	The solution should be a web based tool allowing the users to connect with each other for a training or webinar over Internet/ Secure Intranet.				
WBT.REQ.002	General requirement	The tool should have high-quality audio, video, and web conferencing				
WBT.REQ.003	General requirement	The tool should enable remote users to be more productive and be engaged with the ability to participate in lectures/training using a variety of mobile devices such as smartphones, tablets, iphone				
WBT.REQ.004	General requirement	The tool should have the capability for document sharing, application sharing, and desktop sharing				
WBT.REQ.005	General requirement	The tool should have the capability for annotation and chat capabilities				
WBT.REQ.006	General requirement	The user should be able to do chat privately with another user or chat with a group of users				
WBT.REQ.007	General requirement	The tool should have Personal Conferencing Number capabilities provide persistent host and attendee access codes for planned and ad-hoc audio-centric conferencing.				
WBT.REQ.008	General requirement	The tool should training/webinar/ lecture recording capabilities including downloadable recordings and playback				

Section 5: Scope of Work

WBT.REQ.009	General requirement	The tool should have consistent cross-platform experience on Windows, Mac, smartphones, and tablets				
WBT.REQ.010	General requirement	Using the tool, the user should be able to alert the presenter for asking a questioning by clicking the raise hand icon				
WBT.REQ.011	General requirement	The tool should allow a user to take remote control of another users desktop				
WBT.REQ.012	General requirement	The tool should have Start, join, schedule, and attend online meetings from mobile devices				
WBT.REQ.013	General requirement	The tool should work on a virtualised platform.				
WBT.REQ.014	General requirement	The tool should work on HTTP port 80.				
WBT.REQ.015	General requirement	The tool should support the user to join on audio either from computer using computer audio capability (IP Voice) and PSTN/Landline over PRI Link				
WBT.REQ.016	General requirement	Each meeting shall have a maximum of concurrent 100 attendees.				
WBT.REQ.017	General requirement	The users connected in to the web meeting from desktop/laptop/ipad should be able to dial into the meeting or the server should call the user back on audio.				
WBT.REQ.018	General requirement	The solution should support the following security features such as :				
WBT.REQ.019	General requirement	Personal Identification Number (PIN)-protected access into meetings from video endpoint				
WBT.REQ.020	General requirement	Authenticated access into meetings on desktop and mobile apps				
WBT.REQ.021	General requirement	During the meeting , the user should be able to have the following controls :-				
WBT.REQ.022	General requirement	See all meeting participants in the participant list				

Section 5: Scope of Work

WBT.REQ.023	General requirement	Drop participants				
WBT.REQ.024	General requirement	Record sessions with video, audio, and content for future reference, training, or demonstrations				
WBT.REQ.025	General requirement	Mute, unmute audio of one or all participants				

Patrol Management System						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
PMS.REQ.001	General	Should be able to define the routes for PRV patrolling (based on Maps with Pol (Point of Interests or Landmarks) along the route				
PMS.REQ.002	General	Once the Routes have been defined, the System should be able to assign timings(Time taken for a PRV to travel from POI-1 to POI-2 along the defined route) and halt time at each Pol				
PMS.REQ.003	General	Once the timings have been assigned, System should be able to allocate manpower (PRV Police Personnel) for the defined and assigned Route. It should also be able to add Or update details of personnel available				
PMS.REQ.004	General	System should be able to assign the PRVs and Drivers for the defined route should be able to send and receive patrol routes over device				

Section 5: Scope of Work

Patrol Management System						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
PMS.REQ.005	General	Patrol Management System should be so designed as to pick up locational data from the GIS system that is part of the solution. The locations of the patrol route traversed by a vehicle should get auto populated from the system with associated date and time stamp picked from the system and should be coupled with locations visited.				
PMS.REQ.006	General	It should be able to generate MIS in various formats as required for patrolling				
PMS.REQ.007	Login	PMS should provide authentication functionality for administrator with ID and Password which shall be deployed at central server generated through PMS server application.				
PMS.REQ.008	Login	PMS should provide normal users on the field a login with ID and password and if field user forgets his password he can ask the Administrator for his user ID and password and the administrator can help him get his credentials centrally.				
PMS.REQ.009	Administrative Rights	In "Patrol Management System", administrator shall be given some additional rights. Admin will be able to create any number of Users, depending on the requirements. He may rotate Coy or may view previous rotation details. He can Import or Export Officer Or Official list and Import map along with its coordinates.				
		Administrator shall be able to				

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Patrol Management System						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
PMS.REQ.010	Administrative Rights	i. Create User with login , name , password etc. details				
		ii. Can view duty rotation of PRV staff				
		iii. Can import and export PRV staff list for patrolling				
		iv. Can import maps and coordinates				
		v. Can change images and store centrally				
		vi. Other files access will be there in PMS. It will only be used when there is a need of addition Or deletion in master file (Landmark, Location etc.).				
		vii. PMS activities with a daily patrolling record day to day activity will be available.				
		viii. System should allow the Circle Officer of Field Police and above with all Master Administrator rights to request route, assign timings and manpower. District Inspector shall have the rights of allocation of patrols and perform the above activities.				
PMS.REQ.011	User rights	PRV Police Personnel shall be able to :				
		i. Import Master Files to see patrolling duties				
		ii. Patrol Activities for day and week				
		iii. Pending activities of patrolling of PRV				
		iv. Reports to export about patrolling details				
		v. Feed about start and finish about patrol				
		vi. Change Images of landmarks				

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Patrol Management System						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
PMS.REQ.012	Application Content	PMS will have master file which will have features like Open MAP for normal patrolling routes will be there				
	Application Content	PMS will have file which will have guide for best route options during day, night time, other situations like traffic jam , rally				
PMS.REQ.013	Application Content	<p>PMS will have master files for Landmarks which will show the prominent points under fall on the patrolling routes. It may be a local and provincial data like hospitals, locally called landmarks, malls, Police stations etc. While selecting the landmark certain points would be taken care of. such as:</p> <ul style="list-style-type: none"> i. It should be static. ii. It should not be too large Or scattered. For example if someone want to select 'hospital' as a landmark then select the main gate of that hospital as an actual landmark. iii. To convert 27° 30' 45" into degree Or decimal following formula may be used- $27 + \frac{30}{60} + \frac{45}{3600} = 27 + 0.5 + 0.012500 = 27.512500$ iv. PMS should not choose landmarks very close to each other. Distance between each landmark must not be less than 20 mtrs. v. PMS should not register unnecessary landmarks in PMS. vi. Landmarks should be scattered in the entire patrolling routes 				

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Patrol Management System						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
PMS.REQ.014	Application Content	PMS will have Create Route option in field which will be authorized by the administrator and shall contain following options: i. Route with landmarks ii. Existing route table on upper right side iii. Map on the lower right side				
PMS.REQ.015	Application Content	PMS will be enabled on GPS devices which records and shows geo-coordinates (may say location) of any point on their route. It will record the geo-coordinate of points on routes in regular intervals which will further utilized showing route of the patrol party on map.				
PMS.REQ.016	Patrol activities	PMS application should have the following feature of patrol activities:				
		i. Send Patrol: When any district is selected, all existing routes for that particular District will appear in the dropdown box "Route Name". Select any one of them where PRV wants to send patrol. When route is selected, the landmarks falling on that route will appear in the lower table as well as on map. There will be a selection option of patrol 'in' and 'out' time with date. Also option to fill "Reaching Time" and "Halt Time" (In minutes) at any Landmark. Further "Patrol Duration" and "Patrol Distance" will also appear at the bottom of screen.				
		ii. There will also be an option to make any amendment in time or configuration of				

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Patrol Management System						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
		patrolling staff (Police Personnel as well as Drivers)				
		iii. Receive Patrol: When send patrol is covered by PRV staff there would be option for PRV Staff to show "Actual Reaching Time" and "Actual Waiting Time" during route . These entries will be filled according to the narration of the PRV staff to record daily patrolling route of vehicles.				
		iv. All details of patrolling routed will be filled using MDT devices				
		v. There will be list of pending patrolling routes in application to show if PRV has not covered defined patrolling route for that day				

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Patrol Management System						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
PMS.REQ.01 7	Patrol Order Sheet	Circle Officer and above rank officers can define Patrol order sheet. The Patrol order sheet will be send to PRV through GPS over MDT which will consist of: i. Patrol Order sheet unique number ii. Date of Patrol iii. Patrolling routes information iv. Reaching Time v. Halt time vi. Detail of PRV staff viii. Single sign on of PRV staff PRV staff will fill required details and submit the order sheet back to respective officer. Incharge officer will approve the Patrol order sheet submitted by PRV staff. There will also be option for printing the patrolling sheets through weblink.				
	Integration requirements	System needs to be integrated with central HRMS system for allocation of manpower (Police PRV personnel) for the defined Patrol Routes				
		System needs to be integrated with PRV Management Application for assigning Drivers and Vehicles for the defined Patrol Routes				
		Landmark should be prominent and static				
		Landmark should be recorded with Long/Lat				

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Patrol Management System						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
PMS.REQ.018	Detailed MIS Reports	PMS will display patrolling reports for monthly, weekly and daily basis of PRV				
		i. Reports can be monitored by web link from officers sitting in UPPICC, OMC and field				
		ii. Reports will be designed considering factors like:				
		iii. MIS reports must be able to display the performance of Circle Officers and above based on the activities performed by them using the Patrol Management Application				
		iv. PRV patrolling routes				
		v. PRV associated to districts				
		vi. PRV patrol monitoring				
		vii. Yearly Monthly , weekly, daily MIS				
		viii. Assigned patrol routes covered				
		ix. Seizure or alert during patrolling				
		x. Deviations from assigned routes				
		xi. Addition of new routes for patrolling				
		xii. Addition of landmarks				
		xiii. Map report which displays the route of patrol				
PMS.REQ.019	Browsing capabilities	The MDT user in field will be able to browse application on MDT in field				
		The Dy SP and above rank officers can view MIS over web link in UP-PICC and OMC				

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Patrol Management System						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
		The District PRV manager , Circle Officer and SP Or SSP rank officers can view the patrolling in their respective districts over app and web link				

HRMS Application						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
HRMS.REQ.001	General Requirement	The solution must be fully integrated system and automate all related processes for State wide Dial 100 staff				
HRMS.REQ.002	General Requirement	The solution must be real-time update and access of detail data				

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HRMS Application						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
HRMS.REQ.003	General Requirement	The solution must support facility to provide centralized key services				
HRMS.REQ.004	General Requirement	System should enable accurate and flexible mapping of organizational roles				
HRMS.REQ.005	General Requirement	It should have accurate and easy availability of information with drill downs, drill ups with supporting data				
HRMS.REQ.006	General Requirement	It should provide Authentic, reliable, accurate and timely data				
HRMS.REQ.007	General Requirement	It should have Business intelligence, MIS from the system (reports daily Or weekly Or monthly Or yearly Or till date) comparison of data (Past Or Current)				
HRMS.REQ.008	General Requirement	System should be web based				
HRMS.REQ.009	General Requirement	All forms and reports should be downloadable and printable in pdf format				

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HRMS Application						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
HRMS.REQ.010	General Requirement	Should be able to integrate with user directory				
HRMS.REQ.011	General Requirement	Should have the ability to integrate with Patrol Management System				
HRMS.REQ.012	General Requirement	Should be able to integrate with single sign based on different user roles				
HRMS.REQ.013	Attendance & Leave Management	HRMS will be integrated with biometric system for attendance				
HRMS.REQ.014	Attendance & Leave Management	System should have ability to view list of weekly offs, holidays in an year of ITECCS, field and OMCs staff				
HRMS.REQ.015	Attendance & Leave Management	System should have ability to define types of leaves: sick leave, privilege Or earned leave, casual leave etc.				
HRMS.REQ.016	Attendance & Leave Management	System should have ability to apply for leave under the appropriate category and state the reasons for it				

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HRMS Application						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
HRMS.REQ.017	Attendance & Leave Management	System should have ability to Check the status of leave request				
HRMS.REQ.018	Attendance & Leave Management	System should have ability to approve Or cancel Or modify leave requests by staff				
HRMS.REQ.019	Attendance & Leave Management	System should have ability to view accrued leave balances				
HRMS.REQ.020	Attendance & Leave Management	System should have ability to intimate the officer concerned when a staff member goes on unauthorized leave (unmarked attendance) Or returns back from unauthorized leave Or extends leave Or reports in the middle of the sanctioned leave period (along with appropriate reduction in sanction)				
HRMS.REQ.021	Attendance & Leave Management	System should have ability to provide the following reports to authorised persons on attendance and leave details:				

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HRMS Application						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
HRMS.REQ.022		1) consolidated status of present Or absent staff members working under him Or her				
HRMS.REQ.023		2) number of staff members for whom leave has not been approved Or declined Or modified				
HRMS.REQ.024		3) number of staff members attending office late				
HRMS.REQ.025		4) total number of leave quota (category-wise) and actual leaves taken in a period by a staff member				
HRMS.REQ.026	Attendance & Leave Management	System should have ability to manage on-line application, tracking and approval of various kinds of leave through workflow logic and self-service				
HRMS.REQ.027	Attendance & Leave Management	System should have ability to update work schedule Or shift pattern of staff				

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HRMS Application						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
HRMS.REQ.028	Attendance & Leave Management	System should have ability to maintain working hours, weekly offs and national Or local holidays				
HRMS.REQ.029	Attendance & Leave Management	System should have ability to define overtime facility				
HRMS.REQ.030	Attendance & Leave Management	System should have ability to define leave quota for staff				
HRMS.REQ.031	Attendance & Leave Management	System should have ability to manually update attendance & leave details of staff in case for a staff member to whom access card is not applicable				
HRMS.REQ.032	Attendance & Leave Management	System should have ability to correct attendance & leave details of staff				
HRMS.REQ.033	Attendance & Leave Management	System should have ability to update half day attendances Or leaves in the system				
HRMS.REQ.034	Attendance & Leave Management	It should facilitate leave balances to be merged Or transferred Or credited through				

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HRMS Application						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
		an accrual process in the system automatically based on user defined criteria				
HRMS.REQ.035	Attendance & Leave Management	System should have ability of record keeping and maintenance of historical data				
HRMS.REQ.036	Travel and Transport	It should have ability to automate Travel process				
HRMS.REQ.037	Travel and Transport	It should have ability to record Travel Policy & Procedure				
HRMS.REQ.038	Travel and Transport	It should have ability to generate itinerary details				
HRMS.REQ.039	Travel and Transport	It should have ability to record the travel with unique number and update about cancelled, approved or deferred				
HRMS.REQ.040	Travel and Transport	It should have ability to request travel by staff and approve Or reject transfer requests of staff (Integrate with SSS Module)				

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HRMS Application						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
HRMS.REQ.041	Travel and Transport	It should have ability to generate lists of travel requests Or recommendations received to be reviewed by the Competent Authority for deciding on travels				
HRMS.REQ.042	Travel and Transport	It should have ability to produce itinerary , travel request, routes details				
HRMS.REQ.043	Rewards	HRMS will have all details of rewards and recognition received by staff would be available online				
HRMS.REQ.044	Rewards	Rewards and recognition will be provided based on recommendation and will be recorded online				
HRMS.REQ.045	Rewards	Reward list , nominees will be part of HRMS				
HRMS.REQ.046	Rewards	It should provide and generate rewards policy				
HRMS.REQ.047	Rewards	It should provide recognition rules, terms and conditions, applicability				

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HRMS Application						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
HRMS.REQ.048	Rewards	It should have all rewards cycle, emoluments involved if any enlisted				
HRMS.REQ.049	Appraisal	This appraisal will be for outsourced staff members. It should have ability to fill appraisal documents in the system during each stage of appraisal and integrate with SSS				
HRMS.REQ.050	Appraisal	It should have ability to view appraisal documents, provide rating and feedback				
HRMS.REQ.051	Appraisal	It should provide the functionality to review to request changes within a specified time after submission of appraisal document post approval from competent authority				
HRMS.REQ.052	Appraisal	It should have the ability to capture agreement on final rating of both the reviewed and reviewer.				
HRMS.REQ.053	Appraisal	Ability to maintain Audit trail of all changes made to this process				

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HRMS Application						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
HRMS.REQ.054	Training	It should have ability to capture Training needs of various classes of staff				
HRMS.REQ.055	Training	It should have ability to capture Training needs of staff met Or not met during the quarter Or year				
HRMS.REQ.056	Training	It should have ability to formulate and update Annual Training Calendar with list of Training Programmes, Batch size, target group etc.				
HRMS.REQ.057	Training	It should have ability to provide input for payment to Trainers Or Institutes				
HRMS.REQ.058	Training	It should have ability to update list of Trainers Or Institutes for various training programmes				
HRMS.REQ.059	Training	It should have ability to record participant's attendance in training programmes and staff members nominated but did not attend a training programme				

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HRMS Application						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
HRMS.REQ.060	Training	It should have ability to notify supervisors of staff members about the nomination for training programme				
HRMS.REQ.061	Training	It should have ability to define and print training nomination letters to be sent to staff for invitation				
HRMS.REQ.062	Training	It should have ability to customize training feedback form and training nomination letters				
HRMS.REQ.063	Training	It should have ability to define training feedback & effectiveness form				
HRMS.REQ.064	Training	It should have ability to manually update training feedback provided by participants in the online feedback form				
HRMS.REQ.065	Training	It should have ability to analyse training feedback				
HRMS.REQ.066	Training	It should have ability to capture Training facilities available within the organization				

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HRMS Application						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
HRMS.REQ.067	Training	It should have ability to book training rooms by departments for specific training programmes				
HRMS.REQ.068	Training	It should have ability to capture course content of all training programmes along with list of Target group, batch size				
HRMS.REQ.069	Training	It must have functionality for online registration, cancellation, rescheduling , reminder, and confirmation of training classes				
HRMS.REQ.070	Training	For any request raised with regards to registration, cancellation, rescheduling, it should provide the functionality to approve Or reject the request by competent authority				
HRMS.REQ.071	Training	It should have ability to maintain training database with full training history of entire staff				

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HRMS Application						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
HRMS.REQ.072	Violation	HRMS will have ITECCS violation policies and guidelines for Police department and outsourced staff members				
HRMS.REQ.073	Violation	HRMS should enable appropriate authorised persons to log in and register any act of violation against a staff member as per the agreed rules and policy				
HRMS.REQ.074	Violation	It should have the ability to approve or reject the above by competent authority				
HRMS.REQ.075	Violation	Module should include details of number of violations allowed as per role				
HRMS.REQ.076	Violation	Type of violations should be listed				
HRMS.REQ.077	Violation	It should have the ability to auto send email to respective role's supervisor, if he Or she crosses the threshold limit				
HRMS.REQ.078	Violation	If the number of violations allowed are exceeded, it should have the ability to				

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HRMS Application						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
		mention next steps to be taken both by the defaulter and immediate supervisor				
HRMS.REQ.079	Violation	It should have the ability to cancel, change number of violations captured after due approval from competent authority				
HRMS.REQ.080	Violation	It should have the ability to grant access to this information to only a select few				
HRMS.REQ.081	Staff Master	Ability to store and maintain staff's personal data such as staff members no., name, addresses, phone numbers, emergency contact information and email addresses, Salary Bank Account Details, passport details				
HRMS.REQ.082	Staff Master	Ability to maintain staff's gender, date of birth, blood group, citizenship, marital status, religion, caste etc.				
HRMS.REQ.083	Staff Master	Ability to maintain an staff's education, certifications, degrees and any endorsements				

Section 5: Scope of Work

HRMS Application						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
HRMS.REQ.084	Staff Master	Ability to maintain previous (multiple) employment details like name of the organization, department, position held (designation), start Or end dates, reason for leaving, last salary drawn, references etc.				
HRMS.REQ.085	Staff Master	Ability to maintain names, date of birth and contact details of spouse, children, dependents, parents, dependants, nominees under different schemes, etc.				
HRMS.REQ.086	Staff Master	Ability to maintain staff's recruitment category like physically handicapped Or sportsperson Or ex-servicemen Or specialist Or SC Or ST Or OBC Or compassionate grounds Or Others				
HRMS.REQ.087	Staff Master	Ability to update staff member's recent photograph				
HRMS.REQ.088	Staff Master	Ability to maintain the dialect and languages known with details of speak, read and write				

Section 5: Scope of Work

HRMS Application						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
		separately. Clear indication for the mother tongue				
HRMS.REQ.089	Staff Master	Ability to maintain history of trainings attended (prior to joining & after joining) like name of the course, name of the Institution, month & year of training, duration of the course in days Or weeks etc.				
HRMS.REQ.090	Staff Master	Ability to maintain the awards for which nominated Or received by a staff including the name of the award, year of award, in which discipline Or field and date of receipt of award and special status Or privilege, if any, to be given to him for the award				
HRMS.REQ.091	Staff Master	Ability to maintain date of joining, probation period, date of confirmation in each grade Or post				
HRMS.REQ.092	Staff Master	Ability to date and time stamp all changes in the database enabling data availability on 'as on date Or time' basis				

Section 5: Scope of Work

HRMS Application						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
HRMS.REQ.093	Staff Master	Flexibility of additionally capturing any information relating to staff member at a later date				
HRMS.REQ.094	Staff Master	Ability to maintain concurrent jobs for staff with additional responsibilities Or special duties in addition to regular responsibilities				
HRMS.REQ.095	Staff Master	Ability to update only authenticated data reflected in the staff's master				
HRMS.REQ.096	Staff Master	Ability to maintain staff's data with regards to claims, etc.				
HRMS.REQ.097	Staff Master	Ability to maintain and view staff leave details				
HRMS.REQ.098	Staff Master	Ability to maintain staff's data with respect to PF, Gratuity, etc. and the nominations for the same				
HRMS.REQ.099	Staff Master	Ability to create organizational chart of all positions and reporting relationships				

Section 5: Scope of Work

HRMS Application						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
HRMS.REQ.100	Staff Master	Ability to provide restricted access to different classes of staff master data				
HRMS.REQ.101	Staff Master	Ability to maintain the insurance related details for each staff member, like insurance number, nominee details, amount etc.				
HRMS.REQ.102	Staff Master	Ability to maintain Audit trail of all changes made to sensitive information				
HRMS.REQ.103	Staff Master	Ability to maintain service files documents in scanned form including Proof of Date of Birth, domicile, Bonds, if any, executed, disciplinary cases details, photograph etc.				
HRMS.REQ.104	Staff Master	Ability to send alerts to appropriate authorised persons when driving license expires or violation is logged in against a staff member or on any other related issue				
HRMS.REQ.105	Staff Master	Ability to track the physical location of the service file by recording the unique file number and place where it is kept (After				

Section 5: Scope of Work

HRMS Application						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
		HRMS no physical file movement may be required)				
HRMS.REQ.1 06	Staff Self Service (SSS)	It will facilitate staff to apply for changes in permanent & correspondence addresses, details of family members, emergency contact details, contact details, office location, nomination for various schemes like PF Or Gratuity, etc.				
HRMS.REQ.1 07	Staff Self Service (SSS)	HRMS should be able to add Or update bank information for expense reimbursement, PAN no, passport details, driving license no. or any other relevant information				
HRMS.REQ.1 08	Staff Self Service (SSS)	HRMS should be able to provide address proof letter to GoUP for various purposes				
HRMS.REQ.1 09	Staff Self Service (SSS)	HRMS should be able to integrate SSS with Employee Master				
HRMS.REQ.1 10	Staff Self Service (SSS)	HRMS should be able to remind the staff through self service Or e-mail regarding				

Section 5: Scope of Work

HRMS Application						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
		modification or requirement of additional data				
HRMS.REQ.11	Staff Self Service (SSS)	HRMS should be able to send the staff confirmations after changes are made online				
HRMS.REQ.12	Grievance Redressal and Suggestion System	HRMS will have ITECCS grievance related policies and guidelines for Police department and outsourced staff members				
HRMS.REQ.13	Grievance Redressal and Suggestion System	HRMS will facilitate to list various techniques to facilitate communication				
HRMS.REQ.14	Grievance Redressal and Suggestion System	HRMS will facilitate to issue docket number for different classes of staff members separately				
HRMS.REQ.15	Grievance Redressal and Suggestion System	It should have the ability to define type of grievance or suggestion				

Section 5: Scope of Work

HRMS Application						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
HRMS.REQ.1 16	Grievance Redressal and Suggestion System	The users should the ability to log in complaints or suggestions				
HRMS.REQ.1 17	Grievance Redressal and Suggestion System	Ability to check status of the grievance or suggestion logged				
HRMS.REQ.1 18	Grievance Redressal and Suggestion System	It should have the functionality to restrict access to a select few and maintain confidentiality of information				
HRMS.REQ.1 19	Grievance Redressal and Suggestion System	It should have the ability to withdraw or change complaint or suggestion within a specified time				
HRMS.REQ.1 20	Grievance Redressal and Suggestion System	If the grievance or suggestion is not responded to within a specified time, it should have the ability to auto send email to higher authority for escalation				

Section 5: Scope of Work

HRMS Application						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
HRMS.REQ.1 21	Grievance Redressal and Suggestion System	Ability to maintain Audit trail of all changes made to this information				
HRMS.REQ.1 22	Policy Rules and automation	The proposed solution should have an intuitive business rules definition framework that would enable business users to manage business policies easily with less Or no intervention from technical staff.				
HRMS.REQ.1 23	Policy Rules and automation	The business rules framework should be able to model the complex business logic in a natural language format				
HRMS.REQ.1 24	Policy Rules and automation	Business users should be able to test the logic integrated with the underlying architecture as well independently.				
HRMS.REQ.1 25	Policy Rules and automation	Solution shall be linked to SMS gateway as per requirement for Payroll mechanism, grievance etc.				

Section 5: Scope of Work

HRMS Application						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
HRMS.REQ.1 26	Transfer, Promotion and Suspension	HRMS will have all transfer, promotion or suspension related policies and respective guidelines of outsourced staff present in this module				
HRMS.REQ.1 27	Transfer, Promotion and Suspension	It should have the ability to raise request for outsourced staff member's transfer, promotion or suspension using a detailed form or defined framework only for specified persons				
HRMS.REQ.1 28	Transfer, Promotion and Suspension	Any request raised for transfer, promotion or suspension to be reviewed and approved Or rejected by competent authority				
HRMS.REQ.1 29	Transfer, Promotion and Suspension	Should provide an escalation or appeal mechanism for the requestor in case request is rejected				
HRMS.REQ.1 30	Transfer, Promotion and Suspension	It should have the functionality to restrict access to a select few and maintain confidentiality of information				

Section 5: Scope of Work

Finance Management System						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
FIN.REQ.001	General	Financial Management System will facilitate payment of all TSP and PRV vendors linked with project				
FIN.REQ.002	General	Financial Management system will be linked with HRMS for payment				
FIN.REQ.003	General	System will act as a gateway between State Wide Dial 100 and all finance , account related transactions				
FIN.REQ.004	General	System will be integrated with SMS gateway				
FIN.REQ.005	General	All the Processes should be automated				
FIN.REQ.006	General	System shall generate unique id and information to facilitate payment to be made to TSP , PRV vendors, internal payments for concierge, maintenance etc.				
FIN.REQ.007	General	System should have provision for allowances and reimbursements				

Section 5: Scope of Work

Finance Management System						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
FIN.REQ.008	Login	The payment information should be available with Admin accounts personnel through a separate login on application				
FIN.REQ.009	Login	System will facilitate role based access				
FIN.REQ.010	Invoice	System should be able to generate or raise online invoices in xls, pdf, .csv etc. formats				
FIN.REQ.011	Invoice	System should facilitate to upload and download invoices in xls, pdf.csv formats				
FIN.REQ.012	Invoice	System should facilitate calculation, comparison and statistical interpretation of invoices				
FIN.REQ.013	Data	System should record details of beneficiaries like name, account number, TIN, PAN, Address, invoice lists, paid , cancelled, debts, recovery etc.				
FIN.REQ.014	Data	System should be able to interpret data by district wise, vendor wise, internal beneficiaries etc.				

Section 5: Scope of Work

Finance Management System						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
FIN.REQ.015	Template	System should have various invoice templates for payment and receiving confirmation templates				
FIN.REQ.016	Template	System should provide facility to vendors to create login and upload and download invoice ,supporting in fixed templates				
FIN.REQ.017	Payment features	FMS should be allow to import budget amounts from external sources (like excel sheets etc.)				
FIN.REQ.018	Payment features	FMS will allow to review details of transactions under budgetary control				
FIN.REQ.019	Payment features	FMS should allow to print a report containing details of all the transactions under budgetary control				
FIN.REQ.020	Payment features	System should allow to submit invoices and batches for approval to the appropriate approvers				

Section 5: Scope of Work

Finance Management System						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
FIN.REQ.021	Payment features	It should be possible to allocate amounts from any cost pool (revenues, expenses etc.) to various accounts				
FIN.REQ.022	Payment features	It should be possible to allocate amounts that reflect changes to a cost pool or update previous allocations				
FIN.REQ.023	Payment features	It should be possible to distribute amounts from one allocation pool to a subsidiary allocation pool				
FIN.REQ.024	Payment features	It should be possible to use current, historical, or estimated rates to allocate costs such as staff members' benefits, commissions, bad debt, warranty costs, overhead etc.				
FIN.REQ.025	Payment features	It should be possible to use statistics such as headcount, units of power sold, square footage etc. to allocate allocation amounts				
FIN.REQ.026	Payment features	It should be possible to create and run payment batches				

Section 5: Scope of Work

Finance Management System						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
FIN.REQ.027	Payment features	There should be an option to automatically copy entries from an existing recurring batch				
FIN.REQ.028	Payment features	It should be possible to define certain security rules to restrict access to recurring				
FIN.REQ.029	Payment features	There should be an option to be able to use a recurring invoices for only specified periods of time				
FIN.REQ.030	Payment features	There should be a facility to enter a balancing amount line automatically when creating a recurring invoice				
FIN.REQ.031	Payment features	It should be possible to enter formulas to calculate recurring invoice amounts				
FIN.REQ.032	Payment features	It should be possible to enter unlimited number of steps in a formula				
FIN.REQ.033	Payment features	FMS should allow to correct or modify accounts				

Section 5: Scope of Work

Finance Management System						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
FIN.REQ.034	Payment features	FMS should have ability to create interest invoices for overdue payments should be present				
FIN.REQ.035	Payment features	Automatic invoice tax calculation and processing should be possible				
FIN.REQ.036	Payment features	Support for automated tax calculation and accounting of partially recoverable and non-recoverable VAT, sales tax, withholding tax and other regional and local taxes should be present				
FIN.REQ.037	Payment features	It should be possible to create withholding tax invoices automatically				
FIN.REQ.038	Payment features	FMS should be able to enter invoices or debit Or credit memos for which both positive and negative matching can be done against purchase orders and other invoices should be present				

Section 5: Scope of Work

Finance Management System						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
FIN.REQ.039	Payment features	System should be able to schedule payments automatically based on payment terms and terms date of the invoice				
FIN.REQ.040	Payment features	System should support automatic tax calculation when applying prepayments				
FIN.REQ.041	Payment features	System should be able to match credit and debit memos against invoices and purchase orders				
FIN.REQ.042	Payment features	System should be able to generate ageing analysis for outstanding invoices				
FIN.REQ.043	Payment features	System should be able to make payments as per schedule pay-out dates automatically				
FIN.REQ.044	Payment features	FMS should reflect invoice wise outstanding for a particular vendor and for group of vendors				
FIN.REQ.045	Payment features	System should be able to make part payment against an invoice and balance payment on a subsequent date				

Section 5: Scope of Work

Finance Management System						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
FIN.REQ.046	Payment features	It should be possible to make payment on account to vendor and later link it to invoice				
FIN.REQ.047	Payment features	FMS will facilitate deductions from invoices possible to be recorded under various accounts like cash discount, rebates etc.				
FIN.REQ.048	Payment features	FMS must have checking of invoices at various levels				
FIN.REQ.049	Payment features	System should be able to block invoices for payments along with reason codes				
FIN.REQ.050	Payment features	It should be possible to record and account for discrepancies arising out of verification				
FIN.REQ.051	Payment features	It should be possible to run payment lists for specific vendor types				
FIN.REQ.052	Payment features	It should be possible to run payment lists for specific banks				

Section 5: Scope of Work

Finance Management System						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
FIN.REQ.053	Payment features	System should be able to produce a remittance advice for all payments made (irrespective of method of payment).				
FIN.REQ.054	Payment features	Vendors will be able to login and inquire their own invoices using FMS link				
FIN.REQ.055	Payment features	FMS will also have link on mobile app for vendors of field like PRV				
FIN.REQ.056	Payment features	FMS will provide web link to vendors with unique id				
FIN.REQ.057	Payment gateway	System will facilitate submitted invoices shall be processed after due diligence and necessary payment will be made through Payment Gateway facility of linked banks				
FIN.REQ.058	Payment gateway	On periodic basis, Payment Gateway will provide status of all the transactions. through a csv , xls , pdf file accounts team managing FMS				

Section 5: Scope of Work

Finance Management System						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
FIN.REQ.059	Payment gateway	System will facilitate for files having details related to all the payment transactions shall be uploaded on Application by accounts personnel.				
FIN.REQ.060	Payment gateway	System should allow secure and encrypted payment gateway				
FIN.REQ.061	Payment gateway	Application shall provide the details of all the invoices/payment status generated along with the status of the payment.				
FIN.REQ.062	Payment gateway	System will support integration based on file upload/download and approval on Bank's interface by authorized officer.				
FIN.REQ.063	Budgeting	The system should have an integrated approach to enable building and modification of planning structures (hierarchy) for the application. There should not be any need to publish data from the desktop development environment.				

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Finance Management System						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
FIN.REQ.064	Budgeting	The system should support workflow Or process management in a hierarchical as well as non-hierarchical (matrix management) approval paths. It should also allow annotations Or comments as part of the process management.				
FIN.REQ.065	Budgeting	The system should provide for automated e-mail alerts and workflow notifications.				
FIN.REQ.066	Budgeting	The system should support creation of alternate hierarchies (roll-ups) for planning and reporting purpose				
FIN.REQ.067	Budgeting	The system should provide for alternate aliases tables.				
FIN.REQ.068	Budgeting	The system should automatically update data input grids and reports after any dimension Or hierarchy member updates.				
FIN.REQ.069	Budgeting	The system should allow end-users to create their own data-input forms based on				

Finance Management System						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
		their security profile, directly through the web interface.				
FIN.REQ.070	Budgeting	The system should provide for cell level data security in addition to row and column level security.				
FIN.REQ.071	Budgeting	The system should have a GUI based interface to create and maintain calculation rules. These rules should be server centric for ease of maintenance.				
FIN.REQ.072	Budgeting	The system should maintain adequate audit trails of all data, metadata, data collection forms, business rules, security and workflow.				
FIN.REQ.073	Budgeting	The system should support module based development and build. It should be scalable to add new users Or plans Or reporting hierarchy.				

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Finance Management System						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
FIN.REQ.074	Budgeting	The system should have provision for creation of user groups for easy maintenance of security. It should be flexible to add user groups in future.				
FIN.REQ.075	Budgeting	The system should allow for upload of metadata and data in batch.				
FIN.REQ.076	Budgeting	The system should allow definition of Plan Or Budget calendar.				
FIN.REQ.077	Budgeting	The system should allow for multiple budget Or plan versions and provide for easy copy of data across versions. The system should also support What-If analysis.				
FIN.REQ.078	Budgeting	The system should allow for the budget Or plan data to be extracted out for load into any OLTP systems.				
FIN.REQ.079	Budgeting	The system should have provision for instructions for data entry, in order to guide users.				

Section 5: Scope of Work

Finance Management System						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
FIN.REQ.080	Budgeting	Ability to enforce Budgeting and Planning due dates and calendars using automated workflow				
FIN.REQ.081	Budgeting	The system should allow the user to enter specific supporting details and workings for line items. This will help users to input and calculate the details, thereby removing the need for a one-off spreadsheet calculation.				
FIN.REQ.082	Budgeting	The system should be able to export reports in both query ready and print ready image formats.				
FIN.REQ.083	Budgeting	The system should support cell validation at data input.				
FIN.REQ.084	Budgeting	The system should support entry of cell notes in text.				
FIN.REQ.085	Budgeting	The system should have a handholding process to the user to complete his activities. It should also have inbuilt facility to				

Section 5: Scope of Work

Finance Management System						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
		send reminders and alerts based on target dates of the user activities.				
FIN.REQ.086	Budgeting	The system should allow to phase Or appropriate annual numbers to monthly numbers.				
FIN.REQ.087	Budgeting	The system should have in-built Financial intelligence to recognize various account types				
FIN.REQ.088	Policy rules	The solution should have robust and sophisticated regression testing tools and validation reports to help rule authors troubleshoot and test specific policies and regulations before deployment.				
FIN.REQ.089	Policy rules	Solution should enable a Graphical Visualization of rules and their connections to other rules to help troubleshoot and understand rules written				

Section 5: Scope of Work

Finance Management System						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
FIN.REQ.090	Policy rules	The solution should allow Rules Authors to write rules in any sequence and shall not have to worry about the sequences of dependency rules				
FIN.REQ.091	Policy rules	Should be allow bulk processing of data and produce determinations in a batch				

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Document Management System						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
DMS.RE Q.001	General Requirements	The solution should support enterprise class RDBMS such as MS SQL Server, Oracle, DB2, etc.				
DMS.RE Q.002	General Requirements	The Solution should be multi-tier, web-based solution (having web-based front-end for users and as well as for system administrative functions) having centralized database, web and application server with support for clustering.				
DMS.RE Q.003	General Requirements	The solution shall support versioning of documents with facility to write version comments				
DMS.RE Q.004	General Requirements	The solution shall allow locking of documents for editing and importing it back into the system				
DMS.RE Q.005	General Requirements	Repository should be format agnostic				
DMS.RE Q.006	General Requirements	The solution should support configuration of approval processes. . While processing a file, all the data				

Document Management System						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
		and images for each transaction should be displayed to processing users and competent authority should be allowed to accept, reject or send the files for review				
DMS.RE Q.007	General Requirements	The solution should manage lifecycle of documents through record retention, storage and retrieval policies.				
DMS.RE Q.008	General Requirements	The Solution should support managing and tracking of physical location of documents				
DMS.RE Q.009	General Requirements	The solution shall support page by page view for multi page document.				
DMS.RE Q.010	General Requirements	The solution shall facilitate zoom-in Or zoom-out feature. The user shall be able customize the zoom percentage, zoom and pan feature along with other image operations like Invert, rotate etc.				

Document Management System						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
DMS.RE Q.011	General Requirements	The solution should support archival & view of PDF Or A format documents (open ISO standard for long term archival of documents)				
DMS.RE Q.012	General Requirements	The solution shall support for viewing documents in native application.				
DMS.RE Q.013	General Requirements	The solution shall provide facility of putting text, graphic and image annotations on scanned document pages.				
DMS.RE Q.014	General Requirements	The solution shall support comprehensive annotation features on images like highlighting, marking text, underlining putting sticky notes on documents, and support for text and image stamps etc.				
DMS.RE Q.015	General Requirements	The solution shall support automatic stamping of annotations with user name, date and time of putting annotations.				

Document Management System						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
DMS.RE Q.016	General Requirements	The solution shall store annotations as separate file and at no time, the original image shall be changed. The system shall provide facility of taking print outs with or without annotations				
DMS.RE Q.017	General Requirements	The solution shall provide facility to index folders, files and documents on user-defined indexes like department, ministry, file number, year etc.				
DMS.RE Q.018	General Requirements	The solution shall facilitate manual and automatic indexing using OCR functionality or from other applications				
DMS.RE Q.019	General Requirements	The solution should support automatic full text indexing for textual search				
DMS.RE Q.020	General Requirements	The solution shall support saving of search queries and search results				
DMS.RE Q.021	General Requirements	The solution shall support search for documents or folders on document or folder on profile information such as				

Section 5: Scope of Work

Document Management System						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
		name, created, modified or accessed times, keywords, owner etc.				
DMS.RE Q.022	General Requirements	The solution shall support definition of Users, Groups and Roles relation in the system along with multiple levels of access rights (Delete Or Edit Or View Or Print Or Copy or Download).				
DMS.RE Q.023	General Requirements	The solution shall provide LDAP support for integrating with directory services and shall support single sign on				
DMS.RE Q.024	General Requirements	The solution shall support audit-trails with user name and date and time stamp for every activity				
DMS.RE Q.025	General Requirements	The solution shall support integration with database-based authentication.				
DMS.RE Q.026	General Requirements	The solution shall support integration with PKI infrastructure for enhanced security.				

Document Management System						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
DMS.RE Q.027	General Requirements	The solution shall support web-based administration module for the complete management of system.				
DMS.RE Q.028	General Requirements	It should be based on open standards and have API support for data import & export.				
DMS.RE Q.029	General Requirements	The System shall support integration with Email Servers.				
DMS.RE Q.030	General Requirements	The System shall provide fully functional APIs for Integration with external application				

Section 5: Scope of Work

Dataware House, Business Intelligence (BI), Reporting And Analytics						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS products Or component if relevant	Bidder's Comments
BIRA.RE Q.001	General Requirement	The system shall be provided in high availability configuration to avoid any single point of failure				
BIRA.RE Q.002	Auto Schedule Reports	It shall have feature to schedule generation of reports and automatic delivery of scheduled reports to e-mail. It shall also allow automatic delivery of both manually generated and scheduled reports to a file directory or folder				
BIRA.RE Q.003	Archiving	System should have a capability for data archival from an overall data management perspective				
BIRA.RE Q.004	MIS Reports	The system should generate the MIS reports details based on state, district, zone , range etc. and should be accessible to internal users based on roles and permission in the system				
BIRA.RE Q.005	MIS Reports Access	The MIS reports should be linked to UP POLICE 100 Intranet and Citizen portals for internal users.				
BIRA.RE Q.006	Predictive Analytics	The software should have the capability to perform predictive analytics which can help in extracting information to predict trends like deployment the police officials around a certain area within a state on the basis of emergency Or				

Section 5: Scope of Work

Dataware House, Business Intelligence (BI), Reporting And Analytics						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS products Or component if relevant	Bidder's Comments
		non-emergency calls made over a period of time etc.				
BIRA.RE Q.007	Pattern Analytics	The software should have a capability to perform the pattern analytics which can help in extracting the information to pattern trends like Crime pattern like robbery, women cases w.r.t state, district and city level etc.				

Section 5: Scope of Work

BIRA.RE Q.008	General Requirement	<p>The following daily, Weekly, monthly and yearly trending reports must be provided by system. The given below reports are for reference purpose only. It may update and can increase on later stages. Reports should be categorized into District Or City or village level also.</p> <ol style="list-style-type: none"> 1. Average Speed of Answer 2. Service Level Percentage 3. Calls Offered 4. Calls Handled 5. Abandoned Call Rate 6. Average Talk Time 7. Average Hold Time 8. Average Handle Time 9. Longest Delay Before Answered 10. Outbound Call Volume 11. Outbound Call Duration 12. Average Delay before Abandon 13. Longest Delay before Abandon 14. Number of calls exceeding threshold (i.e. calls waiting in queue longer than given time) 15. Average time in queue by call type 16. After Call Work (Wrap Up) 17. Operator Hours Report 18. Staffing Distribution Report 19. Number of instances the operator found busy 20. Calls made Or referred to stakeholder institutions 21. Call type 22. Development of suitable Management Information System (MIS) for reporting periodical progress in redress of public grievances 				
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Section 5: Scope of Work

		<p>23. Category Or Sub-Category-wise complaint registration Or resolution status</p> <p>24. Category Or Sub-Category-wise Complaint escalation status</p> <p>25. Area wise problem based (emergency and non-emergency) analytical report on monthly Or quarterly basis based on call data base. Prepare and submit problem based schematic maps for districts Or groups of districts</p> <p>26. Vehicle distance travelled to the caller Or user location</p>				
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Section 5: Scope of Work

Dataware House, Business Intelligence (BI), Reporting And Analytics						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS products Or component if relevant	Bidder's Comments
BIRA.RE Q.009	Response time reports	<p>The system should be able generate the various response time reports like:</p> <ol style="list-style-type: none"> 1. UP POLICE 100 field response time report - It should have all activity response time like call receiving, analysis of the case, dispatch response time, vehicle response time to reach at distress caller location, Acknowledgement by vehicle at UP POLICE 100 or OMC. 2. UP POLICE 100 response time for non dispatch cases - It should have all activity response time like call receiving, analysis of the case, feedback etc. 				

Dataware House, Business Intelligence (BI), Reporting And Analytics						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS products Or component if relevant	Bidder's Comments
BIRA.RE Q.010	Tools for Analysis	<p>It should be possible to analyse crime and criminals in. at least , the following ways:</p> <ol style="list-style-type: none"> 1. Hot Spot Analysis 2. Trend Analysis 3. Suspect Analysis 4. Crime forecasting 5. Journey to crime 6. Response time 7. Repeat Callers 8. Change over Time mapping 9. Neighborhood Analysis 10. Serial sex offender tracker 11. Patrol Charts 12. Crime against women etc. <p>This list is for reference purpose and may update Or increase on later stages.</p>				
BIRA.RE Q.011	Dataware House And Searching	Datawarehouse should be created to manage all BI and reporting system reports. System should have functionality to search structured data, unstructured data, video and images as well in the system for archival records as well.				

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Dataware House, Business Intelligence (BI), Reporting And Analytics						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS products Or component if relevant	Bidder's Comments
BIRA.RE Q.012	Analysis	The system should be able to analyse the real time data, weekly data, monthly data, archival data also and generate the reports in the system.				
BIRA.RE Q.013	Patrol Planning Analysis on GIS Map	It should be possible to overlay patrol charts, actual positions and, crimes reported over a period of times. This is to analyse tactical the decisions. Were the patrol positions well chosen, did units adhere to it, even then which crimes occurred.				
BIRA.RE Q.014	Application Integration	It should be integrated with other application like EMS of GoUP for data analysis and reporting				
BIRA.RE Q.015	Exception Reporting	The ability to generate reports as a result of critical event Or scenario such as system capacity utilization nearing threshold or average handle time of a call falls below defined threshold for a call operator				
BIRA.RE Q.016	Architecture	The data components of the architecture should include the internal and external sources of structured and unstructured data that users Or stakeholders will need to access and analyse to meet their requirements				

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Dataware House, Business Intelligence (BI), Reporting And Analytics						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS products Or component if relevant	Bidder's Comments
BIRA.RE Q.017	Data Integration	The BI software should have data integration tools available that seamlessly and natively integrate with other applications				
BIRA.RE Q.018	Data Quality Tool	Data quality tools and methodologies to support the preparation of data for business intelligence applications and reporting				
BIRA.RE Q.019	Master Data Management	Master Data Management tools and methodologies to support the preparation of a system of record for business intelligence applications and reporting. All type of records which are created through multiple communication channel like call, SMS, Chat, VOIP, IoT, Mobile apps etc which will be used to do the BI and analytics operations to do such operations like Crime pattern, hot spot analysis etc.				
BIRA.RE Q.020	Analytical Tool	There will be analytical tool for all date and time related data which should be integrated with Hindi Calendars (Saka and Vikram both) and Islamic Calendars for analytics.				

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Dataware House, Business Intelligence (BI), Reporting And Analytics						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS products Or component if relevant	Bidder's Comments
BIRA.RE Q.021	Metadata Management	Metadata Management – Tool should enable the creation, consolidation , ongoing auditing and reporting on the metadata				
BIRA.RE Q.022	Analytical tool	There will be exclusive mechanism relate to sort the incidents related to Fire Services, Women Powerline 1090 and other services like Highway Police, City surveillance, ITMS, elderly helpline				

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Enterprise Management System (EMS)						
Sr. No.	Item	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
EMS.REQ .001	Enterprise Management System	Bidder should provide tool for monitoring services, & SLA along with Helpdesk tool for the Department along with all the necessary Hardware, DB, OS, etc.				
EMS.REQ .002	Enterprise Management System	Solution should be scalable and open to third party integration.				
EMS.REQ .003	Enterprise Management System	Should support Web Or Administration Interface.				
EMS.REQ .004	Enterprise Management System	Should provide compatibility to standard RDBMS.				
EMS.REQ .005	Enterprise Management System	The Service Management solution namely Service desk (incident and problem mgmt.), Change, and SLA management should have shared configuration database with a unified architecture.				
EMS.REQ .006	Enterprise Management System	Offered solution should provide for future scalability of the whole system without major architectural changes.				

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Enterprise Management System (EMS)						
Sr. No.	Item	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
EMS.REQ .007	Enterprise Management System	Enterprise Management System should provide for end to end performance, availability, fault and event and impact management for all enterprise resources that encompasses the heterogeneous networks, systems, applications, databases and client infrastructure present in the enterprise.				
EMS.REQ .008	Enterprise Management System	The Officer and Officerless monitor should be able to collect & manage event Or fault, performance and capacity data and should not require separate collectors.				
EMS.REQ .009	Enterprise Management System	The solution should reduce manual customization efforts and should speed-up problem identification and resolution of the IT performance anomalies with intelligent events.				
EMS.REQ .010	Enterprise Management System	The solution should accelerate problem isolation through accurate analysis of probable cause through end-to-end correlation.				

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Enterprise Management System (EMS)						
Sr. No.	Item	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
EMS.REQ .011	Enterprise Management System	The solution should have the capability to identify probable root cause using a variety of filtering and statistical correlation methods to determine their relevance to the issue being researched.				
EMS.REQ .012	Enterprise Management System	The solution should possess capabilities that deliver self-learning capabilities to virtually eliminate the effort of manual threshold, rule, and script maintenance.				
EMS.REQ .013	Enterprise Management System	The Officer and Officerless monitor should be able to collect & manage event Or fault, performance and capacity data and should not require separate collectors.				
EMS.REQ .014	Enterprise Management System	The solution should have predictive analytics and intelligence in-built into it so as to detect any anomaly before it could potentially hit the threshold thereby giving enough lead time to users to resolve the issues before the threshold is breached.				

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Enterprise Management System (EMS)						
Sr. No.	Item	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
EMS.REQ .015	Enterprise Management System	The solution should carry out automated probable cause analysis by picking up feeds from every infrastructure component being monitored and automating the correlation of these alarms Or events to point out the probable cause of an infrastructure error.				
EMS.REQ .016	Enterprise Management System	Solution should carry out probable cause analysis thereby helping operators to identify the root cause without having to write complex rules for correlation.				
EMS.REQ .017	Enterprise Management System	Solution should be able to score the events and display the highest impacting events in descending order or any other order as customized by the administrator.				
EMS.REQ .018	Enterprise Management System	The Solution should offer the ability to monitor any custom Or home-grown applications for which the monitoring areas have been defined.				

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Enterprise Management System (EMS)						
Sr. No.	Item	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
EMS.REQ .019	Enterprise Management System	The solution should be extensible enough to support capacity planning and optimization with data collected through the deployed performance management agent and agentless data collectors.				
EMS.REQ .020	Enterprise Management System	Should be able to monitor Or manage large heterogeneous systems environment continuously.				
EMS.REQ .021	Enterprise Management System	Servers: Should be able to monitor the server instances, database and instance status, initialization parameters, CPU usage,				
EMS.REQ .022	Enterprise Management System	Should be able to monitor performance statistics reported as timings and throughput values for such operations as reads, writes, and recursive calls.				

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Enterprise Management System (EMS)						
Sr. No.	Item	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
EMS.REQ .023	Enterprise Management System	Should be able to monitor statistics reports as averages and percentages for such items as data caches hits, queue waits, disk sorts, and rollbacks.				
EMS.REQ .024	Enterprise Management System	The Network Management should monitor performance across heterogeneous networks having multiple categories of devices like firewall, switches etc. across Department including the DC, DR site.				
EMS.REQ .025	Enterprise Management System	It should proactively analyze problems to improve network performance.				
EMS.REQ .026	Enterprise Management System	The Network Management function should create a graphical display of all discovered resources.				
EMS.REQ .027	Enterprise Management System	Should monitor various operating system parameters such as processors, memory, files, processes, file systems etc. where				

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Enterprise Management System (EMS)						
Sr. No.	Item	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
		applicable using agent and agentless on the servers to be monitored.				
EMS.REQ .028	Enterprise Management System	Provide performance threshold configuration for all the agents to be done from a central GUI based console that provide a common look and feel across various platforms in the enterprise. These agents could then dynamically reconfigure the performance monitors to use these threshold profiles they receive.				
EMS.REQ .029	Enterprise Management System	IT Service Management				
EMS.REQ .030	Enterprise Management System	Centralized IT helpdesk for technical and functional support should be maintained to respond to queries and solve issues of the users.				

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Enterprise Management System (EMS)						
Sr. No.	Item	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
EMS.REQ .031	Enterprise Management System	The Helpdesk should be accessible through various communication channels viz. Telephone, web based facility and email. The helpdesk should be able to respond to the queries Or problems in the time limits as specified in Service Level Agreement.				
EMS.REQ .032	Enterprise Management System	Online Helpdesk system should be deployed and would be used for management and support activity. Service desk is envisaged as a tool that will facilitate the end-to-end service support for users. The proposed system should include required hardware and software and should have sufficient analyst licenses to meet the requirement of Project.				
EMS.REQ .033	Enterprise Management System	The Solution should have the complete ITIL process flow for Incident, problem, Change and release Management.				

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Enterprise Management System (EMS)						
Sr. No.	Item	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
EMS.REQ .034	Enterprise Management System	The solution should have Service Management Process Model in built based on ITIL v3 best practices.				
EMS.REQ .035	Enterprise Management System	At each stage in the cycle of the incident, the system should prompt users on the status and the missing information that is required to complete the flow.				
EMS.REQ .036	Enterprise Management System	In case any process step is missed, the system prompts users to complete that step before they move to the next step.				
EMS.REQ .037	Enterprise Management System	Solution should support reporting on the process flow to allow management to understand how organization is performing in terms of process adherence.				
EMS.REQ .038	Enterprise Management System	Solution should support multi-tenancy with complete data isolation as well as with ability for analysts based on access rights to view data for one, two or more organizational units.				

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Enterprise Management System (EMS)						
Sr. No.	Item	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
EMS.REQ .039	Enterprise Management System	Solution should automatically provide solutions from the knowledge base.				
EMS.REQ .040	Enterprise Management System	Workflow should be able to perform notification via email, SMS and the have provision to interface with other communication modes. The solution should provision the administrator to create new or modify existing workflow by using actions like set fields, push fields, SQL query etc.				
EMS.REQ .041	Enterprise Management System	The solution should provide the functionality of executing searches to the entire database.				
EMS.REQ .042	Enterprise Management System	Incident Or Problem Management				
EMS.REQ .043	Enterprise Management System	Flexibility of logging incidents via various means - web interface, email, phone. Service Desk solution should allow detailed multiple levels Or tiers of categorization on the type of incident being logged.				

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Enterprise Management System (EMS)						
Sr. No.	Item	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
EMS.REQ .044	Enterprise Management System	Service Desk solution should provide classification to differentiate the criticality of the security incident via the priority levels, severity levels and impact levels.				
EMS.REQ .045	Enterprise Management System	It should allow SLA to be associated with a ticket based on priority, severity, incident type, requestor, asset, location or group individually as well as collectively.				
EMS.REQ .046	Enterprise Management System	Solution should support fast service restoration leveraging previous incident data.				
EMS.REQ .047	Enterprise Management System	It should be possible for Officer to view the 'Health of a selected asset' from within the ticket.				
EMS.REQ .048	Enterprise Management System	The health view should be consistent across platform (Windows & flavors of UNIX Or Linux).				
EMS.REQ .049	Enterprise Management System	Should support automatic assignment of ticket to the right skilled resource based on business priority Ex - Database crash issue				

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Enterprise Management System (EMS)						
Sr. No.	Item	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
		need not be assigned to a DBA unless the business service is completely down.				
EMS.REQ .050	Enterprise Management System	Asset causing the business failure and business service that has failed should be automatically related to the ticket.				
EMS.REQ .051	Enterprise Management System	It should be possible to architect a decentralized service operations (across OS, database and application versions).				
EMS.REQ .052	Enterprise Management System	For integrations with other EMS Or NMS tools, various options for integration should be provided - APIs, web services, SDKs.				
EMS.REQ .053	Enterprise Management System	It should have an updateable knowledge base for technical analysis and further help end-users to search solutions for previously solved issues. Should support full text search capabilities.				

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Enterprise Management System (EMS)						
Sr. No.	Item	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
EMS.REQ .054	Enterprise Management System	Change Management				
EMS.REQ .055	Enterprise Management System	Should support Change Impact and change collision detection based on affected CIs from CMDB.				
EMS.REQ .056	Enterprise Management System	Solution should provide for Change Calendar with periodical views.				
EMS.REQ .057	Enterprise Management System	Should support self-service change request and fulfillment with standard change requests via service catalogue.				
EMS.REQ .058	Enterprise Management System	Should support Incident & problem driven change-release-deployment activities. End to End Release Management workflows should be supported with in-built rollback capabilities.				
EMS.REQ .059	Enterprise Management System	Should support unified change and release tools (planning, risk assessment, scheduling, and execution tools) for complete				

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Enterprise Management System (EMS)						
Sr. No.	Item	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
		enterprise across virtual & physical environments, applications, etc.				
EMS.REQ .060	Enterprise Management System	Configuration Management				
EMS.REQ .061	Enterprise Management System	The Configuration Management Database should support multiple datasets with federation and reconciliation facilities so as to get data from various discovery tools and also through manual import process.				
EMS.REQ .062	Enterprise Management System	The Configuration Management should support Definitive Software and Media Library with content updates on a periodic basis.				
EMS.REQ .063	Enterprise Management System	Normalization of data should be possible along complete definitive media library – software, hardware with standardization on attributes.				
EMS.REQ .064	Enterprise Management System	Reconciliation of data should be possible with multiple data providers based on common attributes and				

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Enterprise Management System (EMS)						
Sr. No.	Item	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
		ability to define precedence rules on attributes.				
EMS.REQ .065	Enterprise Management System	Federation of external data sources should be possible with ability to store common attributes inside CMDB and getting other attributes from external data sources in real time.				
EMS.REQ .066	Enterprise Management System	Should provide best in class integration capabilities with CMDB compliant APIs.				
EMS.REQ .067	Enterprise Management System	Should Provide a single shared view of services supporting Service Design, Transition and Operations stages of the lifecycle.				
EMS.REQ .068	Enterprise Management System	Should Provide a Service catalogue so as to establish a framework for Service definitions based on IT and business alignment.				
EMS.REQ .069	Enterprise Management System	Should Provide Service blueprints to describe functional and deployment models for the Service definitions.				

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Enterprise Management System (EMS)						
Sr. No.	Item	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
EMS.REQ .070	Enterprise Management System	Should automatically create Service models to describe how IT infrastructure supports business services.				
EMS.REQ .071	Enterprise Management System	Manage services consistently across heterogeneous Primary site & DR site.				
EMS.REQ .072	Enterprise Management System	Service Level Management Or Monitoring				
EMS.REQ .073	Enterprise Management System	The SLA Monitoring function of the EMS is by far the most important requirement of the Integrated Project. This is on account of the fact that commitment of the projects to the citizens is dependent on an effective and continuous monitoring of the timelines within which citizens are served at the Portal or GSKs. In this context, the SLA Monitoring will have to possess the following capabilities:				

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Enterprise Management System (EMS)						
Sr. No.	Item	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
EMS.REQ .074	Enterprise Management System	Response times of Portal;				
EMS.REQ .075	Enterprise Management System	Transaction handling capacity of application server in terms of number of concurrent connects;				
EMS.REQ .076	Enterprise Management System	Should compile the performance statistics from all the IT systems involved and compute the average of the parameters over a month, and compare it with the SLA metrics laid down in the RFP;				
EMS.REQ .077	Enterprise Management System	Have a consolidated, automated graphical report for SLA compliance with ability to drill down to reason for non-compliance.				
EMS.REQ .078	Enterprise Management System	Manage service levels for delivery and support of business services.				
EMS.REQ .079	Enterprise Management System	Fast, repeatable process for defining and capturing service level measurements.				

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Enterprise Management System (EMS)						
Sr. No.	Item	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
EMS.REQ .080	Enterprise Management System	Real-time visualization of service level targets, agreement compliance data, penalties and rewards.				
EMS.REQ .081	Enterprise Management System	Deliver service level information and alerts directly to IT Operations and Service Support consoles.				
EMS.REQ .082	Enterprise Management System	Should support compliance to assist in identifying areas for process and operational improvements.				
EMS.REQ .083	Enterprise Management System	Service Request Management				
EMS.REQ .084	Enterprise Management System	Should support single service catalogue for requestable services				
EMS.REQ .085	Enterprise Management System	Should provide for Service Requests Workflows and Fulfillment definitions for commonly used IT Or non-IT services.				
EMS.REQ .086	Enterprise Management System	Catalog based on User profile				

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Enterprise Management System (EMS)						
Sr. No.	Item	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
EMS.REQ .087	Enterprise Management System	Ability to position both Custom-made and Standard Requests				
EMS.REQ .088	Enterprise Management System	Should send notifications to Customers based on the status				
EMS.REQ .089	Enterprise Management System	Should have the ability to extend and create new service request				
EMS.REQ .090	Enterprise Management System	Should have predefined catalogues that cover specific use cases				
EMS.REQ .091	Enterprise Management System	Should be completely web based and should be accessible from an portal				
EMS.REQ .092	Enterprise Management System	The services should be integrated to SLAs and should be auto measured for adherence.				
EMS.REQ .093	Enterprise Management System	Reporting				
EMS.REQ .094	Enterprise Management System	Should provide for Reports for Service Support and Service Delivery processes through a unified portal.				

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Enterprise Management System (EMS)						
Sr. No.	Item	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
EMS.REQ .095	Enterprise Management System	Should have ability to have a consolidated view of data collected from different types of operations (E.g. - SLA compliance for a selected service, it's dependent SLAs, OLA and UPCs, it's changes by priority, open incidents by priority and status, it's assets and individual asset compliance, patches installed and compliance to patches etc.) and displayed in a universal portal				
EMS.REQ .096	Enterprise Management System	Provide users (based on role) to drill down to specific report Or data on a need basis				
EMS.REQ .097	Enterprise Management System	Provide detailed reports on a specific area as per the need of the user				
EMS.REQ .098	Enterprise Management System	Should support multiple views with flexible structure along with role based access.				
EMS.REQ .99	Enterprise Management System	The Service Desk Or Helpdesk & SLA Monitoring tool shall have software application which is ITIL compliant				

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Identity and Access Management Software (IAMS)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
IMS.REQ. 001	General Requirement	The Identity Manager architecture should be an N Tier Architecture to allow portability between Operating systems and Application servers.				
IMS.REQ. 002	General Requirement	Solution must be comprehensive with user provisioning, de-provisioning and password management tools				
IMS.REQ. 003	General Requirement	Solution should be able to authenticate platforms proposed by the Bidder as part of the solution				
IMS.REQ. 004	General Requirement	Both the User Provisioning and Access Management [SSO and Operating System Access Control] solution must be a part of an integrated "Identity and Access Management" solution. Bidder should own the responsibility for the Identity & Access Management Suite. As the current solution involves both provisioning tools and Access Management tools, it is required that tighter integration and ease of administration is available				
IMS.REQ. 005	General Requirement	The solution for identity lifecycle management should support Web Services standards				

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Identity and Access Management Software (IAMS)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
IMS.REQ. 006	General Requirement	Provisioning tool must support and provide business role based provisioning.				
IMS.REQ. 007	General Requirement	Solution must support "Delegated" model of administration to support user administration based on department, type of user (intranet Or extranet), location etc.				
IMS.REQ. 008	General Requirement	Solution should use Workflow engine to define workflow to the user management processes.				
IMS.REQ. 009	General Requirement	Solution must provide flexibility to allow users(only internal) to self register for less sensitive applications Or modules with a pre-defined workflow. Solution must also allow users to reset their passwords on those applications Or modules that they have accounts on without the intervention of the administrators Or helpdesk.				
IMS.REQ. 010	General Requirement	Must provide password management capabilities like, password resets, password synchronization				

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Identity and Access Management Software (IAMS)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
IMS.REQ. 011	General Requirement	Solution should support for delegation of authority and mechanisms to review delegations				
IMS.REQ. 012	General Requirement	It is required that all provisioning activities are tracked by the provisioning tool for subsequent analysis if the need arises.				
IMS.REQ. 013	General Requirement	Solution should support generation of audit reports without the target resources being available				
IMS.REQ. 014	General Requirement	Solution should support offline reporting. Reporting should be available for target systems where provisioning is done even when the target systems are not available.				
IMS.REQ. 015	General Requirement	Support for automatic detection of accounts which haven't been used Or not owned by anyone etc.				
IMS.REQ. 016	General Requirement	Historical data should be readily available with minimal customization. Support historical reports such as who has Or had what, when why and how, privilege reports, Access Reports, delegations, exceptions etc.				

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Identity and Access Management Software (IAMS)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
IMS.REQ. 017	General Requirement	Solution for single sign on should integrate with LDAP server and products that are part of solution.				
IMS.REQ. 018	General Requirement	Solution should support Officerless or Officer based Single Sign On facility.				
IMS.REQ. 019	General Requirement	Solution should be comprehensive to include both web based and client server applications				
IMS.REQ. 020	General Requirement	The solution must provide central configuration of client.				
IMS.REQ. 021	General Requirement	The Solution should provide integrated Identity Management, smart provisioning, business role management, access management (web single sign-on), OS access Management, client server single sign-on				
IMS.REQ. 022	General Requirement	Solution should provide real-time visibility into the end-to-end operation of Access Management infrastructure. It should monitor the availability, health and performance of web Officers, policy servers and back end data stores that are used by the access management solution.				

Section 5: Scope of Work

Identity and Access Management Software (IAMS)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
IMS.REQ. 023	General Requirement	<p>The solution should monitor web access management infrastructure around the clock, detect availability and performance problems proactively, and enable quick analysis when issues arise.</p> <p>The solution should provide comprehensive, real-time metrics such as:</p> <ul style="list-style-type: none"> - Officer availability - Officer performance per operation - Officer cache status - Policy server availability, policy server performance per operation, policy server queue, thread, socket, and cache - Errors generated by back end data stores - Performance of calls to back-end data stores <p>The solution should collect this information and provides a single view that enables administrators to gain visibility into their access management operations and take action when problems arise.</p>				
IMS.REQ. 024	General Requirement	Solution provide capabilities to define password policies e.g. password expiration, composition etc.				

Section 5: Scope of Work

Identity and Access Management Software (IAMS)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
IMS.REQ. 025	General Requirement	Solution should monitor Policy Server and Officer performance and availability, correlates Web application performance with access management performance, and determines if access management solution is impacting application performance				
IMS.REQ. 026	General Requirement	The solution should provide Monitoring and management and various reports and metrics for administrators like success Or failed logins , response time etc.				
IMS.REQ. 027	General Requirement	The solution should provide for SLA management including: - Define service levels - Single view of SLA compliance, service status, performance, and usage - Manage system availability and performance from single dashboard				
IMS.REQ. 028	General Requirement	Solution should have facilities for enforced-change of password after first-time login including after password reset, automatic password outage after a fixed period of time, maintenance of unique passwords that neither resemble login ID nor any of the previously				

Section 5: Scope of Work

Identity and Access Management Software (IAMS)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
		used passwords (last 3 passwords), a combination of upper & lower cases, numbers and special characters, etc.				
IMS.REQ. 029	General Requirement	Solution should have ability to detect and report in near real-time local administrator account maintenance (creation, deletion, changes) made directly on local resources natively.				
IMS.REQ. 030	General Requirement	Solution should have ability to notify designated personnel of access-rights changes made outside the provisioning Solution				
IMS.REQ. 031	General Requirement	Solution should allow customization of the "Look and Feel" of the User Interfaces. Solution should also allow customization of the user entry screens which determine the fields and the layout of each task screen.				
IMS.REQ. 032	General Requirement	System shall provide web access management should provide a centralized Single Sign-On for web users requesting for accessing various modules as per their roles and policy.				

Section 5: Scope of Work

Identity and Access Management Software (IAMS)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
IMS.REQ. 033	General Requirement	Solution should support for the latest Web standards, such as Transport Layer Security (TLS), SOAP transactions and Web Services Security.				
IMS.REQ. 034	General Requirement	Solution should provide OS security hardening and extra levels of access control to the platform.				
IMS.REQ. 035	General Requirement	Solution should provide protection against Back Doors and Trojan Horses				
IMS.REQ. 036	General Requirement	Solution should allow administrators to construct logical host groups and deployment rules for streamlined policy deployment				
IMS.REQ. 037	General Requirement	Solution must be able to centrally manage policy				
IMS.REQ. 038	General Requirement	Solution should provide centralized security policy enforcement of user entitlements by leveraging role- and rule-based access control				
IMS.REQ. 039	General Requirement	Solution must control the number of sessions a user may have open simultaneously on one or more workstations				

Section 5: Scope of Work

Identity and Access Management Software (IAMS)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
IMS.REQ. 040	General Requirement	Solution should be able to prevent highly privileged users, including application DBAs and others, from accessing sensitive applications and data in the databases outside their authorized responsibilities. For e.g. Central data store that consolidates system audit information and reports for IT auditing				
IMS.REQ. 041	General Requirement	Solution should provide high availability and failover capabilities to eliminate any single point of failure				
IMS.REQ. 042	General Requirement	Solution should use multiple load-balanced policy servers, policy Officers, and directory instances to do so				
IMS.REQ. 043	General Requirement	Bidder should provide an integrated solution to deliver authentication, authorization, federation, Single Sign on & web services security				
IMS.REQ. 044	General Requirement	Solution should support multi-factor authentication technologies (tokens, certificates etc.)				
IMS.REQ. 045	General Requirement	Out of the box reports should be available for user creation, deletion, assignment of access,				

Section 5: Scope of Work

Identity and Access Management Software (IAMS)						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
		approvals done, pending violations, password resets etc.				
IMS.REQ. 046	General Requirement	Solution should provide real time fraud and risk management including but not limited to behavioral analysis, key loggers, Trojans and should allow monitoring on transactions and raise alerts in case of suspicious activities as defined by the security policy of organization.				

Section 5: Scope of Work

Asset Management						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
AM.REQ.001	General Requirement	The system should allow the user to capture its asset requirements				
AM.REQ.002	General Requirement	The system should allow the user to manage the asset in order to deliver services				
AM.REQ.003	General Requirement	The system should allow the user to extend Or update the life of an asset				
AM.REQ.004	General Requirement	The system should auto update of activation of MDT, Work station etc when its up and running				
AM.REQ.005	General Requirement	The system should allow the user to dispose the asset based on rules of disposal such as on reaching the end of its useful life. The system should flag such assets for disposal				
AM.REQ.006	General Requirement	The system should allow the user to create Asset profile such as unique serial no, asset tag, asset owner, asset life, details of assets etc.				

Section 5: Scope of Work

Asset Management						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
AM.REQ.007	General Requirement	The system should allow the user to transfer assets between states call center etc. on the basis of unique asset number, serial number etc. The system should allow the user to capture the details of asset movement Or allocation Or re-allocation within the states call center.				
AM.REQ.008	General Requirement	The system should allow asset reconciliation, i.e. periodic listing of assets and matching against the available asset within the branch or head office and take final decision for asset				
AM.REQ.009	General Requirement	The system should allow the user to initiate requests to condemn assets after approval from the supervisor				
AM.REQ.010	General Requirement	The system should allow the user to track assets at any time to know the status of an asset – location, using by whom, contract renewal for				

Section 5: Scope of Work

Asset Management						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
		maintenance, monitoring of cost on maintenance etc.				
AM.REQ.011	General Requirement	The system should be integrated with the identified modules such as inventory management etc. to ensure that the books of accounts are always up-to-date				
AM.REQ.012	General Requirement	The system should allow the user to manage a record of connections, disconnection and accounts of Telephones, Mobiles, Data Cards, Internet connection				
AM.REQ.013	General Requirement	The system should allow the user to manage bills incorporating the bill receiving, payment of monthly bills of services.				
AM.REQ.014	General Requirement	The system should allow the user to dispose of deadstock items				
AM.REQ.015	General Requirement	The system should allow the user to capture the details such as Quantity, Section, Stock Quantity, etc.				

Section 5: Scope of Work

Asset Management						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
AM.REQ.016	General Requirement	The system should allow the user to capture the details such as Item code, Item to be Disposal Or Reduction Or Condemnation, Stock quantity Available, Sanction Reference, Nature of Dispose, Reason etc.				
AM.REQ.017	General Requirement	The system should allow the user to capture the details of issue Or receipt of dead stock items				
AM.REQ.018	General Requirement	The system should allow the user to capture the details of procurement of items, rate card etc.				

Section 5: Scope of Work

Anti-virus Solution						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
AVS.REQ.001	General Requirement	Anti-virus shall have auto update feature, it shall be able to push signature from the centralized server to all the clients Or workstations				
AVS.REQ.002	General Requirement	Bidder shall ensure that the scan logs are made available for review.				
AVS.REQ.003	General Requirement	The solution must support mass mailing virus detection.				
AVS.REQ.004	General Requirement	The solution must support mail attachment virus detection.				
AVS.REQ.005	General Requirement	The solution must support Malformed Mail format detection.				
AVS.REQ.006	General Requirement	The solution must have a built in Safe Stamp feature to have a sign of a secure email. The email scanning time stamp shows whether the sender's antivirus database is not up to date or not.				
AVS.REQ.007	General Requirement	The solution must have its own Updated Recommended Virus Extensions.				
AVS.REQ.008	General Requirement	The solution must support Heuristics-based mail header detection for Spam.				
AVS.REQ.009	General Requirement	The solution must support Heuristics-based scanning of the mail body for Spam.				

Section 5: Scope of Work

Anti-virus Solution						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
AVS.REQ.010	General Requirement	The solution must support administrator defined Anti-Spam exception list (approved list).				
AVS.REQ.011	General Requirement	The solution must support administrator to define list of known spammers.				
AVS.REQ.012	General Requirement	The solution shall be able to detect Spam in form of categories like general, commercial email, Get rich quick, pornography etc.				
AVS.REQ.013	General Requirement	The solution shall be able to take action based on the category in which Spam is detected.				
AVS.REQ.014	General Requirement	The solution must be able to take different action based on the different sensitivity level of Spam detection.				
AVS.REQ.015	General Requirement	The solution must provide alerts based on action taken on the Spam mail.				
AVS.REQ.016	General Requirement	The solution must support Encrypted Mail Detection.				
AVS.REQ.017	General Requirement	The solution must support Password Protect Zip Detection.				
AVS.REQ.018	General Requirement	The solution must have a Secure SSL Web Management Console.				

Section 5: Scope of Work

Anti-virus Solution						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
AVS.REQ.019	General Requirement	The solution must be able to prevent System Denial of Service ('DoS') Attack.				
AVS.REQ.020	General Requirement	Bidder shall propose the required hardware for the entire solution				
AVS.REQ.021	General Requirement	Bidder shall provide requisite licenses for all the software required for the Anti-virus and Anti-spam Solution.				
AVS.REQ.022	General Requirement	Solution should provide protection against Back Doors and Trojan Horses				
AVS.REQ.023	General Requirement	Solution should provide real time fraud and risk management including but not limited to behavioral analysis, key loggers, Trojans and should allow monitoring on transactions and raise alerts in case of suspicious activities as defined by the security policy of organization.				

Section 5: Scope of Work

Directory Services						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
DS.REQ.001	General Requirement	Support for LDAP-based mechanism for storing and accessing identity data and should be provided in high availability to avoid any single point of failure				
DS.REQ.002	General Requirement	Console or Web Based interface to navigate or update LDAP identity data				
DS.REQ.003	General Requirement	Support for addition of custom logics into LDAP operation processing				
DS.REQ.004	General Requirement	Support to integrate with identity and access management as per proposed solution				
DS.REQ.005	General Requirement	Should support directory virtualization				
DS.REQ.006	General Requirement	Support for configuration changes using GUI				
DS.REQ.007	Synchronization	Support for data synchronization with third party identity stores (Active directory etc.)				

Section 5: Scope of Work

Directory Services						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
DS.REQ.008	Standards	Adherence to LDAP Standards like RFC 2696, RFC 3671 etc.				
DS.REQ.009	Failover mechanism	Support for server failover and fallback				
DS.REQ.010	Security	Support for protection against any kind so external threat				
DS.REQ.011	Security	Support for SSL digital certificate for secure encrypted communication between LDAP client and server				
DS.REQ.012	Scalability	Support for high scalability into the largest environment				

Section 5: Scope of Work

Backup software						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
BS.REQ.001	General Requirement	The proposed Backup Solution should be available on various OS platforms such as Windows and UNIX platforms, Open Source and be capable of supporting SAN based backup Or restore from various platforms including UNIX, HP-UX, Linux, Open VMS and Windows.				
BS.REQ.002	General Requirement	Proposed backup solution shall be offered with Cluster license of server.				
BS.REQ.003	General Requirement	Proposed backup solution shall support industry leading cluster solution such as MSCS, MC Service Guard etc.				
BS.REQ.004	General Requirement	Proposed backup solution shall have same GUI across heterogeneous platform to ensure easy administration. The proposed backup solution software has inbuilt Java Or Web based GUI for centralized management of backup domain.				

Section 5: Scope of Work

Backup software						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
BS.REQ.005	General Requirement	The proposed Backup Solution should support tape Mirroring.				
BS.REQ.006	General Requirement	The proposed backup solution should allow creation of additional backup copies, within the same Library or over the network to another tape library Or stand alone drive of different format medium (e.g. Ultrium to SDLT etc.) to allow easy valuating operation.				
BS.REQ.007	General Requirement	The proposed Backup Solution supports the capability to write up to 32 data streams to a single tape device or multiple tape devices in parallel from multiple clients to leverage the throughput of the Drives using Multiplexing technology.				
BS.REQ.008	General Requirement	The proposed backup solution support de-multiplexing of data cartridge to another set of				

Section 5: Scope of Work

Backup software						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
		cartridge for selective set of data for faster restores operation to client Or servers.				
BS.REQ.009	General Requirement	The proposed backup solution should allow creating tape clone facility after the backup process. The backup solution must support integration of backup and restore with hardware cloning and snapshot features into the GUI, eliminating the traditional need to write user scripts				
BS.REQ.010	General Requirement	Offered Backup software shall support granular recovery for Microsoft share point to provide single document, Directories or entire site recovery from backup repository..				
BS.REQ.011	General Requirement	The proposed Backup Solution should have in-built calendar based scheduling system and supports Clustering the Backup Server on Windows and Unix.				

Section 5: Scope of Work

Backup software						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
BS.REQ.01 2	General Requirement	The backup software should provide SAN based (LAN-FREE) Backup. Also should not have any restrictions on the number of drives that can be attached in tape library.				
BS.REQ.01 3	General Requirement	Bidder should provide the backup software module on all quoted servers with functionality as below				
BS.REQ.01 4	General Requirement	Online SAN based backup agent on all the database servers				
BS.REQ.01 5	General Requirement	-LAN based backup agent on rest other servers				
BS.REQ.01 6	General Requirement	The proposed Backup Solution Software has inbuilt Java Or Web based GUI for centralized management of backup domain.				

Section 5: Scope of Work

Backup software						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
BS.REQ.017	General Requirement	Backup Software shall support encryption and all encryption keys shall be stored on to backup server for effective management.				
BS.REQ.018	General Requirement	The proposed solution also supports advanced Disk staging.				
BS.REQ.019	General Requirement	The proposed Backup Solution has in-built media management and supports cross platform Device & Media sharing in SAN environment. It provides a centralized scratched pool thus ensuring backups never fail for media.				
BS.REQ.020	General Requirement	Backup Software shall support Synthetic backup so that Full backup can be constructed directly from the disk & tape based incremental backups. Solution should also provide forever full incremental backup to eliminates full backups after periodic interval.				
BS.REQ.021	General Requirement	Backup software shall also support disk based Incremental Forever or Virtual full backup whereas every incremental backup shall be				

Section 5: Scope of Work

Backup software						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
		equivalent to Full backup without actually copying the actual data blocks of previous full backup.				
BS.REQ.02 2	General Requirement	Backup Software is able to rebuild the Backup Database Or Catalogue from tapes in the event of catalogue loss Or corruption.				
BS.REQ.02 3	General Requirement	The proposed Backup Software shall offer OPEN File Support for windows and Novell Netware.				
BS.REQ.02 4	General Requirement	The proposed Backup Solution has certified "Hot-Online" backup solution for different type of Databases such as Oracle, MS SQL, Sybase etc				
BS.REQ.02 5	General Requirement	Backup software shall also support Microsoft Share point Portal server				
BS.REQ.02 6	General Requirement	The Proposed backup solution shall provide granularity of single file restore.				
BS.REQ.02 7	General Requirement	Backup Solution shall be able to copy data across firewall.				
BS.REQ.02 8	General Requirement	Backup Solution shall support automatic skipping of backup during holidays.				

Section 5: Scope of Work

Backup software						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
BS.REQ.029	General Requirement	The proposed backup solution must support MS Exchange single mailbox restore.				
BS.REQ.030	General Requirement	The backup software should support object level restore.				
BS.REQ.031	General Requirement	Shall support restoration of Single document, collection of documents or entire site in directly from the share point GUI				
BS.REQ.032	General Requirement	The proposed backup solution must support full automated transfer of disk backup images to tape on a scheduled basis.				
BS.REQ.033	General Requirement	The proposed backup solution shall also support disk based virtual full backup approach.				
BS.REQ.034	General Requirement	The proposed backup solution must support at least AES 256-bit encryption capabilities.				
BS.REQ.035	General Requirement	The internal backup catalogue database should not have a big foot print.				

Section 5: Scope of Work

Backup software						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
BS.REQ.036	General Requirement	The backup software should support object based restore option as one of the most granular options to restore data.				
BS.REQ.037	General Requirement	The backup software should support instant recovery of Exchange, SQL and Oracle databases.				

Inventory Management						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
IM.REQ.001	General Requirement	Ability to Create unique item numbers for inventory items				
IM.REQ.002	General Requirement	Ability to Monitor inventory on an ongoing basis				

Section 5: Scope of Work

Inventory Management						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
IM.REQ.003	General Requirement	Ability to Maintain accurate on-hand balances				
IM.REQ.004	General Requirement	Ability Capture "other" (unknown) stock items other than items pre-identified				
IM.REQ.005	General Requirement	Ability to add requirement				
IM.REQ.006	General Requirement	Ability to generate requisition form				
IM.REQ.007	General Requirement	Ability to Plan material replenishments, based on user requisition				
IM.REQ.008	General Requirement	Ability for E-tendering process and also capture item on rental basis				
IM.REQ.009	General Requirement	Ability to Perform online funds checking before creating requisitions				
IM.REQ.010	General Requirement	Ability to seek approval for payment online and E-check generation				

Section 5: Scope of Work

Inventory Management						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
IM.REQ.011	General Requirement	Ability to generate quotation calling form				
IM.REQ.012	General Requirement	Ability to generate store entry information when item received in the store				
IM.REQ.013	General Requirement	Ability to create section master and issue the item to particular section				
IM.REQ.014	General Requirement	Ability to maintain list of available vendors or supplier for different items				
IM.REQ.015	General Requirement	Ability to generate comparison chart for a particular item				
IM.REQ.016	General Requirement	Ability to generate Supply Order Or Purchase Order				
IM.REQ.017	General Requirement	Ability to create supplier master				
IM.REQ.018	General Requirement	Ability to assign an item to the particular group				

Section 5: Scope of Work

Inventory Management						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
IM.REQ.019	General Requirement	Ability to create group master				
IM.REQ.020	General Requirement	Ability to generate gate entry information when item received in the office				
IM.REQ.021	General Requirement	Ability to generate pending PO when item received is not in good condition				
IM.REQ.022	General Requirement	Ability to generate pending requisition				
IM.REQ.023	General Requirement	Ability to Add Attachments to Items				
IM.REQ.024	General Requirement	Ability to View Item Information				
IM.REQ.025	General Requirement	Ability to Assign Items to Catalogs				
IM.REQ.026	General Requirement	Ability to Define Item Relationships				

Section 5: Scope of Work

Inventory Management						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
IM.REQ.027	General Requirement	Ability to Assign Sub-inventories to an Item				
IM.REQ.028	General Requirement	Ability to Assign Items to a Sub-inventory				
IM.REQ.029	General Requirement	Ability to Define Item Revisions				
IM.REQ.030	General Requirement	Ability to Delete Item after the approval from supervising authority Ability to generate alert, if not followed				
IM.REQ.031	General Requirement	Ability to Assign Lot Numbers				
IM.REQ.032	General Requirement	Ability to Maintain Lot Number Information				
IM.REQ.033	General Requirement	Ability to Establish lot control for an item				
IM.REQ.034	General Requirement	Ability to Establish lot expiration (shelf life) control				

Section 5: Scope of Work

Inventory Management						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
IM.REQ.035	General Requirement	Ability to Establish lot number uniqueness				
IM.REQ.036	General Requirement	Ability to display item lot information				
IM.REQ.037	General Requirement	Ability to update expiration date and disable status information				
IM.REQ.038	General Requirement	Ability to view supplier lot information				
IM.REQ.039	General Requirement	Ability to view material transactions for an item lot:				
IM.REQ.040	General Requirement	Ability to view on-hand availability for an item lot:				
IM.REQ.041	General Requirement	Ability to Maintain Serial Number				
IM.REQ.042	General Requirement	Ability to Issue Material from Inventory				

Section 5: Scope of Work

Inventory Management						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
IM.REQ.043	General Requirement	Ability to generate serial numbers				
IM.REQ.044	General Requirement	Ability to Enter Replenishment Count				
IM.REQ.045	General Requirement	Ability to Transfer Inter–Organization				
IM.REQ.046	General Requirement	Ability to Return to Stores				
IM.REQ.047	General Requirement	Ability to Update Average Cost				
IM.REQ.048	General Requirement	Ability to see your changes reflected in the Interface Managers window				
IM.REQ.049	General Requirement	Ability to search an item by typing some of the initial letters				
IM.REQ.050	General Requirement	Ability to view Direct organization transfer				

Section 5: Scope of Work

Inventory Management						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
IM.REQ.051	General Requirement	Ability to view In-transit receipt				
IM.REQ.052	General Requirement	Ability to view In-transit shipment				
IM.REQ.053	General Requirement	Ability to capture issue voucher parameters				
IM.REQ.054	General Requirement	Ability to Define Shipping Methods				
IM.REQ.055	General Requirement	Ability to Define Movement Statistics Parameters				
IM.REQ.056	General Requirement	Ability to Link Movement Statistics to Invoices				
IM.REQ.057	General Requirement	Ability to View Material Transactions				
IM.REQ.058	General Requirement	Ability to View Transaction Summaries				

Section 5: Scope of Work

Inventory Management						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
IM.REQ.059	General Requirement	Ability to maintain audit trail of entire Transaction				
IM.REQ.060	General Requirement	Ability to Viewing Pending Transactions				
IM.REQ.061	General Requirement	Ability to View On-hand Quantities along with expiry dates for consumables				
IM.REQ.062	General Requirement	Ability to raise an alert if balance quantity attains minimum level				
IM.REQ.063	General Requirement	Ability to View Item Supply Or Demand Information together with chart based increase Or decrease demand history of an item				
IM.REQ.064	General Requirement	Ability to Reserve Available Inventory				
IM.REQ.065	General Requirement	Ability to Summarize Demand History				
IM.REQ.066	General Requirement	Ability to maintain history of maintenance of Inventory items with alert facility to the concerned authority				

Section 5: Scope of Work

Inventory Management						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
IM.REQ.067	General Requirement	Ability to seek approval for payment online and E-check generation				
IM.REQ.068	General Requirement	Ability to maintain service history of Inventory items with cost incurred previously				
IM.REQ.069	General Requirement	Ability to Define a Forecast Rule				
IM.REQ.070	General Requirement	Ability to Enter and Reloading Item Safety Stocks				
IM.REQ.071	General Requirement	Ability to Reorder Point Planning				
IM.REQ.072	General Requirement	Ability to Enter and Processing Replenishment Counts				
IM.REQ.073	General Requirement	Ability to Maintain Accounting Periods				
IM.REQ.074	General Requirement	Ability to support both process and discrete organization				

Section 5: Scope of Work

Inventory Management						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
IM.REQ.075	General Requirement	Dual Unit of Measure Tracking for on hand inventory and every Inventory transaction				
IM.REQ.076	General Requirement	Ability to search stock items by Name, Manufacturer, date of purchase etc.				
IM.REQ.077	General Requirement	Ability to view inbound in-transit material, summary view across organizations of inbound, receiving and on-hand material and availability by serial				

Section 5: Scope of Work

Op Smile and Missing Persons						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
OP.REQ.001	General Requirement	Mobile application will be available on latest versions of iOS, Android, Windows OS platform and be upgradable				
OP.REQ.002	General Requirement	Citizen should be able to download the app from Application Store or official website of the GoUP				
OP.REQ.003	General Requirement	Citizen will be able to register in the mobile application and will get information and can contact UP Police 100 through Mobile application				
OP.REQ.004	General Requirement	Citizen should be able to upload the pictures of the missing persons, other details of persons and should be able to submit the case to UP Police 100 system				
OP.REQ.005	General Requirement	Application should identify characteristics (birthmarks, scars, etc.) after upload the photo				
OP.REQ.006	General Requirement	Citizen should be able Set and send your phone's location as your child's last known location				

Section 5: Scope of Work

Op Smile and Missing Persons						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
OP.REQ.007	General Requirement	<p>Application should have a module like “Know what to do” for the following activities:</p> <ul style="list-style-type: none"> • Get safety tips on keeping your child out of harm's way • Learn what to do in first few critical hours after a child goes missing • Visit additional links with resources for families and victims 				
OP.REQ.008	General Requirement	<p>Application should have a module like “Get Information to Authorities in an Emergency”</p> <ul style="list-style-type: none"> • Quickly Call to Dial 100. • E-mail your child's pictures and information to authorities • Show identifying information to security or law enforcement officers on the spot 				

Section 5: Scope of Work

Mobile Application for large scale Incidence and Death Management for Citizen and Police						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
DM.REQ.001	General Requirement	Mobile Application for large scale Incidence and Death Management for Citizen and Police				
DM.REQ.002	General Requirement	Police officials or Citizen should be able to download the app from Application Store or official website of the GoUP				
DM.REQ.003	General Requirement	Police officials or Citizen will be able to register in the mobile application and will get information and can contact UP Police 100 through Mobile application				
DM.REQ.004	General Requirement	Police officials or citizen should be able to upload the pictures of the injured or deaths, contact details of persons and should be able to submit the case to UP Police 100				
DM.REQ.005	General Requirement	Application should have a feature which can assist the citizen to identify the injured or deaths				
DM.REQ.006	General Requirement	Application should be integrated with the CAD solution to register a case with all details fedded through mobile app by citizen or police officials				

Section 5: Scope of Work

Mobile Application for large scale Incidence and Death Management for Citizen and Police						
Sr. No.	Nature of Requirement	Minimum Requirement Description	Requirement available (Yes Or No)	Standard Or Customized Or Bespoke	Provide Name of COTS product Or component if relevant	Bidder's Comments
DM.REQ.007		Police officials/Citizen should be able to track the status of registered case in the system				
DM.REQ.008		This will also aim to provide communication medium for Public Information Centre. UP Police 100 will aware and inform public through application about incidence, provide facilities required by citizens				
DM.REQ.009		Application should have a facility which can assist the citizen or police officials in other				

Section 5B

Minimum Technical Requirements Specifications

Section 5: Scope of Work

Instructions for filling Section 5 B	
1	It is mandatory to fill up all sheets provided under this Section 5 B
2	Bidder should fill up the specification sheets in the given format using MS-Excel.
3	Bidder should ensure that none of the listed parameters are modified, deleted and no additional parameter is added. (Remarks, if any, should be indicated separately in the Remarks column)
4	In case the Bidder is proposing any additional product category that is not listed in this section, he may use additional sheets.
5	Wherever minimum requirements are specified, it is mandatory to indicate with a YES or NO, whether the solution being offered complies to the minimum requirements stated. In case of non-compliance, Deviations Or Remarks must be provided.
6	Incomplete or missing information not adhering to the prescribed format may not be considered during evaluation of bid and for award of marks.
7	The Bidder is advised not to make any changes to any information in the functional requirements. For example, insert a row or delete a row or modify any other information like change the functionality required, etc. In case the bidder modifies any information the response would be rejected.
8	Please fill up make and model for proposed product in the appropriate place provided

Section 5: Scope of Work

Item	Minimum Description
1.	Mobile Data Terminal Devices (MDT)
2.	Printer , scanner and copier
3.	Laser jet printer
4.	Paper shedder
5.	Smart TV - 32 Inch.
6.	Smart TV - 42 Inch.
7.	LED TV - 55 Inch.
8.	Audio-Visual for Conference Room Screen - 15 seating
9.	Audio-Visual for Conference Room Screen with 8 and 10 seating
10.	Board Room Screen - 20 seating capacity 2 in number
11.	Audio-Visual for Training Room - 25 seating capacity
12.	Audio-Visual for Training Room - 50 seating capacity
13.	Audio-Visual for Training Room - 50 seating capacity (35 DOs online training)
14.	Audio-Visual for Training Room - 100 seating capacity
15.	Audio-Visual for Training Room - 100 seating capacity (75 COs online training)
16.	Audi-Visual for Meeting Room - 20 seating capacity
17.	Audio-Visual Meeting Room - 30 seating capacity
18.	Video conference
19.	Digital light processing (DLP) video wall
20.	Screen for EOC
21.	Laptop
22.	Biometric Reader
23.	SAN Storage
24.	Virtual Tape Library disk based backup
25.	Radio application and gateway
26.	VHF radio device
27.	VHF Hand held radio device
28.	Battery of VHF Static Device
29.	Battery of VHF Hand Held Radio Device And Charger of Battery pack
30.	Lattice Mast and GP antenna for VHF static set
31.	VHF 4W antenna
32.	Database server
33.	Blade chassis
34.	Rack
35.	Blade server - 2 CPU
36.	Blade server - 4 CPU
37.	Load Balancer
38.	UPS
39.	Core Switch
40.	Managed Access Switch

Section 5: Scope of Work

Item	Minimum Description
41.	SAN Switch
42.	Aggregation Switch
43.	Core router
44.	Internet Router
45.	Intranet Router - 20Mbps, 500Mbps
46.	Web Application Firewall
47.	NextGen Firewall
48.	SIEM
49.	Data Leakage Prevention (DLP)
50.	Network Access Control (NAC)
51.	Host Based Intrusion Prevention System (HIPS)
52.	Heavy Duty printer
53.	IP Phones with Headset
54.	Desktops
55.	Network Rack
56.	Silent Diesel Generator - 100kVA
57.	Silent Diesel Generator - 200kVA

Section 5: Scope of Work

Mobile Data Terminal (MDT) Device				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
Rugged Devices				
For 4 Wheeler (PRVs and Fire brigades), Fire stations and District Control room				
MDT.REQ.001	Make			
MDT.REQ.002	Model			
MDT.REQ.003	Processor	At least Quad Core, 1.2 GHz		
MDT.REQ.004	Memory	RAM at least 2 GB		
MDT.REQ.005	Storage	At least 16 GB or higher		
MDT.REQ.006	Operating System	Android / Windows/iOS with latest OS version		
MDT.REQ.007	Generation	2G ,3G , 4G LTE support		
MDT.REQ.008	GSM	Yes, Support U SIM		
MDT.REQ.009	Screen size	minimum 7" with Multi touch support i.e. Multiple finger touch parallel		
MDT.REQ.010	Voice	Voice recording should be possible, built-in microphone, built-in Speaker		
MDT.REQ.011	Camera & Video	at least 2MP Front & 5 MP rear with LED Flash (integrated)		
MDT.REQ.012	Feature	Should work as AVLS device for AVLS Or CAD application, Supports Turn by Turn Navigation with voice and install auto updates for CAD, GIS and other relevant application		
MDT.REQ.013	Screen luminosity	Min. 300 nits, Daylight readable		
MDT.REQ.014	Ruggedness	IP 65 certified (water and dust protected) and MIL 810G		
MDT.REQ.015	Speakerphone	Hands free Support		
MDT.REQ.016	Keyboard	Virtual on Screen		
MDT.REQ.017	Integration Support	Should be able to integrate with CAD, GIS and other application like MDT security etc.		
MDT.REQ.018	GPS	Yes and support for inbuilt GLONASS		

Section 5: Scope of Work

Mobile Data Terminal (MDT) Device				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
MDT.REQ.019	Audio Playing Format	MP3,wav files format etc.		
MDT.REQ.020	Environment Specification	(-)5°C to 55°C, Humidity 95% RH,Non Condensing		
MDT.REQ.021	Ports	Micro USB * 1 version 2.0 and above,charging port,Headset port, DC charging support etc.		
MDT.REQ.022	Expansion Slots	Integrated		
MDT.REQ.023	Power Supply	230V, 50 Hz AC Supply		
MDT.REQ.024	Bluetooth	yes with v 4.0 or above		
MDT.REQ.025	Adapter	AC Input:100-240V		
MDT.REQ.026	Battery	minimum 3000 mAh and above with 1 year warranty for battery,hot swappable. One additional battery with charging set for 280 MDT of Fire services		
MDT.REQ.027	Charger	Electric Charger(DC charger). Built-in rechargeable battery. Converter required in case of no USB port in the vehicle		
MDT.REQ.028	Mounting	On Vehicle Dashboard with required locking dock station set from same OEM		
MDT.REQ.029	Wireless	Yes with 802.11 b / g / n standard atleast		
MDT.REQ.030	IPv6 Compliant	Yes		
MDT.REQ.031	Security Features	Password Security		
For 2 Wheeler and Fire Services				
MDT.REQ.031	Processor	at least Quad core, 1.2 GHz		
MDT.REQ.032	Memory	RAM at least 2 GB		
MDT.REQ.033	Storage	At least 16 GB or higher		
MDT.REQ.034	Operating System	Android/Windows/iOS with higher OS versions		
MDT.REQ.035	Generation	2G,3G, 4G LTE support		
MDT.REQ.036	GSM	Yes, Support U SIM		

Section 5: Scope of Work

Mobile Data Terminal (MDT) Device				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
MDT.REQ.037	Ruggedness	IP 65 certified (water and dust protected) and MIL 810G		
MDT.REQ.038	Screen size	5 inches with Multi touch support i.e. Multiple finger touch parallel		
MDT.REQ.039	Size / Dimensions	Handheld		
MDT.REQ.040	Feature	Should work as AVLS device for AVLS/ CAD application, Supports Turn by Turn Navigation with voice and install auto updates for CAD, GIS and other relevant application		
MDT.REQ.041	Voice	Voice recording should be possible, built-in microphone, built-in Speaker and Voice calling also from the device		
MDT.REQ.042	Calling facility	Yes		
MDT.REQ.043	Camera & Video	at least 1MP Front & 2 MP rear with LED Flash (integrated)		
MDT.REQ.044	Screen luminosity	300 nits, Daylight readable		
MDT.REQ.045	Speakerphone	Hands free Support		
MDT.REQ.046	Keyboard	Virtual on screen		
MDT.REQ.047	Integration Support	Should be able to integrate with CAD, GIS and other application like MDT security etc.		
MDT.REQ.048	GPS	Yes and support for inbuilt GLONASS		
MDT.REQ.049	Audio Playing Format	MP3, wav files format etc.		
MDT.REQ.050	Environment Specification	(-)5°C to 55°C, Humidity 95% RH, Non Condensing		
MDT.REQ.051	Ports	Micro USB * 1 version 2.0 and above, charging port, Headset port, DC charging support etc.		
MDT.REQ.052	Expansion Slots	Integrated		
MDT.REQ.053	Bluetooth	yes with v 4.0 or above		

Section 5: Scope of Work

Mobile Data Terminal (MDT) Device				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
MDT.REQ.054	Adapter	AC Input:100-240V		
MDT.REQ.055	Power Supply	230V, 50 Hz AC Supply		
MDT.REQ.056	Battery	minimum 3000 mAh and above with 1 year warranty for battery,hot swappable		
MDT.REQ.057	Charger	Electric Charger(DC charger). Built-in rechargeable battery. Converter required in case of no USB port in the vehicle		
MDT.REQ.058	Carrying Pouch	Yes		
MDT.REQ.059	Mounting	Should be able to be fixed on the bike with facility to charge with required locking dock station set from same OEM		
MDT.REQ.060	Wireless	Yes with 802.11 b / g / n standard atleast		
MDT.REQ.061	IPv6 Compliant	Yes		
MDT.REQ.062	Security Features	Password Security		
MDT.REQ.063	Weight	<500 gms including battery		
MDT.REQ.064	Make			
MDT.REQ.065	Model			
Mobile Data Terminal Device Security and Monitoring Features for 2 Wheelers and 4 wheelers devices				
MDT.REQ.066	Password Security	Mobile Device should be password protected. Password of the MDT device should be set and reset by the central IT helpdesk		
MDT.REQ.067	Security	Should have multi level security for MDT devices remotely accessing the application. E.g. strong passwords, access to only predefined IPs / MAC numbers, etc.		
MDT.REQ.068	General Requirement	Should have ability to detect jail-broken and rooted devices		

Section 5: Scope of Work

Mobile Data Terminal (MDT) Device				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
MDT.REQ.069	Mobile Device Monitoring	Should have a capability to provide the device health check report like CPU usage , Memory usage, storage usage etc. and should be integrated with Enterprise Management system (EMS) solution		
MDT.REQ.070	Mobile Device Monitoring	Should provide the access User Status and Statistics Or ability to review mobile user and mobile environment activity, such as: # of sent / received items, last connection time, etc.		
MDT.REQ.071	Mobile Device Monitoring	Should support the ability to disable access to public App Stores based on a policy configuration		
MDT.REQ.072	Mobile Device Monitoring	Should have configuration Policies to allow individual components of the mobile device to be enabled or disabled.		
MDT.REQ.073	Login and logout Support	Should support login and logout support and provide a secured access through unique user name and password.		
MDT Certification				
MDT.REQ.074	Certification	MDTs should be certified by valid Bureau of Indian Standards (BIS) certificate		
MDT.REQ.075	Charger Certification	Charger should comply with: IEC 60950, IS13252:2010.UL Certified, ROHS		

Section 5: Scope of Work

Printer , Scanner and Copier				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
PSC.REQ.001	Make			
PSC.REQ.002	Model			
PSC.REQ.003	Functions	Black-and-white printing, black-and-white copying, colour scanning, black-and-white faxing		
Printing System				
PSC.REQ.004	Print speed	> 14 ppm		
PSC.REQ.005	Print Technology	Laser		
PSC.REQ.006	Memory	64 MB		
PSC.REQ.007	Duty cycle (monthly, A4)	Upto 10000 pages		
PSC.REQ.008	Print quality (black, normal quality)	600 x 600 dpi or better		
PSC.REQ.009	Duplex print options	Automatic		
Copy System				
PSC.REQ.010	Copy speed (black, draft quality, A4)	>14 cpm		
PSC.REQ.011	Copy resolution (black graphics)	600 x 600 dpi or better		
PSC.REQ.012	Copier resize	25 to 400%		
Scan System				
PSC.REQ.013	Scan Type	Flatbed, ADF		
PSC.REQ.014	Optical scanning resolution	Up to 600 dpi		
PSC.REQ.015	Maximum scanning size	21.6 x 29.7 cm		
PSC.REQ.016	Minimum scanning size	No minimum		

Section 5: Scope of Work

Printer , Scanner and Copier				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
PSC.REQ.017	Bit depth	24-bit		
PSC.REQ.018	Color scanning	Yes		
PSC.REQ.019	Scan file format	PDF, JPEG		
Fax functionality				
PSC.REQ.020	Colour faxing	No		
PSC.REQ.021	Auto-redialing	Yes		
Paper Handling / Media				
PSC.REQ.023	Auto document feeder capacity	Standard, 50 sheets		
PSC.REQ.024	Paper trays	minimum 2 Nos		
PSC.REQ.025	Media types supported	Paper , transparencies, labels, envelopes, card stock		
PSC.REQ.026	Maximum input capacity (sheets)	>250		
PSC.REQ.027	Standard media sizes	A4, A5, B5 (JIS), executive (JIS), 16K, envelopes		
Other technical information				
PSC.REQ.028	System Interface	USB (compatible with USB 2.0 specifications), 1 network port		
PSC.REQ.029	Compatible operating systems	Microsoft® Windows® 2000, XP Home, XP Professional, XP Professional x64, Server 2003; Linux, UNIX, Open Office etc		
PSC.REQ.030	Warranty	Onsite Warranty till the end of contract period		

Section 5: Scope of Work

Printer , Scanner and Copier				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
PSC.REQ.031	ENERGY STAR® Qualified	Yes		

Section 5: Scope of Work

Laser jet printer				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
LJN.REQ.001	Make			
LJN.REQ.002	Model			
LJN.REQ.003	Print speed, black	30 ppm or more		
LJN.REQ.004	Print resolution, black	1200 x 600 x 2 dpi or more		
LJN.REQ.005	Print technology	Laser		
LJN.REQ.006	Monthly duty cycle	8000 pages or more		
LJN.REQ.007	Memory, standard	64 MB or higher		
LJN.REQ.008	Print languages, standard	Host-based printing, PCL 5e		
LJN.REQ.009	Duplex printing (printing on both sides of paper)	Automatic (standard)		
LJN.REQ.010	Media sizes, standard	A4, A5, B5 (JIS), executive (JIS), 16K, envelopes		
LJN.REQ.011	Media sizes, custom	250-sheet input tray: 5.8 x 8.27 to 8.5 x 14 in; priority feed slot: 3 x 5 to 8.5 x 14 in preferable		
LJN.REQ.012	Network ready	Standard (built-in Ethernet)		
LJN.REQ.013	ENERGY STAR® Qualified	Yes		
LJN.REQ.014	Warranty	Onsite Warranty till the end of contract period		

Section 5: Scope of Work

Paper Shredder				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
PS.REQ.001	Make			
PS.REQ.002	Model			
PS.REQ.003	General Requirement	4 x 30 mm Confetti Cut, DIN Security Level S3 for medium security		
PS.REQ.004	General Requirement	Maximum 6 sheets 70g of paper in a single pass*		
PS.REQ.005	General Requirement	Compact size for use under desk		
PS.REQ.006	General Requirement	Pull out bin for easy emptying		
PS.REQ.007	General Requirement	Shred papers, card boards ,staples, paper clips ,credit cards and CDs		
PS.REQ.008	General Requirement	Quiet operation (<60dBA)		
PS.REQ.009	General Requirement	Cutting style - Cross Cut		
PS.REQ.010	General Requirement	Shred capacity (70 gsm) - 6		
PS.REQ.011	General Requirement	Shred capacity (80 gsm) - 5		
PS.REQ.012	General Requirement	DIN security level - 3		
PS.REQ.013	General Requirement	Shred size (mm) - 4 x 30		
PS.REQ.014	General Requirement	Shred speed (m / min) - 2.5		
PS.REQ.015	General Requirement	Dimensions (mm) H x W x D -340 x 185 x 320		
PS.REQ.016	General Requirement	Working width (mm) - 230		
PS.REQ.017	General Requirement	Bin capacity (Cu., litre) - 7.5		
PS.REQ.018	General Requirement	Sound Level (db) - 60		
PS.REQ.019	General Requirement	Working cycle On /Off - 3 min on /15 min off		
PS.REQ.020	General Requirement	Weight (kg) - 4.4		
PS.REQ.021	General Requirement	Staples - Yes		

Paper Shredder				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
PS.REQ.022	General Requirement	Credit cards - Yes		
PS.REQ.023	General Requirement	CD's - Yes		
PS.REQ.024	General Requirement	Auto Oiling - Yes		
PS.REQ.025	General Requirement	Motor capacity in watts – 125		

Section 5: Scope of Work

Smart TV 32 inches				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
TV32.REQ.001	Make			
TV32.REQ.002	Model			
TV32.REQ.003	Brand	Should be from Sony/Samsung/LG/Panasonic		
TV32.REQ.004	Display Panel	IPS LED (Super Bright Panel)		
TV32.REQ.005	Aspect Ratio	0.672916667		
TV32.REQ.006	Panel Drive	100 Hz BLB		
TV32.REQ.007	Picture Mode	Dynamic ,Normal , Cinema , True Cinema ,Custom		
TV32.REQ.008	Viewing Angle	178 degree		
TV32.REQ.009	Noise Reduction	Y (Dot Noise Reduction)		
TV32.REQ.010	Speakers	Full Range x 2		
TV32.REQ.011	Speaker Output	20 W (10 + 10)		
TV32.REQ.012	Surround Mode	V-Audio		
TV32.REQ.013	Features	Remote Sharing		
TV32.REQ.014	Features	Swipe & Share		
TV32.REQ.015	Features	Internet Apps		
TV32.REQ.016	Features	Web Browser		
TV32.REQ.017	Features	Wireless LAN Built-in		
TV32.REQ.018	Features	Display Mirroring		
TV32.REQ.019	Features	Network File Sharing		
TV32.REQ.020	Features	Media Player (Picture , Movie , Music)		
TV32.REQ.021	Features	Double USB Sharing		
TV32.REQ.022	Features	Eco Navigation		
TV32.REQ.023	HDMI	2 (rear)		
TV32.REQ.024	USB	2 (USB 2.0 x 2)		
TV32.REQ.025	LAN Port	1 (rear)		

Section 5: Scope of Work

Smart TV 32 inches				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
TV32.REQ.026	Analogue Audio Out	1 (rear)		
TV32.REQ.027	Included Accessory	TV Remote		
TV32.REQ.028	Power Supply	AC Auto 110 - 240 V, 50 / 60 Hz		
TV32.REQ.029	Visible Screen Size (diagonal)	80 cm , 32 inches		
TV32.REQ.030	Rated Power Consumption	61 W		
TV32.REQ.031	Standby Power Consumption	0.30 W		
TV32.REQ.032	Screen Resolution	1,366 (W) x 768 (H)		
TV32.REQ.033	Dimensions (W x H x D) (w/o stand)	734 x 437 x 69 mm		
TV32.REQ.034	Dimensions (W x H x D) (with stand)	734 x 502 x 184 mm		
TV32.REQ.035	Stand	Mount wall stand with rotation facility		

Section 5: Scope of Work

Smart TV 42 inches				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
TV42.REQ.001	Make			
TV42.REQ.002	Model			
TV42.REQ.003	Display Panel	IPS LED (Super Bright Panel)		
TV42.REQ.004	Aspect Ratio	0.672916667		
TV42.REQ.005	Panel Drive	100 Hz BLB		
TV42.REQ.006	Picture Mode	Dynamic , Normal , Cinema , True Cinema , Custom		
TV42.REQ.007	Viewing Angle	178 degree		
TV42.REQ.008	Noise Reduction	Y (Multi-Noise Reduction)		
TV42.REQ.009	Speakers	Full Range x 2		
TV42.REQ.010	Speaker Output	20 W (10 + 10)		
TV42.REQ.011	Surround Mode	V-Audio		
TV42.REQ.012	Unique Processing Engine	Dual-Core		
TV42.REQ.013	Features	Remote Sharing		
TV42.REQ.014	Features	Swipe & Share		
TV42.REQ.015	Features	Internet Apps		
TV42.REQ.016	Features	Web Browser		
TV42.REQ.017	Features	Wireless LAN Built-in		
TV42.REQ.018	Features	Display Mirroring		
TV42.REQ.019	Features	Network File Sharing		
TV42.REQ.020	Features	Media Player (Picture / Movie / Music)		
TV42.REQ.021	Features	Double USB Sharing		

Section 5: Scope of Work

Smart TV 42 inches				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
TV42.REQ.022	Features	Ambient Sensor		
TV42.REQ.023	HDMI	2 (rear)		
TV42.REQ.024	Component Video Input shared with Composite	RCA phono type x 1 (rear)		
TV42.REQ.025	Composite Video Input	RCA phono type x 1 (rear)		
TV42.REQ.026	USB	2 (USB 2.0 x 2)		
TV42.REQ.027	LAN Port	1 (rear)		
TV42.REQ.028	Digital Audio Output (Optical)	1 (rear)		
TV42.REQ.029	Included Accessory	TV Remote		
TV42.REQ.030	Power Supply	AC Auto 110 - 240 V, 50/60 Hz		
TV42.REQ.031	Visible Screen Size (diagonal)	106 cm , 42 inches		
TV42.REQ.032	Rated Power Consumption	97 W		
TV42.REQ.033	Standby Power Consumption	0.20 W		
TV42.REQ.034	Screen Resolution	1,920 (W) x 1,080 (H)		
TV42.REQ.035	Dimensions (W x H x D) (w / o stand)	963 x 566 x 69 mm		

Smart TV 42 inches				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
TV42.REQ.036	Dimensions (W x H x D) (with stand)	963 x 610 x 247 mm		
TV42.REQ.037	Stand	Mount wall stand with rotation facility		
TV42.REQ.038	Brand	Should be from Sony/Samsung/LG/Panasonic		

Section 5: Scope of Work

LED TV at Canteen and Driver room				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
LED.REQ.001	Make			
LED.REQ.002	Model			
LED.REQ.003	Screen Size (Inches)	Minimum 55		
LED.REQ.004	Type of Television	LED		
LED.REQ.005	Backlight	Yes		
LED.REQ.006	Resolution (Pixels)	1920 x 1080		
LED.REQ.007	Picture Processor	Yes		
LED.REQ.008	Aspect Ratio	16:09		
LED.REQ.009	Number of Selectable Picture Modes	Vivid, Standard, Custom, Cinema Pro, Cinema Home, Sports,		
LED.REQ.010	Picture In Picture	Yes		
LED.REQ.011	Selectable Sound Modes	Standard, Cinema, Live Sports, Music		
LED.REQ.012	Audio Output (PMPO) (Watts)	20W		
LED.REQ.013	Stereo Playback	Yes		
LED.REQ.014	Number of Speakers	2		
LED.REQ.015	Youtube	Yes		
LED.REQ.016	Web Browser	Yes		
LED.REQ.017	HDMI Input	2		
LED.REQ.018	USB Port	2		
LED.REQ.019	VGA Input	1		
LED.REQ.020	Composite Input	1		
LED.REQ.021	Component Input	1		
LED.REQ.022	Ethernet	1		

Section 5: Scope of Work

LED TV at Canteen and Driver room				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
LED.REQ.023	DLNA Support	Yes		
LED.REQ.024	Dimensions (W x D x H) (mm)	Approx 1230mm x 210mm x 753mm		
LED.REQ.025	Approximate Net Weight (Kgs)	20		
LED.REQ.026	Remote Control	Yes		
LED.REQ.027	Brand	Should be from Sony/Samsung/LG/Panasonic		

Section 5: Scope of Work

AV for Conference Room - 15 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
Display Device				
CRS.REQ.001	Make			
CRS.REQ.002	Model			
CRS.REQ.003	Screen Size (Diagonal) and Aspect Ratio	Minimum 80-inch and 16:9, touch screen		
CRS.REQ.004	Brightness	350 cd /m2 (Typ)		
CRS.REQ.005	Contrast Ratio	4,000:1		
CRS.REQ.006	Viewing Angle	120° / 120°		
CRS.REQ.007	Detection Method	Infrared Blocking Detection Method		
CRS.REQ.008	PC Connection Port	USB (3.0 Compliant)		
CRS.REQ.009	VIDEO In / Audio In (L Or R)	Yes		
CRS.REQ.010	HDMI In	HDMI Type A Connector x 2		
CRS.REQ.011	DVI-D In / Audio In (L Or R)	DVI-D 24-pin x 1 /Stereo Mini Jack (M3) x 1 (Shared with PC In)		
CRS.REQ.012	PC In / Audio In (L Or R)	Mini D-Sub 15-pin x1 (Female), Plug & Play (VESA DDC 2B) / Stereo Mini Jack (M3) x 1 (Shared with DVI-D In)		
CRS.REQ.013	PC Out	Mini D-Sub 15-pin x1		
CRS.REQ.014	USB A	USB TYPE A Connector x 1 (For Memory Viewer)		
CRS.REQ.015	USB B	USB TYPE B Connector x 1 (For Touch Panel)		

Section 5: Scope of Work

AV for Conference Room - 15 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
CRS.REQ.016	External Speaker	50 W [25 W + 25 W] (10 % THD)		
CRS.REQ.017	DIGITAL LINK	RJ45 x 1 (Shared with LAN)		
CRS.REQ.018	Built-In wireless LAN function	IEEE802.11b / g / n, :IEEE802.		
CRS.REQ.019	Picture -in-Picture Capability	Picture-in-Picture mode		
CRS.REQ.020	Picture -in-Picture Capability	Picture-in-whiteboard mode		
CRS.REQ.021	Other Features	Instant playback of content via USB		
CRS.REQ.022	Other Features	Wireless solution with multiscreen functions		
CRS.REQ.023	Other Features	Quick start whiteboard		
CRS.REQ.024	Other Features	Write and draw on media from external devices		
CRS.REQ.025	Touch Features	upto four people can write at a time, and saving option with email to anyone		
CRS.REQ.026	Video Conferencing	Yes		
Control System with touch Panel				
CRS.REQ.027	Make			
CRS.REQ.028	Model			
CRS.REQ.029	SDRAM	512 MB		
CRS.REQ.030	Flash	4 GB		

Section 5: Scope of Work

AV for Conference Room - 15 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
CRS.REQ.03 1	Ethernet control			
CRS.REQ.03 2	Network interface controllers (NICs)	1		
CRS.REQ.03 3	Connector	1 female RJ-45 connector		
CRS.REQ.03 4	Data rate	10 /100 /1000Base-T, half Or full duplex with AutoDetect		
CRS.REQ.03 5	Protocols	DHCP, DNS, HTTP, HTTPS, ICMP, NTP, SFTP, SMTP, SNMP, SSH, TCP Or IP, UDP / IP		
CRS.REQ.03 6	Default settings	Yes		
CRS.REQ.03 7	Serial control			
CRS.REQ.03 8	Quantity / type	2 bidirectional RS-232, RS-422, RS-485 (ports 7 and 8)		
CRS.REQ.03 9		6 bidirectional RS-232 (ports 1 through 6)		
CRS.REQ.04 0	Connectors	(2) 3.5 mm captive screw connectors, 5 pole		
CRS.REQ.04 1		(6) 3.5 mm captive screw connectors, 3 pole		
CRS.REQ.04 2	Baud rate and protocol	300 to 115200 baud (9600 baud = default); 8 (default) or 7 data bits; 1 (default) or 2 stop bits;		
CRS.REQ.04 3		no parity (default), even, odd, mark, or space parity		
CRS.REQ.04 4	Pin configurations	Serial		
CRS.REQ.04 5		Serial, 5-pole captive screw		

Section 5: Scope of Work

AV for Conference Room - 15 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
CRS.REQ.04 6	RS-232 (default)	Pin 1 = Tx, 2 = Rx, 3 = Gnd, 4 = RTS, 5 = CTS		
CRS.REQ.04 7	RS-422	Pin 1 = Tx-, 2 = Rx-, 3 = Gnd, 4 = Tx+, 5 = Rx+		
CRS.REQ.04 8	RS-485	Pins 1 and 2 (tied together) = data-, 3 = Gnd, 4 and 5 (tied together) = data+		
CRS.REQ.04 9	Serial, 3-pole captive screw	Pin 1 = Tx, 2 = Rx, 3 = Gnd		
CRS.REQ.05 0	Flex I /O control			
CRS.REQ.05 1	Quantity / type	4 analog input or digital input / output (configurable)		
CRS.REQ.05 2	Connectors	(1) 3.5 mm captive screw connector, 5 pole		
CRS.REQ.05 3	Digital inputs			
CRS.REQ.05 4	Input voltage range	0 to 24 VDC, clamped at +30 VDC		
CRS.REQ.05 5	Input impedance	29k ohms		
CRS.REQ.05 6	Programmable pullup	1k ohms to +5 VDC		
CRS.REQ.05 7	Threshold low to high	Programmable range: 100 mV to 24 VDC, default = 2.4 VDC		
CRS.REQ.05 8	Threshold high to low	Programmable range: 100 mV to 24 VDC, default = 0.8 VDC		
CRS.REQ.05 9	Digital outputs	250 mA sink from 24 VDC max.		
CRS.REQ.06 0	Analog inputs	12 bit A / D, 0 to 24 VDC		
CRS.REQ.06 1	Pin configurations	1, 2, 3, 4 = flex I /Os 1, 2, 3, 4; 5 = Gnd		

Section 5: Scope of Work

AV for Conference Room - 15 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
CRS.REQ.06 2	IR /serial control			
CRS.REQ.06 3	Quantity /type	8 programmable: unidirectional RS-232 (± 5 V), or TTL level (0 to 5 V) infrared (carrier and non-carrier) up to 300 kHz		
CRS.REQ.06 4	Connectors	(4) 3.5 mm captive screw connectors, 4-pole		
CRS.REQ.06 5	Baud rate and protocol (RS-232)	300 to 115200 baud (9600 baud = default); 8 (default) or 7 data bits; 1 (default) or 2 stop bits;		
CRS.REQ.06 6		no parity (default), even, odd, mark, or space parity		
CRS.REQ.06 7	Pin configurations	For each port, pin 1 = signal, 2 = Gnd		
CRS.REQ.06 8	IR output carrier frequency	30 kHz to 300 kHz		
CRS.REQ.06 9	IR learning carrier frequency	30 kHz to 300 kHz		
CRS.REQ.07 0	IR learning capture distance	2" (5.1 cm) to 12" (30.5 cm) from the front panel		
CRS.REQ.07 1	Relay control			
CRS.REQ.07 2	Quantity / type	8 normally open relays		
CRS.REQ.07 3	Relay control connectors	(4) 3.5 mm captive screw connectors, 4 pole		
CRS.REQ.07 4	Relay control contact rating	24 VDC, 1 A		
CRS.REQ.07 5	Switched DC power output			
CRS.REQ.07 6	Quantity /type	4 switched 12 VDC outputs		

Section 5: Scope of Work

AV for Conference Room - 15 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
CRS.REQ.077	Connectors	(4) 3.5 mm captive screw connectors, 2 pole		
CRS.REQ.078	Power	Maximum 40 watts total		
CRS.REQ.079	Power sense			
CRS.REQ.080	Range	0.1 watt to 40 watts		
CRS.REQ.081	General			
CRS.REQ.082	Power supply	Internal		
CRS.REQ.083		Input: 100-240 VAC, 50-60 Hz		
CRS.REQ.084	Power consumption	61.8 watts		
CRS.REQ.085	Temperature / humidity	Storage: -40 to +158 °F (-40 to +70 °C) / 10% to 90%, noncondensing		
CRS.REQ.086		Operating: +32 to +122 °F (0 to +50 °C) / 10% to 90%, noncondensing		
CRS.REQ.087	Cooling	Convection, no vents		
CRS.REQ.088	Thermal dissipation	33.3 BTU /hr		
Table Top Microphone				
CRS.REQ.089	Make			
CRS.REQ.090	Model			
CRS.REQ.091	Frequency Response	50 to 17,000 Hz		

Section 5: Scope of Work

AV for Conference Room - 15 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
CRS.REQ.09 2	Polar Pattern	Cardioid (MX392 / C, MX393 / C)		
CRS.REQ.09 3	Output Impedance	EIA Rated at 150 Ω (180 Ω actual)		
CRS.REQ.09 4	Sensitivity (at 1 kHz, open circuit voltage)	27.5 dBV /Pa (42.2 mV)		
CRS.REQ.09 5	Maximum Sound Pressure Level (1 kHz at 1% Total Harmonic Distortion, 1 k Ω load)	117.0 dB		
CRS.REQ.09 6	Signal to Noise Ratio (referenced at 94 dB SPL)	71.0 dB		
CRS.REQ.09 7	Equivalent Output Noise (A-weighted)	23.0 dB		
CRS.REQ.09 8	Dynamic Range	94.0 dB		
CRS.REQ.09 9	Preamplifier Output Clipping Level	-6 dBV (0.5 V)		
Others				
CRS.REQ.10 0	Matrix Switcher	Yes		
CRS.REQ.10 1	Cable Cubby	Yes		
CRS.REQ.10 2	Rack	Yes (to accommodate all products		
CRS.REQ.10 3	External accessories	Yes (to furnish and accommodate all items of room)		

Section 5: Scope of Work

AV for Conference Room - 10-8 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
Display Device				
CRB.REQ.001	Make			
CRB.REQ.002	Model			
CRB.REQ.003	Screen Size (Diagonal) and Aspect Ratio	Minimum 65-inch and 16:9, touch screen		
CRB.REQ.004	Brightness	350 cd/ m2 (Typ)		
CRB.REQ.005	Contrast Ratio	4,000:1		
CRB.REQ.006	Viewing Angle	120° /120°		
CRB.REQ.007	Detection Method	Infrared Blocking Detection Method		
CRB.REQ.008	PC Connection Port	USB (3.0 Compliant)		
CRB.REQ.009	VIDEO In / Audio In (L Or R)	Yes		
CRB.REQ.010	HDMI In	HDMI Type A Connector x 2		
CRB.REQ.011	DVI-D In / Audio In (L Or R)	DVI-D 24-pin x 1 / Stereo Mini Jack (M3) x 1 (Shared with PC In)		
CRB.REQ.012	PC In / Audio In (L Or R)	Mini D-Sub 15-pin x1 (Female), Plug & Play (VESA DDC 2B) / Stereo Mini Jack (M3) x 1 (Shared with DVI-D In)		
CRB.REQ.013	PC Out	Mini D-Sub 15-pin x1		
CRB.REQ.014	USB A	USB TYPE A Connector x 1 (For Memory Viewer)		
CRB.REQ.015	USB B	USB TYPE B Connector x 1 (For Touch Panel)		

Section 5: Scope of Work

AV for Conference Room - 10-8 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
CRB.REQ.016	External Speaker	50 W [25 W + 25 W] (10 % THD)		
CRB.REQ.017	DIGITAL LINK	RJ45 x 1 (Shared with LAN)		
CRB.REQ.018	Built-IN wireless LAN function	IEEE802.11b / g / n, :IEEE802.		
CRB.REQ.019	Picture -in-Picture Capability	Picture-in-Picture mode		
CRB.REQ.020		Picture-in-whiteboard mode		
CRB.REQ.021	Other Features	Instant playback of content via USB		
CRB.REQ.022		wireless solution with multiscreen functions		
CRB.REQ.023		Quick start whiteboard		
CRB.REQ.024		Write and draw on media from external devices		
CRB.REQ.025	Touch Features	upto four people can write at a time, and saving option with email to anyone		
CRB.REQ.026	Video Conferencing	Yes		
Audio System				
CRB.REQ.027	Make			
CRB.REQ.028	Model			
CRB.REQ.029	Audio DSP	Yes		
CRB.REQ.030	Speaker type	2-way, full range, indoor surface wall mount speaker		

Section 5: Scope of Work

AV for Conference Room - 10-8 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
CRB.REQ.03 1	Frequency range	70 Hz to 18 kHz, -10 dB, full space		
CRB.REQ.03 2	Power capacity	60 W (rms) continuous pink noise (per IEC 60268-5)		
CRB.REQ.03 3		120 W (rms) continuous program		
CRB.REQ.03 4	Nominal sensitivity	90 dB SPL, 1 W, 1 m, full space		
CRB.REQ.03 5	Nominal impedance	8 ohms		
CRB.REQ.03 6	Crossover frequency	2.5 kHz		
CRB.REQ.03 7	Woofer	(1) 6.5" (165 mm) polypropylene cone		
CRB.REQ.03 8	Tweeter	(1) 1.0" (25 mm) silk dome		
CRB.REQ.03 9	Overload protection	Full range power limiter protecting the tweeter, woofer, and crossover		
CRB.REQ.04 0	Input connectors			
CRB.REQ.04 1	Speaker	2 recessed pins		
CRB.REQ.04 2	Mounting plate	(1) 10 mm Euro-style captive screw terminal block, 4 pole		
CRB.REQ.04 3	Package	4 speakers (1 pair) with mounting kit		
CRB.REQ.04 4	Temperature / humidity	Storage: -40 to +158 °F (-40 to +70 °C) / 10% to 90%, noncondensing		
CRB.REQ.04 5		Operating: +32 to +122 °F (0 to +50 °C) / 10% to 90%, noncondensing		
CRB.REQ.04 6	Amplifier	Yes		

Section 5: Scope of Work

AV for Conference Room - 10-8 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
CRB.REQ.04 7	Audio Audio de-embedder	Yes		
Control System with touch Panel				
CRB.REQ.04 8	Make			
CRB.REQ.04 9	Model			
CRB.REQ.05 0	SDRAM	512 MB		
CRB.REQ.05 1	Flash	4 GB		
CRB.REQ.05 2	Ethernet control			
CRB.REQ.05 3	Network interface controllers (NICs)	1		
CRB.REQ.05 4	Connector	1 female RJ-45 connector		
CRB.REQ.05 5	Data rate	10 / 100 / 1000Base-T, half Or full duplex with autodetect		
CRB.REQ.05 6	Protocols	DHCP, DNS, HTTP, HTTPS, ICMP, NTP, SFTP, SMTP, SNMP, SSH, TCP / IP, UDP / IP		
CRB.REQ.05 7	Default settings	Yes		
CRB.REQ.05 8	Serial control	Yes		
CRB.REQ.05 9	Quantity / type	2 bidirectional RS-232, RS-422, RS-485 (ports 7 and 8)		
CRB.REQ.06 0		6 bidirectional RS-232 (ports 1 through 6)		
CRB.REQ.06 1	Connectors	(2) 3.5 mm captive screw connectors, 5 pole		

Section 5: Scope of Work

AV for Conference Room - 10-8 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
CRB.REQ.06 2		(6) 3.5 mm captive screw connectors, 3 pole		
CRB.REQ.06 3	Baud rate and protocol	300 to 115200 baud (9600 baud = default); 8 (default) / 7 data bits; 1 (default) / 2 stop bits;		
CRB.REQ.06 4		no parity (default), even, odd, mark, space parity		
CRB.REQ.06 5	Pin configurations			
CRB.REQ.06 6		Serial, 5-pole captive screw		
CRB.REQ.06 7	RS-232 (default)	Pin 1 = Tx, 2 = Rx, 3 = Gnd, 4 = RTS, 5 = CTS		
CRB.REQ.06 8	RS-422	Pin 1 = Tx-, 2 = Rx-, 3 = Gnd, 4 = Tx+, 5 = Rx+		
CRB.REQ.06 9	RS-485	Pins 1 and 2 (tied together) = data-, 3 = Gnd, 4 and 5 (tied together) = data+		
CRB.REQ.07 0	Serial, 3-pole captive screw	Pin 1 = Tx, 2 = Rx, 3 = Gnd		
CRB.REQ.07 1	Flex I / O control			
CRB.REQ.07 2	Quantity /type	4 analog input / digital input / output (configurable)		
CRB.REQ.07 3	Connectors	(1) 3.5 mm captive screw connector, 5 pole		
CRB.REQ.07 4	Digital inputs			
CRB.REQ.07 5	Input voltage range	0 to 24 VDC, clamped at +30 VDC		
CRB.REQ.07 6	Input impedance	29k ohms		
CRB.REQ.07 7	Programmable pullup	1k ohms to +5 VDC		

Section 5: Scope of Work

AV for Conference Room - 10-8 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
CRB.REQ.078	Threshold low to high	Programmable range: 100 mV to 24 VDC, default = 2.4 VDC		
CRB.REQ.079	Threshold high to low	Programmable range: 100 mV to 24 VDC, default = 0.8 VDC		
CRB.REQ.080	Digital outputs	250 mA sink from 24 VDC max.		
CRB.REQ.081	Analog inputs	12 bit A/D, 0 to 24 VDC		
CRB.REQ.082	Pin configurations	1, 2, 3, 4 = flex I/Os 1, 2, 3, 4; 5 = Gnd		
CRB.REQ.083	IR /serial control			
CRB.REQ.084	Quantity/ type	8 programmable: unidirectional RS-232 (± 5 V) / TTL level (0 to 5 V) infrared (carrier and non-carrier) up to 300 kHz		
CRB.REQ.085	Connectors	(4) 3.5 mm captive screw connectors, 4-pole		
CRB.REQ.086	Baud rate and protocol (RS-232)	300 to 115200 baud (9600 baud = default); 8 (default) ,7 data bits; 1 (default) or 2 stop bits;		
CRB.REQ.087		no parity (default), even, odd, mark, or space parity		
CRB.REQ.088	Pin configurations	For each port, pin 1 = signal, 2 = Gnd		
CRB.REQ.089	IR output carrier frequency	30 kHz to 300 kHz		
CRB.REQ.090	IR learning carrier frequency	30 kHz to 300 kHz		
CRB.REQ.091	IR learning capture distance	2" (5.1 cm) to 12" (30.5 cm) from the front panel		
CRB.REQ.092	Relay control			

Section 5: Scope of Work

AV for Conference Room - 10-8 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
CRB.REQ.093	Quantity / type	8 normally open relays		
CRB.REQ.094	Relay control connectors	(4) 3.5 mm captive screw connectors, 4 pole		
CRB.REQ.095	Relay control contact rating	24 VDC, 1 A		
CRB.REQ.096	Switched DC power output			
CRB.REQ.097	Quantity /type	4 switched 12 VDC outputs		
CRB.REQ.098	Connectors	(4) 3.5 mm captive screw connectors, 2 pole		
CRB.REQ.099	Power	Maximum 40 watts total		
CRB.REQ.100	Power sense			
CRB.REQ.101	Range	0.1 watt to 40 watts		
CRB.REQ.102	General			
CRB.REQ.103	Power supply	Internal		
CRB.REQ.104		Input: 100-240 VAC, 50-60 Hz		
CRB.REQ.105	Power consumption	61.8 watts		
CRB.REQ.106	Temperature / humidity	Storage: -40 to +158 °F (-40 to +70 °C) Or 10% to 90%, noncondensing		
CRB.REQ.107		Operating: +32 to +122 °F (0 to +50 °C) Or 10% to 90%, noncondensing		
CRB.REQ.108	Cooling	Convection, no vents		

Section 5: Scope of Work

AV for Conference Room - 10-8 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
CRB.REQ.109	Thermal dissipation	33.3 BTU / hr		
Table Top Microphone				
CRB.REQ.110	Make			
CRB.REQ.111	Model			
CRB.REQ.112	Frequency Response	50 to 17,000 Hz		
CRB.REQ.113	Polar Pattern	Cardioid (MX392 / C, MX393 / C)		
CRB.REQ.114	Output Impedance	EIA Rated at 150 Ω (180 Ω actual)		
CRB.REQ.115	Sensitivity (at 1 kHz, open circuit voltage)	27.5 dBV / Pa (42.2 mV)		
CRB.REQ.116	Maximum Sound Pressure Level (1 kHz at 1% Total Harmonic Distortion, 1 k Ω load)	117.0 dB		
CRB.REQ.117	Signal to Noise Ratio (referenced at 94 dB SPL)	71.0 dB		
CRB.REQ.118	Equivalent Output Noise (A-weighted)	23.0 dB		
CRB.REQ.119	Dynamic Range	94.0 dB		
CRB.REQ.120	Preamplifier Output Clipping Level	-6 dBV (0.5 V)		
Others				
CRB.REQ.121	Matrix Switcher	Yes		

Section 5: Scope of Work

AV for Conference Room - 10-8 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
CRB.REQ.12 2	Cable Cubby	Yes		
CRB.REQ.12 3	Rack	Yes (to accommodate all products		
CRB.REQ.12 4	External accessories	Yes (to furnish and accommodate all items of room)		

Section 5: Scope of Work

Audio-Visual for Board Room - 20 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
Display Device				
BR.REQ.001	Make			
BR.REQ.002	Model			
BR.REQ.003	Screen Size (Diagonal) and Aspect Ratio	Minimum 80-inch and 16:9, touch screen		
BR.REQ.004	Brightness	350 cd /m2 (Typ)		
BR.REQ.005	Contrast Ratio	4,000:1		
BR.REQ.006	Viewing Angle	120° /120°		
BR.REQ.007	Detection Method	Infrared Blocking Detection Method		
BR.REQ.008	PC Connection Port	USB (3.0 Compliant)		
BR.REQ.009	VIDEO In/ Audio In (L Or R)	Yes		
BR.REQ.010	HDMI In	HDMI Type A Connector x 2		
BR.REQ.011	DVI-D In /Audio In (L Or R)	DVI-D 24-pin x 1 / Stereo Mini Jack (M3) x 1 (Shared with PC In)		
BR.REQ.012	PC In /Audio In (L Or R)	Mini D-Sub 15-pin x1 (Female), Plug & Play (VESA DDC 2B) /Stereo Mini Jack (M3) x 1 (Shared with DVI-D In)		
BR.REQ.013	PC Out	Mini D-Sub 15-pin x1		
BR.REQ.014	USB A	USB TYPE A Connector x 1 (For Memory Viewer)		
BR.REQ.015	USB B	USB TYPE B Connector x 1 (For Touch Panel)		
BR.REQ.016	External Speaker	50 W [25 W + 25 W] (10 % THD)		
BR.REQ.017	DIGITAL LINK	RJ45 x 1 (Shared with LAN)		
BR.REQ.018	Built-In wireless LAN function	IEEE802.11b / g /n, :IEEE802.		

Section 5: Scope of Work

Audio-Visual for Board Room - 20 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
BR.REQ.019	Picture -in-Picture Capability	Picture-in-Picture mode		
BR.REQ.020	Picture -in-Picture Capability	Picture-in-whiteboard mode		
BR.REQ.021	Other Features	Instant playback of content via USB		
BR.REQ.022	Other Features	Wireless solution with multiscreen functions		
BR.REQ.023	Other Features	Quick start whiteboard		
BR.REQ.024	Other Features	Write and draw on media from external devices		
BR.REQ.025	Touch Features	Upto four people can write at a time, and saving upto option with email to anyone		
BR.REQ.026	Video Conferencing	Yes		
Audio System				
	Make			
	Model			
BR.REQ.027	Audio DSP	Yes		
BR.REQ.028	Speaker type	2-way, full range, indoor surface wall mount speaker		
BR.REQ.029	Frequency range	70 Hz to 18 kHz, -10 dB, full space		
BR.REQ.030	Power capacity	60 W (rms) continuous pink noise (per IEC 60268-5)		
BR.REQ.031		120 W (rms) continuous program		
BR.REQ.032	Nominal sensitivity	90 dB SPL, 1 W, 1 m, full space		
BR.REQ.033	Nominal impedance	8 ohms		
BR.REQ.034	Crossover frequency	2.5 kHz		

Section 5: Scope of Work

Audio-Visual for Board Room - 20 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
BR.REQ.035	Woofer	(1) 6.5" (165 mm) polypropylene cone		
BR.REQ.036	Tweeter	(1) 1.0" (25 mm) silk dome		
BR.REQ.037	Overload protection	Full range power limiter protecting the tweeter, woofer, and crossover		
BR.REQ.038	Input connectors			
BR.REQ.039	Speaker	4 recessed pins		
BR.REQ.040	Mounting plate	(1) 10 mm Euro-style captive screw terminal block, 4 pole		
BR.REQ.041	Package	4 speakers (1 pair) with mounting kit		
BR.REQ.042	Temperature /humidity	Storage: -40 to +158 °F (-40 to +70 °C) / 10% to 90%, noncondensing		
BR.REQ.043	Temperature/ humidity	Operating: +32 to +122 °F (0 to +50 °C)/ 10% to 90%, noncondensing		
BR.REQ.044	Amplifier	Yes		
BR.REQ.045	Audio Audio de-embedder	Yes		
Control System with touch Panel				
BR.REQ.046	Make			
BR.REQ.047	Model			
BR.REQ.048	SDRAM	512 MB		
BR.REQ.049	Flash	4 GB		
BR.REQ.050	Ethernet control			
BR.REQ.051	Network interface controllers (NICs)	1		
BR.REQ.052	Connector	1 female RJ-45 connector		
BR.REQ.053	Data rate	10 Or 100 Or 1000Base-T, half /full duplex with AutoDetect		

Section 5: Scope of Work

Audio-Visual for Board Room - 20 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
BR.REQ.054	Protocols	DHCP, DNS, HTTP, HTTPS, ICMP, NTP, SFTP, SMTP, SNMP, SSH, TCP /IP, UDP/ IP		
BR.REQ.055	Default settings	Yes		
BR.REQ.056	Serial control			
BR.REQ.057	Quantity / type	2 bidirectional RS-232, RS-422, RS-485 (ports 7 and 8)		
BR.REQ.058		6 bidirectional RS-232 (ports 1 through 6)		
BR.REQ.059	Connectors	(2) 3.5 mm captive screw connectors, 5 pole		
BR.REQ.060		(6) 3.5 mm captive screw connectors, 3 pole		
BR.REQ.061	Baud rate and protocol	300 to 115200 baud (9600 baud = default); 8 (default) /7 data bits; 1 (default) or 2 stop bits;		
BR.REQ.062		no parity (default), even, odd, mark, space parity		
BR.REQ.063	Pin configurations	Serial		
BR.REQ.064	Pin configurations	Serial, 5-pole captive screw		
BR.REQ.065	RS-232 (default)	Pin 1 = Tx, 2 = Rx, 3 = Gnd, 4 = RTS, 5 = CTS		
BR.REQ.066	RS-422	Pin 1 = Tx-, 2 = Rx-, 3 = Gnd, 4 = Tx+, 5 = Rx+		
BR.REQ.067	RS-485	Pins 1 and 2 (tied together) = data-, 3 = Gnd, 4 and 5 (tied together) = data+		
BR.REQ.068	Serial, 3-pole captive screw	Pin 1 = Tx, 2 = Rx, 3 = Gnd		
BR.REQ.069	Flex I / O control			
BR.REQ.070	Quantity / type	4 analog input or digital input / output (configurable)		
BR.REQ.071	Connectors	(1) 3.5 mm captive screw connector, 5 pole		

Section 5: Scope of Work

Audio-Visual for Board Room - 20 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
BR.REQ.072	Digital inputs			
BR.REQ.073	Input voltage range	0 to 24 VDC, clamped at +30 VDC		
BR.REQ.074	Input impedance	29k ohms		
BR.REQ.075	Programmable pullup	1k ohms to +5 VDC		
BR.REQ.076	Threshold low to high	Programmable range: 100 mV to 24 VDC, default = 2.4 VDC		
BR.REQ.077	Threshold high to low	Programmable range: 100 mV to 24 VDC, default = 0.8 VDC		
BR.REQ.078	Digital outputs	250 mA sink from 24 VDC max.		
BR.REQ.079	Analog inputs	12 bit A / D, 0 to 24 VDC		
BR.REQ.080	Pin configurations	1, 2, 3, 4 = flex I / Os 1, 2, 3, 4; 5 = Gnd		
BR.REQ.081	IR/ serial control			
BR.REQ.082	Quantity / type	8 programmable: unidirectional RS-232 (± 5 V)/ TTL level (0 to 5 V) infrared (carrier and non-carrier) up to 300 kHz		
BR.REQ.083	Connectors	(4) 3.5 mm captive screw connectors, 4-pole		
BR.REQ.084	Baud rate and protocol (RS-232)	300 to 115200 baud (9600 baud = default); 8 (default) / 7 data bits; 1 (default)/2 stop bits;		
BR.REQ.085		no parity (default), even, odd, mark, space parity		
BR.REQ.086	Pin configurations	For each port, pin 1 = signal, 2 = Gnd		
BR.REQ.087	IR output carrier frequency	30 kHz to 300 kHz		
BR.REQ.088	IR learning carrier frequency	30 kHz to 300 kHz		
BR.REQ.089	IR learning capture distance	2" (5.1 cm) to 12" (30.5 cm) from the front panel		
BR.REQ.090	Relay control			

Section 5: Scope of Work

Audio-Visual for Board Room - 20 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
BR.REQ.091	Quantity / type	8 normally open relays		
BR.REQ.092	Relay control connectors	(4) 3.5 mm captive screw connectors, 4 pole		
BR.REQ.093	Relay control contact rating	24 VDC, 1 A		
BR.REQ.094	Switched DC power output			
BR.REQ.095	Quantity / type	4 switched 12 VDC outputs		
BR.REQ.096	Connectors	(4) 3.5 mm captive screw connectors, 2 pole		
BR.REQ.097	Power	Maximum 40 watts total		
BR.REQ.098	Power sense			
BR.REQ.099	Range	0.1 watt to 40 watts		
BR.REQ.100	General			
BR.REQ.101	Power supply	Internal		
BR.REQ.102		Input: 100-240 VAC, 50-60 Hz		
BR.REQ.103	Power consumption	61.8 watts		
BR.REQ.104	Temperature /humidity	Storage: -40 to +158 °F (-40 to +70 °C) / 10% to 90%, noncondensing		
BR.REQ.105		Operating: +32 to +122 °F (0 to +50 °C) / 10% to 90%, noncondensing		
BR.REQ.106	Cooling	Convection, no vents		
BR.REQ.107	Thermal dissipation	33.3 BTU/ hr		
Table Top Microphone				
BR.REQ.107	Make			
BR.REQ.108	Model			

Section 5: Scope of Work

Audio-Visual for Board Room - 20 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
BR.REQ.109	Frequency Response	50 to 17,000 Hz		
BR.REQ.110	Polar Pattern	Cardioid (MX392/ C, MX393/C)		
BR.REQ.111	Output Impedance	EIA Rated at 150 Ω (180 Ω actual)		
BR.REQ.112	Sensitivity (at 1 kHz, open circuit voltage)	27.5 dBV/Pa (42.2 mV)		
BR.REQ.113	Maximum Sound Pressure Level (1 kHz at 1% Total Harmonic Distortion, 1 k Ω load)	117.0 dB		
BR.REQ.114	Signal to Noise Ratio (referenced at 94 dB SPL)	71.0 dB		
BR.REQ.115	Equivalent Output Noise (A-weighted)	23.0 dB		
BR.REQ.116	Dynamic Range	94.0 dB		
BR.REQ.117	Preamplifier Output Clipping Level	-6 dBV (0.5 V)		
Others				
BR.REQ.118	Matrix Switcher	Yes		
BR.REQ.119	Cable Cubby	Yes		
BR.REQ.120	Rack	Yes (to accommodate all products		
BR.REQ.121	External accessories	Yes (to furnish and accommodate all items of room)		

Section 5: Scope of Work

Audio-Visual for Training Room - 25 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
Projector				
TR25.REQ.001	Make			
TR25.REQ.002	Model			
TR25.REQ.003	Projector Panel size	0.6"diagonal		
TR25.REQ.004	Display Method	Transparent LCD panel(x3, R / G/B)		
TR25.REQ.005	Pixels	786,432 (1,024 x 768) x3, total of 2,359,296 pixels		
TR25.REQ.006	Lens	F1.60-2.12, f15.30-24.60mm		
TR25.REQ.007	Brightness	4200 lumens		
TR25.REQ.008	Contrast (Full on /Full off)	4000:01:00		
TR25.REQ.009	Keystone Correction Range	Vertical $\pm 40^\circ$ ($\pm 30^\circ$ when easy setting); Horizontal $\pm 30^\circ$ ($\pm 20^\circ$ when easy setting)		
TR25.REQ.010	Built-in Speaker	10 w(monaural)		
TR25.REQ.011	Terminals	HDMI IN 19-pin x 1, HDCP compatible		
TR25.REQ.012		Computer RGB 1 IN D-sub HD 15-pin (female) x 1		
TR25.REQ.013		Computer RGB 2 IN / 1 OUT D-sub HD 15-pin (female) x 1		
TR25.REQ.014		LAN RJ-45 x 1, for network connection, 100 base-TX /10 base-T, complaint with PJLink		
TR25.REQ.015		USB A (type A0 connector x 1, for USB memory viewer		
TR25.REQ.016		USB B (type B) connector x 1, for USB display		
TR25.REQ.017	Wireless LAN	IEEE 802.11a /b / g/ n		
TR25.REQ.018	Operating range	Approx. 30 m (98 ft 5 in)		
TR25.REQ.019	Security	Instructure mode WPA-PSK(TKIP / AES), WPA2-PSK(TKIP/ AES), WEP (128 bit / 64 bit)		

Section 5: Scope of Work

Audio-Visual for Training Room - 25 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
TR25.REQ.020	Wireless facilities	Miracast compatible		
TR25.REQ.021		projection from ios Or android devices		
TR25.REQ.022	Lamp Life	upto 6000 hrs		
Mixer				
TR25.REQ.023	Make			
TR25.REQ.024	Model			
TR25.REQ.025	Frequency response	20 Hz to 20 kHz, ± 0.05 dB		
TR25.REQ.026	THD + Noise	0.03% @ 1 kHz at nominal level		
TR25.REQ.027	S / N	>90 dB (balanced) at rated maximum output		
TR25.REQ.028	CMRR	>75 dB @ 20 Hz to 20 kHz		
TR25.REQ.029	Audio Input	4 stereo, balanced/unbalanced		
TR25.REQ.030	Connectors	(4) 3.5 mm captive screw connectors, 5 pole		
TR25.REQ.031	Impedance	>17k ohms unbalanced, 23k ohms balanced, DC coupled		
TR25.REQ.032	Nominal level	+4 dBu (1.23 V)		
TR25.REQ.033	Number/ signal type	4 mono, balanced / unbalanced		
TR25.REQ.034	Connectors	(2) 3.5 mm captive screw connectors, 5 pole (double stacked)		
TR25.REQ.035	Impedance	<50 ohms unbalanced, 100 ohms balanced		
TR25.REQ.036	Nominal level	+4 dBu (1.23 V)		
TR25.REQ.037	Maximum level (Hi-Z)	>+23 dBu, balanced; or >+17 dBu, unbalanced at 1% THD+N		
TR25.REQ.038	Maximum level (600 ohm)	>+21 dBm, balanced; or >15 dBu, unbalanced at 1% THD+N		
TR25.REQ.039	External power supply	100 VAC to 240 VAC, 50-60 Hz, external, to 12 VDC, 1 A (max.), regulated		

Section 5: Scope of Work

Audio-Visual for Training Room - 25 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
TR25.REQ.040	Power input requirements	12 VDC, 0.2 A		
TR25.REQ.041	Temperature /humidity	Storage: -40 to +158 °F (-40 to +70 °C) / 10% to 90%, noncondensing		
TR25.REQ.042		Operating: +32 to +122 °F (0 to +50 °C) /10% to 90%, noncondensing		
TR25.REQ.043	Cooling	Convection, no vents		
TR25.REQ.044	Rack mount	Yes, with optional 1U rack shelf		
TR25.REQ.045	Furniture mount	Yes, with optional mini under desk mounting kit		
TR25.REQ.046	Pole mount	Yes, with optional mini projector mounting kit		
TR25.REQ.047	Enclosure type	Metal		
TR25.REQ.048	Enclosure dimensions	1.7" H x 4.3" W x 3.0" D (1U high, quarter rack wide)		
TR25.REQ.049		(4.3 cm H x 10.9 cm W x 7.6 cm D)		
TR25.REQ.050		(Depth excludes connectors.)		
TR25.REQ.051	Vibration	ISTA 1A in carton (International Safe Transit Association)		
Audio System				
TR25.REQ.052	Make			
TR25.REQ.053	Model			
TR25.REQ.054	Speaker type	2-way, full range, indoor surface mount speaker		
TR25.REQ.055	Frequency range	70 Hz to 18 kHz, -10 dB, full space		
TR25.REQ.056	Power capacity	60 W (rms) continuous pink noise (per IEC 60268-5)		
TR25.REQ.057		120 W (rms) continuous program		
TR25.REQ.058	Nominal sensitivity	90 dB SPL, 1 W, 1 m, full space		
TR25.REQ.059	Nominal impedance	8 ohms		

Section 5: Scope of Work

Audio-Visual for Training Room - 25 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
TR25.REQ.060	Crossover frequency	2.5 kHz		
TR25.REQ.061	Woofers	(1) 6.5" (165 mm) polypropylene cone		
TR25.REQ.062	Tweeter	(1) 1.0" (25 mm) silk dome		
TR25.REQ.063	Overload protection	Full range power limiter protecting the tweeter, woofer, and crossover		
TR25.REQ.064	Input connectors			
TR25.REQ.065	Speaker	2 recessed pins		
TR25.REQ.066	Mounting plate	(1) 10 mm Euro-style captive screw terminal block, 4 pole		
TR25.REQ.067	Package	2 speakers (1 pair) with mounting kit		
TR25.REQ.068	Temperature/ humidity	Storage: -40 to +158 °F (-40 to +70 °C) /10% to 90%, noncondensing		
TR25.REQ.069		Operating: +32 to +122 °F (0 to +50 °C) / 10% to 90%, noncondensing		
TR25.REQ.070		Operating: +32 to +122 °F (0 to +50 °C) / 10% to 90%, noncondensing		
TR25.REQ.071	Amplifier	Yes		
TR25.REQ.072	Audio Audio de-embedder	Yes		
Lapel Microphone				
TR25.REQ.073	Make			
TR25.REQ.074	Model			
TR25.REQ.075	Channel	Single		
TR25.REQ.076	Chassis	EIA-Standard 19" 1 / 2U		
TR25.REQ.077	Receiving Mode	Diversity		
TR25.REQ.078	Frequency Range	UHF 480~934MHz		
TR25.REQ.079	Antenna	Rear Panel. Detachable.		

Section 5: Scope of Work

Audio-Visual for Training Room - 25 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
TR25.REQ.080	Preset Channels	112 preset channels.		
TR25.REQ.081		Group 1-6: 8 compatible channels in each group.		
TR25.REQ.082		Group 7-10: 16 compatible channels in each group.		
TR25.REQ.083		Group 11: Up to 8 channels can be saved & recalled.		
TR25.REQ.084		961 user-defined frequencies in group 11.		
TR25.REQ.085	Oscillation Mode	PLL Synthesized, Frequency Stability $\leq \pm 0.005\%$ (-10~+60°C)		
TR25.REQ.086	Sensitivity	10dB μ V, at S /N>80dB		
TR25.REQ.087	S/N Ratio	>106dB(A)		
TR25.REQ.088	T.H.D.	<0.5% @ 1kHz		
TR25.REQ.089	Frequency Response	50Hz~18kHz, with high pass filter.		
TR25.REQ.090	Squelch	"PiloTone & NoiseLock" dual-squelch circuit.		
TR25.REQ.091	Audio Output Adjustment	Output level accurately pre-adjusted to equal to the microphone capsule sensitivity.		
TR25.REQ.092	Maximum Output Level	2-level Switch: Line & Mic		
TR25.REQ.093	Power Supply	External AC Adapter, 12~15V DC, 1A		
TR25.REQ.094	Dimensions	210(W)×44(H)×180(D)mm / 8.3(W)×1.7(H)×7.1(D)"		
TR25.REQ.095	Weight	Approx. 0.8kg /1.8lbs		
Screen				
TR25.REQ.096	Make			
TR25.REQ.097	Model			
TR25.REQ.098	Projection Screen	Minimum 6 x 8 (1.905mtr x 2.49mtr)Motorised Screen		
TR25.REQ.099		Motorised		
TR25.REQ.100		Wired and Wireless Remote Control		

Section 5: Scope of Work

Audio-Visual for Training Room - 25 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
TR25.REQ.101		White Matt Fabric		

Section 5: Scope of Work

Audio Visual for Training Room - 50 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
Projector				
TR50.REQ.001	Make			
TR50.REQ.002	Model			
TR50.REQ.003	Projector Panel size	0.6"diagonal		
TR50.REQ.004	Display Method	Transparent LCD panel(x3, R / G / B)		
TR50.REQ.005	Pixels	786,432 (1,024 x 768) x3, total of 2,359,296 pixels		
TR50.REQ.006	Lens	F1.60-2.12, f15.30-24.60mm		
TR50.REQ.007	Brightness	4200 lumens		
TR50.REQ.008	Contrast (Full on /Full off)	4000:01:00		
TR50.REQ.009	Keystone Correction Range	Vertical $\pm 40^\circ$ ($\pm 30^\circ$ when easy setting); Horizontal $\pm 30^\circ$ ($\pm 20^\circ$ when easy setting)		
TR50.REQ.010	Built-in Speaker	10 w(monaural)		
TR50.REQ.011	Terminals	HDMI IN 19-pin x 1, HDCP compatible		
TR50.REQ.012		Computer RGB 1 IN D-sub HD 15-pin (female) x 1		
TR50.REQ.013		Computer RGB 2 IN /1 OUT D-sub HD 15-pin (female) x 1		
TR50.REQ.014		LAN RJ-45 x 1, for network connection, 100 base-TX/ 10 base-T, complaint with PjLink		
TR50.REQ.015		USB A (type A) connector x 1, for USB memory viewer		
TR50.REQ.016		USB B (type B) connector x 1, for USB display		
TR50.REQ.017	Wireless LAN	IEEE 802.11a / b / g / n		
TR50.REQ.018	Operating range	Approx. 30 m (98 ft 5 in)		
TR50.REQ.019	Security	Instructure mode WPA-PSK(TKIP Or AES), WPA2-PSK(TKIP Or AES), WEP (128 bit / 64 bit)		

Section 5: Scope of Work

Audio Visual for Training Room - 50 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
TR50.REQ.020	Wireless facilities	Miracast compatible		
TR50.REQ.021		projection from ios Or android devices		
TR50.REQ.022	Lamp Life	upto 6000 hrs		
Mixer				
TR50.REQ.023	Frequency response	20 Hz to 20 kHz, ± 0.05 dB		
TR50.REQ.024	THD + Noise	0.03% @ 1 kHz at nominal level		
TR50.REQ.025	S/ N	>90 dB (balanced) at rated maximum output		
TR50.REQ.026	CMRR	>75 dB @ 20 Hz to 20 kHz		
TR50.REQ.027	Audio Input	4 stereo, balanced Or unbalanced		
TR50.REQ.028	Connectors	(4) 3.5 mm captive screw connectors, 5 pole		
TR50.REQ.029	Impedance	>17k ohms unbalanced, 23k ohms balanced, DC coupled		
TR50.REQ.030	Nominal level	+4 dBu (1.23 V)		
TR50.REQ.031	Maximum level	+20 dBu (7.75 V), (balanced or unbalanced), at 1% THD+N		
TR50.REQ.032	Number Or signal type	4 mono, balanced Or unbalanced		
TR50.REQ.033	Connectors	(2) 3.5 mm captive screw connectors, 5 pole (double stacked)		
TR50.REQ.034	Impedance	<50 ohms unbalanced, 100 ohms balanced		
TR50.REQ.035	Nominal level	+4 dBu (1.23 V)		
TR50.REQ.036	Maximum level (Hi-Z)	>+23 dBu, balanced; or >+17 dBu, unbalanced at 1% THD+N		
TR50.REQ.037	Maximum level (600 ohm)	>+21 dBm, balanced; or >15 dBu, unbalanced at 1% THD+N		
TR50.REQ.038	External power supply	100 VAC to 240 VAC, 50-60 Hz, external, to 12 VDC, 1 A (max.), regulated		

Section 5: Scope of Work

Audio Visual for Training Room - 50 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
TR50.REQ.039	Power input requirements	12 VDC, 0.2 A		
TR50.REQ.040	Temperature Or humidity	Storage: -40 to +158 °F (-40 to +70 °C) Or 10% to 90%, noncondensing		
TR50.REQ.041	Temperature Or humidity	Operating: +32 to +122 °F (0 to +50 °C) Or 10% to 90%, noncondensing		
TR50.REQ.042	Cooling	Convection, no vents		
TR50.REQ.043	Rack mount	Yes, with optional 1U rack shelf		
TR50.REQ.044	Furniture mount	Yes, with optional mini under desk mounting kit		
TR50.REQ.045	Pole mount	Yes, with optional mini projector mounting kit		
TR50.REQ.046	Enclosure type	Metal		
TR50.REQ.047	Enclosure dimensions	1.7" H x 4.3" W x 3.0" D (1U high, quarter rack wide)		
TR50.REQ.048	Enclosure dimensions	(4.3 cm H x 10.9 cm W x 7.6 cm D)		
TR50.REQ.049	Enclosure dimensions	(Depth excludes connectors.)		
TR50.REQ.050	Vibration	ISTA 1A in carton (International Safe Transit Association)		
Audio System				
TR50.REQ.051	Make			
TR50.REQ.052	Model			
TR50.REQ.053	Speaker type	2-way, full range, indoor surface mount speaker		
TR50.REQ.054	Frequency range	70 Hz to 18 kHz, -10 dB, full space		
TR50.REQ.055	Power capacity	60 W (rms) continuous pink noise (per IEC 60268-5)		
TR50.REQ.056		120 W (rms) continuous program		
TR50.REQ.057	Nominal sensitivity	90 dB SPL, 1 W, 1 m, full space		
TR50.REQ.058	Nominal impedance	8 ohms		

Section 5: Scope of Work

Audio Visual for Training Room - 50 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
TR50.REQ.059	Crossover frequency	2.5 kHz		
TR50.REQ.060	Woofers	(1) 6.5" (165 mm) polypropylene cone		
TR50.REQ.061	Tweeter	(1) 1.0" (25 mm) silk dome		
TR50.REQ.062	Overload protection	Full range power limiter protecting the tweeter, woofer, and crossover		
TR50.REQ.063	Input connectors			
TR50.REQ.064	Speaker	4 recessed pins		
TR50.REQ.065	Mounting plate	(1) 10 mm Euro-style captive screw terminal block, 4 pole		
TR50.REQ.066	Package	4 speakers (1 pair) with mounting kit		
TR50.REQ.067	Temperature Or humidity	Storage: -40 to +158 °F (-40 to +70 °C) Or 10% to 90%, noncondensing		
TR50.REQ.068	Temperature Or humidity	Operating: +32 to +122 °F (0 to +50 °C) Or 10% to 90%, noncondensing		
TR50.REQ.069		Operating: +32 to +122 °F (0 to +50 °C) Or 10% to 90%, noncondensing		
TR50.REQ.070	Amplifier	Yes		
TR50.REQ.071	Audio Audio de-embedder	Yes		
Lapel Microphone				
TR50.REQ.072	Make			
TR50.REQ.073	Model			
TR50.REQ.074	Channel	Single		
TR50.REQ.075	Chassis	EIA-Standard 19" 1 Or 2U		
TR50.REQ.076	Receiving Mode	Diversity		
TR50.REQ.077	Frequency Range	UHF 480~934MHz		
TR50.REQ.078	Antenna	Rear Panel. Detachable.		

Section 5: Scope of Work

Audio Visual for Training Room - 50 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
TR50.REQ.079	Preset Channels	112 preset channels.		
TR50.REQ.080		Group 1-6: 8 compatible channels in each group.		
TR50.REQ.081		Group 7-10: 16 compatible channels in each group.		
TR50.REQ.082		Group 11: Up to 8 channels can be saved & recalled.		
TR50.REQ.083		961 user-defined frequencies in group 11.		
TR50.REQ.084	Oscillation Mode	PLL Synthesized, Frequency Stability $\leq \pm 0.005\%$ (-10~+60°C)		
TR50.REQ.085	Sensitivity	10dB μ V, at S /N>80dB		
TR50.REQ.086	S / N Ratio	>106dB(A)		
TR50.REQ.087	T.H.D.	<0.5% @ 1kHz		
TR50.REQ.088	Frequency Response	50Hz~18kHz, with high pass filter.		
TR50.REQ.089	Squelch	"PiloTone & NoiseLock" dual-squelch circuit.		
TR50.REQ.090	Audio Output Adjustment	Output level accurately pre-adjusted to equal to the microphone capsule sensitivity.		
TR50.REQ.091	Maximum Output Level	2-level Switch: Line & Mic		
TR50.REQ.092	Power Supply	External AC Adapter, 12~15V DC, 1A		
TR50.REQ.093	Dimensions	210(W)×44(H)×180(D)mm/ 8.3(W)×1.7(H)×7.1(D)"		
TR50.REQ.094	Weight	Approx. 0.8kg / 1.8lbs		
Screen				
TR50.REQ.095	Make			
TR50.REQ.096	Model			
TR50.REQ.097	Projection Screen	Minimum 8 x 10 (2.515mtr x 3.11mtr)		
TR50.REQ.098		Motorised		
TR50.REQ.099		Wired and Wireless Remote Control		

Section 5: Scope of Work

Audio Visual for Training Room - 50 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
TR50.REQ.100		White Matt Fabric		

Section 5: Scope of Work

Audio-Visual for Training Room Screen - 50 seating capacity(35 DOs online training)				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
Projector				
TR100.REQ.001	Make			
TR100.REQ.002	Model			
TR100.REQ.003	Projector Panel size	0.6"diagonal		
TR100.REQ.004	Display Method	Transparent LCD panel(x3, R /G / B)		
TR100.REQ.005	Pixels	786,432 (1,024 x 768) x3, total of 2,359,296 pixels		
TR100.REQ.006	Lens	F1.60-2.12, f15.30-24.60mm		
TR100.REQ.007	Brightness	4200 lumens		
TR100.REQ.008	Contrast (Full on/Full off)	4000:01:00		
TR100.REQ.009	Keystone Correction Range	Vertical $\pm 40^\circ$ ($\pm 30^\circ$ when easy setting); Horizontal $\pm 30^\circ$ ($\pm 20^\circ$ when easy setting)		
TR100.REQ.010	Built-in Speaker	10 w(monaural)		
TR100.REQ.011	Terminals	HDMI IN 19-pin x 1, HDCP compatible		
TR100.REQ.012		Computer RGB 1 IN D-sub HD 15-pin (female) x 1		
TR100.REQ.013		Computer RGB 2 IN Or 1 OUT D-sub HD 15-pin (female) x 1		
TR100.REQ.014		LAN RJ-45 x 1, for network connection, 100 base-TX/ 10 base-T, complaint with PjLink		
TR100.REQ.015		USB A (type A0 connector x 1, for USB memory viewer		

Section 5: Scope of Work

Audio-Visual for Training Room Screen - 50 seating capacity(35 DOs online training)				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
TR100.REQ.016		USB B (type B) connector x 1, for USB display		
TR100.REQ.017	Wireless LAN	IEEE 802.11a / b / g / n		
TR100.REQ.018	Operating range	Approx. 30 m (98 ft 5 in)		
TR100.REQ.019	Security	Instructure mode WPA-PSK(TKIP/AES), WPA2-PSK(TKIP / AES), WEP (128 bit / 64 bit)		
TR100.REQ.020	Wireless facilities	Miracast compatible		
TR100.REQ.021		projection from ios Or android devices		
TR100.REQ.022	Lamp Life	upto 6000 hrs		
Mixer				
TR100.REQ.023	Make			
TR100.REQ.024	Model			
TR100.REQ.025	Frequency response	20 Hz to 20 kHz, ± 0.05 dB		
TR100.REQ.026	THD + Noise	0.03% @ 1 kHz at nominal level		
TR100.REQ.027	S/ N	>90 dB (balanced) at rated maximum output		
TR100.REQ.028	CMRR	>75 dB @ 20 Hz to 20 kHz		
TR100.REQ.029	Audio Input	4 stereo, balanced Or unbalanced		
TR100.REQ.030	Connectors	(4) 3.5 mm captive screw connectors, 5 pole		

Section 5: Scope of Work

Audio-Visual for Training Room Screen - 50 seating capacity(35 DOs online training)				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
TR100.REQ.031	Impedance	>17k ohms unbalanced, 23k ohms balanced, DC coupled		
TR100.REQ.032	Nominal level	+4 dBu (1.23 V)		
TR100.REQ.033	Maximum level	+20 dBu (7.75 V), (balanced or unbalanced), at 1% THD+N		
TR100.REQ.034	Number Or signal type	4 mono, balanced Or unbalanced		
TR100.REQ.035	Connectors	(2) 3.5 mm captive screw connectors, 5 pole (double stacked)		
TR100.REQ.036	Impedance	<50 ohms unbalanced, 100 ohms balanced		
TR100.REQ.037	Nominal level	+4 dBu (1.23 V)		
TR100.REQ.038	Maximum level (Hi-Z)	>+23 dBu, balanced; or >+17 dBu, unbalanced at 1% THD+N		
TR100.REQ.039	Maximum level (600 ohm)	>+21 dBm, balanced; or >15 dBu, unbalanced at 1% THD+N		
TR100.REQ.040	External power supply	100 VAC to 240 VAC, 50-60 Hz, external, to 12 VDC, 1 A (max.), regulated		
TR100.REQ.041	Power input requirements	12 VDC, 0.2 A		
TR100.REQ.042	Temperature Or humidity	Storage: -40 to +158 °F (-40 to +70 °C) Or 10% to 90%, noncondensing		
TR100.REQ.043	Temperature Or humidity	Operating: +32 to +122 °F (0 to +50 °C) Or 10% to 90%, noncondensing		
TR100.REQ.044	Cooling	Convection, no vents		
TR100.REQ.045	Rack mount	Yes, with optional 1U rack shelf		

Section 5: Scope of Work

Audio-Visual for Training Room Screen - 50 seating capacity(35 DOs online training)				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
TR100.REQ.046	Furniture mount	Yes, with optional mini under desk mounting kit		
TR100.REQ.047	Pole mount	Yes, with optional mini projector mounting kit		
TR100.REQ.048	Enclosure type	Metal		
TR100.REQ.049	Enclosure dimensions	1.7" H x 4.3" W x 3.0" D (1U high, quarter rack wide)		
TR100.REQ.050	Enclosure dimensions	(4.3 cm H x 10.9 cm W x 7.6 cm D)		
TR100.REQ.051	Enclosure dimensions	(Depth excludes connectors.)		
TR100.REQ.052	Vibration	ISTA 1A in carton (International Safe Transit Association)		
Audio System				
TR100.REQ.053	Make			
TR100.REQ.054	Model			
TR100.REQ.055	Speaker type	2-way, full range, indoor surface mount speaker		
TR100.REQ.056	Frequency range	70 Hz to 18 kHz, -10 dB, full space		
TR100.REQ.057	Power capacity	60 W (rms) continuous pink noise (per IEC 60268-5)		
TR100.REQ.058	Power capacity	120 W (rms) continuous program		
TR100.REQ.059	Nominal sensitivity	90 dB SPL, 1 W, 1 m, full space		
TR100.REQ.060	Nominal impedance	8 ohms		

Section 5: Scope of Work

Audio-Visual for Training Room Screen - 50 seating capacity(35 DOs online training)				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
TR100.REQ.061	Crossover frequency	2.5 kHz		
TR100.REQ.062	Woofer	(1) 6.5" (165 mm) polypropylene cone		
TR100.REQ.063	Tweeter	(1) 1.0" (25 mm) silk dome		
TR100.REQ.064	Overload protection	Full range power limiter protecting the tweeter, woofer, and crossover		
TR100.REQ.065	Input connectors			
TR100.REQ.066	Speaker	6 recessed pins		
TR100.REQ.067	Mounting plate	(1) 10 mm Euro-style captive screw terminal block, 4 pole		
TR100.REQ.068	Package	6 speakers (1 pair) with mounting kit		
TR100.REQ.069	Temperature / humidity	Storage: -40 to +158 °F (-40 to +70 °C) Or 10% to 90%, noncondensing		
TR100.REQ.070	Temperature /humidity	Operating: +32 to +122 °F (0 to +50 °C) Or 10% to 90%, noncondensing		
TR100.REQ.071	Amplifier	Yes		
TR100.REQ.072	Audio Audio de-embedder	Yes		
Lapel Microphone				
TR100.REQ.073	Make			
TR100.REQ.074	Model			

Section 5: Scope of Work

Audio-Visual for Training Room Screen - 50 seating capacity(35 DOs online training)				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
TR100.REQ.075	Channel	Single		
TR100.REQ.076	Chassis	EIA-Standard 19" 1 Or 2U		
TR100.REQ.077	Receiving Mode	Diversity		
TR100.REQ.078	Frequency Range	UHF 480~934MHz		
TR100.REQ.079	Antenna	Rear Panel. Detachable.		
TR100.REQ.080	Preset Channels	112 preset channels.		
TR100.REQ.081		Group 1-6: 8 compatible channels in each group.		
TR100.REQ.082		Group 7-10: 16 compatible channels in each group.		
TR100.REQ.083		Group 11: Up to 8 channels can be saved & recalled.		
TR100.REQ.084		961 user-defined frequencies in group 11.		
TR100.REQ.085	Oscillation Mode	PLL Synthesized, Frequency Stability $\leq\pm 0.005\%$ (-10~+60°C)		
TR100.REQ.086	Sensitivity	10dB μ V, at S Or N>80dB		
TR100.REQ.087	S/N Ratio	>106dB(A)		
TR100.REQ.088	T.H.D.	<0.5% @ 1kHz		
TR100.REQ.089	Frequency Response	50Hz~18kHz, with high pass filter.		

Section 5: Scope of Work

Audio-Visual for Training Room Screen - 50 seating capacity(35 DOs online training)				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
TR100.REQ.090	Squelch	"PiloTone & NoiseLock" dual-squelch circuit.		
TR100.REQ.091	Audio Output Adjustment	Output level accurately pre-adjusted to equal to the microphone capsule sensitivity.		
TR100.REQ.092	Maximum Output Level	2-level Switch: Line & Mic		
TR100.REQ.093	Power Supply	External AC Adapter, 12~15V DC, 1A		
TR100.REQ.094	Dimensions	210(W)×44(H)×180(D)mm Or 8.3(W)×1.7(H)×7.1(D)"		
TR100.REQ.095	Weight	Approx. 0.8kg Or 1.8lbs		
Screen				
TR100.REQ.096	Make			
TR100.REQ.097	Model			
TR100.REQ.098	Projection Screen	Minimum 10 x 12 (2.70mtr x 3.60mtr)		
TR100.REQ.099		Motorised		
TR100.REQ.100		Wired and Wireless Remote Control		
TR100.REQ.101		White Matt Fabric		
Online training requirement				
TR100.REQ.101	Streaming Solution Device	Stream Live to connected Device		

Section 5: Scope of Work

Audio-Visual for Training Room Screen - 50 seating capacity(35 DOs online training)				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
TR100.REQ.102	Streaming Solution Device	Streaming works with a broad range of encoder combinations		
TR100.REQ.103	Streaming Solution Device	Streaming integrates with other systems and third-party solutions		
TR100.REQ.104	Streaming Solution Device	Pause, Rewind, and Seek Through Live Streams		
TR100.REQ.105	Desktops with double monitors	Specifications as mentioned in section 5B of RFP for desktops		
TR100.REQ.106	IP Phone with headset	Specifications as mentioned in section 5B of RFP for IP phone		
TR100.REQ.107	Table top microphone	Specifications as mentioned in section 5B of RFP for AV for Conf Room		
TR100.REQ.108	Radio Gateway	Specifications as mentioned in section 5B of RFP for Radio app and Gateway		
TR100.REQ.109	Foot paddle	Specifications as mentioned in section 5B of RFP for Radio app and Gateway		
TR100.REQ.110	VHF static radio device	Specifications as mentioned in section 5B of RFP for VHF radio device		
TR100.REQ.111	Access Switch	Able to integrate the solution for online training		
TR100.REQ.112	20 kVA UPS	Specifications as mentioned in section 5B of RFP for UPS		
TR100.REQ.113	LAN settings	Able to integrate the solution for online training		
TR100.REQ.114	CAD Software	As mentioned in Section 5A of RFP		
TR100.REQ.115	ROIP web application licenses	As mentioned in Section 5A of RFP		
TR100.REQ.116	MDT	Specifications as mentioned in section 5B of RFP for MDT		

Section 5: Scope of Work

Audio-Visual for Training Room Screen - 50 seating capacity(35 DOs online training)				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
TR100.REQ.17	Others			

Audio-Visual for Training Room Screen - 100 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
Projector				
TRC100.REQ.001	Make			
TRC100.REQ.002	Model			
TRC100.REQ.003	Projector Panel size	0.6"diagonal		
TRC100.REQ.004	Display Method	Transparent LCD panel(x3, R /G / B)		
TRC100.REQ.005	Pixels	786,432 (1,024 x 768) x3, total of 2,359,296 pixels		
TRC100.REQ.006	Lens	F1.60-2.12, f15.30-24.60mm		
TRC100.REQ.007	Brightness	4200 lumens		
TRC100.REQ.008	Contrast (Full on/Full off)	4000:01:00		
TRC100.REQ.009	Keystone Correction Range	Vertical $\pm 40^\circ$ ($\pm 30^\circ$ when easy setting); Horizontal $\pm 30^\circ$ ($\pm 20^\circ$ when easy setting)		

Section 5: Scope of Work

Audio-Visual for Training Room Screen - 100 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
TRC100.REQ.010	Built-in Speaker	10 w(monaural)		
TRC100.REQ.011	Terminals	HDMI IN 19-pin x 1, HDCP compatible		
TRC100.REQ.012		Computer RGB 1 IN D-sub HD 15-pin (female) x 1		
TRC100.REQ.013		Computer RGB 2 IN Or 1 OUT D-sub HD 15-pin (female) x 1		
TRC100.REQ.014		LAN RJ-45 x 1, for network connection, 100 base-TX/ 10 base-T, complaint with PjLink		
TRC100.REQ.015		USB A (type A) connector x 1, for USB memory viewer		
TRC100.REQ.016		USB B (type B) connector x 1, for USB display		
TRC100.REQ.017	Wireless LAN	IEEE 802.11a / b / g / n		
TRC100.REQ.018	Operating range	Approx. 30 m (98 ft 5 in)		
TRC100.REQ.019	Security	Instructure mode WPA-PSK(TKIP/AES), WPA2-PSK(TKIP / AES), WEP (128 bit / 64 bit)		
TRC100.REQ.020	Wireless facilities	Miracast compatible		
TRC100.REQ.021		projection from ios Or android devices		
TRC100.REQ.022	Lamp Life	upto 6000 hrs		

Section 5: Scope of Work

Audio-Visual for Training Room Screen - 100 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
Mixer				
TRC100.REQ.023	Make			
TRC100.REQ.024	Model			
TRC100.REQ.025	Frequency response	20 Hz to 20 kHz, ± 0.05 dB		
TRC100.REQ.026	THD + Noise	0.03% @ 1 kHz at nominal level		
TRC100.REQ.027	S/ N	>90 dB (balanced) at rated maximum output		
TRC100.REQ.028	CMRR	>75 dB @ 20 Hz to 20 kHz		
TRC100.REQ.029	Audio Input	4 stereo, balanced Or unbalanced		
TRC100.REQ.030	Connectors	(4) 3.5 mm captive screw connectors, 5 pole		
TRC100.REQ.031	Impedance	>17k ohms unbalanced, 23k ohms balanced, DC coupled		
TRC100.REQ.032	Nominal level	+4 dBu (1.23 V)		
TRC100.REQ.033	Maximum level	+20 dBu (7.75 V), (balanced or unbalanced), at 1% THD+N		
TRC100.REQ.034	Number Or signal type	4 mono, balanced Or unbalanced		

Section 5: Scope of Work

Audio-Visual for Training Room Screen - 100 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
TRC100.REQ.035	Connectors	(2) 3.5 mm captive screw connectors, 5 pole (double stacked)		
TRC100.REQ.036	Impedance	<50 ohms unbalanced, 100 ohms balanced		
TRC100.REQ.037	Nominal level	+4 dBu (1.23 V)		
TRC100.REQ.038	Maximum level (Hi-Z)	>+23 dBu, balanced; or >+17 dBu, unbalanced at 1% THD+N		
TRC100.REQ.039	Maximum level (600 ohm)	>+21 dBm, balanced; or >15 dBu, unbalanced at 1% THD+N		
TRC100.REQ.040	External power supply	100 VAC to 240 VAC, 50-60 Hz, external, to 12 VDC, 1 A (max.), regulated		
TRC100.REQ.041	Power input requirements	12 VDC, 0.2 A		
TRC100.REQ.042	Temperature Or humidity	Storage: -40 to +158 °F (-40 to +70 °C) Or 10% to 90%, noncondensing		
TRC100.REQ.043	Temperature Or humidity	Operating: +32 to +122 °F (0 to +50 °C) Or 10% to 90%, noncondensing		
TRC100.REQ.044	Cooling	Convection, no vents		
TRC100.REQ.045	Rack mount	Yes, with optional 1U rack shelf		
TRC100.REQ.046	Furniture mount	Yes, with optional mini under desk mounting kit		
TRC100.REQ.047	Pole mount	Yes, with optional mini projector mounting kit		

Section 5: Scope of Work

Audio-Visual for Training Room Screen - 100 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
TRC100.REQ.048	Enclosure type	Metal		
TRC100.REQ.049	Enclosure dimensions	1.7" H x 4.3" W x 3.0" D (1U high, quarter rack wide)		
TRC100.REQ.050	Enclosure dimensions	(4.3 cm H x 10.9 cm W x 7.6 cm D)		
TRC100.REQ.051	Enclosure dimensions	(Depth excludes connectors.)		
TRC100.REQ.052	Vibration	ISTA 1A in carton (International Safe Transit Association)		
Audio System				
TRC100.REQ.053	Make			
TRC100.REQ.054	Model			
TRC100.REQ.055	Speaker type	2-way, full range, indoor surface mount speaker		
TRC100.REQ.056	Frequency range	70 Hz to 18 kHz, -10 dB, full space		
TRC100.REQ.057	Power capacity	60 W (rms) continuous pink noise (per IEC 60268-5)		
TRC100.REQ.058	Power capacity	120 W (rms) continuous program		
TRC100.REQ.059	Nominal sensitivity	90 dB SPL, 1 W, 1 m, full space		
TRC100.REQ.060	Nominal impedance	8 ohms		

Section 5: Scope of Work

Audio-Visual for Training Room Screen - 100 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
TRC100.REQ.061	Crossover frequency	2.5 kHz		
TRC100.REQ.062	Woofer	(1) 6.5" (165 mm) polypropylene cone		
TRC100.REQ.063	Tweeter	(1) 1.0" (25 mm) silk dome		
TRC100.REQ.064	Overload protection	Full range power limiter protecting the tweeter, woofer, and crossover		
TRC100.REQ.065	Input connectors			
TRC100.REQ.056	Speaker	6 recessed pins		
TRC100.REQ.057	Mounting plate	(1) 10 mm Euro-style captive screw terminal block, 4 pole		
TRC100.REQ.058	Package	6 speakers (1 pair) with mounting kit		
TRC100.REQ.059	Temperature / humidity	Storage: -40 to +158 °F (-40 to +70 °C) Or 10% to 90%, noncondensing		
TRC100.REQ.060	Temperature /humidity	Operating: +32 to +122 °F (0 to +50 °C) Or 10% to 90%, noncondensing		
TRC100.REQ.056	Amplifier	Yes		
TRC100.REQ.057	Audio Audio de-embedder	Yes		
Lapel Microphone				
TRC100.REQ.073	Make			
TRC100.REQ.074	Model			

Section 5: Scope of Work

Audio-Visual for Training Room Screen - 100 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
TRC100.REQ.075	Channel	Single		
TRC100.REQ.076	Chassis	EIA-Standard 19" 1 Or 2U		
TRC100.REQ.077	Receiving Mode	Diversity		
TRC100.REQ.078	Frequency Range	UHF 480~934MHz		
TRC100.REQ.079	Antenna	Rear Panel. Detachable.		
TRC100.REQ.080	Preset Channels	112 preset channels.		
TRC100.REQ.081		Group 1-6: 8 compatible channels in each group.		
TRC100.REQ.082		Group 7-10: 16 compatible channels in each group.		
TRC100.REQ.083		Group 11: Up to 8 channels can be saved & recalled.		
TRC100.REQ.084		961 user-defined frequencies in group 11.		
TRC100.REQ.085	Oscillation Mode	PLL Synthesized, Frequency Stability $\leq\pm 0.005\%$ (-10~+60°C)		
TRC100.REQ.086	Sensitivity	10dB μ V, at S Or N>80dB		
TRC100.REQ.087	S/N Ratio	>106dB(A)		
TRC100.REQ.088	T.H.D.	<0.5% @ 1kHz		
TRC100.REQ.089	Frequency Response	50Hz~18kHz, with high pass filter.		

Section 5: Scope of Work

Audio-Visual for Training Room Screen - 100 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
TRC100.REQ.090	Squelch	"PiloTone & NoiseLock" dual-squelch circuit.		
TRC100.REQ.091	Audio Output Adjustment	Output level accurately pre-adjusted to equal to the microphone capsule sensitivity.		
TRC100.REQ.092	Maximum Output Level	2-level Switch: Line & Mic		
TRC100.REQ.093	Power Supply	External AC Adapter, 12~15V DC, 1A		
TRC100.REQ.094	Dimensions	210(W)×44(H)×180(D)mm Or 8.3(W)×1.7(H)×7.1(D)"		
TRC100.REQ.095	Weight	Approx. 0.8kg Or 1.8lbs		
Screen				
TRC100.REQ.096	Make			
TRC100.REQ.097	Model			
TRC100.REQ.098	Projection Screen	Minimum 10 x 12 (2.70mtr x 3.60mtr)		
TRC100.REQ.099		Motorised		
TRC100.REQ.100		Wired and Wireless Remote Control		
TRC100.REQ.101		White Matt Fabric		

Section 5: Scope of Work

Audio-Visual for Training Room Screen - 100 seating capacity(75 COs online training)				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
Projector				
TRC100.REQ.001	Make			
TRC100.REQ.002	Model			
TRC100.REQ.003	Projector Panel size	0.6"diagonal		
TRC100.REQ.004	Display Method	Transparent LCD panel(x3, R / G / B)		
TRC100.REQ.005	Pixels	786,432 (1,024 x 768) x3, total of 2,359,296 pixels		
TRC100.REQ.006	Lens	F1.60-2.12, f15.30-24.60mm		
TRC100.REQ.007	Brightness	4200 lumens		
TRC100.REQ.008	Contrast (Full on/Full off)	4000:01:00		
TRC100.REQ.009	Keystone Correction Range	Vertical $\pm 40^\circ$ ($\pm 30^\circ$ when easy setting); Horizontal $\pm 30^\circ$ ($\pm 20^\circ$ when easy setting)		
TRC100.REQ.010	Built-in Speaker	10 w(monaural)		
TRC100.REQ.011	Terminals	HDMI IN 19-pin x 1, HDCP compatible		
TRC100.REQ.012		Computer RGB 1 IN D-sub HD 15-pin (female) x 1		

Section 5: Scope of Work

Audio-Visual for Training Room Screen - 100 seating capacity(75 COs online training)				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
TRC100.REQ.013		Computer RGB 2 IN Or 1 OUT D-sub HD 15-pin (female) x 1		
TRC100.REQ.014		LAN RJ-45 x 1, for network connection, 100 base-TX/ 10 base-T, complaint with PLink		
TRC100.REQ.015		USB A (type A0 connector x 1, for USB memory viewer		
TRC100.REQ.016		USB B (type B) connector x 1, for USB display		
TRC100.REQ.017	Wireless LAN	IEEE 802.11a / b / g / n		
TRC100.REQ.018	Operating range	Approx. 30 m (98 ft 5 in)		
TRC100.REQ.019	Security	Instructure mode WPA-PSK(TKIP/AES), WPA2-PSK(TKIP / AES), WEP (128 bit / 64 bit)		
TRC100.REQ.020	Wireless facilities	Miracast compatible		
TRC100.REQ.021		projection from ios Or android devices		
TRC100.REQ.022	Lamp Life	upto 6000 hrs		
Mixer				
TRC100.REQ.023	Make			
TRC100.REQ.024	Model			

Section 5: Scope of Work

Audio-Visual for Training Room Screen - 100 seating capacity(75 COs online training)				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
TRC100.REQ.025	Frequency response	20 Hz to 20 kHz, ± 0.05 dB		
TRC100.REQ.026	THD + Noise	0.03% @ 1 kHz at nominal level		
TRC100.REQ.027	S/ N	>90 dB (balanced) at rated maximum output		
TRC100.REQ.028	CMRR	>75 dB @ 20 Hz to 20 kHz		
TRC100.REQ.029	Audio Input	4 stereo, balanced Or unbalanced		
TRC100.REQ.030	Connectors	(4) 3.5 mm captive screw connectors, 5 pole		
TRC100.REQ.031	Impedance	>17k ohms unbalanced, 23k ohms balanced, DC coupled		
TRC100.REQ.032	Nominal level	+4 dBu (1.23 V)		
TRC100.REQ.033	Maximum level	+20 dBu (7.75 V), (balanced or unbalanced), at 1% THD+N		
TRC100.REQ.034	Number Or signal type	4 mono, balanced Or unbalanced		
TRC100.REQ.035	Connectors	(2) 3.5 mm captive screw connectors, 5 pole (double stacked)		
TRC100.REQ.036	Impedance	<50 ohms unbalanced, 100 ohms balanced		
TRC100.REQ.037	Nominal level	+4 dBu (1.23 V)		

Section 5: Scope of Work

Audio-Visual for Training Room Screen - 100 seating capacity(75 COs online training)				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
TRC100.REQ.038	Maximum level (Hi-Z)	>+23 dBu, balanced; or >+17 dBu, unbalanced at 1% THD+N		
TRC100.REQ.039	Maximum level (600 ohm)	>+21 dBm, balanced; or >15 dBu, unbalanced at 1% THD+N		
TRC100.REQ.040	External power supply	100 VAC to 240 VAC, 50-60 Hz, external, to 12 VDC, 1 A (max.), regulated		
TRC100.REQ.041	Power input requirements	12 VDC, 0.2 A		
TRC100.REQ.042	Temperature Or humidity	Storage: -40 to +158 °F (-40 to +70 °C) Or 10% to 90%, noncondensing		
TRC100.REQ.043	Temperature Or humidity	Operating: +32 to +122 °F (0 to +50 °C) Or 10% to 90%, noncondensing		
TRC100.REQ.044	Cooling	Convection, no vents		
TRC100.REQ.045	Rack mount	Yes, with optional 1U rack shelf		
TRC100.REQ.046	Furniture mount	Yes, with optional mini under desk mounting kit		
TRC100.REQ.047	Pole mount	Yes, with optional mini projector mounting kit		
TRC100.REQ.048	Enclosure type	Metal		
TRC100.REQ.049	Enclosure dimensions	1.7" H x 4.3" W x 3.0" D (1U high, quarter rack wide)		
TRC100.REQ.050	Enclosure dimensions	(4.3 cm H x 10.9 cm W x 7.6 cm D)		

Section 5: Scope of Work

Audio-Visual for Training Room Screen - 100 seating capacity(75 COs online training)				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
TRC100.REQ.051	Enclosure dimensions	(Depth excludes connectors.)		
TRC100.REQ.052	Vibration	ISTA 1A in carton (International Safe Transit Association)		
Audio System				
TRC100.REQ.053	Make			
TRC100.REQ.054	Model			
TRC100.REQ.055	Speaker type	2-way, full range, indoor surface mount speaker		
TRC100.REQ.056	Frequency range	70 Hz to 18 kHz, -10 dB, full space		
TRC100.REQ.057	Power capacity	60 W (rms) continuous pink noise (per IEC 60268-5)		
TRC100.REQ.058	Power capacity	120 W (rms) continuous program		
TRC100.REQ.059	Nominal sensitivity	90 dB SPL, 1 W, 1 m, full space		
TRC100.REQ.060	Nominal impedance	8 ohms		
TRC100.REQ.061	Crossover frequency	2.5 kHz		
TRC100.REQ.062	Woofer	(1) 6.5" (165 mm) polypropylene cone		
TRC100.REQ.063	Tweeter	(1) 1.0" (25 mm) silk dome		
TRC100.REQ.064	Overload protection	Full range power limiter protecting the tweeter, woofer, and crossover		
TRC100.REQ.065	Input connectors			
TRC100.REQ.056	Speaker	6 recessed pins		
TRC100.REQ.057	Mounting plate	(1) 10 mm Euro-style captive screw terminal block, 4 pole		

Section 5: Scope of Work

Audio-Visual for Training Room Screen - 100 seating capacity(75 COs online training)				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
TRC100.REQ.058	Package	6 speakers (1 pair) with mounting kit		
TRC100.REQ.059	Temperature / humidity	Storage: -40 to +158 °F (-40 to +70 °C) Or 10% to 90%, noncondensing		
TRC100.REQ.060	Temperature /humidity	Operating: +32 to +122 °F (0 to +50 °C) Or 10% to 90%, noncondensing		
TRC100.REQ.056	Amplifier	Yes		
TRC100.REQ.057	Audio Audio de-embedder	Yes		
Lapel Microphone				
TRC100.REQ.073	Make			
TRC100.REQ.074	Model			
TRC100.REQ.075	Channel	Single		
TRC100.REQ.076	Chassis	EIA-Standard 19" 1 Or 2U		
TRC100.REQ.077	Receiving Mode	Diversity		
TRC100.REQ.078	Frequency Range	UHF 480~934MHz		
TRC100.REQ.079	Antenna	Rear Panel. Detachable.		
TRC100.REQ.080	Preset Channels	112 preset channels.		
TRC100.REQ.081		Group 1-6: 8 compatible channels in each group.		
TRC100.REQ.082		Group 7-10: 16 compatible channels in each group.		
TRC100.REQ.083		Group 11: Up to 8 channels can be saved & recalled.		
TRC100.REQ.084		961 user-defined frequencies in group 11.		
TRC100.REQ.085	Oscillation Mode	PLL Synthesized, Frequency Stability $\leq \pm 0.005\%$ (-10~+60°C)		
TRC100.REQ.086	Sensitivity	10dB μ V, at S Or N>80dB		
TRC100.REQ.087	S/N Ratio	>106dB(A)		

Section 5: Scope of Work

Audio-Visual for Training Room Screen - 100 seating capacity(75 COs online training)				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
TRC100.REQ.088	T.H.D.	<0.5% @ 1kHz		
TRC100.REQ.089	Frequency Response	50Hz~18kHz, with high pass filter.		
TRC100.REQ.090	Squelch	"PiloTone & NoiseLock" dual-squelch circuit.		
TRC100.REQ.091	Audio Output Adjustment	Output level accurately pre-adjusted to equal to the microphone capsule sensitivity.		
TRC100.REQ.092	Maximum Output Level	2-level Switch: Line & Mic		
TRC100.REQ.093	Power Supply	External AC Adapter, 12~15V DC, 1A		
TRC100.REQ.094	Dimensions	210(W)×44(H)×180(D)mm Or 8.3(W)x1.7(H)x7.1(D)"		
TRC100.REQ.095	Weight	Approx. 0.8kg Or 1.8lbs		
Screen				
TRC100.REQ.096	Make			
TRC100.REQ.097	Model			
TRC100.REQ.098	Projection Screen	Minimum 10 x 12 (2.70mtr x 3.60mtr)		
TRC100.REQ.099		Motorised		
TRC100.REQ.100		Wired and Wireless Remote Control		
TRC100.REQ.101		White Matt Fabric		
Online training requirement				
TRC100.REQ.102	Access Switch	Able to integrate the solution for online training		
TRC100.REQ.103	Table top microphone	Specifications as mentioned in section 5B of RFP for AV for Conf Room		

Section 5: Scope of Work

Audio-Visual for Training Room Screen - 100 seating capacity(75 COs online training)				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
TRC100.REQ.104	Streaming Solution Device	Stream Live to connected Device		
TRC100.REQ.105	Streaming Solution Device	Streaming works with a broad range of encoder combinations		
TRC100.REQ.106	Streaming Solution Device	Streaming integrates with other systems and third-party solutions		
TRC100.REQ.107	Streaming Solution Device	Pause, Rewind, and Seek Through Live Streams		
TRC100.REQ.108	Desktops with double monitors	Specifications as mentioned in section 5B of RFP for desktops		
TRC100.REQ.109	IP Phone with headset	Specifications as mentioned in section 5B of RFP for IP phone		
TRC100.REQ.110	15 kVA UPS	Specifications as mentioned in section 5B of RFP for UPS		
TRC100.REQ.111	LAN infrastructure	Able to integrate the solution for online training		
TRC100.REQ.112	CAD software	As mentioned in Section 5A of RFP		

Section 5: Scope of Work

Audio-Visual for Meeting Room - 20 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
Display Device				
MR.REQ.001	Make			
MR.REQ.002	Model			
MR.REQ.003	Screen Size (Diagonal) and Aspect Ratio	Minimum 65-inch and 16:9, touch screen		
MR.REQ.004	Brightness	350 cd/m2 (Typ)		
MR.REQ.005	Contrast Ratio	4,000:1		
MR.REQ.006	Viewing Angle	120°/120°		
MR.REQ.007	Detection Method	Infrared Blocking Detection Method		
MR.REQ.008	PC Connection Port	USB (3.0 Compliant)		
MR.REQ.009	VIDEO In /Audio In (L Or R)	Yes		
MR.REQ.010	HDMI In	HDMI Type A Connector x 2		
MR.REQ.011	DVI-D In /Audio In (L Or R)	DVI-D 24-pin x 1 / Stereo Mini Jack (M3) x 1 (Shared with PC In)		
MR.REQ.012	PC In/ Audio In (L Or R)	Mini D-Sub 15-pin x1 (Female), Plug & Play (VESA DDC 2B) /Stereo Mini Jack (M3) x 1 (Shared with DVI-D In)		
MR.REQ.013	PC Out	Mini D-Sub 15-pin x1		
MR.REQ.014	USB A	USB TYPE A Connector x 1 (For Memory Viewer)		
MR.REQ.015	USB B	USB TYPE B Connector x 1 (For Touch Panel)		
MR.REQ.016	External Speaker	50 W [25 W + 25 W] (10 % THD)		
MR.REQ.017	DIGITAL LINK	RJ45 x 1 (Shared with LAN)		
MR.REQ.018	Built-In wireless LAN function	IEEE802.11b / g / n, :IEEE802.		
MR.REQ.019	Picture -in-Picture Capability	Picture-in-Picture mode		

Section 5: Scope of Work

Audio-Visual for Meeting Room - 20 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
MR.REQ.020	Picture -in-Picture Capability	Picture-in-whiteboard mode		
MR.REQ.021	Other Features	Instant playback of content via USB		
MR.REQ.022	Other Features	Wireless solution with multiscreen functions		
MR.REQ.023	Other Features	Quick start whiteboard		
MR.REQ.024	Other Features	Write and draw on media from external devices		
MR.REQ.025	Touch Features	Upto four people can write at a time, and saving option with email to anyone		
MR.REQ.026	Video Conferencing	Yes		
Audio System				
MR.REQ.027	Make			
MR.REQ.028	Model			
MR.REQ.029	Audio DSP	Yes		
MR.REQ.030	Speaker type	2-way, full range, indoor surface wall mount speaker		
MR.REQ.031	Frequency range	70 Hz to 18 kHz, -10 dB, full space		
MR.REQ.032	Power capacity	60 W (rms) continuous pink noise (per IEC 60268-5)		
MR.REQ.033		120 W (rms) continuous program		
MR.REQ.034	Nominal sensitivity	90 dB SPL, 1 W, 1 m, full space		
MR.REQ.035	Nominal impedance	8 ohms		
MR.REQ.036	Crossover frequency	2.5 kHz		
MR.REQ.037	Woofer	(1) 6.5" (165 mm) polypropylene cone		
MR.REQ.038	Tweeter	(1) 1.0" (25 mm) silk dome		
MR.REQ.039	Overload protection	Full range power limiter protecting the tweeter, woofer, and crossover		

Section 5: Scope of Work

Audio-Visual for Meeting Room - 20 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
MR.REQ.040	Input connectors			
MR.REQ.041	Speaker	2 recessed pins		
MR.REQ.042	Mounting plate	(1) 10 mm Euro-style captive screw terminal block, 4 pole		
MR.REQ.043	Package	4 speakers (1 pair) with mounting kit		
MR.REQ.044	Temperature / humidity	Storage: -40 to +158 °F (-40 to +70 °C) or 10% to 90%, noncondensing		
MR.REQ.045		Operating: +32 to +122 °F (0 to +50 °C) Or 10% to 90%, noncondensing		
MR.REQ.046	Amplifier	Yes		
MR.REQ.047	Audio Audio de-embedder	Yes		
Control System with touch Panel				
MR.REQ.048	Make			
MR.REQ.049	Model			
MR.REQ.050	SDRAM	512 MB		
MR.REQ.051	Flash	4 GB		
MR.REQ.052	Ethernet control			
MR.REQ.053	Network interface controllers (NICs)	1		
MR.REQ.054	Connector	1 female RJ-45 connector		
MR.REQ.055	Data rate	10 /100/1000Base-T, half/ full duplex with AutoDetect		
MR.REQ.056	Protocols	DHCP, DNS, HTTP, HTTPS, ICMP, NTP, SFTP, SMTP, SNMP, SSH, TCP / IP, UDP/IP		
MR.REQ.057	Default settings	Yes		
MR.REQ.058	Serial control			
MR.REQ.059	Quantity /type	2 bidirectional RS-232, RS-422, RS-485 (ports 7 and 8)		
MR.REQ.060		6 bidirectional RS-232 (ports 1 through 6)		

Section 5: Scope of Work

Audio-Visual for Meeting Room - 20 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
MR.REQ.061	Connectors	(2) 3.5 mm captive screw connectors, 5 pole		
MR.REQ.062		(6) 3.5 mm captive screw connectors, 3 pole		
MR.REQ.063	Baud rate and protocol	300 to 115200 baud (9600 baud = default); 8 (default) / 7 data bits; 1 (default) or 2 stop bits;		
MR.REQ.064		no parity (default), even, odd, mark, space parity		
MR.REQ.065	Pin configurations			
MR.REQ.066	Pin configurations	Serial, 5-pole captive screw		
MR.REQ.067	RS-232 (default)	Pin 1 = Tx, 2 = Rx, 3 = Gnd, 4 = RTS, 5 = CTS		
MR.REQ.068	RS-422	Pin 1 = Tx-, 2 = Rx-, 3 = Gnd, 4 = Tx+, 5 = Rx+		
MR.REQ.069	RS-485	Pins 1 and 2 (tied together) = data-, 3 = Gnd, 4 and 5 (tied together) = data+		
MR.REQ.070	Serial, 3-pole captive screw	Pin 1 = Tx, 2 = Rx, 3 = Gnd		
MR.REQ.071	Flex I/O control			
MR.REQ.072	Quantity/ type	4 analog input / digital input Or output (configurable)		
MR.REQ.073	Connectors	(1) 3.5 mm captive screw connector, 5 pole		
MR.REQ.074	Digital inputs			
MR.REQ.075	Input voltage range	0 to 24 VDC, clamped at +30 VDC		
MR.REQ.076	Input impedance	29k ohms		
MR.REQ.077	Programmable pullup	1k ohms to +5 VDC		
MR.REQ.078	Threshold low to high	Programmable range: 100 mV to 24 VDC, default = 2.4 VDC		
MR.REQ.079	Threshold high to low	Programmable range: 100 mV to 24 VDC, default = 0.8 VDC		
MR.REQ.080	Digital outputs	250 mA sink from 24 VDC max.		
MR.REQ.081	Analog inputs	12 bit A/D, 0 to 24 VDC		

Section 5: Scope of Work

Audio-Visual for Meeting Room - 20 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
MR.REQ.082	Pin configurations	1, 2, 3, 4 = flex I/Os 1, 2, 3, 4; 5 = Gnd		
MR.REQ.083	Quantity/ type	8 programmable: unidirectional RS-232 (± 5 V), TTL level (0 to 5 V) infrared (carrier and non-carrier) up to 300 kHz		
MR.REQ.084	Connectors	(4) 3.5 mm captive screw connectors, 4-pole		
MR.REQ.085	Baud rate and protocol (RS-232)	300 to 115200 baud (9600 baud = default); 8 (default) / 7 data bits; 1 (default) or 2 stop bits;		
MR.REQ.086		no parity (default), even, odd, mark,space parity		
MR.REQ.087	Pin configurations	For each port, pin 1 = signal, 2 = Gnd		
MR.REQ.088	IR output carrier frequency	30 kHz to 300 kHz		
MR.REQ.089	IR learning carrier frequency	30 kHz to 300 kHz		
MR.REQ.090	IR learning capture distance	2" (5.1 cm) to 12" (30.5 cm) from the front panel		
MR.REQ.091	Relay control			
MR.REQ.092	Quantity/type	8 normally open relays		
MR.REQ.093	Relay control connectors	(4) 3.5 mm captive screw connectors, 4 pole		
MR.REQ.094	Relay control contact rating	24 VDC, 1 A		
MR.REQ.095	Switched DC power output			
MR.REQ.096	Quantity / type	4 switched 12 VDC outputs		
MR.REQ.097	Connectors	(4) 3.5 mm captive screw connectors, 2 pole		
MR.REQ.098	Power	Maximum 40 watts total		
MR.REQ.099	Power sense			
MR.REQ.100	Range	0.1 watt to 40 watts		
MR.REQ.101	General			
MR.REQ.102	Power supply	Internal		
MR.REQ.103		Input: 100-240 VAC, 50-60 Hz		

Section 5: Scope of Work

Audio-Visual for Meeting Room - 20 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
MR.REQ.104	Power consumption	61.8 watts		
MR.REQ.105	Temperature/humidity	Storage: -40 to +158 °F (-40 to +70 °C) / 10% to 90%, noncondensing		
MR.REQ.106		Operating: +32 to +122 °F (0 to +50 °C) / 10% to 90%, noncondensing		
MR.REQ.107	Cooling	Convection, no vents		
MR.REQ.108	Thermal dissipation	33.3 BTU/ hr		
Table Top Microphone				
MR.REQ.109	Make			
MR.REQ.110	Model			
MR.REQ.111	Frequency Response	50 to 17,000 Hz		
MR.REQ.112	Polar Pattern	Cardioid (MX392 / C, MX393/ C)		
MR.REQ.113	Output Impedance	EIA Rated at 150 Ω (180 Ω actual)		
MR.REQ.114	Sensitivity (at 1 kHz, open circuit voltage)	27.5 dBV /Pa (42.2 mV)		
MR.REQ.115	Maximum Sound Pressure Level (1 kHz at 1% Total Harmonic Distortion, 1 k Ω load)	117.0 dB		
MR.REQ.116	Signal to Noise Ratio (referenced at 94 dB SPL)	71.0 dB		
MR.REQ.117	Equivalent Output Noise (A-weighted)	23.0 dB		
MR.REQ.118	Dynamic Range	94.0 dB		
MR.REQ.119	Preamplifier Output Clipping Level	-6 dBV (0.5 V)		
Others				
MR.REQ.120	Matrix Switcher	Yes		
MR.REQ.121	Cable Cubby	Yes		

Section 5: Scope of Work

Audio-Visual for Meeting Room - 20 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
MR.REQ.122	Rack	Yes (to accommodate all products		
MR.REQ.123	External accessories	Yes (to furnish and accommodate all items of room)		

Section 5: Scope of Work

Audio-Visual for Meeting Room Screen - 30 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
Display Device				
MR.REQ.001	Make			
MR.REQ.002	Model			
MR.REQ.003	Screen Size (Diagonal) and Aspect Ratio	Minimum 80-inch and 16:9, touch screen		
MR.REQ.004	Brightness	350 cd /m2 (Typ)		
MR.REQ.005	Contrast Ratio	4,000:1		
MR.REQ.006	Viewing Angle	120°/120°		
MR.REQ.007	Detection Method	Infrared Blocking Detection Method		
MR.REQ.008	PC Connection Port	USB (3.0 Compliant)		
MR.REQ.009	VIDEO In /Audio In (L Or R)	Yes		
MR.REQ.010	HDMI In	HDMI Type A Connector x 2		
MR.REQ.011	DVI-D In / Audio In (L Or R)	DVI-D 24-pin x 1 / Stereo Mini Jack (M3) x 1 (Shared with PC In)		
MR.REQ.012	PC In / Audio In (L Or R)	Mini D-Sub 15-pin x1 (Female), Plug & Play (VESA DDC 2B) /Stereo Mini Jack (M3) x 1 (Shared with DVI-D In)		
MR.REQ.013	PC Out	Mini D-Sub 15-pin x1		
MR.REQ.014	USB A	USB TYPE A Connector x 1 (For Memory Viewer)		
MR.REQ.015	USB B	USB TYPE B Connector x 1 (For Touch Panel)		
MR.REQ.016	External Speaker	50 W [25 W + 25 W] (10 % THD)		
MR.REQ.017	DIGITAL LINK	RJ45 x 1 (Shared with LAN)		
MR.REQ.018	Built-In wireless LAN function	IEEE802.11b/ g / n, :IEEE802.		

Section 5: Scope of Work

Audio-Visual for Meeting Room Screen - 30 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
MR.REQ.019	Picture -in-Picture Capability	Picture-in-Picture mode		
MR.REQ.020	Picture -in-Picture Capability	Picture-in-whiteboard mode		
MR.REQ.021	Other Features	Instant playback of content via USB		
MR.REQ.022	Other Features	Wireless solution with multiscreen functions		
MR.REQ.023	Other Features	Quick start whiteboard		
MR.REQ.024	Other Features	Write and draw on media from external devices		
MR.REQ.025	Touch Features	Upto four people can write at a time, and saving option with email to anyone		
MR.REQ.026	Video Conferencing	Yes		
Audio System				
MR.REQ.027	Make			
MR.REQ.028	Model			
MR.REQ.029	Audio DSP	Yes		
MR.REQ.030	Speaker type	2-way, full range, indoor surface wall mount speaker		
MR.REQ.031	Frequency range	70 Hz to 18 kHz, -10 dB, full space		
MR.REQ.032	Power capacity	60 W (rms) continuous pink noise (per IEC 60268-5)		
MR.REQ.033		120 W (rms) continuous program		
MR.REQ.034	Nominal sensitivity	90 dB SPL, 1 W, 1 m, full space		
MR.REQ.035	Nominal impedance	8 ohms		
MR.REQ.036	Crossover frequency	2.5 kHz		
MR.REQ.037	Woofer	(1) 6.5" (165 mm) polypropylene cone		

Section 5: Scope of Work

Audio-Visual for Meeting Room Screen - 30 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
MR.REQ.038	Tweeter	(1) 1.0" (25 mm) silk dome		
MR.REQ.039	Overload protection	Full range power limiter protecting the tweeter, woofer, and crossover		
MR.REQ.040	Input connectors			
MR.REQ.041	Speaker	2 recessed pins		
MR.REQ.042	Mounting plate	(1) 10 mm Euro-style captive screw terminal block, 4 pole		
MR.REQ.043	Package	4 speakers (1 pair) with mounting kit		
MR.REQ.044	Temperature / humidity	Storage: -40 to +158 °F (-40 to +70 °C) / 10% to 90%, noncondensing		
MR.REQ.045		Operating: +32 to +122 °F (0 to +50 °C)/ 10% to 90%, noncondensing		
MR.REQ.046	Amplifier	Yes		
MR.REQ.047	Audio Audio de-embedder	Yes		
Control System with touch Panel				
MR.REQ.048	Make			
MR.REQ.049	Model			
MR.REQ.050	SDRAM	512 MB		
MR.REQ.051	Flash	4 GB		
MR.REQ.052	Ethernet control			
MR.REQ.053	Network interface controllers (NICs)	1		
MR.REQ.054	Connector	1 female RJ-45 connector		

Section 5: Scope of Work

Audio-Visual for Meeting Room Screen - 30 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
MR.REQ.05 5	Data rate	10 /100 / 1000Base-T, half / full duplex with AutoDetect		
MR.REQ.05 6	Protocols	DHCP, DNS, HTTP, HTTPS, ICMP, NTP, SFTP, SMTP, SNMP, SSH, TCP /IP, UDP /IP		
MR.REQ.05 7	Default settings	Yes		
MR.REQ.05 8	Serial control			
MR.REQ.05 9	Quantity / type	2 bidirectional RS-232, RS-422, RS-485 (ports 7 and 8)		
MR.REQ.06 0		6 bidirectional RS-232 (ports 1 through 6)		
MR.REQ.06 1	Connectors	(2) 3.5 mm captive screw connectors, 5 pole		
MR.REQ.06 2		(6) 3.5 mm captive screw connectors, 3 pole		
MR.REQ.06 3	Baud rate and protocol	300 to 115200 baud (9600 baud = default); 8 (default)/7 data bits; 1 (default) or 2 stop bits;		
MR.REQ.06 4		no parity (default), even, odd, mark, space parity		
MR.REQ.06 5	Pin configurations	Serial		
MR.REQ.06 6		Serial, 5-pole captive screw		
MR.REQ.06 7	RS-232 (default)	Pin 1 = Tx, 2 = Rx, 3 = Gnd, 4 = RTS, 5 = CTS		
MR.REQ.06 8	RS-422	Pin 1 = Tx-, 2 = Rx-, 3 = Gnd, 4 = Tx+, 5 = Rx+		
MR.REQ.06 9	RS-485	Pins 1 and 2 (tied together) = data-, 3 = Gnd, 4 and 5 (tied together) = data+		

Section 5: Scope of Work

Audio-Visual for Meeting Room Screen - 30 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
MR.REQ.070	Serial, 3-pole captive screw	Pin 1 = Tx, 2 = Rx, 3 = Gnd		
MR.REQ.071	Flex I/O control			
MR.REQ.072	Quantity/type	4 analog input or digital input /output (configurable)		
MR.REQ.073	Connectors	(1) 3.5 mm captive screw connector, 5 pole		
MR.REQ.074	Digital inputs			
MR.REQ.075	Input voltage range	0 to 24 VDC, clamped at +30 VDC		
MR.REQ.076	Input impedance	29k ohms		
MR.REQ.077	Programmable pullup	1k ohms to +5 VDC		
MR.REQ.078	Threshold low to high	Programmable range: 100 mV to 24 VDC, default = 2.4 VDC		
MR.REQ.079	Threshold high to low	Programmable range: 100 mV to 24 VDC, default = 0.8 VDC		
MR.REQ.080	Digital outputs	250 mA sink from 24 VDC max.		
MR.REQ.081	Analog inputs	12 bit A / D, 0 to 24 VDC		
MR.REQ.082	Pin configurations	1, 2, 3, 4 = flex I/Os 1, 2, 3, 4; 5 = Gnd		
MR.REQ.083	IR/serial control			
MR.REQ.084	Quantity / type	8 programmable: unidirectional RS-232 (± 5 V), TTL level (0 to 5 V) infrared (carrier and non-carrier) up to 300 kHz		

Section 5: Scope of Work

Audio-Visual for Meeting Room Screen - 30 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
MR.REQ.085	Connectors	(4) 3.5 mm captive screw connectors, 4-pole		
MR.REQ.086	Baud rate and protocol (RS-232)	300 to 115200 baud (9600 baud = default); 8 (default) /7 data bits; 1 (default) or 2 stop bits;		
MR.REQ.087		no parity (default), even, odd, mark,space parity		
MR.REQ.088	Pin configurations	For each port, pin 1 = signal, 2 = Gnd		
MR.REQ.089	IR output carrier frequency	30 kHz to 300 kHz		
MR.REQ.090	IR learning carrier frequency	30 kHz to 300 kHz		
MR.REQ.091	IR learning capture distance	2" (5.1 cm) to 12" (30.5 cm) from the front panel		
MR.REQ.092	Relay control			
MR.REQ.093	Quantity /type	8 normally open relays		
MR.REQ.094	Relay control connectors	(4) 3.5 mm captive screw connectors, 4 pole		
MR.REQ.095	Relay control contact rating	24 VDC, 1 A		
MR.REQ.096	Switched DC power output			
MR.REQ.097	Quantity /type	4 switched 12 VDC outputs		
MR.REQ.098	Connectors	(4) 3.5 mm captive screw connectors, 2 pole		
MR.REQ.099	Power	Maximum 40 watts total		

Section 5: Scope of Work

Audio-Visual for Meeting Room Screen - 30 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
MR.REQ.100	Power sense			
MR.REQ.101	Range	0.1 watt to 40 watts		
MR.REQ.102	General			
MR.REQ.103	Power supply	Internal		
MR.REQ.104		Input: 100-240 VAC, 50-60 Hz		
MR.REQ.105	Power consumption	61.8 watts		
MR.REQ.106	Temperature/humidity	Storage: -40 to +158 °F (-40 to +70 °C) /10% to 90%, noncondensing		
MR.REQ.107		Operating: +32 to +122 °F (0 to +50 °C) / 10% to 90%, noncondensing		
MR.REQ.108	Cooling	Convection, no vents		
MR.REQ.109	Thermal dissipation	33.3 BTU /hr		
Table Top Microphone				
MR.REQ.110	Make			
MR.REQ.111	Model			
MR.REQ.112	Frequency Response	50 to 17,000 Hz		
MR.REQ.113	Polar Pattern	Cardioid (MX392 / C, MX393/ C)		
MR.REQ.114	Output Impedance	EIA Rated at 150 Ω (180 Ω actual)		

Section 5: Scope of Work

Audio-Visual for Meeting Room Screen - 30 seating capacity				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
MR.REQ.11 5	Sensitivity (at 1 kHz, open circuit voltage)	27.5 dBV / Pa (42.2 mV)		
MR.REQ.11 6	Maximum Sound Pressure Level (1 kHz at 1% Total Harmonic Distortion, 1 kΩ load)	117.0 dB		
MR.REQ.11 7	Signal to Noise Ratio (referenced at 94 dB SPL)	71.0 dB		
MR.REQ.11 8	Equivalent Output Noise (A-weighted)	23.0 dB		
MR.REQ.11 9	Dynamic Range	94.0 dB		
MR.REQ.12 0	Preamplifier Output Clipping Level	−6 dBV (0.5 V)		
Others				
MR.REQ.12 1	Matrix Switcher	Yes		
MR.REQ.12 2	Cable Cubby	Yes		
MR.REQ.12 3	Rack	Yes (to accommodate all products		
MR.REQ.12 4	External accessories	Yes (to furnish and accommodate all items of room)		

Section 5: Scope of Work

Video conferencing				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
VC.REQ.001	Make			
VC.REQ.002	Model			
VC.REQ.003	Video standards	Should support H.263 / H.263+ / H.263++, H.264		
VC.REQ.004	Video Frame Rate	Should be 30 fps and 60fps with 1080p resolution from day one		
VC.REQ.005	Video Features	Ability to send and receive two live simultaneous video sources in a single call, so that the image from the main camera and PC or document camera can be seen simultaneously.		
VC.REQ.006	Video Features	Should support H.239 and BFCP protocols with 1080p resolution		
VC.REQ.007	Video Output	Should have at least 2 no.'s of HDMI / DVI (High Definition Multimedia Interface) output to connect 2 Nos. Full High Definition display devices such as plasma / LCD / LED /projectors for both Video and Content.		
VC.REQ.008	Video Input	Should have minimum 2x HDMI/HDLI/HD Video Inputs to connect atleast HD Cameras of 1080p@60fps resolution directly on the codec. The system should be supplied with 1 x 1080p60fps cameras day one.		
VC.REQ.009	Video Input	Should have atleast 1 x DVI/HDMI to connect a PC / Laptop with audio input. DVI to VGA converter should be supplied with the unit. The content resolution should be 1080p@30fps		
VC.REQ.010	Audio : Audio standards supported	G.711, G.722,G.722.1, 64 kbps MPEG-4 AAC-LD /equivalent standard must be supported..		

Section 5: Scope of Work

Video conferencing				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
VC.REQ.011	Other Desirable features	Noise Reduction, Automatic Gain control, Acoustic Echo Canceller, Active Lip synchronization		
VC.REQ.012	Audio Inputs	Should support minimum 2 Microphone should be supplied day one so that audio from all the participante can be adequately captured.		
VC.REQ.013	Audio Inputs	The system should have required line level inputs or digital line in jack for additional audio source		
VC.REQ.014	Audio Inputs	The system should have minimum 1 x HDMI digital audio inputs		
VC.REQ.015	Audio Outputs	The system should have required line level outputs or digital line in jack for line out		
VC.REQ.016	Audio Outputs	The system should have atleast 1 x HDMI outputs		
VC.REQ.017	External devices	Should have USB port to connect external devices.		
VC.REQ.018	Network Interfaces	LAN Or Ethernet--10 / 100 /1000Mbps full duplex		
VC.REQ.019	Network Interfaces	Should have support for IPV4 and IPV6		
VC.REQ.020	Bandwidth	IP--at least 6 Mbps		
VC.REQ.021	Inbuilt Multisite Capability	The Video endpoint should have inbuilt minimum 1+4 multisite capability with each site connecting at 720p resolution. Alternately, if each endpoint connects at 1080p resolution, then the endpoint should support minimum 1+3 users using inbuilt multisite soft license within the endpoint. This capability should be supplied either through an inbuilt capability within an endpoint or through an external MCU. This capability will be used incase the MCU at the datacentre is not available.		
VC.REQ.022	Camera Specifications	10x optical zoom cameras with 1920x1080p 60 frames per second.		

Section 5: Scope of Work

Video conferencing				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
VC.REQ.023	Camera Specifications	Minimum Pan range: +/-90 degrees • Minimum Tilt range: +/-15 degrees		
VC.REQ.024	Directory services	Should support Local and Global directories		
VC.REQ.025	Directory services	Should support LDAP and H.350 protocols for directory transfer.		
Desktop Clients				
VC.REQ.026	General requirement	Should support minimum HD720p Video resolution.		
VC.REQ.027	General requirement	The desktop client should have capabilities such as Instant messaging, chat, participants view etc.		
VC.REQ.028	General requirement	It should be possible to share the content from the desktop client		
VC.REQ.029	General requirement	The desktop client should be available for desktop Or laptop (windows Or mac),smartphone (andorid & iphone) and ipad users		
VC.REQ.030	General requirement	It should be possible for a user to login in to soft client using the single credential from any device.		
VC.REQ.031	General requirement	The solution should have the flexibility to accept the call on any device such as desktop Or laptop Or ipad Or iphone etc.		
VC.REQ.032	General requirement	The desktop clients should be IPV4 and IPV6 day one		
VC.REQ.033	General requirement	The desktop clients should be interoperable with Video conference endpoints for both audio & video.		
VC.REQ.034	General requirement	The desktop should have capabilities such as full screen view, mute audio, self view as PIP , onscreen key pad for DTMF dialing etc.		
High Definition Multi Conferencing Unit (MCU)				

Section 5: Scope of Work

Video conferencing				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
VC.REQ.035	Capacity	The MCU must be a hardware based MCU providing minimum 30 ports and above of 1080p 30fps or minimum 60 ports or above HD 720p 30fps in a single chassis or through physical stacking of MCU's without cascading and without any port loss.		
VC.REQ.036	Power Supply	The MCU should be in redundant power supply.		
VC.REQ.037	Scalability	The MCU should be scalable in future		
VC.REQ.038	Capability	The MCU should have the capability to bridge minimum 30 ports and above @ 1080p or minimum 60 ports and above HD720p @30fps participants as part of the single conference as well as support multiple conferences. Advanced features such as Continuous Presence of all participants should be available so that any 16 sites can be selected to appear on the screen in CP mode.		
VC.REQ.039	Capability	Should support H.264 even in Continuous presence		
VC.REQ.040	Video Standards	Should support H.263 /H.263+ /H.263++,H.264 AVC video algorithms		
VC.REQ.041	Video Resolution	Should support video resolution from QCIF to 1080p without losing ports		
VC.REQ.042	Audio Standards	Along with the Support for basic algorithms like G.711 and G.722.1 the MCU should also support wideband Audio protocols to provide HD quality audio during video meetings using protocols such as MPEG 4 AAC -LC or equivalent		
VC.REQ.043	IP protocols	It must be possible to have SIP and H323 devices in the same conference call		
VC.REQ.044	Transcoding & Rate Matching	The MCU should support transcoding of different Audio Or video Protocols		
VC.REQ.045	Transcoding & Rate Matching	MCU should be able to combine HD and SD in the same conference without degrading the HD resolution from and to the HD endpoints.		

Section 5: Scope of Work

Video conferencing				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
VC.REQ.046	Transcoding & Rate Matching	The MCU should have an video encode resource per participant		
VC.REQ.047	Dual Video	The MCU should have H.239 and BFCP protocol for sending and receiving dual video streams (Presenter + Presentation). This should be available for all the ports.		
VC.REQ.048	MCU features	The MCU must support multiple layouts and must support active speaker in bigger panes.		
VC.REQ.049	MCU features	The MCU should allow Far End Camera Control		
VC.REQ.050	Conference Capacity	It should be possible to create at least 10 different conferences of which 3 should be of permanent nature i.e with no end time defined.		
VC.REQ.051	Conference Capacity	Should have ability to connect each site @ 4 Mbps and above		
VC.REQ.052	Conference Capacity	The MCU should support both scheduled and adhoc conferences.		
VC.REQ.053	Conference Capacity	The MCU should support both dial in and dial out conferences. It should be possible to password protect the conferences for a secure access.		
VC.REQ.054	Network Capabilities	Should support packet loss concealment/ Packet loss recovery		
VC.REQ.055	Network Interface	2x 10/100 /1000 Mbps Ethernet Ports , which should work to support both Internet and Intranet networks		
VC.REQ.056	Network Interface	Should have the ability to work on both IPV4 and IPV6 without any degradation of performance from day one.		
VC.REQ.057	Security	The MCU must be a secure Non-PC Hardware with operating system.		
VC.REQ.058	Security	The MCU should support 128 Bit strong AES / SRTP encryption for calls and H.235 for authentication		
VC.REQ.059	Security	The MCU must support encryption for calls on SIP.		
VC.REQ.060	Security	MCU should be equipped with packet loss handling algorithm for video and audio		

Section 5: Scope of Work

Video conferencing				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
VC.REQ.061	General requirement	The Call control server must be able to provide RAS Gatekeeper services using H323 protocol. It should be able to integrate with other Gatekeepers using H323 trunks or Neighboring Trunk. The Call control server must also provide SIP registrar and SIP proxy service		
VC.REQ.062	H323 registration	The video conferencing endpoints and MCU must be able to register with the H323 Gatekeeper.		
VC.REQ.063	SIP registration	The video conferencing endpoints and MCU must be able to register with the SIP Server.		
VC.REQ.064	H.323-SIP interworking	The Call control device should be able to connect calls between "H323 only device" and "SIP only device".		
VC.REQ.065	IPV4-IPV6 Interworking	The Call control device should be able to interwork between IPV4-IPV6 networks.		
VC.REQ.066	Capacity	Should allow minimum 200 and above device registrations and 60 concurrent calls from day one.		
VC.REQ.067	Capacity	The call control server should register minimum 200 devices including the MCU, desktop clients, endpoints etc.		
VC.REQ.068	Capacity	The H323 registration over TCP / UDP should support H323 ID.		
VC.REQ.069	Capacity	The SIP registration over TCP / UDP should support SIP URI.		
VC.REQ.070	SIP Proxy	The SIP Registrar should have the flexibility to proxy registration requests to an external SIP server if need be.		
VC.REQ.071	SIP trunk	The SIP Server must enable creation of a trunk / neighbor with IP PBX to achieve unified communications		
VC.REQ.072	Security	Security and authentication for registration of HD VC Endpoints. This should support at least authentication using login ID and password		

Section 5: Scope of Work

Video conferencing				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
VC.REQ.073	Presence	The SIP server must be capable of publishing online Presence of users and devices. The status of the users or VC devices such as 'online', 'offline', 'busy' etc.		
VC.REQ.074	Bandwidth management	Should allow creation of Zones /Virtual groups for a cluster of endpoints.		
VC.REQ.075	Bandwidth management	Should allow restricting the bandwidth at the server level so that calls cannot exceed the defined bandwidth.		
VC.REQ.076	Bandwidth management	Should be able to create an upper limit for the total bandwidth between two zones e.g. no. of call X bandwidth per call should not exceed the set limit.		
VC.REQ.077	Bandwidth management	Ability to set restriction on who can call whom		
VC.REQ.078	Authentication and Registration	Registration to the server should be restricted by creation of either an allow list or deny list.		
VC.REQ.079	Authentication and Registration	Ability to allow registration to the server only upon authentication of the device.		
VC.REQ.080	Authentication and Registration	Creation of local authentication database and pulling of authentication credentials from an LDAP or AD server.		
Firewall Traversal				
VC.REQ.081	General requirement	Firewall Traversal Solution to allow Video calls to be made from the customer network to the Internet. Standards based Firewall Traversal solution to allow video calls from the customers network to the Internet and vice versa. The calls should be H323 and SIP and must be able to support HD resolutions. Interoperability with existing Firewalls is a must.		
VC.REQ.082	Standards	Should support firewall traversal solution using the H.460.18 and H.460.19 protocol.		

Section 5: Scope of Work

Video conferencing				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
VC.REQ.083	Interoperability with Firewalls	The solution should be standards based and work with all firewalls and not bypass the existing firewalls.		
VC.REQ.084	Interoperability with Firewalls	Video conferencing endpoints deployed must be able to take part in video conferencing / dial into the MCU and dial out from the MCU.		
VC.REQ.085	Dial plan and call connectivity	The solution should support ability to call to public IP addresses.		
VC.REQ.086	Dial plan and call connectivity	Should support the ability for devices on the internet to be reached using a H323 ID / E.164 alias.		
VC.REQ.087	Dial plan and call connectivity	Should support the ability for devices on the internet to be reached on H323 using a H323 ID and URI. e.g. H.323 id (xxxx@xxx.xx.xx) /SIP URI (lucknow@xxxx.xx.xx)		
VC.REQ.088	Integration with DNS	The Firewall Traversal Solution must have integration with DNS using SRV records or AAA records so as to have domain name based calling.		
VC.REQ.089	Capacity	Should support minimum 20 concurrent calls for the soft clients users to join from Internet. H.264 video compression from day one and must have the scalability to upgrade to minimum 100 calls in future on the same hardware by just getting additional licenses.		
VC.REQ.090	Protocols	Should support all the H323 and SIP functionalities such as: H.239, BFCP, AES encryption,H.235		
VC.REQ.091	Security	Must support H.460 multiplexed media for H323 calls so as to reduce ports used by the calls to traverse the firewall		
VC.REQ.092	Authentication and Registration	The solution must support the ability to create authentication credentials for a VC device to be registered and make calls.		

Section 5: Scope of Work

Video conferencing				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
Recording & Streaming				
VC.REQ.093	General requirement	The recording and streaming server must be standards based for both recording calls and streaming.		
VC.REQ.094	Recording and Streaming	Record single point or multipoint conferences		
VC.REQ.095	Recording and Streaming	Capture presentations with H.239		
VC.REQ.096	Recording and Streaming	Clustering Or connecting of multiple servers		
VC.REQ.097	Recording and Streaming	Trans-coding or re-encoding of video content		
VC.REQ.098	Recording and Streaming	Should support recording from both H.323 and SIP endpoints		
VC.REQ.099	Recording and Streaming	Integrates with MCU for simple recording of multipoint video conferencing		
VC.REQ.100	Audio / Video Support	Should have support to record 1080p resolutions.		
VC.REQ.101	Audio / Video Support	Should support wide-band audio algorithms like AAC-LD / G.722.1 C / AAC-LC / G.711		
VC.REQ.102	Recording	Easily capture meetings or events including content such as presentation material, using video conferencing endpoints		
VC.REQ.103	Recording	Records video at varying bit rates with 128 Kbps to 2 Mbps and above		
VC.REQ.104	Recording	Flexible recording environments either initiated from an H.323 MCU / video endpoint		
VC.REQ.105	Recording	Supports minimum 5 concurrent video conferencing recording sessions and must be upgradable in future to support 10 concurrent recordings, without any hardware change or addition		
VC.REQ.106	Recording	Should support recording of both Video and content without losing the recording ports		

Section 5: Scope of Work

Video conferencing				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
VC.REQ.107	Recording	Should have sufficient storage to record minimum 400 hours and above of recording @ 1080p resolution		
VC.REQ.108	Streaming	Flexible access to video content live or on demand		
VC.REQ.109	Streaming	View content from video endpoint or Servers		
VC.REQ.110	Streaming	Any user playing, pausing or stopping the streaming should not affect the playback Or streaming of the Video for the other users who are playing the same video.		
VC.REQ.111	Streaming	In built Web interface		
VC.REQ.112	Streaming	View content in recorded format, even HD		
VC.REQ.113	Streaming	Should support concurrent streams		
VC.REQ.114	Streaming	Webcast live or on demand with Windows Media player or RealPlayer or through web		
VC.REQ.115	Streaming	Interoperates with the additional server for expanded streaming scalability		
VC.REQ.116	Streaming clients	Dual stream or still image content presented alongside main video.		
VC.REQ.117	Content management	Should support content formats for multiple devices such as PC, Mac, mobile phones and iPod.		
VC.REQ.118	Management	User management and authentication		
VC.REQ.119	Management	Protect content with access controls		
VC.REQ.120	Management	Should integrate with Central VC management & scheduling application		
VC.REQ.121	Management	User viewing and recording rights authorization		
VC.REQ.122	Security	Embedded Web server enables full control, configuration and monitoring of system and recordings		
VC.REQ.123	Security	Should have provision to restrict playback of recordings to specific users.		
VC.REQ.124	Security	User Management		

Section 5: Scope of Work

Video conferencing				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
VC.REQ.125	Network Interface	10 /100 / 1000 Mbps Ethernet Interface		
VC.REQ.126	Network Interface	The recording solution should be either be an appliance based or virtualised solution with server		
Management & Scheduling				
VC.REQ.127	General requirement	Management of recommended Video Conferencing devices and Infrastructure shall be deployed centrally		
VC.REQ.128	General requirement	The Management application should provide system management capabilities of all the proposed full high definition solution comprising of video conferencing endpoints, MCU, Gatekeepers. It should be possible to get detailed configuration of these devices.		
VC.REQ.129	General requirement	The application should be able to manage third party VC systems i.e. VC units from other bidders also.		
VC.REQ.130	General requirement	It should allow conference and participant connection control		
VC.REQ.131	General requirement	The system must be able to manage 50 devices including endpoints , MCU, call control from day one. Any additional licenses required for centrally manage the soft clients if any should be factored in.		
VC.REQ.132	General requirement	Must provide a strong GUI		
VC.REQ.133	Scheduling	The Application should Schedule point-to-point conferences		
VC.REQ.134	Scheduling	MCU meetings that will have Dial in and dial out participants from the MCU.		
VC.REQ.135	Scheduling	Lock conference, Preventing new participants from joining. Add external participants such as endpoints that are not part of the network and are present on Internet.		

Section 5: Scope of Work

Video conferencing				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
VC.REQ.136	Scheduling	Should be able to book recurring meetings and video resources		
VC.REQ.137	Scheduling	Should show overview of scheduled meetings, resources and participants.		
VC.REQ.138	Scheduling	Should show real-time overview of Meeting status		
VC.REQ.139	Scheduling	Should have the ability to book conference rooms also. These would be conference rooms with / without any video conferencing units.		
VC.REQ.140	Scheduling	The Scheduling tool must provide the ability to check the availability of the resources in a calendar format before booking any resources.		
VC.REQ.141	Phonebook services	The application should support creation and management of a central directory.		
VC.REQ.142	Phonebook services	Should support creation of phonebooks from directory services		
VC.REQ.143	Templates / Provisioning	The application should have provision for custom template creation for management and provisioning.		
VC.REQ.144	Templates / Provisioning	The application should have the ability to create persistent setting templates that can be proactively enforced on systems.		
VC.REQ.145	Backup	The application should be able to back up the VC system settings.		
VC.REQ.146	Backup	It should have capability to perform daily configuration restores or as per the needs (Scheduled restore)		
VC.REQ.147	Monitoring	It must be possible to monitor live ongoing conferences. Both Scheduled as well as ad-hoc conferences must be manageable.		
VC.REQ.148	Monitoring	Functionalities such a mute Or unmute of individual sites, connect Or disconnect of individual sites, view bandwidth of each sites, audio and video protocol of each site if needed must also be possible.		

Video conferencing				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
VC.REQ.149	Event Notification	The Management application should support event logging and notifications including boot, link down Or up, connect error, call connected Or disconnected, Downspeeding, upgrade start Or finish scheduling, gatekeeper registration.		

Section 5: Scope of Work

DLP Video Wall				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
DLP.REQ.001	Make			
DLP.REQ.002	Model			
DLP.REQ.003	Size of DLP each video wall	70 inches		
DLP.REQ.004	Resolution	Full HD-1920*1080		
DLP.REQ.005	Configuration	20*3		
DLP.REQ.006	Column	20		
DLP.REQ.007	Row	3		
DLP.REQ.008	Width of each cube in mm	1,150		
DLP.REQ.009	Height of each cube in mm	872		
DLP.REQ.010	Total length of video wall in mm	31,000		
DLP.REQ.011	Total Height of Video wall in mm	2,616		
CUBE specification				
DLP.REQ.012	Each cube size	70" Diagonal		
DLP.REQ.013	Technology	Single chip Technology		
DLP.REQ.014	Resolution	1920x1080		
DLP.REQ.015	Brightness	250 Cd / m ²		
DLP.REQ.016	On-screen contrast	1,200,000:1 (dynamic)		

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DLP Video Wall				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
DLP.REQ.017	Display technology	DLP rear projection		
DLP.REQ.018	Brightness uniformity	>95%		
DLP.REQ.019	Screen	180° viewing angle screen		
DLP.REQ.020	Screen	Less than 1 mm		
DLP.REQ.021	Colour stability	Self calibration with advanced colour sensor for		
DLP.REQ.022	Dimensions	Diagonal: 70"		
DLP.REQ.023	Light source lifetime	> 60,000h (typ.)		
DLP.REQ.024	Light source lifetime	> 80,000h (eco)		
DLP.REQ.025	Light source lifetime	MTBF LED: > 500,000h		
DLP.REQ.026	Conditions for operation	10°C-40°C, 80% humidity		
DLP.REQ.027	Input voltage	90 – 240 V, 50-60Hz		
DLP.REQ.028	Power	Max 90W (eco)		
DLP.REQ.029	Power	Max 150W (typ.)		
DLP.REQ.030	Power	Max 180W (max)		
DLP.REQ.031	Heat dissipation	Max 310 BTU / h (eco)		
DLP.REQ.032	Heat dissipation	Max 510 BTU / h (typ.)		

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DLP Video Wall				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
DLP.REQ.033	Heat dissipation	Max 610 BTU/ h (max)		
DLP.REQ.034	Signal input /output	Dual link DVI in /Dual link DVI out		
DLP.REQ.035	Pixel clock	320 MHz		
DLP.REQ.036	Direct Ethernet access	IP control		
DLP.REQ.037	Graphical user interface	All settings and operational parameters		
DLP.REQ.038	Third party interface	Should be open to third party interface		
Display Controller to Drive 3x2 70" wall				
DLP.REQ.039	Operating system	Windows7 64bit Ultimate Version		
	Processing			
DLP.REQ.040	CPU	Intel® Core™ i7 Quad Core 3.4 GHz processor		
DLP.REQ.041	Memory	16 GB RAM		
DLP.REQ.042	Hard disk	2x 500 GB RAID-1, hot-plug redundant		
DLP.REQ.043	Optical drive	DVD R /W		
DLP.REQ.044	Network	2x 1Gb/s LAN		
DLP.REQ.045	System backplane	slot PCI Express backplane		
DLP.REQ.046	Outputs			
DLP.REQ.047	Graphics card	4ch Graphic card		

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DLP Video Wall				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
DLP.REQ.048		Max resolution:		
DLP.REQ.049		- 2560x1600@60Hz (Display Port)		
DLP.REQ.050		- 1920x1200@60Hz (DVI)		
DLP.REQ.051		Supports Windows desktop sizes up to 32768x32768 pixel		
	Inputs			
DLP.REQ.052	DVI			
		- DVI-D,RGB Signals, Video(PAL-Secam) ,		
DLP.REQ.053	IP Streaming Input			
		- Multiple standards supported: MPEG2, MPEG4, H.264, MJPG, V2D		
	General specifications			
DLP.REQ.054	Dimensions	19" Rack mount		
DLP.REQ.055	Power Supply	100-240VAC 500W+500W, Hot-plug redundant		
	Operating conditions			
DLP.REQ.055	Operating temperature	0°C to 35°C (32°F to 98°F)		
DLP.REQ.056	Storage temperature	-20°C to 70°C (-4°F to 158°F)		
	Wireless			
DLP.REQ.057	Wireless	The operator should be also possible to show Laptop Or Android Or IOS phone over the video wall without		

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DLP Video Wall				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
		disturbing the existing network over wireless		
Video Wall Management Software				
DLP.REQ.058	Software	The software should be able pre configure various display layouts and access them at any time with a simple mouse click or based on the timer		
DLP.REQ.059	Software	The software should enable the users to see the desktop of the graphics display wall remotely on the any WIN 7 PC connected with the Display Controller over the Ethernet and change the size and position of the various windows being shown.		
DLP.REQ.060	Software	The wall management software shall be having interoperability with Video management system.		
DLP.REQ.061	Software	The wall management software may be centrally Server based or local controller based architecture.		
DLP.REQ.062	Software	The software should enable various operators to access the display wall from the local keyboard and mouse of their WIN 7 workstation connected with the Display Controller on the Ethernet		
DLP.REQ.063	Software	The software should copy the screen content of the WIN 7 PC / workstation connected on the Ethernet with the Display Controller to be shown on the Display wall in		

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DLP Video Wall				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
		scalable and moveable windows in real time environment.		
DLP.REQ.06 4	Software	The wall management software should support open APIs to enable system integrators to integrate it with their Software. Multiple application programmer's interface (API) to facilitate third-party software to control and access Wall management software features including ability to query the available perspectives, launch sources in windows, switch perspectives, switch current window contents to available inputs for both networked or non-networked sources(on the input cards), query overall system status, and launch applications		

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DLP Video Wall				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
DLP.REQ.06 5	Software	<p>Key features of Wall management Software</p> <ul style="list-style-type: none"> a. Central configuration database b. Browser based user interface c. Auto-detection of network sources d. Online configuration of sources, displays and system variables e. Backup & restore capabilities f. Scheduled backup g. Advanced remote logging h. Full resolution and full frame rate preview of all networked sources i. Remotely monitor displays over the network with the actual preview of all sources shown j. Drag and drop from sidebar to mini display for quick perspective changes k. Integrated soft KVM for remote control of displays l. Perspectives can be opened and shown on both workstations and displays alike m. Standard and custom Tiling configuration n. Share your perspectives with other workstations or displays o. Decorators including: UMD, IDC, Source Name, Time (time zone aware), Date, Text, Logo, Message Ticker, Source status 		

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DLP Video Wall				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
DLP.REQ.06 6	Software	The Wall Control software shall perform health monitoring that allows timely detection of faults. a. Wall health b. Cube health c. Cube IP-address d. Brightness		
DLP.REQ.06 7	Software	Wall Control Software shall allow commands on wall level or cube level or a selection of cubes : a. Switching the entire display wall on or off. b. Setting all projection modules to a common brightness target, which can be either static (fixed) or dynamic to always achieve maximum (or minimum) common brightness between projection modules. c. Fine-tune colour of each cube		
DLP.REQ.06 8	Software	The integrated view shall provide a database that a. records all events b. can record full status at given time intervals c. can be exported to excel Or html d. Show internal patterns		
DLP.REQ.06 9	Software	Log file functions (full Audit trail capabilities) and Logs are not automatically overwritten for Client logs, Central server logs		

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DLP Video Wall				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
DLP.REQ.070	Software	Logs contain the following information <ul style="list-style-type: none"> • Individual User ID that has control of the video wall at any given time • Name of PC that has control of video wall at any given time. • Time control was taken. • Time control was released • Time stamps in log shall be at the one (1) second interval, or less 		
DLP.REQ.071	Display & Scaling	Display multiple sources anywhere on display up to any size		
DLP.REQ.072	Input Management	All input sources can be displayed on the video wall in freely resizable and movable windows		
DLP.REQ.073	Scenarios management	Save and Load desktop layouts from Local or remote machines		
DLP.REQ.074	Layout Management	Support all Layout from Video, RGB, DVI, Internet Explorer, Desktop and Remote Desktop Application		
DLP.REQ.075	Multi View Option	Multiple view of portions or regions of Desktop, Multiple Application Can view from single desktop		
DLP.REQ.076	Other features	Alarm management		
DLP.REQ.077	Other features	Remote management		
DLP.REQ.078	Other features	Multiple concurrent client		
DLP.REQ.079	Cube Management	Cube Health Monitoring		
DLP.REQ.080	Cube Management	Pop-Up Alert Service		

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DLP Video Wall				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
DLP.REQ.08 1	Cube Management	Graphical User Interface		
DLP.REQ.08 2	Others	Bidder may be required to integrate Audio and other related infra for projected balcony projection to view video wall from certain height		

Screen for EOC(Emergency Operations Centre)				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
Display Device				
EOC.REQ.00 1	Make			
EOC.REQ.00 2	Model			
EOC.REQ.00 3	Screen Size (Diagonal) and Aspect Ratio	Minimum 80-inch and 16:9, touch screen		
EOC.REQ.00 4	Brightness	350 cd /m2 (Typ)		
EOC.REQ.00 5	Contrast Ratio	4,000:1		
EOC.REQ.00 6	Viewing Angle	120° /120°		
EOC.REQ.00 7	Detection Method	Infrared Blocking Detection Method		
EOC.REQ.00 8	PC Connection Port	USB (3.0 Compliant)		
EOC.REQ.00 9	VIDEO In/ Audio In (L Or R)	Yes		

Section 5: Scope of Work

Screen for EOC(Emergency Operations Centre)				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
EOC.REQ.010	HDMI In	HDMI Type A Connector x 2		
EOC.REQ.011	DVI-D In /Audio In (L Or R)	DVI-D 24-pin x 1 / Stereo Mini Jack (M3) x 1 (Shared with PC In)		
EOC.REQ.012	PC In /Audio In (L Or R)	Mini D-Sub 15-pin x1 (Female), Plug & Play (VESA DDC 2B) /Stereo Mini Jack (M3) x 1 (Shared with DVI-D In)		
EOC.REQ.013	PC Out	Mini D-Sub 15-pin x1		
EOC.REQ.014	USB A	USB TYPE A Connector x 1 (For Memory Viewer)		
EOC.REQ.015	USB B	USB TYPE B Connector x 1 (For Touch Panel)		
EOC.REQ.016	External Speaker	50 W [25 W + 25 W] (10 % THD)		
EOC.REQ.017	DIGITAL LINK	RJ45 x 1 (Shared with LAN)		
BR.REQ.018	Built-In wireless LAN function	IEEE802.11b / g /n, :IEEE802.		
EOC.REQ.019	Picture -in-Picture Capability	Picture-in-Picture mode		
EOC.REQ.020	Picture -in-Picture Capability	Picture-in-whiteboard mode		
EOC.REQ.021	Other Features	Instant playback of content via USB		
EOC.REQ.022	Other Features	Wireless solution with multiscreen functions		
EOC.REQ.023	Other Features	Quick start whiteboard		
EOC.REQ.024	Other Features	Write and draw on media from external devices		

Section 5: Scope of Work

Screen for EOC(Emergency Operations Centre)				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
EOC.REQ.025	Touch Features	Upto four people can write at a time, and saving upto option with email to anyone		
EOC REQ.026	Cable TV features	Yes		

Section 5: Scope of Work

Laptop				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
LAP.REQ.001	Make			
LAP.REQ.002	Model			
LAP.REQ.003	Processor	5th Generation Intel Core™ i5-5200U Processor (3M Cache, up to 2.70 GHz) OR higher		
LAP.REQ.004	Chipset	Integrated with processor		
LAP.REQ.005	Memory	4-GB DDR3L SDRAM, 1600 MHz, two slots supporting dual-channel memory with max expandability to up to 16 GB.		
LAP.REQ.006	Hard Disk	500 GB 5400 rpm SMART SATA HDD with 3D Drive guard and Drive Encryption		
LAP.REQ.007	Display	14" diagonal LED-backlit HD Touch Display is shatter, scratch, and smudge resistant (1366 x 768)		
LAP.REQ.008	Optical Drive	DVD+ /-RW SuperMulti DL Drive		
LAP.REQ.009	Graphics Card	Intel HD Graphics		
LAP.REQ.010	Webcam	720p HD webcam		
LAP.REQ.011	Audio	Integrated stereo speakers ,Integrated digital microphone (dual-microphone array when equipped with optional webcam),Function keys for microphone mute, volume up, volume down, Stereo headphone Or line out, Stereo microphone Or line in		
LAP.REQ.012	Interfaces	2 USB 3.0; 2 USB 2.0; 1 HDMI; 1 headphone /microphone combo; 1 AC power; 1 RJ-45; 1 VGA		
LAP.REQ.013	Expansion Slots	multi-format digital media reader		
LAP.REQ.014	Communication	10 / 100 / 1000 Ethernet Controller		

Section 5: Scope of Work

Laptop				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
LAP.REQ.015	Wireless Devices	Integrated wireless LAN Having Support For 802 11b,g and n Bluetooth 4.0 Compliant or higher		
LAP.REQ.016	Key Board	Keyboard features with industry standard		
LAP.REQ.017	Operating system	Windows 8.1 Professional / Higher Version Preinstalled		
LAP.REQ.018		Pre Installed Software Recovery Manager CD		
LAP.REQ.019	Battery	4-cell (40 WHr) Long Life Lithium-Ion battery		
LAP.REQ.020	Cerification	EPEAT		
LAP.REQ.021	Laptop Bag	Yes		

Section 5: Scope of Work

Biometric				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
BIO.REQ.001	Make			
BIO.REQ.002	Model			
Smart Reader cum Controller				
BIO.REQ.003	Type	Capable of reading contact-less smart card (ISO 14443 1/2/3/4 A and B)		
BIO.REQ.004	Read Range	10		
BIO.REQ.005	Memory Sufficient for application software to store one day data	Hot List and Black list data		
		· Minimum 25000 and expandable up to 50000		
		Entry / Exit data		
		· Minimum 15,000 and expandable up to 30,000		
BIO.REQ.006	RTC	Built in most accurate RTC (Real Time Clock) with Lithium Cell Backup		
BIO.REQ.007	PC Communication	Ethernet (TCP/IP)		
BIO.REQ.008	Outputs	Relay output		
BIO.REQ.009	Cryptography levels	3DES/AES (with 128 bit encryption) and RSA (2kbits key length and with SHA-256 Implementation)		
BIO.REQ.010	SAM slots (ISO 7816)	1		
BIO.REQ.011	Application Support	Multiple Application Platforms should be supported by the Controller so as to avoid 'Proprietary Scenarios'		
BIO.REQ.012	Certification	UL294/ CE/ FCC/ RoHS or equivalent		
BIO.REQ.013	Security features	If someone tries to open the device physically it should destruct the following and make it unusable		
BIO.REQ.014	Security features	· All software from device(OS,Application,Device Drivers etc)		
BIO.REQ.015	Security features	· All keys from device(Hard burnt and in SAM)		
BIO.REQ.016	Security features	· All data from Device Memory(RAM,ROM,EEPROM,FLASH or any other memory device might be using)		

Section 5: Scope of Work

Biometric				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
BIO.REQ.017	Security features	Application loading/reloading only after external authentication with the derived key on SAM		
BIO.REQ.018	Security features	No Application loading possible on field.(only in secure environment)		
BIO.REQ.019	Security features	OS must provide Application Authentication using PKI (Public Key from SAM) at application invoking (must run only signed application).		
Biometric Reader				
BIO.REQ.020	Scanner Type	Optical		
BIO.REQ.021	Resolution	500 with 5% margin on the lower side		
BIO.REQ.022	Setting Level	Minimum 30 or above as defined in www.egovstandards.gov.in for fingerprints		
BIO.REQ.023	Extractor Template Standard	ISO 19794-2 for fingerprint minutiae template		
BIO.REQ.024	Extractor Image Standard	ISO 19794-4 for Fingerprint Image Template		
BIO.REQ.025	Response Time	Less than 2 seconds for single transaction		
BIO.REQ.026	Preferred Operating	0 to 45 degree Centigrade		
BIO.REQ.027	Temperature			
BIO.REQ.028	Preferred Storage	0 to 50 degree Centigrade		
BIO.REQ.029	Temperature			
BIO.REQ.030	Preferred Humidity	10 to 90%		
BIO.REQ.031	Reaction time	< 1.5 sec in 1:1 mode		
BIO.REQ.032	Success/failure Indication	Indicating lights to display success /failure for access card or fingerprint authentication		
BIO.REQ.033	Operating system	Vendor needs to declare the compatible operating system		

Section 5: Scope of Work

Biometric				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
BIO.REQ.034	FAR and FRR	It should be configurable to set the accuracy levels based on the requirements		
Keypad Reader				
BIO.REQ.035	Screen	7 inches WSVGA (1024x600) color touch-screen with 16:9 ratio and IPS technology or equivalent		
BIO.REQ.036	Type	Color LCD should be viewable in broad day light		
BIO.REQ.037	Weather Protection	IP 54		
BIO.REQ.038	Protective sleeve	Yes		
Connectivity				
BIO.REQ.039	Connectivity	3channel connectivity mandatory:		
		1. GPRS connectivity		
		2. Either WiFi b / g / n / Fixed Broadband		
		3. LAN –WAN connectivity		
		4. Connectivity through USB		

Section 5: Scope of Work

SAN Storage				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
SAN.REQ.001	Make			
SAN.REQ.002	Model			
SAN.REQ.003	Net Storage Capacity Duration	90 Days		
SAN.REQ.004	Throughput	8 Gbps or higher		
SAN.REQ.005	Form Factor	Rack mountable		
SAN.REQ.006	Disk Speed	10 Krpm		
SAN.REQ.007	Minimum Capacity per disk	1 TB or higher		
SAN.REQ.008	Hot swap disks	Yes		
SAN.REQ.009	On-line capacity Expansion	Yes		
SAN.REQ.010	H/W based RAID controller	Yes		
SAN.REQ.011	Hot swappable controller	Yes		
SAN.REQ.012	RAID protection against double failure in RAID Group	Yes		
SAN.REQ.013	Data and control cache swappable	Yes		
SAN.REQ.014	Non disruptive on-line firmware upgrade	Yes		

Section 5: Scope of Work

SAN Storage				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
SAN.REQ.015	Hot swappable power supply	Yes		
SAN.REQ.016	(N+1) redundant power supply	Yes		
SAN.REQ.017	Hot swappable cooling fans	Yes		
SAN.REQ.018	(N+1) hot swappable cooling fans	Yes		
SAN.REQ.019	FC protocol	Yes		
SAN.REQ.020	Fabric Management Software	Shall be provided		
SAN.REQ.021	Minimum connection from a server to a SAN Switch	2		
SAN.REQ.022	RAID level that will be implemented	RAID 6		
SAN.REQ.023	The system should not be an end of life Or end of service product.	Yes		

Section 5: Scope of Work

Virtual Tape Library disk based backup				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
VTL.REQ.001	Emulation Drive	Offered appliance should support disk based backup		
VTL.REQ.002	Number of Drives	Support upto 512 Drives		
VTL.REQ.003	Virtual Cartridges	Offered tape library should scale upto 40,000 slots		
VTL.REQ.004	Partitions	Offered appliance should support up to 64 partitions		
VTL.REQ.005	Scalability	Capacity on Demand Feature should be supported		
VTL.REQ.006	OpenStorage (OST) API	Should be compatible and support OST presentation.		
VTL.REQ.007	NAS/SAN Interface Performance	Should support and provide 10.0 TB per Hour		
VTL.REQ.008	VTL Interface Performance	Should support and provide 10.0 TB per Hour		
VTL.REQ.009	OST Interface Performance	Should support and provide 20 TB per Hour		
VTL.REQ.010	Drive Capacity	3 TB or higher		
VTL.REQ.011	System Redundancy	Should provide redundancy on redundant power, redundant cooling		
VTL.REQ.012	Drive Redundancy level	should support RAID or Enhanced RAID with Hot spare provision		
VTL.REQ.013	Appliance Hardware Interface	Six 8Gbps FC, two 10GbE Optical (SFP+) or Copper, and four 1GbE ports.		
VTL.REQ.014	Capacity	Should have capacity of min. 600 TB Usable by adding the expansion modules or another Base Controller and scalable to 1000 TB		
VTL.REQ.015	Expandability	Should have the option to increase the capacity on the basis of demand to certain size to start from low capacity and increase according to the data growth.		

Section 5: Scope of Work

Virtual Tape Library disk based backup				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
VTL.REQ.016	De-Duplication	It should support variable length , in-line de-duplication technology.		
VTL.REQ.017	Replication	Replication should be asynchronous, one-to-one or multiple-to-one configurations. Bandwidth utilization can be set manually for transmitting the data to another similar box . Shall be offered with Replication License to replicate all the data to other site.		
VTL.REQ.018	Encryption	Should support AES 256-bit prior to transmission. Should also support Data-at-Rest Encryption to secure all data stored on the appliance.		
VTL.REQ.019	Monitoring	Should support centralize monitor tool to monitor similar other boxes for alerts and other informations using single console or Hand held devices		
VTL.REQ.020	User Interface	Should support web interface (GUI) for ease operation.		

Section 5: Scope of Work

ROIP Application and Gateway				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
ROIP.REQ.001	Make			
ROIP.REQ.002	Model			
ROIP.REQ.003	General requirement	The system should be able to provide radio interface gateway for connectivity to all VHF Networks. The communication with the radio server and network interface equipment must be based on IP over the VOIP network.		
ROIP.REQ.004	General requirement	The officer should be able to access the system through web based application and should be able to connect the radios frequencies devices at field level in same location or in different location of UP state		
ROIP.REQ.005	General requirement	Connectivity between RADIO Server and VHF base station will be for communication with DMR signaling should provide to have Radio features operation from Control room.		
ROIP.REQ.006	General requirement	System should have a capability to configure minimum 7 frequency and officer should have an option to select any frequency to speak with the field officer		
ROIP.REQ.007	General requirement	The RADIO Server must be integrated with Call 100 Application and should provide the communication path between the officer console and existing wireless radio equipment. All the wireless radio equipment present in vehicle must be wirelessly connected to the RADIO Server in broadcast mode over RF.		
ROIP.REQ.008	General requirement	System should support one to one and one to many communication among all devices at same location or different location over the IP network		
ROIP.REQ.009	General requirement	System should have a capability to group more than 2 radios wireless network together.		

Section 5: Scope of Work

ROIP Application and Gateway				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
ROIP.REQ.010	General requirement	The radio communications should be recorded by the system with interal Or external system like contact center recording and ROIP vocie recording. The recording should continue and be stored for the required period of time and recorded voice files should be accessible from the Web based application also. The recorded file should be tagged with time Or date stamp Or Incident ID also		
ROIP.REQ.011	General requirement	It shall be possible for the officer to organize a conference call minimum three phone lines from his console.		
ROIP.REQ.012	General requirement	The system should be integrated with fixed-line,mobile phones, PCs, IP phones etc.		
ROIP.REQ.013	General requirement	System should have an ability to listen the radio voice channel and system should have an ability to to put the call on hold		
ROIP.REQ.014	General requirement	The system should support many different Land Mobile Radios in audio such as analog conventional radio and digital trunking radio through gateway		
ROIP.REQ.015	General requirement	The radio gateway location should convert the audio and control signals received from the radio into IP packets and transmit them to the main system for further processing, over an IP link.		
ROIP.REQ.016	General requirement	System should be implemented in high availability mode with no single point of failure and system should be agnostic to the make of the radio and its frequency of operation		
ROIP.REQ.017	General requirement	It should be possible to add more Radio gateway at different locations or at the same location over the IP network to connect more radio set.		
ROIP.REQ.018	General requirement	Voice logger should be able to integeerate internal/external reporting module to generate the desired reports		
ROIP.REQ.019	General requirement	System should have an ability to broadcast the messgae over the wireless radios in vehicles and other location in UP state		

Section 5: Scope of Work

ROIP Application and Gateway				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
ROIP.REQ.020	General requirement	System should support linux/ windows.		
ROIP.REQ.021	General Requirement	Should support IPv6 QoS, IPv6 Multicast support etc. from day 1		
ROIP.REQ.022	General Requirement	Should be able to control the configuration of the radio, to which it is connected. The configuration will be done by the system administrator		
ROIP.REQ.023	General Requirement	Should have Radio Interface for Analog / Digital DMR Radio/ DMR Repeater		
ROIP.REQ.024	General Requirement	Should have call types like: Selective Call Group Call All Group Call Remote Monitoring Remote Radio Disable / Enable		
ROIP.REQ.025	General Requirement	Should support different message types like group, broadcast		
ROIP.REQ.026	General Requirement	Should have location tracking based upon GPS		
ROIP.REQ.027	General Requirement	Should have configurable control at central or district level		
ROIP.REQ.028	General Requirement	Bidder will provide compatible foot paddles with Radio gateway solution of standard quality		

Section 5: Scope of Work

VHF Static Radio device 25 Watt synthesized				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
VHFS.REQ.001	Make			
VHFS.REQ.002	Model			
VHFS.REQ.003	Frequency Range	136-174 MHz (Full band)		
VHFS.REQ.004	No. of channels	1000 channels or more: Channels 1 & 3 should be programmed to cover end frequencies and channels 2 for the mid frequency of the quoted frequency spread. Remaining channels should also be programmed to cover the quoted frequency spread		
VHFS.REQ.005	Channel spacing	12.5KHz or better		
VHFS.REQ.006	Frequency spread	Digital TDMA Technology. Complying to ETSI-TS102 361-1 Open Standard/ non-proprietary Digital Protocol as defined by an international standards body like ETSI		
VHFS.REQ.007	Frequency Stability	$\pm .5$ PPM or better		
VHFS.REQ.008	Type of emission	Analogue : 11KOF3E Digital : 4 FSK or equivalent technique complying to open standard Or non proprietary Digital Protocol as defined by an international standards body like ETSI Or FCC etc.,		
VHFS.REQ.009	Type of Operation	Simplex, press to talk		
VHFS.REQ.010	Type of antenna	Suitable Antenna such as GP antennae etc. may be submitted as accessories		

Section 5: Scope of Work

VHF Static Radio device 25 Watt synthesized				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
VHFS.REQ.01 1	Speaker impedance	To be specified by the firms both at internal and external speaker point		
VHFS.REQ.01 2	Speaker	Internal Or socket for external speaker to be provided (The internal speaker should be cut off when external speaker is used)		
VHFS.REQ.01 3	Output	50 ohms and the aerial terminal should have VHF Or UHF female socket or appropriate adopter should be provided with the sets		
VHFS.REQ.01 4	Protection	(i) Reverse polarity protection should be provided (ii) The Final transistor should be protected against high VSWR		
VHFS.REQ.01 5	Power Supply	Typical 13.8V DC \pm 10%		
VHFS.REQ.01 6	Test voltage	Specify DC test voltage at which specifications are complied		
VHFS.REQ.01 7	Weight	Max. 2.5 Kg		
VHFS.REQ.01 8	Tx Or Rx Indicators	LED Indicator Or Indicators for Tx Or Rx should be available		
Transmitter				
VHFS.REQ.01 9	RF Power output	25 W \pm 0.5 dB or better		
VHFS.REQ.02 0		RF Power output should not degrade by more than 1 dB in any case		
VHFS.REQ.02 1	Frequency Deviation	+ 5.0 Or 2.5KHz max (for 100% at 1 KHz) for 25.0 Or 12.5 KHz channel spacing or better		

Section 5: Scope of Work

VHF Static Radio device 25 Watt synthesized				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
VHFS.REQ.02 2	Modulation Sensitivity	1 to 10 mV at 1 KHz at mic input for + 1.5 KHz (for 25.0 Or 12.5 KHz channel spacing) standard deviation or better		
VHFS.REQ.02 3	Modulation distortion	Less than 5 % at 1 KHz reference \pm 1.5 KHz (for 25.0/12.5 KHz channel spacing) standard deviation		
VHFS.REQ.02 4	Modulation Fidelity	+1, -3 dB of 6 dB Or Octave pre-emphasis characteristics from 350 Hz to 2700 Hz with 1 KHz as reference		
VHFS.REQ.02 5	Spurious & Harmonics suppression	Better than 60 dB		
Receiver				
VHFS.REQ.02 6	Sensitivity	0.30 micro V for 12 dB SINAD or better Digital - 0.30 μ V @ 5 % BER or better		
VHFS.REQ.02 7	Squelch Sensitivity	0.25 micro V or better at threshold		
VHFS.REQ.02 8	Selectivity	60dB @12.5KHz		
VHFS.REQ.02 9	Image Rejection	Better than 65 dB		
VHFS.REQ.03 0	Audio output	3W (Internal)		
VHFS.REQ.03 1	Audio Response	+1, -3 dB As per TIA603D		
Feature Configuration				

Section 5: Scope of Work

VHF Static Radio device 25 Watt synthesized				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
VHFS.REQ.032	Configuration VM 4	Press to talk, Protection against high VSWR, Channel spacing (25.0 Or 12.5 KHz), PTT ID Encode, CTCSS Or DCS, Busy channel lockout, Channel Scanning with call quieting facility, (All call, Group call, Selective call decode provision), Capable of being Killed Or Un-killed, Emergency SOS Or Siren, LCD display with min. 12 characters, ANI, Talk around and DTMF Microphone		
Signalling				
VHFS.REQ.033	Signalling	TDMA as DMR Teir II standards		
Environmental Conditions , networking and others				
VHFS.REQ.034	Operating Temperature	-30°C to + 60°C		
VHFS.REQ.035	Storage Temperature	-40°C to + 85°C		
VHFS.REQ.036	Relative humidity	95% Max at +40° C non-condensing or better		
VHFS.REQ.037	Environmental Tests	Dry heat, Damp heat (Cyclic), Cold test, Drop test (in packed condition), Vibration test, Storage test and Bump test should be according to IS: 9000 or better: Certificate issued by any Govt. of India Or UP Govt. approved laboratory to be attached		
VHFS.REQ.038				
VHFS.REQ.039	General requirement	All VHF static Or mobile Tans receivers shall be supplied complete with their DTMF mike (OEM) and Battery lead		
VHFS.REQ.040	Microphone	DTMF microphone should be supplied with radio		

Section 5: Scope of Work

VHF Static Radio device 25 Watt synthesized				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
VHFS.REQ.0 41	Battery Cable and mounting fixture	should be supplied with Radio		
VHFS.REQ.0 42	Antenna	0 dB Gain Whip Antenna with 3 meters co-axial cable with suitable connector magnetic base Or mounting bracket for vehicle use will be provided as per user's requirements.		
VHFS.REQ.0 43	Antenna	6 dB Omni Directional Fibre glass Antenna with 30 meters RG-217 cable for base station will be provided as per user's requirements		
VHFS.REQ.0 44	Programming Kit	All necessary Radio Programming Software and Hardware required for the set will be provided as per user's requirements.		
VHFS.REQ.0 45	Literature	User manual with each Radio should be provided at free of cost in soft as well as hard copy		
VHFS.REQ.0 46	Literature	Technical repairing manual with complete block diagram with circuit layout etc., should be provided as per users requirement in soft and hard copy.		
VHFS.REQ.0 47	LCD Display	Should be available		
VHFS.REQ.0 48	Mode of operation	Radio should operate in analogue mode and digital mode. (Compatible with all existing all types of VHF analogue radios sets viz., Motorola, ICom, Vertex, Kenwood etc.,)		

Section 5: Scope of Work

VHF Static Radio device 25 Watt synthesized				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
VHFS.REQ.0 49	Emergency Button	Covert emergency signaling to allow users to send help signals to user defined individuals or groups in critical situations. Radio should be capable to automaticcally receive and Transmit periodically once emergency button is pressed.		
VHFS.REQ.0 50	SMS texting	Should be capable of sending short messages from keypad and pre-defined messages. Should have provision for broadcast from one to many & one to one. Radio should have facility to convert text message into voice for ease of operations.		
VHFS.REQ.0 51	Programming	Front panel programming with password protection, PC programming through Bluetooth & programming cable and also should have provision for over the air CPS re-programming.		
VHFS.REQ.0 52	Interface	Radio should have application protocol interface along with software applications on PC Or Console.		
VHFS.REQ.0 53	Networking	Should be able to be connected on IP for Voice and Data		
VHFS.REQ.0 54	Integrated Bluetooth	Should be supplied with In-built Bluetooth for programming radio wirelessly and instantly between devices. (Should have availability of Bluetooth hands free accessory interface also)		
VHFS.REQ.0 55	Over Riding	It must have feature in the radio interfaced with ROIP to override ongoing communication if it is required by Control Room / Higher officials.		

Section 5: Scope of Work

VHF Static Radio device 25 Watt synthesized				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
VHFS.REQ.0 56	TDMA Method	It should allow 2 users to share the same frequency channel by dividing the signal into different time slots. With or without a Repeater		
VHFS.REQ.0 57	OTAR	Should have provision for over the air CPS re-programming.		
VHFS.REQ.0 58	Support GPS	Should be supplied with inbuilt GPS with accuracy equal or better than 5 meters, to enable being tracked from Remote Control Station with appropriate system.		
VHFS.REQ.0 59	Text Messaging	Should be capable of sending short messages from keypad and pre-defined messages. Should have provision for broadcast from one to many & one to one. Radio should have facility to convert text message into voice for ease of operations.		
VHFS.REQ.0 60	Front panel LCD Display	Digital Radio with Keypad and 4 Line color alphanumeric display		
VHFS.REQ.0 61	Transmitter Time Out Timer (TOT)	The time should be programmed to best suit the application.		
VHFS.REQ.0 62	Scan with priority facility	Should be available		
VHFS.REQ.0 63	Mode of calls	Selective Call , Group Call ,Inter Group calls and Intra Group call facility		
VHFS.REQ.0 64	Contact list	Contact list of more than 100 user for SMS and selective calling		
VHFS.REQ.0 65	Remote Radio Kill / Revive facility	Should be available		
VHFS.REQ.0 66	Inbuilt Privacy	Should be available minimum 256 Bit		

Section 5: Scope of Work

VHF Static Radio device 25 Watt synthesized				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
VHFS.REQ.0 67	Caller ID Display	Should be available		
VHFS.REQ.0 68	GPS Data	The Radio interfaced with ROIP should have facility to change the frequency of GPS data collection of any field Radio.		
VHFS.REQ.0 69	GPS Data Transmission	Control should have provision to fix the timing of GPS data transmit time or Event-based for control of Data traffic		
VHFS.REQ.0 70	Trunk Mode	Radio should capable to support single site and multisite trunking mode without additional capital Hardware.		

Section 5: Scope of Work

VHF Hand Held Radio Device				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
Transreciever VHF Hand Held, 1 /5 watt synthesized				
VHH.REQ.001	Make			
VHH.REQ.002	Model			
VHH.REQ.003	Frequency Range	136-174 MHz (Full band)		
VHH.REQ.004	No. of channels	1000 channels or more: Channels 1 & 3 should be programmed to cover end frequencies and channels 2 for the mid frequency of the quoted frequency spread. Remaining channels should also be programmed to cover the quoted frequency spread		
VHH.REQ.005	Channel spacing	12.5KHz or better		
VHH.REQ.006	Frequency spread	Digital TDMA Technology. Complying to ETSI-TS102 361-1 Open Standard/ non-proprietary Digital Protocol as defined by an international standards body like ETSI		
VHH.REQ.007	Frequency Stability	± 1.5 PPM or better		
VHH.REQ.008	Type of emission	Analogue : 11KOF3E Digital : 4 FSK or equivalent technique complying to open standard Or non proprietary Digital Protocol as defined by an international standards body like ETSI Or FCC etc.,		
VHH.REQ.009	Type of Operation	Simplex, press to talk		
VHH.REQ.010	Type of antenna	Helical Antenna suitable for the frequency spot specified in supply order		
VHH.REQ.011	Speaker impedance	To be specified by the firms both at internal and external speaker point		

Section 5: Scope of Work

VHF Hand Held Radio Device				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
VHH.REQ.012	Output impedance /Termination	50 ohms and the aerial terminal should have BNC socket or appropriate adapter should be provided with the set for testing Or evaluation		
VHH.REQ.013	Protection	(i) Reverse polarity protection should be provided (ii) The Final transistor should be protected against high VSWR		
VHH.REQ.014	Power source	2000 mAh Li-ion rechargeable battery with belt clips to meet the operating time of minimum 15 Hours with 5:5:90 duty cycles at peak conditions.		
VHH.REQ.015	Test voltage	Specify DC test voltage at which specifications are complied		
VHH.REQ.016	Weight	600 gm. Max. with battery		
VHH.REQ.017	Tx / Rx Indicators	LED Indicator Or Indicators for Tx / Rx should be available		
Transmitter				
VHH.REQ.018	RF Power output	1 / 5 W + 0.5 dB switchable Or programmable		
VHH.REQ.019		RF Power output should not degrade by more than 1 dB in any case		
VHH.REQ.020	Frequency Deviation	(+ / -) 5.0 , 2.5KHz max (for 100% at 1 KHz) for 12.5 KHz channel spacing or better	-	
VHH.REQ.021	Modulation Sensitivity	1 to 10 mV at 1 KHz at mic input for + 1.5 KHz (for 25.0 / 12.5 KHz channel spacing) standard deviation or better		
VHH.REQ.022	Modulation distortion	Less than 5 % at 1 KHz reference \pm 1.5 KHz (for 25.0/12.5 KHz channel spacing) standard deviation		
VHH.REQ.023	Modulation Fidelity	+1, -3 dB of 6 dB Or Octave pre-emphasis characteristics from 350 Hz to 2700 Hz with 1 KHz as reference		

Section 5: Scope of Work

VHF Hand Held Radio Device				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
VHH.REQ.024	Spurious & Harmonics suppression	Better than 60 dB		
VHH.REQ.025	VSWR	Better than 1.5		
Receiver				
VHH.REQ.026	Sensitivity	0.30 micro V for 12 dB SINAD or better		
VHH.REQ.027	Squelch Sensitivity	0.25 micro V or better at threshold		
VHH.REQ.028	Selectivity	Better than 60 dB		
VHH.REQ.029	Image Rejection	Better than 65 dB		
VHH.REQ.030	Audio output	250mW / 500mW with less than 5% distortion at 1 KHz reference measured at specified AF output		
VHH.REQ.031	Audio Response			
Feature Configuration				
VHF.REQ.032	Configuration VM 4	Press to talk, Protection against high VSWR, Channel spacing (25.0 Or 12.5 KHz), PTT ID Encode, CTCSS Or DCS, Busy channel lockout, Channel Scanning with call quieting facility, (All call, Group call, Selective call decode provision), Capable of being Killed Or Un-killed, Emergency SOS Or Siren, LCD display with min. 12 characters, ANI, Talk around		
VHF.REQ.033	Signalling	TDMA as DMR Teir II standards		
VHF.REQ.034	Operating Temperature	-30°C to + 60 °C		
VHF.REQ.035	Storage Temperature	-40°C to + 85 °C		
VHF.REQ.036	Relative humidity	95% Max at +40° C non-condensing or better		

Section 5: Scope of Work

VHF Hand Held Radio Device				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
VHF.REQ.037	Environmental Tests	Dry heat, Damp heat (Cyclic), Cold test, Drop test (in packed condition), Vibration test, Storage test and Bump test should be according to IS: 9000 or better: Certificate to be attached		
Others				
VHF.REQ.038	General requirement	All VHF hand held Tans receivers shall be supplied complete with their OEM rechargeable Battery & Battery Chargers		
VHF.REQ.039	General requirement	As per BOQ accessories for VHF hand held radio such as spare rechargeable battery pack , spare helical antenna and single unit battery charger should be from OEM of offered hand held radio. Import details regarding it may be called for clarification		
VHF.REQ.040	General requirement	All rechargeable battery packs shall be mechanically and electrically interchangeable with the corressponding Trans receiver models		
VHF.REQ.041	General requirement	All rechargeable battery packs shall be mechanically and electrically interchangeable with the corressponding Trans receiver models		
VHF.REQ.042	Programming Kit	All necessary Radio Programming Software and Hardware required for the set will be provided as per user's requirements.		
VHF.REQ.043	Literature	User manual with each Radio should be provided at free of cost in soft as well as hard copy		
VHF.REQ.044	Literature	Technical repairing manual with complete block diagram with circuit layout etc., should be provided as per users requirement in soft and hard copy.		
VHF.REQ.045	LCD Display	Should be available		

Section 5: Scope of Work

VHF Hand Held Radio Device				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
VHF.REQ.046	Mode of operation	Radio should operate in analogue mode and digital mode. (Compatible with all existing all types of VHF analogue radios sets viz., Motorola, ICom, Vertex, Kenwood etc.,)		
VHF.REQ.047	Emergency Button	Covert emergency signaling to allow users to send help signals to user defined individuals or groups in critical situations. Radio should be capable to automatically receive and Transmit periodically once emergency button is pressed.		
VHF.REQ.048	SMS texting	Should be capable of sending short messages from keypad and pre-defined messages. Should have provision for broadcast from one to many & one to one. Radio should have facility to convert text message into voice for ease of operations.		
VHF.REQ.049	Programming	Front panel programming with password protection, PC programming through Bluetooth & programming cable and also should have provision for over the air CPS re-programming.		
VHF.REQ.050	Interface	Radio should have application protocol interface along with software applications on PC Or Console.		
VHF.REQ.051	Networking	Should be able to be connected on IP for Voice and Data		
VHF.REQ.052	Integrated Bluetooth	Should be supplied with In-built Bluetooth for programming radio wirelessly and instantly between devices.(Should have availability of Bluetooth hands free compatible to commercially available Blue Tooth units)		
VHF.REQ.053	Over Riding	It must have feature in the radio to be overridden ongoing communication if it is required by Control Room / Higher officials..		

Section 5: Scope of Work

VHF Hand Held Radio Device				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
VHF.REQ.054	TDMA Method	It should allow 2 users to share the same frequency channel by dividing the signal into different time slots. With or without a Repeater		
VHF.REQ.055	OTAR	Should have provision for over the air frequency re-programming.		
VHF.REQ.056	Support GPS	Should be supplied with inbuilt GPS with accuracy equal or better than 5 meters, to enable being tracked from Remote Control Station.		
VHF.REQ.057	Hand Free	Radio should be compatible with hands free. Hands free should be such that it could fit near the ear through BP helmet.		
VHF.REQ.058	Text Messaging	Should be capable of sending short messages from keypad and pre-defined messages. Should have provision for broadcast from one to many & one to one. Radio should have facility to convert text message into voice for ease of operations.		
VHF.REQ.059	Front panel LCD Display	Digital handheld Radio with Keypad and 4 Line color display		
VHF.REQ.060	Transmitter Time Out Timer (TOT)	The time can be programmed to best suit the application.		
VHF.REQ.061	Scan with priority facility	Should be available		
VHF.REQ.062	Mode of calls	Selective Call, Group Call, Inter and Intra Group call facility		
VHF.REQ.063	Contact list	Contact list of more than 100 users for SMS and selective calling		
VHF.REQ.064	Remote Radio Killing / Revive facility	Should be available		

Section 5: Scope of Work

VHF Hand Held Radio Device				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
VHF.REQ.065	Inbuilt Privacy	Should be available minimum 256 Bit		
VHF.REQ.066	GPS data	Radio must send the data as per the duration / event fixed by Control / ROIP Radio		
VHF.REQ.067	Caller ID Display	Should be available		
VHF.REQ.068	Trunk Mode	Radio should capable to support single site and multisite trunking mode without additional capital Hardware.		

Section 5: Scope of Work

Battery of VHF Static Radio Device				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
BVSH.REQ.001	Make			
BVSH.REQ.002	Model			
BVSH.REQ.003	12 V 100 AH SMF VRLA BATTERY	Sealed Lead –Acid Valve regulated type		
BVSH.REQ.004		Nominal Voltage : 12 Volts		
BVSH.REQ.005		Rated Capacity at 20 hour discharge rate : 100 AH		
BVSH.REQ.006		Confirming Japanese Industrial Standards JIS C 8702 Or 2009 (Part 1) : Certificate to be enclosed		
BVSH.REQ.007		Battery should be supplied from appropriate leading OEM		

Section 5: Scope of Work

Battery of VHF Hand Held Radio Device And Charger of Battery pack				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
BVHH.REQ.001	Make			
BVHH.REQ.002	Model			
BVHH.REQ.003	Type of Radio - Transreceiver VHF Hand held , 1 Or 5 watt synthesized	Rechargeable battery pack (original from OEM) of minimum 2000mAH capacity, Ni-Mh or Li-ion, Li-polymer suitable for offered VHF hand held radio set : certificate from OEM to be attached		
BVHH.REQ.004		All batteries should be mechanically and electrically interchangeable with the corresponding Transreceiver model		
BVHH.REQ.005		The battery capacity should not be less than the rated capacity when discharged at C Or 5 rate and at least 90% or better of the rated capacity when discharged at C rate		
BVHH.REQ.006		Month & year of manufacture and the logo Or trade mark of the OEM to be embossed Or heat stamped. This logo Or trade mark is to be indicated in the offer		
BVHH.REQ.007		The sleeve of the cells used should preferably indicate the following:		
		1. Part Number		
		2. Month and year of manufacture		
		3. Voltage of cell		
		4. Capacity		
	5. Country of origin			
Charger of Battery pack of VHF Hand Held Radio set				
BVHH.REQ.008	General Requirement	Single unit battery charger from OEM of offered radio: certificate from OEM to be attached		
BVHH.REQ.009	Input voltage	230 volt AC (+ / -) 10% of 50 Hz		
BVHH.REQ.010	Output voltage	As per the set rechargeable battery pack for which charger is supplied		

Section 5: Scope of Work

Battery of VHF Hand Held Radio Device And Charger of Battery pack				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
BVHH.REQ.011	General Requirement	Capable of charging Battery packs of 7.2 V Or 7.4 V Ni-mH or Li-ion or Li-Polymer upto 3000 mAH capacity or better		
BVHH.REQ.012	General Requirement	Visual indication for all mode of charging status		
BVHH.REQ.013	General Requirement	Reverse polarity protection (DC input) should be provided		
BVHH.REQ.014	General Requirement	Reverse polartiy protection (Battery terminal) should be provided		
BVHH.REQ.015	General Requirement	Short circuit protection should be provided		
BVHH.REQ.016	Battery charging rate on constant current	The battery charger may be standard type or rapid type. In case of standard type charger, the charging current shall not exceed 400 mA and for rapid type, it shall be within 1 Amp. The charging time shall be 6 to 14 hours for standards charger and 1 to 3 hours (for charging batteries upto 1800 mAH) or 2 to 4 hours (for charging batteries from 2000 to 3000 mAH) respectively		

Section 5: Scope of Work

Lattice Mast for VHF static set				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
Galvanized Aerial Mast				
LM.REQ.001	Make			
LM.REQ.002	Model			
LM.REQ.003	General	The 80ft mast consists of 8 sections of 10ft Or 3mtr each of lattice steel structure having flange coupling at both ends for joining Or interlocking sections with each other. The complete mast after fabrication is hot dip galvanised as per IS 4759 and a copy of the test report of NABL lab must be enclosed with the bid.		
LM.REQ.004	General	Each section of 10ft is made using vertical members of MS bright bar of minimum 16mm dia and bracing of 8mm MS rod. Coupling flange are made of MS angle 35x35x5mm.		
LM.REQ.005	General	Each mast is supplied with one base plate made using MS sheet of 24"x24"x8mm with hinge arrangement and 4 ground pegs. the base plate is also hot dip galvanised after fabrication.		
LM.REQ.006	General	4 sets (each set having 3 guys) of steel guy galvanised of suitable length of minimum 6mm dia are supplied for fixing at height of 20ft,40ft,60ft and 80ft . The mast is supplied with sufficient numbers of straining screw Or turn buckle, d-sacle, dog clamp, thimbles, nut bolts all galvanised		
LM.REQ.007	General	3 sects of guy anchor of 1mtr length are supplied with each mast, fully hot dip galvanised.		
LM.REQ.008	Other	The 80ft mast is supplied with antenna hoisting mechanism consisting of pulleys, trolley and steel guy which enables to hoist the antenna and cable from the ground without having to lower the mast.		

Section 5: Scope of Work

Lattice Mast for VHF static set				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
LM.REQ.009	Other	The manufacturer of the Aerial masts credentials like MSME registration, NSIC, DGS&D Or D.I. registration, ISO certification etc. must be enclosed with tender document.		
LM.REQ.010	Other	Test report of any NABL laboratory must be enclosed for the following : a. Hot dip galvanising as per IS-4759 b. Structural steel used in the fabrication of mast.		
LM.REQ.011	Other	The mast is to be supplied with antenna and cable hoisting mechanism consisting of trulley, pulley and steel guys which enables the hoisting of antenna and cable from the ground without having to lower the mast.		
LM.REQ.012	Other	Structural approved drawing must be enclosed with the bid		
Antenna arrangements				
LM.REQ.013	Transceiver VHF Static radio, 25 Watt Synthesized	Standard 3dB GP Antenna, of reputed brand		

Section 5: Scope of Work

VHF 4W antenna (Transceiver VHF Mobile radio 25 Watt Synthesized)				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
SA.REQ.001	Make			
SA.REQ.002	Model			
SA.REQ.003	General	Standard 0dB gain ¼ wave mobile metallic Antenna with 3 mtrs. cable, connector with magnetic base of reputed brand: OEM test Certification to be attached.		
SA.REQ.004	General	Transceiver VHF Mobile radio 25 Watt Synthesized		

Section 5: Scope of Work

Database server				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
DBS.REQ.001	Make			
DBS.REQ.002	Model			
DBS.REQ.003	Processor	Latest Generation x86-64 Bit Minimum 2.6 GHz with 8 Core and 16MB Cache or more		
DBS.REQ.004	Number of Processors	Offered Server should be configured with 4 (Four) Processors		
DBS.REQ.005	Memory	128GB DDR3 Memory Per Server		
DBS.REQ.006	Memory Scalability	1TB DDR3 better Or higher is acceptable.		
DBS.REQ.007	Interface Port	Blade server should support Ethernet and fiber channel connectivity OR Converged Network Adapters in lieu of the same. The Converged Network Adapters should aggregate both the Ethernet and FC connectivity on a single fabric		
DBS.REQ.008	Network	The server should provide a minimum of 36Gb aggregate bandwidth per blade server		
DBS.REQ.009	RAID	RAID Controller should be able to do RAID 1, 0		
DBS.REQ.010	Internal HDD	Minimum 2 * 600GB Internal SAS Hot Swap HDD (10k rpm or higher)		
DBS.REQ.011	Warranty	Critical Components like CPU, Memory, SSD Or HDD should be covered		
DBS.REQ.012	OS & Virtualization Infrastructure Support	Enterprise MS Windows, Flavors of Linux such as RHEL, SLES/ OEL. It should also support popular virtualisation such as VMWare VSphere & Microsoft HyperV		

Section 5: Scope of Work

Database server				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
DBS.REQ.013	Power Supply Redundancy	The supporting chassis should have redundant power supply.		
DBS.REQ.014	Form Factor	Blade		
DBS.REQ.015	Operating System Support	Enterprise MS Windows, Flavors of Linux such as RHEL, SLES/ OEL. It should also support popular virtualisation such as VMWare VSphere & Microsoft HyperV		
DBS.REQ.016	Application Support	Should support SQL Or Oracle Or DB 2		

Section 5: Scope of Work

Blade chassis				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
BCH.REQ.001	Make			
BCH.REQ.002	Model			
BCH.REQ.003	Blade Chassis	Solution to house the required number of blade servers in smallest number of enclosure		
BCH.REQ.004	Blade Chassis	soluton should also support Linux , Windows Operating environment etc.		
BCH.REQ.005	Blade Chassis	Should have Hot Pluggable & Redundant Management Modules Or solution		
BCH.REQ.006	Blade Chassis	Should provide a highly reliable and high performance design in the blade enclosure with no single point of failure. Should provide detailed technical information.		
BCH.REQ.007	Blade Chassis	Should be able to accommodate the blade servers mentioned in the sections below in the proposed blade enclosures.		
BCH.REQ.008	Blade Chassis	Power supplies in the chassis should be in redundant configuration. Chassis connectivity to the TOR switch, if required in solution, must be able to provide a minimum of 20Gbps (for LAN and for SAN/FCOE) per blade server (with redundancy) and 10Gbps (for LAN, for SAN) sustained per blade server (with 1 connectivity module failure) in the chassis.		
BCH.REQ.009	Blade Chassis	Support simultaneous remote access for different servers in the enclosure.		
BCH.REQ.010	LAN Interconnect	Sufficient number of Redundant Ethernet modules so as to provide minimum 2 x 10gb downlinks in High availability to each server for LAN connectivity.		
BCH.REQ.011	Fibre Channel Interconnects	Sufficient number of Redundant FC /SAN Switch modules so as to provide 2 * 8gb downlinks in High availability to each server for SAN connectivity.		

Section 5: Scope of Work

Blade chassis				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
		Bidders may provide redundant converged modules to cater for above bandwidth for LAN and SAN connectivity.		
BCH.REQ.012	MAC Address & WWN Management	Blade Enclosure should preferably support management & deployment of MAC Addresses of NIC Adapters and WWN No of FC adapters at the chassis level so that replacement of a server blade does not involve Network & SAN configuration effort at the blade level		
BCH.REQ.013	Power Supply	The enclosure should be populated fully with power supplies of the highest capacity & energy efficiency available with the vendor. Power supplies should support N+N as well as N+1 redundancy configuration, where N is greater than 1. Guaranteeing complete availability even on failure of any 2 power supplies across the enclosure		
BCH.REQ.014	Cooling	Each blade enclosure should have a cooling subsystem consisting of redundant hot pluggable fans or blowers enabled with technologies for improved power consumption and acoustics		
BCH.REQ.015	Redundancy	All interconnect switches /TOR switches, as required in solution and power supplies within the chassis should be in redundant configuration		
BCH.REQ.016	System Software	Management /controlling software have to be from the same OEM		
BCH.REQ.017	Power Management	Must be able to show the actual power usage and actual thermal measurement data of the servers.		
BCH.REQ.018	Sever Management	Management of both rack & blade form factor servers should be from the same console. Propsoed management console should be able to manage minimum 100 server from the same console		

Blade chassis				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
BCH.REQ.019	Sever Management	The management software should be used to create resource pools based on a hierarchal structure and have the blade resources assigned to the respective resource pools		
BCH.REQ.020	Sever Management	Should Support multiple level of authentication methods such as RADIUS/TACACs including LDAP		
BCH.REQ.021	Blade Server	Blade server should support I / O adapter which should support virtulaization per adpter		

Section 5: Scope of Work

Rack - (Data Centre)				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
RACK.REQ.001	Make			
RACK.REQ.002	Model			
RACK.REQ.003	Form Factor Or Dimension	42U (600x1000)		
RACK.REQ.004	Material	Aluminum		
RACK.REQ.005	Cooling	Provision for heat dissipation for side-to-side and Front-to-Back units		
RACK.REQ.006	Cable Entry	Top and Bottom gland cable Entry trays with brush		
RACK.REQ.007	Side Panels	Full Side Panels for both sides		
RACK.REQ.008	Front Door	Front door with latch and ventilation holes.		
RACK.REQ.009	Back Door	Back door with latch and ventilation holes.		
RACK.REQ.010	PDU	2* Dual 32 A PDU		
RACK.REQ.011	Power Outlets	2* 16 receptacle Power Connectors each connected to separate PDUs		
RACK.REQ.012	Extra Units	Keyboard Drawer, 2x fixed tray		
RACK.REQ.013	Mounting Accessories	Nuts and washers for mounting equipment and slides.		
RACK.REQ.014	Cable Managers	Adequate cable managers for units.		
RACK.REQ.015	Depth Support	4 * Depth Support channels		

Section 5: Scope of Work

Blade server - 2 CPU				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
BS.REQ.001	Make			
BS.REQ.002	Model			
BS.REQ.003	Processor	Latest Generation x86-64 Bit with Minimum 2.6Ghz Clock Speed or above with minimum of 2 processors, each processor having 8 cores and 16MB Cache or more		
BS.REQ.004	Memory	Minimum 256 GB DDR3 or higher RAM of highest frequency as applicable in the quoted model to be offered per processor. Memory should support ECC and memory mirroring upgradable up to 700 GB		
BS.REQ.005	PCI-Express Slots	Server should have Minimum 2 * 10 Gbps Ethernet Ports Per Server and Minimum 2 * 8Gb /s FC HBA Ports Or 2 * 10G FCOE Ports per Server and Server Should Have Minimum 2 * PCI Express Slots (or Converged Network Adapters in lieu of the same). The Converged Network Adapters should aggregate both the Ethernet and FC connectivity on a single fabric		
BS.REQ.006	Internal RAID	Internal RAID Controller		
BS.REQ.007	Internal HDD	Minimum 2* 600GB Internal SAS Hot Plug HDD		
BS.REQ.008	Power	The supporting chassis should have Redundant Hot-Swappable Power Supplies Configured in N+N Mode		
BS.REQ.009	Fans	The supporting chassis should have Redundant Hot Swappable Fans		
BS.REQ.010	Warranty	Critical Components like CPU, Memory, HDD and PCI Slots should be covered under Warranty		
BS.REQ.011	OS & Virtualization Infrastructure Support	MS Windows, Linux, VMWare VSphere & Microsoft HyperV etc.		
BS.REQ.012	I/O & Power Supply Redundancy	The supporting chassis should have redundant power supply. The server should have redundant I/O		
BS.REQ.013	Form factor	Blade		

Section 5: Scope of Work

Blade server - 4 CPU				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
BS4.REQ.001	Make			
BS4.REQ.002	Model			
BS4.REQ.003	Processor	Latest Generation x86-64 Bit with Minimum 2.6Ghz Clock Speed or above with minimum of 4 processors, each processor having 8 cores and 16MB Cache or more		
BS4.REQ.004	Memory	Minimum 256 GB DDR3 or higher RAM of highest frequency as applicable in the quoted model to be offered per processor. Memory should support ECC and memory mirroring upgradable up to 700 GB		
BS4.REQ.005	PCI-Express Slots	Server should have Minimum 2 * 10 Gbps Ethernet Ports Per Server and Minimum 2 * 8Gb /s FC HBA Ports Or 2 * 10G FCOE Ports per Server and Server Should Have Minimum 2 * PCI Express Slots (or Converged Network Adapters in lieu of the same). The Converged Network Adapters should aggregate both the Ethernet and FC connectivity on a single fabric		
BS4.REQ.006	Internal RAID	Internal RAID Controller		
BS4.REQ.007	Internal HDD	Minimum 2* 600GB Internal SAS Hot Plug HDD		
BS4.REQ.008	Power	The supporting chassis should have Redundant Hot-Swappable Power Supplies Configured in N+N Mode		
BS4.REQ.009	Fans	The supporting chassis should have Redundant Hot Swappable Fans		
BS4.REQ.010	Warranty	Critical Components like CPU, Memory, HDD and PCI Slots should be covered under Warranty		
BS4.REQ.011	OS & Virtualization Infrastructure Support	MS Windows, Linux, VMWare VSphere & Microsoft HyperV etc.		

Blade server - 4 CPU				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
BS4.REQ.012	I/O & Power Supply Redundancy	The supporting chassis should have redundant power supply. The server should have redundant I/O		
BS4.REQ.013	Form factor	Blade		

Section 5: Scope of Work

UPS (70, 20, 1 , 50,15 KVA)				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
70 KVA UPS				
UPS.REQ.001	Make			
UPS.REQ.002	Model			
UPS.REQ.003	Capacity	2x 70 KVA in redundant configuration		
UPS.REQ.004	Technology	True ON-LINE (Double Conversion) with IGBT based inverter and PWM Technology		
UPS.REQ.005	Connector	RS 232 port for software interface		
UPS.REQ.006	Electrical Input	3 phase 4 wire and ground		
UPS.REQ.007	Electrical Input	Voltage Range - 330 V - 480 V		
UPS.REQ.008	Electrical Input	Frequency Range - 45 – 55Hz		
UPS.REQ.009	Electrical Input	Efficiency Overall: > 85% (AC to AC)		
UPS.REQ.010	Electrical Output	Frequency: 50 Hz + / - 0.2% (free running)		
UPS.REQ.011	Electrical Output	Voltage Regulation: + / - 1% (or better)		
UPS.REQ.012	Electrical Output	Overload Capacity: 125% for 10 min, 110% for 10 mins		
UPS.REQ.013	Electrical Output	Waveform: Pure Sine wave		
UPS.REQ.014	Protection	Electronic Overload Sensing, and circuit breaker protection		
UPS.REQ.015	Protection	Over heating, short circuit, low battery, input over /under voltage etc.		
UPS.REQ.016	Galvanic Isolation	Through Inbuilt Transformer		
UPS.REQ.017	Battery Type	Sealed Maintenance Free Battery, Mains & Battery with necessary indicators, alarms and protection with proper battery rack		
UPS.REQ.018	Backup Time	Minimum 120 minutes backup on full load		

Section 5: Scope of Work

UPS (70, 20, 1 , 50,15 KVA)				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
UPS.REQ.019	DC Voltage	MIN. : 360 V DC		
UPS.REQ.020	Charging Features	Adjusted to about 10% of battery capacity for fast charging. 1. Boost / trickle charging facility 2. Uncontrolled rectifier with high efficiency and reliability. 3. Low battery protection to avoid deep discharging of batteries. 4. Self test diagnostic feature		
UPS.REQ.021	Other Features	UPS Bypass Automatic		
UPS.REQ.022	Other Features	Monitoring panel with LCD display to provide following information:- 1. Input / output voltage 2. Input Or output frequency 3. Load current 4. Charging current		
UPS.REQ.023	Other Features	LED display for:- UPS on, battery operation, bypass, battery charge level, etc. Alarms for :- Mains failure, low battery, overload etc.		
UPS.REQ.024	Environmental	Temperature 0-45°C		
UPS.REQ.025	Environmental	Humidity 0 – 95% RH non-condensing		
UPS.REQ.026	Environmental	Audible noise < 60 dB (A) at 1 meter distance		
UPS.REQ.027	Mandatory Certification	ISO 9001:2000 and ISO 14001 certified.		
UPS.REQ.028	Mandatory Compliance	Dimension Light Weight / Smaller Footprint		
20 KVA UPS				
UPS.REQ.029	Make			
UPS.REQ.030	Model			
UPS.REQ.031	Capacity	2x 20 KVA in redundant configuration		

Section 5: Scope of Work

UPS (70, 20, 1 , 50,15 KVA)				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
UPS.REQ.032	Technology	True ON-LINE (Double Conversion) with IGBT based inverter and PWM Technology		
UPS.REQ.033	Connector	RS 232 port for software interface		
UPS.REQ.034	Electrical Input	3 phase 4 wire and ground		
UPS.REQ.035	Electrical Input	Voltage Range - 330 V - 480V		
UPS.REQ.036	Electrical Input	Frequency Range - 47 to 53 Hz		
UPS.REQ.037	Electrical Input	Efficiency AC to AC: > 85% (AC to AC)		
UPS.REQ.038	Electrical Output	220V AC / 230V AC / 240V AC (Selectable)		
UPS.REQ.039	Electrical Output	Frequency: 50 Hz + /- 0.1% (free running)		
UPS.REQ.040	Electrical Output	Voltage Regulation: + / - 1% (or better)		
UPS.REQ.041	Electrical Output	Overload Capacity: 125% for 1 sec, 110% for 10 secs		
UPS.REQ.042	Electrical Output	Waveform: Pure Sine wave		
UPS.REQ.043	Protection	Electronic Overload Sensing, and circuit breaker protection		
UPS.REQ.044	Protection	Over heating, short circuit, low battery, input over / under voltage etc.		
UPS.REQ.045	Galvanic Isolation	Through Inbuilt Transformer		
UPS.REQ.046	Battery Type	Sealed Maintenance Free Battery, Mains & Battery with necessary indicators, alarms and protection with proper battery rack		
UPS.REQ.047	Backup Time	Minimum 120 minutes backup on full load		
UPS.REQ.048	DC Voltage	MIN. : 240 V DC		

Section 5: Scope of Work

UPS (70, 20, 1 , 50,15 KVA)				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
UPS.REQ.049	Charging Features	Adjusted to about 10% of battery capacity for fast charging. 1. Boost / trickle charging facility 2. Uncontrolled rectifier with high efficiency and reliability. 3. Low battery protection to avoid deep discharging of batteries. 4. Self test diagnostic feature		
UPS.REQ.050	Other Features	UPS Bypass Automatic		
UPS.REQ.051	Other Features	Monitoring panel with LCD display to provide following information:- 1. Input / output voltage 2. Input / output frequency 3. Load current 4. Charging current		
UPS.REQ.052	Other Features	LED display for:- UPS on, battery operation, bypass, battery charge level, etc. Alarms for :- Mains failure, low battery, overload etc.		
UPS.REQ.053	Environmental	Temperature 0-45°C		
UPS.REQ.054	Environmental	Humidity 0 – 95% RH non-condensing		
UPS.REQ.055	Environmental	Audible noise < 50 dB (A) at 1 meter distance		
UPS.REQ.056	Mandatory Certification	CE & RoHS Certification with make & model number mentioned on it		
UPS.REQ.057	Mandatory Certification	ISO 9001:2000 and ISO 14001 certified.		
UPS.REQ.058	Mandatory Compliance	Dimension Light Weight / Smaller Footprint		
1 KVA UPS				
UPS.REQ.059	Make			
UPS.REQ.060	Model			
UPS.REQ.061	Make & Model	To be provided		

Section 5: Scope of Work

UPS (70, 20, 1 , 50,15 KVA)				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
UPS.REQ.062	UPS Rating	1KVA On-line UPS System		
UPS.REQ.063	Certifications	ISO 9001:2008 & ISO 14001 certified		
UPS.REQ.064	Certifications	CE certified with make & model mentioned on it		
UPS.REQ.065	Technology	True ON-LINE (Double Conversion) with IGBT based inverter and PWM Technology		
UPS.REQ.066	Overall Efficiency (AC-AC)	≥ 85%		
UPS.REQ.067	Input Voltage & Range	160V - 260V AC		
UPS.REQ.068	Input Frequency Range	47 to 53 Hz		
UPS.REQ.069	Input Phase	Single Phase		
UPS.REQ.070	Input Power Factor	≥0.9		
UPS.REQ.071	Voltage	220V AC / 230V AC / 240V AC (Selectable)		
UPS.REQ.072	Voltage Regulation			
UPS.REQ.073	Frequency	50 Hz + /- 0.1% (free running)		
UPS.REQ.074	Harmonic Distortion(THD)	< 2% (linear load)		
UPS.REQ.075		< 5% (non-linear load)		
UPS.REQ.076	Output Waveform	Pure Sine wave		
UPS.REQ.077	Crest Factor	3:1		
UPS.REQ.078	Load Power Factor	0.8 lag		

Section 5: Scope of Work

UPS (70, 20, 1 , 50,15 KVA)				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
UPS.REQ.079	Battery Backup Minimum battery VAH to be as specified	DC Voltage \geq 36 V or higher		
UPS.REQ.080		30 mins. Backup		
UPS.REQ.081		Minimum VAH \geq 900VAH		
UPS.REQ.082	Battery Type	Sealed Lead Maintenance Free VRLA type (Lead Calcium SMF batteries NOT acceptable)		
UPS.REQ.083	Battery Brands	Reputed & Reliable brands - Exide, Quanta, Rocket, HITACHI only		
UPS.REQ.084	DC Bus Voltage	DC Bus voltage of UPS to be specified		
UPS.REQ.085	Transfer Time	0 ms		
UPS.REQ.086	Battery Enclosure	MS Rack Powder Coated		
UPS.REQ.087	Protections	To be provided for overload Or short circuit; over heating; input over Or under voltage; output over Or under voltage.		
UPS.REQ.088	Operating Temperature	0 to 45 Degree C		
UPS.REQ.089	Noise level	< 55 dB @ 1 Meter		
UPS.REQ.090	Alarms & Indications	All necessary alarms & indications essential for performance monitoring of UPS like mains fail, low battery & fault detection		
UPS.REQ.091	Bypass	Automatic Bypass Switch		
UPS.REQ.092	Compatibility	UPS to be compatible with DG Set supply and mains supply		
UPS.REQ.093	Galvanic Isolation	To be provided through Inbuilt transformer (external transformer not acceptable)		
UPS.REQ.094	Communication Interface:	RS 232 port for software interface		
UPS.REQ.095	Optional	SNMP interface support (for remote monitoring)		

Section 5: Scope of Work

UPS (70, 20, 1 , 50,15 KVA)				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
UPS.REQ.096	Metering (LCD)	Input Or Output voltage; output frequency; output current; DC current Or voltage.		
UPS.REQ.097	Others	Cold start (without batteries)		
50 KVA UPS				
UPS.REQ.098	Make			
UPS.REQ.099	Model			
UPS.REQ.100	Capacity	50 KVA		
UPS.REQ.101	Technology	True ON-LINE (Double Conversion) with IGBT based inverter and PWM Technology		
UPS.REQ.102	Connector	RS 232 port for software interface		
UPS.REQ.103	Electrical Input	3 phase 4 wire and ground		
UPS.REQ.104	Electrical Input	Voltage Range - 330 V - 480 V		
UPS.REQ.105	Electrical Input	Frequency Range - 45 – 65Hz		
UPS.REQ.106	Electrical Input	Efficiency Overall: > 85% (AC to AC)		
UPS.REQ.107	Electrical Output	Frequency: 50 Hz + / - 0.2% (free running)		
UPS.REQ.108	Electrical Output	Voltage Regulation: + / - 1% (or better)		
UPS.REQ.109	Electrical Output	Overload Capacity: 125% for 10 min, 110% for 10 mins		
UPS.REQ.110	Electrical Output	Waveform: Pure Sine wave		
UPS.REQ.111	Protection	Electronic Overload Sensing, and circuit breaker protection		
UPS.REQ.112	Protection	Over heating, short circuit, low battery, input over / under voltage etc.		
UPS.REQ.113	Galvanic Isolation	Through Inbuilt Transformer		

Section 5: Scope of Work

UPS (70, 20, 1 , 50,15 KVA)				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
UPS.REQ.114	Battery Type	Sealed Maintenance Free Battery, Mains & Battery with necessary indicators, alarms and protection with proper battery rack		
UPS.REQ.115	Backup Time	Minimum 2 hour backup with Minimum 115000 VAH		
UPS.REQ.116	DC Voltage	MIN. : 360 V DC		
UPS.REQ.117	Charging Features	Adjusted to about 10% of battery capacity for fast charging. 1. Boost Or trickle charging facility 2. Uncontrolled rectifier with high efficiency and reliability. 3. Low battery protection to avoid deep discharging of batteries. 4. Self test diagnostic feature		
UPS.REQ.118	Other Features	UPS Bypass Automatic		
UPS.REQ.119	Other Features	Monitoring panel with LCD display to provide following information:- 1. Input / output voltage 2. Input / output frequency 3. Load current 4. Charging current		
UPS.REQ.120	Other Features	LED display for:- UPS on, battery operation, bypass, battery charge level, etc. Alarms for :- Mains failure, low battery, overload etc.		
UPS.REQ.121	Environmental	Temperature 0-45°C		
UPS.REQ.122	Environmental	Humidity 0 – 95% RH non-condensing		
UPS.REQ.123	Environmental	Audible noise < 60 dB (A) at 1 meter distance		
UPS.REQ.124	Mandatory Certification	ISO 9001:2000 and ISO 14001 certified.		
UPS.REQ.125	Mandatory Compliance	Dimension Light Weight Or Smaller Footprint		
15 KVA UPS				
UPS.REQ.126	Make			

Section 5: Scope of Work

UPS (70, 20, 1 , 50,15 KVA)				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
UPS.REQ.127	Model			
UPS.REQ.128	Capacity	15KVA		
UPS.REQ.129	Technology	True ON-LINE (Double Conversion) with IGBT based inverter and PWM Technology		
UPS.REQ.130	Connector	RS 232 port for software interface		
UPS.REQ.131	Electrical Input	3 phase 4 wire and ground		
UPS.REQ.132	Electrical Input	Voltage Range - 330 V - 480V		
UPS.REQ.133	Electrical Input	Frequency Range - 47 to 53 Hz		
UPS.REQ.134	Electrical Input	Efficiency AC to AC: > 85% (AC to AC)		
UPS.REQ.135	Electrical Output	220V AC /230V AC / 240V AC (Selectable)		
UPS.REQ.136	Electrical Output	Frequency: 50 Hz + /- 0.1% (free running)		
UPS.REQ.137	Electrical Output	Voltage Regulation: + / - 1% (or better)		
UPS.REQ.138	Electrical Output	Overload Capacity: 125% for 1 sec, 110% for 10 secs		
UPS.REQ.139	Electrical Output	Waveform: Pure Sine wave		
UPS.REQ.140	Protection	Electronic Overload Sensing, and circuit breaker protection		
UPS.REQ.141	Protection	Over heating, short circuit, low battery, input over / under voltage etc.		
UPS.REQ.142	Galvanic Isolation	Through Inbuilt Transformer		
UPS.REQ.143	Battery Type	Sealed Maintenance Free Battery, Mains & Battery with necessary indicators, alarms and protection with proper battery rack		
UPS.REQ.144	Backup Time	Minimum 30 mins backup with Minimum 15000VAH		
UPS.REQ.145	DC Voltage	MIN. : 180 V DC		

Section 5: Scope of Work

UPS (70, 20, 1 , 50,15 KVA)				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
UPS.REQ.146	Charging Features	Adjusted to about 10% of battery capacity for fast charging. 1. Boost Or trickle charging facility 2. Uncontrolled rectifier with high efficiency and reliability. 3. Low battery protection to avoid deep discharging of batteries. 4. Self test diagnostic feature		
UPS.REQ.147	Other Features	UPS Bypass Automatic		
UPS.REQ.148	Other Features	Monitoring panel with LCD display to provide following information:- 1. Input / output voltage 2. Input / output frequency 3. Load current 4. Charging current		
UPS.REQ.149	Other Features	LED display for:- UPS on, battery operation, bypass, battery charge level, etc. Alarms for :- Mains failure, low battery, overload etc.		
UPS.REQ.150	Environmental	Temperature 0-45°C		
UPS.REQ.151	Environmental	Humidity 0 – 95% RH non-condensing		
UPS.REQ.152	Environmental	Audible noise < 50 dB (A) at 1 meter distance		
UPS.REQ.153	Mandatory Certification	CE & RoHS Certification with make & model number mentioned on it		
UPS.REQ.154	Mandatory Certification	ISO 9001:2000 and ISO 14001 certified.		
UPS.REQ.155	Mandatory Compliance	Dimension Light Weight Or Smaller Footprint		
Others				
	Tracking	All UPS should be integrated with monitoring tool		
UPS.REQ.156	Accessories	All UPS batteries will be provided with Battery rack		

Section 5: Scope of Work

Load Balancer				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
LB.REQ.001	Make			
LB.REQ.002	Model			
LB.REQ.003	Load Balancer	The proposed load balancer should have the capability to be configured as the SSL /TLS termination point for HTTPS requests.		
LB.REQ.004	Load Balancer	The proposed load balancer should have the capability to be configured to cache the static content that it receives from origin or backend servers in its process memory.		
LB.REQ.005	Load Balancer	The proposed load balancer should have the capability to be configured to compress data received from servers in the back end and forward the compressed content to the requesting clients.		
LB.REQ.006	Load Balancer	The proposed load balancer should have the capability to be configured to limit the number of concurrent connections to a server in the back end.		
LB.REQ.007	Load Balancer	The proposed load balancer should support Reverse proxy, SSL 3.0 and TLS 1.0		
LB.REQ.008	Load Balancer	The proposed load balancer should have the capability to limit the number of concurrent connections to clients and the maximum speed at which data can be transferred to clients.		

Load Balancer				
LB.REQ.009	Load Balancer	The proposed load balancer should have the capability to limit the rate of requests from specific clients and request types.		
LB.REQ.010	Load Balancer	The proposed Load Balancer should have the capability of mapping simultaneous Client requests into Single Or minimum Server Requests so as to reduce the Server Session Load		
LB.REQ.011	Load Balancer	The proposed Load Balancer should be able to load balance the incoming sessions based upon the URI mentioned in the Head String.		

Section 5: Scope of Work

Core switch				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
CSW.REQ.001	Make			
CSW.REQ.002	Model			
CSW.REQ.003	Hardware features	Proposed network device must be 19" rack mountable		
CSW.REQ.004	Hardware features	Network Infrastructure equipment must use 240V AC power.		
CSW.REQ.005	Hardware features	Must have Redundancy Power Supply Units (PSUs).		
CSW.REQ.006	Hardware features	Must have redundant of other components such as fans within network equipment.		
CSW.REQ.007	Hardware features	Must have redundant CPU Or processor cards / Redundant Control Plane		
CSW.REQ.008	Hardware features	Support Redundancy for CPU cards in switching over, to allow the standby CPU to immediately take over		
CSW.REQ.009	Hardware features	All components (including elements such as I/O cards, CPUs, power supplies and fans) must be hot swappable with zero disruption to traffic forwarding (Unicast or multicast).		
CSW.REQ.010	Hardware features	Must have minimum 4 modular slots and 2 should be dedicated for I/O modules.		
CSW.REQ.011	Hardware features	For high availability & performance must have supervisory engine		
CSW.REQ.012	Hardware features	Chassis Switching Fabric Must be capable of minimum 200 Mpps bandwidth per I/O slot.		
CSW.REQ.013	Scalability	Must support port channelling or equivalent across multiple chassis.		
CSW.REQ.014	Scalability	Physical standards for Network Device Should support Ethernet (IEEE 802.3, 10BASE-T), Fast Ethernet (IEEE 802.3u, 100BASE-TX), Gigabit Ethernet (IEEE 802.3z, 802.3ab), Ten Gigabit Ethernet (IEEE 802.3ae)		

Section 5: Scope of Work

Core switch				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
CSW.REQ.015	Scalability	Software based standards for Network Device Must support IEEE 802.1d - Spanning-Tree Protocol, IEEE 802.1w - Rapid Spanning Tree, IEEE 802.1s - Multiple Spanning Tree Protocol, IEEE 802.1q - VLAN encapsulation, IEEE 802.3ad - Link Aggregation Control Protocol (LACP), IEEE 802.1ab - Link Layer Discovery Protocol (LLDP), IEEE 802.3x Flow Control		
CSW.REQ.016	Scalability	Must support auto-sensing and auto-negotiation like Link Speed /Duplex		
CSW.REQ.017	Scalability	Should support Bidirectional Forwarding Detection (BFD) for OSPF, IS-IS and BGP		
CSW.REQ.018	Scalability	Routing protocol support; Static IP routing, OSPF, BGPv4, MP-BGP, BGP Route		
CSW.REQ.019	Scalability	The network infrastructure must allow for multiple equal metric / cost routes to be utilized at the same time		
CSW.REQ.020	Scalability	Must have the ability to complete hitless software upgrades with zero interruption to services or data forwarding		
CSW.REQ.021	Scalability	Should support 802.1 Q-in-Q		
CSW.REQ.022	Scalability	IEEE 802.3ad Link Aggregation or equivalent capabilities		
CSW.REQ.023	Scalability	IPv6 functionality and capable. If IPv6 compliance Or support is not available, please identify if compliance is defined in device roadmap along with a timeframe		
CSW.REQ.024	Scalability	The solution should provide high availability at Primary site (DC) and should support Active –Active, Active – Standby mode with DR setup.		
CSW.REQ.025	Scalability	Supported IPv6 features should include: DHCPv6, ICMPv6, IPv6 QoS, IPv6 Multicast support, IPv6 PIMv2 Sparse Mode, IPv6 PIMv2 Source-Specific Multicast, Multicast VPN		
CSW.REQ.026	Scalability	Device must support multicast in hardware		

Section 5: Scope of Work

Core switch				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
CSW.REQ.027	Security features	Must support multiple privilege levels for remote access (e.g. console or telnet access)		
CSW.REQ.028	Security features	Must support Remote Authentication Dial-In User Service (RADIUS) and / or Terminal Access Controller Access Control System Plus (TACACS+)		
CSW.REQ.029	QoS features	Must support IEEE 802.1p class-of-service (CoS) prioritization		
CSW.REQ.030	QoS features	Must support rate limiting (to configurable levels) based on source Or destination IP Or MAC, L4 TCP / UDP		
CSW.REQ.031	QoS features	Must have the ability to complete traffic shaping to configurable levels based on source Or destination IP Or MAC and Layer 4 (TCP / UDP) protocols		
CSW.REQ.032	QoS features	There should not be any impact to performance or data forwarding when QoS features		
CSW.REQ.033	QoS features	Must support a "Priority" queuing mechanism to guarantee delivery of highest-priority (broadcast critical Or delay-sensitive traffic) packets ahead of all other traffic		
CSW.REQ.034	QoS features	Must support ability to trust the QoS markings received on an ingress port		
CSW.REQ.035	Management features	Must support SNMP V1,V2, V3 and be MIB-II compliant		
CSW.REQ.036	Management features	Must support SNMP traps (alarms Or alerts)		
CSW.REQ.037	Management features	Network switch should support Remote Monitoring on every port covering the following four groups (Statistics, Alarm, Event, History) and support logical interfaces		
CSW.REQ.038	Management features	Must be able to integrate with all standard Network Management Systems, including HP Open View Suite		
CSW.REQ.039	Management features	Should support flow based traffic analysis features and the ability to export of network IP flow information.		

Section 5: Scope of Work

Core switch				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
CSW.REQ.040	Management features	Must support Network Timing Protocol (NTPv3) and should support the following: <ul style="list-style-type: none"> • Configuration of more than one NTP server • Speciation of a local time zone • NTP authentication 		
CSW.REQ.041	Port	Should support minimum 48-Port 10G SFP+ Ports loaded with MM modules and 48 ports. 10 /100 /1000 Mbps from Day 1 and should have support for 40G and 100G interfaces		
CSW.REQ.042	Compliance	The switch should be IPV6 complaint or logo ready		
CSW.REQ.043	Certification	Switch should be tested and certified for EAL2/EAL3 /NDPP or above under Common Criteria Certification		
CSW.REQ.044	Compliance	The switch should support minimum 16K IPv4 & Ipv6 unicast routes and minimum 8 K multicast routes		

Section 5: Scope of Work

Managed Access Switch				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
MAS.REQ.001	Make			
MAS.REQ.002	Model			
MAS.REQ.003	Switch Architecture and Performance	Switch should have 24 Nos. 10/100/1000Base-TX auto-sensing plus with minimum 2x10G SFP+ uplinks.		
MAS.REQ.004	Switch Architecture and Performance	Should support stacking using dedicated stacking ports with minimum 40 Gbps upto throughput		
MAS.REQ.005	Switch Architecture and Performance	Switch should support link aggregation across multiple switches in a stack.		
MAS.REQ.006	Switch Architecture and Performance	Should support stacking of minimum of eight switches		
MAS.REQ.007	Switch Architecture and Performance	Switch should have non-blocking wire-speed architecture.		
MAS.REQ.008	Switch Architecture and Performance	Switch should support IPv4 and IPv6 from day One		
MAS.REQ.009	Switch Architecture and Performance	Switch should have non-blocking switching fabric of minimum 128 Gbps or more		
MAS.REQ.010	Switch Architecture and Performance	Switch should have Forwarding rate of minimum 60 and above Mpps.		
MAS.REQ.011	Layer 2 Features	IEEE 802.1Q VLAN tagging.		
MAS.REQ.012	Layer 2 Features	802. 1Q VLAN on all ports with support for minimum 255 active VLANs and 4k VLAN ids		
MAS.REQ.013	Layer 2 Features	Support for minimum 8 k MAC addresses		
MAS.REQ.014	Layer 2 Features	Spanning Tree Protocol as per IEEE 802.1d		

Section 5: Scope of Work

Managed Access Switch				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
MAS.REQ.015	Layer 2 Features	Multiple Spanning-Tree Protocol as per IEEE 802.1s		
MAS.REQ.016	Layer 2 Features	Rapid Spanning-Tree Protocol as per IEEE 802.1w		
MAS.REQ.017	Layer 2 Features	Self-learning of unicast & multicast MAC addresses and associated VLANs		
MAS.REQ.018	Layer 2 Features	Jumbo frames up to 9000 bytes		
MAS.REQ.019	Layer 2 Features	Link Aggregation Control Protocol (LACP) as per IEEE 802.3ad.		
MAS.REQ.020	Layer 2 Features	Port mirroring functionality for measurements using a network analyzer.		
MAS.REQ.021	Layer 2 Features	Switch should support IGMP v1 / v2 / v3 as well as IGMP v1 / v2 / v3 snooping.		
MAS.REQ.022	Quality of Service (QoS) Features	Switch should support classification and scheduling as per IEEE 802.1P on all ports.		
MAS.REQ.023	Quality of Service (QoS) Features	Switch should support DiffServ as per RFC 2474 / RFC 2475.		
MAS.REQ.024	Quality of Service (QoS) Features	Switch should support minimum 4 (four) queues per port.		
MAS.REQ.025	Quality of Service (QoS) Features	Switch should support QoS configuration on per switch port basis.		
MAS.REQ.026	Quality of Service (QoS) Features	Switch should support classification and marking based on IP Type of Service (TOS) and DSCP.		
MAS.REQ.027	Quality of Service (QoS) Features	Switch should provide traffic shaping and rate limiting features (for egress as well as ingress traffic) for specified Host, network.		
MAS.REQ.028	Quality of Service (QoS) Features	Strict priority queuing guarantees that the highest-priority packets are serviced ahead of all other traffic.		

Section 5: Scope of Work

Managed Access Switch				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
MAS.REQ.029	Security Features	Switch should support MAC address based filters/ access control lists (ACLs) on all switch ports.		
MAS.REQ.030	Security Features	Switch should support Port as well as VLAN based Filters/ ACLs.		
MAS.REQ.031	Security Features	Switch should support RADIUS and TACACS+ for access restriction and authentication.		
MAS.REQ.032	Security Features	Secure Shell (SSH) Protocol, HTTP and DoS protection		
MAS.REQ.033	Security Features	IP Route Filtering, ARP spoofing, DHCP snooping etc.		
MAS.REQ.034	Security Features	Should support DHCP snooping, DHCP Option 82, Dynamic ARP Inspection (DAI)		
MAS.REQ.035	Security Features	Should support a mechanism to shut down Spanning Tree Protocol Port Fast-enabled interfaces when BPDUs are received to avoid accidental topology loops.		
MAS.REQ.036	Security Features	Should support a mechanism to prevent edge devices not in the network administrator's control from becoming Spanning Tree Protocol root nodes.		
MAS.REQ.037	Security Features	Switch should support static ARP, Proxy ARP, UDP forwarding and IP source guard.		
MAS.REQ.038	Security Features	The Switch should support IPv6 features from day-1.		
MAS.REQ.039	Management, Easy-to-Use Deployment and Control Features	Switch should have a console port with RS-232 /RJ-45 Interface for configuration and diagnostic purposes.		
MAS.REQ.040	Management, Easy-to-Use Deployment and Control Features	Switch should be SNMP manageable with support for SNMP Version 1, 2 and 3.		

Managed Access Switch				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
MAS.REQ.041	Management, Easy-to-Use Deployment and Control Features	Switch should support all the standard MIBs (MIB-I & II).		
MAS.REQ.042	Management, Easy-to-Use Deployment and Control Features	Switch should support TELNET and SSH Version-2 for Command Line Management.		
MAS.REQ.043	Management, Easy-to-Use Deployment and Control Features	Switch should support 4 groups of embedded RMON (history, statistics, alarm and events).		
MAS.REQ.044	Management, Easy-to-Use Deployment and Control Features	Switch should support system and event logging functions as well as forwarding of these logs to multiple syslog servers.		
MAS.REQ.045	Management, Easy-to-Use Deployment and Control Features	Switch should support on-line software reconfiguration to implement changes without rebooting. Any changes in the configuration of switches related to Layer-2 & 3 functions, VLAN, STP, Security, QoS should not require rebooting of the switch.		
MAS.REQ.046	Management, Easy-to-Use Deployment and Control Features	Support for Automatic Quality of Service for easy configuration of QoS features for critical applications.		
MAS.REQ.047	Management, Easy-to-Use Deployment and Control Features	Support to detect unidirectional links caused by incorrect fiber-optic wiring or port faults and disable on fiber-optic interfaces		

Section 5: Scope of Work

Managed Access Switch				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
MAS.REQ.048	Management, Easy-to-Use Deployment and Control Features	Switch should have comprehensive debugging features required for software & hardware fault diagnosis.		
MAS.REQ.049	Management, Easy-to-Use Deployment and Control Features	Should support DHCP Server feature to enable a convenient deployment option for the assignment of IP addresses in networks that do		
MAS.REQ.050	Management, Easy-to-Use Deployment and Control Features	DHCP servers configured on servers and integrated with Directory Services.		
MAS.REQ.051	Management, Easy-to-Use Deployment and Control Features	Switch should support Multiple privilege levels to provide different levels of access.		
MAS.REQ.052	Management, Easy-to-Use Deployment and Control Features	Switch should support NTP (Network Time Protocol)		
MAS.REQ.053	Management, Easy-to-Use Deployment and Control Features	Switch should support FTP / TFTP		
MAS.REQ.054	Standards	RoHS Compliant.		
MAS.REQ.055	Standards	IEEE 802.1x support.		
MAS.REQ.056	Standards	IEEE 802.3x full duplex on 10BASE-T and 100BASE-TX ports.		
MAS.REQ.057	Standards	IEEE 802.1D Spanning-Tree Protocol.		
MAS.REQ.058	Standards	IEEE 802.1p class-of-service (CoS) prioritization.		
MAS.REQ.059	Standards	IEEE 802.1Q VLAN.		

Section 5: Scope of Work

Managed Access Switch				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
MAS.REQ.060	Standards	IEEE 802.3u 10 BaseT / 100 Base Tx / 1000 Base Tx.		
MAS.REQ.061	Compliance	The switch should be IPV6 complaint / logo ready		
MAS.REQ.062	Compliance	Switch should be tested and certified for EAL2/EAL3 / NDPP or above under Common Criteria Certification		

Section 5: Scope of Work

SAN Switch				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
SAN.REQ.001	Make			
SAN.REQ.002	Model			
SAN.REQ.003	Performance	Minimum Dual SAN switches shall be configured where each SAN switch shall be configured with minimum of 48 Ports. Switch should support 240 no of 2 Or 4 Or 8 - Gbps FC ports. Switch should also support 16Gbps ports, 10G FCoE ports as well.		
SAN.REQ.004	Standard	The switch to support different port types such as FL_Port, F_Port, M_Port (Mirror Port), and E_Port; self-discovery based on switch type (U_Port); optional port type control in Access Gateway mode: F_Port and NPIV-enabled N_Port		
SAN.REQ.005	Standard	The switch should be rack mountable with minimum 2 slots for CPU & 3 slots for line cards. Switch should be loaded with dual CPU from day one.		
SAN.REQ.006	Standard	Switch should support advanced features like zoning, hardware based routing		
SAN.REQ.007	Performance	Should protect existing device investments with auto-sensing 2, 4, and 8 Gbit /sec capabilities.		
SAN.REQ.008	Performance	The switch shall provide Aggregate bandwidth of minimum 4Gbps Performance of the switch should not degrade incase one CPU or Fabric fails.		
SAN.REQ.009	General	Switch shall have support for web based management and should also support CLI.		
SAN.REQ.010	General	The switch should have facility for firmware download, support save, and configuration upload Or download.		
SAN.REQ.011	Reliability	Offered SAN switches shall be highly efficient in power consumption. Bidder shall ensure that each offered SAN switch shall provide dual redundant power.		

Section 5: Scope of Work

Aggregation Switch				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
AGS.REQ.001	Make			
AGS.REQ.002	Model			
AGS.REQ.003	Architecture	Switch fabric capacity - minimum 960 Gbps		
AGS.REQ.004	Architecture	Switch forwarding rates in range of 600 to 800 Mpps for IPv4 and IPv6		
AGS.REQ.005	Architecture	Should have at least 48 fixed ports configurable as 1 and 10 Gigabit Ethernet. Out of 48, at least 40 port should be configured from day one with 10G SR optics.		
AGS.REQ.006	Architecture	Non-blocking switch architecture		
AGS.REQ.007	Connectivity	802.3ad based standard port Or link aggregation, Jumbo frames, storm control		
AGS.REQ.008	Switching features	Support at least 2500 VLAN and 24,000 MAC Address		
AGS.REQ.009	Switching features	Datacenter bridging exchange, IEEE 802.1Qbb		
AGS.REQ.010	Security	802.1X Network Security and Radius Or TACACS AAA authentication		
AGS.REQ.011	Security	MAC Address filtering based on source and destination address		
AGS.REQ.012	Security	Support for various ACLs like port based, vlan based and L2- L4 ACL's		
AGS.REQ.013	Network Protocols	Layer3 routing protocols like Static, Inter VLAN routing, OSPF from day 1 for the solution.		
AGS.REQ.014	Quality Of Service	Minimum 8 number of hardware queues per port		
AGS.REQ.015	Quality Of Service	DSCP, 802.1p		

Section 5: Scope of Work

Aggregation Switch				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
AGS.REQ.016	Multicast	IGMP v1,v2,v3, IGMP snooping, PIM SM / DM, MLD		
AGS.REQ.017	Management	SNMP v1, v2, v3, RMON /RMON-II enabled, SSH,telnet,GUI, Web management and should have out of Band Management port		
AGS.REQ.018	Management	Switch should support port mirroring feature for monitoring network traffic of a particular port / VLAN.		
AGS.REQ.019	Management	Switch should support Link Aggregation on two different switches		
AGS.REQ.020	Management	Built-in real-time performance monitoring capabilities		
AGS.REQ.021	Management	Power Supply: Switch should have internal Hot Swappable redundant Power supply		
AGS.REQ.022	Management	Cooling Fans: Should have redundant cooling FANS		
AGS.REQ.023	Compliance	The switch should be IPV6 complaint/logo ready		
AGS.REQ.024	Compliance	Switch / Switch's Operating System should be tested and certified for EAL 2 / EAL3 /NDPP or above under Common Criteria Certification		

Section 5: Scope of Work

Core Router				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
CR.REQ.001	Make			
CR.REQ.002	Model			
CR.REQ.003	Functional Requirements	The router shall support 1:1 route processor / control processor redundancy and PSU redundancy,		
CR.REQ.004	Functional Requirements	The Core router must be based on architecture which does hardware based forwarding and switching. The processing engine architecture must be multi core processor/Multi Processor based for enhanced performance.		
CR.REQ.005	Functional Requirements	The Core router must have onboard support for intelligent traffic measurement and analysis. The router must support flow based traffic analysis feature.		
CR.REQ.006	Functional Requirements	The router must have hardware assisted Network Address Translation (NAT) capability as per RFC 1631.		
CR.REQ.007	Hardware Architecture	Backplane Architecture: The back plane architecture of the router must be modular and redundant. The back plane bandwidth should be minimum 5 Gbps on day 1 but should have the capability to be scaled up to 10Gbps when required..		
CR.REQ.008	Hardware Architecture	Number of Slots: The router must be chassis based with minimum 3 numbers of slots.		
CR.REQ.009	Hardware Architecture	The router must have redundant power supply module. The router must support 220V AC / -48V DC power supply module. There should not be any impact on the router performance in case of one power supply fails.		
CR.REQ.010	Hardware Architecture	The router processor architecture must be multi processor/multi core processor based and should support hardware accelerated IP forwarding and switching.		

Section 5: Scope of Work

Core Router				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
CR.REQ.011	Hardware Architecture	The router in the event of failure of any one processor should switchover to the redundant processor without dropping any traffic flow. There should not be any impact on the performance in the event of active routing engine.		
CR.REQ.012	Hardware Architecture	The router must support on line hot insertion and removal of cards. Any insertion line card should not call for router rebooting nor should disrupt the remaining unicast and multicast traffic flowing in any way.		
CR.REQ.013	Hardware Architecture	The router must have support for flash memory for configuration and OS backup.		
CR.REQ.014	Router Performance	Should support minimum 15 mpps of Forwarding performance		
CR.REQ.015	Router Performance	The Router solution must support the following: Hitless interface protection, In-band and out-band management, Software rollback feature, Graceful Restart for OSPF, BGP, LDP, MP-BGP etc.		
CR.REQ.016	Router Performance	The router should support uninterrupted forwarding operation for OSPF, IS-IS routing protocol to ensure high-availability during primary controller card failure.		
CR.REQ.017	Physical Interface Support	The router line card must support following interface as defined in the IEEE, ITU-T: Fast Ethernet - 10BaseT /100BaseT Ethernet as defined in IEEE 802.3 , Gigabit Ethernet - 1000BaseSX, 1000BaseLX, 1000BaseZX as defined in IEEE 802.3		
CR.REQ.018	Physical Interface Support	The router should support Channelized STM1 interfaces to aggregate multiple E1 /sub-rate E1 circuits coming in from remote locations.		
CR.REQ.019	Physical Interface Support	Support for 10 Gigabit Ethernet interface.		

Section 5: Scope of Work

Core Router				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
CR.REQ.020	Layer 3 Routing Protocols	The router must support the IPv4 and IPv6 stack in hardware and software. It must support both IPv4 and IPv6 routing domains separately and concurrently. It must also support the ability to bridge between IPv4 and IPv6 routing domains.		
CR.REQ.021	Layer 3 Routing Protocols	The router must support RIPv1 & RIPv2, OSPF, BGPv4 and IS-IS routing protocol.		
CR.REQ.022	IPv6 Support	Should be IPv6 complaint		
CR.REQ.023	IPv6 Support	Should support IPv6 static route, OSPFv3, IS-IS support for IPv6, Multiprotocol BGP extensions for IPv6, IPv6 route redistribution.		
CR.REQ.024	IPv6 Support	The router shall support dual stack IPv6 on all interfaces and IPv6 over IPv4 tunneling, IPv6 Multicast protocols – Ipv6 MLD, PIM-Sparse Mode, and PIM – SSM, P6 Security Functions – ACL, IPv6 ,SSH over IPv6, MPLS Support for IPv6 - IPv6 VPN over MPLS, Inter-AS options, IPv6 VPN over MPLS, IPv6 transport over MPLS		
CR.REQ.025	IPv6 Support	The router should support for IPv6 Multicast.		
CR.REQ.026	IPv6 Support	Should support IPv6 Quality of Service		
CR.REQ.027	IPv6 Support	Should perform IPv6 transport over IPv4 network (6 to4 tunneling).		
CR.REQ.028	IPv6 Support	Should support SNMP over IPv6 for management.		
CR.REQ.029	Quality of Service	The router must be capable of doing Layer 3 classification and setting ToS Or Diffserve bits on incoming traffic using configured guaranteed rates and traffic characteristics. The marking of the ToS /Diffserve bits should be non-performance impacting.		
CR.REQ.030	Quality of Service	The scheduling mechanism must allow for expedited or strict priority routing for all high priority traffic.		

Section 5: Scope of Work

Core Router				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
CR.REQ.031	Quality of Service	The scheduling mechanism must allow for alternate priority routing traffic necessary to keep from starving other priority queues.		
CR.REQ.032	Quality of Service	The router must provide facility to prioritize the SNMP traffic.		
CR.REQ.033	Multicast Support	The multicast implementation must support source specific multicast.		
CR.REQ.034	Multicast Support	The router must support IGMPv2 and IGMPv3.		
CR.REQ.035	MPLS Feature	Should support all standard protocols		
CR.REQ.036	MPLS Feature	Multicast VPN (mVPN)		
CR.REQ.037	Security Feature	Should support Access Control Lists at layer 2-4 in hardware. The access list parameters may be any combination of source and destination IP or subnet, protocol type (TCP/UDP/IP etc), source and destination port. There should not be any impact on the router performance upon enabling Access Lists.		
CR.REQ.038	Security Feature	The router should support multiple levels of access or role based access mechanisms.		
CR.REQ.039	Security Feature	Should support CPU Rate limiting and control plane policing feature to make sure the router is always available for management.		
CR.REQ.040	Security Feature	The proposed router should support for NAT performance of 10 Gbps and 4 Gbps of encryption from day one, Version of software for supplied router should be latest release to support all required features		
CR.REQ.041	Security Feature	The proposed router should have embedded support for 4000 IPsec tunnels from day one, Version of software for supplied router should be latest release to support all required features		

Section 5: Scope of Work

Core Router				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
CR.REQ.042	Router Management Feature	Console Port: It should be possible to manage a particular system locally through console port or through a telnet session over LAN /WAN.		
CR.REQ.043	Router Management Feature	The router must support management through SNMPv1, v2 and v3		
CR.REQ.044	Router Management Feature	The router must support RADIUS / TACACS. The router must role based access to the system for configuration and monitoring.		
CR.REQ.045	Router Management Feature	The router must support Network Time Protocol (NTP).		
CR.REQ.046	Router Management Feature	The router must have DHCP server functionality so that it can be used to lease IP addresses to the end points of local area network whenever required.		
CR.REQ.047	Port requirement from Day 1	Each Core router should be provided minimum 4 x 1G Fibre ports and 2 x 10G ports from Day 1		
CR.REQ.048	Industry Standards & Certifications	The Router should be minimum EAL2 / EAL3 / NDPP or above applicable Protection Profile certified under the Common Criteria Evaluation Program		

Section 5: Scope of Work

Internet Router				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
IR.REQ.001	Make			
IR.REQ.002	Model			
IR.REQ.003	Architecture	The Router should have complete security suite by supporting IPSec & VPN, Firewall (Zone based & Stateful) etc. functionalities into a single box along with full support for dynamic routing protocols. If any of the mentioned features can't be provided into a single box solution by any vendor, multiple boxes must be quoted to achieve these features from day one.		
IR.REQ.004	Interface Support	E		
IR.REQ.005	Performance	The router should support minimum 400 Mbps of internet link termination with minimum 600 kpps of forwarding rate for both IPv4 & IPv6.		
IR.REQ.006	Layer 3 Protocol Support	The router shall have the following IPv4 Interior Gateway Protocols (IGP) – Static Route, Default Route, RIPv2, OSPFv2 and IS-IS, BGP4 from day one. All necessary licenses if any, to be provided to enable Static Route, OSPF V3, BGPV4 for IPv6. IP Multicast Routing Protocols to facilitate applications such as streaming, webcast, command & control etc. must be enabled from day one along with PIM SM etc.		
IR.REQ.007	Management	The router shall have SLA monitoring tools to measure state of the network in real time. The SLA operations shall provide information on TCP Or UDP delay, jitter, application response time, VoIP MOS score, Packet Loss, ETF standards based Netflow version 9 or equivalent feature so that granular traffic analysis can be performed for advanced auditing, usage analysis, capacity planning or generating security telemetry events..		
IR.REQ.008	Interface Requirements	3 x 1 Gigabit Ethernet Interfaces supporting protocols of LAN Or WAN from day one , scalable upto minimum 5 GE ports.It should have a provision to terminate the fiber link also in case bidder is providing the fiber link.		
IR.REQ.009	Industry Standards & Certifications	The Router should be minimum EAL2 Or EAL3 Or NDPP or above certification		
IR.REQ.010	Compliance	The router should be IPV6 complaint Or logo ready		

Section 5: Scope of Work

Intranet Router - 20Mbps				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
INTR.REQ.001	Make			
INTR.REQ.002	Model			
INTR.REQ.003	Architecture	The Router should have complete security suite by supporting IPSec & VPN, Firewall (Zone based & Stateful) etc. functionalities into a single box along with full support for dynamic routing protocols. If any of the mentioned features can't be provided into a single box solution by any vendor, multiple boxes must be quoted to achieve these features from day one.		
INTR.REQ.004	Interface Support	Router should have minimum 2 slots to accommodate large variety of interface & should support FE, GE (both Ethernet based & fiber based), Serial V.35, ports, G.703 ports, E1/ Chn E1.		
INTR.REQ.005	Performance	The router should support minimum 20 Mbps of WAN link termination with minimum 250 kpps of forwarding rate for both IPv4 & IPv6.		
INTR.REQ.006	Layer 3 Protocol Support	The router shall have the following IPv4 Interior Gateway Protocols (IGP) – Static Route, Default Route, RIPv2, OSPFv2 and IS-IS, BGP4 from day one. All necessary licenses if any, to be provided to enable Static Route, OSPF V3, BGPV4 for IPv6. IP Multicast Routing Protocols to facilitate applications such as streaming, webcast, command & control etc. must be enabled from day one along with PIM SM etc.		

Section 5: Scope of Work

Intranet Router - 20Mbps				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
INTR.REQ.007	Management	The router shall have SLA monitoring capability to measure state of the network in real time. Router shall help analyse the SLA operations and shall provide information on TCP Or UDP delay, jitter, application response time, Packet Loss, ETF standards based Netflow /jFlow or equivalent feature so that granular traffic analysis can be performed for advanced auditing, usage analysis, capacity planning or generating security events..		
INTR.REQ.008	Interface Requirements	2 x 1 Gigabit Ethernet Interfaces supporting protocols of LAN Or WAN from day one , scalable upto minimum 5 GE ports.It should have a provision to terminate the fiber link also in case bidder is providing the fiber link.		
INTR.REQ.009	Industry Standards & Certifications	The Router should be minimum EAL2 Or EAL3 Or NDPP or above certification before the installation and commisioning of the project		
INTR.REQ.010	Compliance	The router should be IPV6 complaint Or logo ready		

Section 5: Scope of Work

Intranet Router - 500Mbps				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
INTR.REQ.001	Make			
INTR.REQ.002	Model			
INTR.REQ.003	Architecture	The Router should have complete security suite by supporting IPSec & VPN, Firewall (Zone based & Stateful) etc. functionalities into a single box along with full support for dynamic routing protocols. If any of the mentioned features can't be provided into a single box solution by any vendor, multiple boxes must be quoted to achieve these features from day one.		
INTR.REQ.004	Interface Support	Router should have minimum 2 slots to accommodate large variety of interface & should support FE, GE (both Ethernet based & fiber based), Serial V.35, ports, G.703 ports, E1/Chn E1.		
INTR.REQ.005	Performance	The router should support minimum 500 Mbps of WAN link termination with minimum 800 kpps of forwarding rate for both IPv4 & IPv6.		
INTR.REQ.006	Layer 3 Protocol Support	The router shall have the following IPv4 Interior Gateway Protocols (IGP) – Static Route, Default Route, RIPv2, OSPFv2 and IS-IS, BGP4 from day one. All necessary licenses if any, to be provided to enable Static Route, OSPF V3, BGPV4 for IPv6. IP Multicast Routing Protocols to facilitate applications such as streaming, webcast, command & control etc. must be enabled from day one along with PIM SM etc.		

Section 5: Scope of Work

Intranet Router - 500Mbps				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
INTR.REQ.007	Management	The router shall have SLA monitoring capability to measure state of the network in real time. Router shall help analyse the SLA operations and shall provide information on TCP Or UDP delay, jitter, application response time, Packet Loss, ETF standards based Netflow /jFlow or equivalent feature so that granular traffic analysis can be performed for advanced auditing, usage analysis, capacity planning or generating security events..		
INTR.REQ.008	Interface Requirements	3 x 1 Gigabit Ethernet Interfaces supporting protocols of LAN Or WAN from day one , scalable upto minimum 5 GE ports.It should have a provision to terminate the fiber link also in case bidder is providing the fiber link.		
INTR.REQ.009	Industry Standards & Certifications	The Router should be minimum EAL2 Or EAL3 Or NDPP or above certification before the installation and commisioning of the project		
INTR.REQ.010	Compliance	The router should be IPV6 complaint Or logo ready		

Section 5: Scope of Work

Web Application Firewall				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
WAF.REQ.001	Make			
WAF.REQ.002	Model			
WAF.REQ.003	Web Application Firewall	The Web application firewall should address Open Web Application Security Project (OWASP) Top Ten security vulnerabilities such as SQL Injection, Cross-Site Scripting (XSS), Broken Authentication and Session Management and those listed in NIST SP800-95 guidelines.		
WAF.REQ.004	Web Application Firewall	The solution should prevent the following attacks (but not limited to):		
		a) Brute force Or DDOS		
		b) Access to predictable resource locations		
		c) Unauthorized navigation		
		d) Web server reconnaissance		
		e) HTTP request format and limitation violations (size, unknown method, etc.)		
		f) Use of revoked or expired client certificate		
		g) File upload violations.		
WAF.REQ.005	Web Application Firewall	Should support positive and negative security model.		
WAF.REQ.06	Web Application Firewall	Should have the ability of caching, compression of web content and SSL acceleration.		
WAF.REQ.07	Web Application Firewall	Should have integrated SSL Offloading capabilities, further the solution should support SSL and / or TLS termination, or be positioned such that encrypted transmissions are decrypted before being inspected by the WAF.		

Section 5: Scope of Work

Web Application Firewall				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
WAF.REQ.08	Web Application Firewall	Should have integrated basic server load balancing capabilities.		
WAF.REQ.09	Web Application Firewall	Should meet all applicable PCI DSS requirements pertaining to system components in the cardholder data environment, should also monitor traffic carrying personal information.		
WAF.REQ.10	Web Application Firewall	Should have the ability to inspect web application output and respond (allow, block, mask and / or alert) based on the active policy or rules, and log actions taken.		
WAF.REQ.11	Web Application Firewall	Should inspect both web page content, such as Hypertext Markup Language (HTML), Dynamic HTML (DHTML), and Cascading Style Sheets (CSS), and the underlying protocols that deliver content, such as Hypertext Transport Protocol (HTTP) and Hypertext Transport Protocol over SSL (HTTPS). (In addition to SSL, HTTPS includes Hypertext Transport Protocol over TLS.)		
WAF.REQ.12	Web Application Firewall	WAF should support dynamic source IP blocking and should be able to block attacks based on IP source.		
WAF.REQ.13	Web Application Firewall	Should inspect Simple Object Access Protocol (SOAP) and extensible Markup Language (XML), both document- and RPC-oriented models, in addition to HTTP (HTTP headers, form fields, and the HTTP body).		
WAF.REQ.14	Web Application Firewall	Inspect any protocol (proprietary or standardized) or data construct (proprietary or standardized) that is used to transmit data to or from a web application, when such protocols or data are not otherwise inspected at another point in the message flow.		
WAF.REQ.15	Web Application Firewall	WAF should support inline bridge or proxy mode of deployment.		

Section 5: Scope of Work

Web Application Firewall				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
WAF.REQ.16	Web Application Firewall	WAF should have an option to configure in Reverse proxy mode as well.		
WAF.REQ.17	Web Application Firewall	Actions taken by WAF to prevent malicious activity should include the ability to drop requests and responses, block the TCP session, block the application user, or block the IP address.		
WAF.REQ.18	Web Application Firewall	Transactions with content matching known attack signatures and heuristics based should be blocked.		
WAF.REQ.19	Web Application Firewall	The WAF database should include a preconfigured comprehensive and accurate list of attack signatures.		
WAF.REQ.20	Web Application Firewall	The Web application firewall should allow signatures to be modified or added by the administrator.		
WAF.REQ.21	Web Application Firewall	The Web application firewall should support automatic updates (if required) to the signature database, ensuring complete protection against the latest application threats.		
WAF.REQ.22	Web Application Firewall	WAF should be able to restrict the number of files in a request.		
WAF.REQ.23	Web Application Firewall	WAF support the following normalization methods:		
WAF.REQ.24	Web Application Firewall	a) URL-decoding (e.g. %XX)		
		b) Null byte string termination		
		c) Self-referencing paths		
		d) Path back-references		
		e) Mixed case		

Section 5: Scope of Work

Web Application Firewall				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
		f) Excessive use of whitespace		
		g) Comment removal (e.g. convert DELETE / ** Or FROM to DELETE FROM)		
		h) Conversion of (Windows-supported) backslash characters into forward slash characters.		
		i) Conversion of IIS-specific Unicode encoding (%uXXYY)		
		j) Decode HTML entities (e.g. c, ", ^)		
		k) Escaped characters (e.g. \t, \001, \xAA, \uAABB).		
WAF.REQ.25	Web Application Firewall	WAF should support different policies for different application sections.		
WAF.REQ.26	Web Application Firewall	The Web application firewall should automatically learn the Web application structure and elements.		
WAF.REQ.27	Web Application Firewall	The Web application firewall learning mode should be able to recognize application changes as and when they are conducted.		
WAF.REQ.28	Web Application Firewall	The WAF should have the ability to perform behavioral learning to examine traffic and highlight anomalies		
WAF.REQ.29	Web Application Firewall	The Web application firewall should support line speed throughput and sub-millisecond latency so as not to impact Web application performance.		
WAF.REQ.30	Web Application Firewall	For SSL-enabled Web applications, the certificates and private / public key pairs for the Web servers being protected need to be up loadable to the Web application firewall.		
WAF.REQ.31	Web Application Firewall	The Web Application Firewall should have "anti-automation" protection which can block the automated attacks that use hacking tools, scripts, frame work etc.		

Section 5: Scope of Work

Web Application Firewall				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
WAF.REQ.32	Web Application Firewall	The Web application firewall should have an out-of band management port.		
WAF.REQ.33	Web Application Firewall	Bidder should be able to deploy the Web application firewall and remove the Web application firewall from the network with minimal impact on the existing Web applications or the network architecture.		
WAF.REQ.34	Web Application Firewall	The Web application firewall should be able to generate custom or pre-defined graphical reports on demand or scheduled.		
WAF.REQ.35	Web Application Firewall	The Web application firewall should provide a high level dashboard of system status and Web activity.		
WAF.REQ.36	Web Application Firewall	Should be able to generate comprehensive event reports with filters:		
		a. Date or time ranges		
		b. IP address ranges		
		c. Types of incidents		
		d. Geo Location of attack source		
		d. Other (please specify).		
WAF.REQ.37	Web Application Firewall	Unique transaction ID should be assigned to every HTTP transaction (a transaction being a request and response pair), and included with every log message.		
WAF.REQ.38	Web Application Firewall	Access logs can periodically be uploaded to the logging server (e.g. via FTP, SFTP, WebDAV,/SCP).		
WAF.REQ.039	Web Application Firewall	Web application firewall should provide notifications through Email, Syslog, SNMP Trap, Notification via HTTP(S) push etc.		

Section 5: Scope of Work

Web Application Firewall				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
	Web Application Firewall	WAF should be able to log full session data once a suspicious transaction is detected.		
	Web Application Firewall	Should be simple to relax automatically-built policies.		
	Web Application Firewall	The solution should provide the admin to manually accept false positives.		
	Web Application Firewall	Should be able to recognize trusted hosts.		
	Web Application Firewall	The WAF in passive mode should be able to provide impact of rule changes as if they were actively enforced.		
WAF.REQ.040	Web Application Firewall	Should support clustered deployment of multiple WAFs sharing the same policy.		
WAF.REQ.041	Web Application Firewall	The solution should support virtual environments.		
WAF.REQ.042	Web Application Firewall	The solution should have the capability of load balancing between the applications in an active – active environment.		
WAF.REQ.043	Web Application Firewall	The Web application Firewall should support authentication with LDAP and radius server.		
WAF.REQ.044	Web Application Firewall	The Solution should allow commands like PING, trace route, telnet Wget, Nslookup from WAF for troubleshooting network related issues.		
WAF.REQ.045	Web Application Firewall	The Solution should have option to configure NTP server details.		

Section 5: Scope of Work

Web Application Firewall				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
WAF.REQ.046	Web Application Firewall	OEM should provision for 24*7 service support for the web application firewall.		
WAF.REQ.047	Web Application Firewall	The solution should have network routing feature.		
WAF.REQ.048	Web Application Firewall	In case of RMA Process, Define the no of days to deliver the solution.		
WAF.REQ.049	Web Application Firewall	Should support both IPv4 and IPv6		

Section 5: Scope of Work

Next Generation Firewall				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
NGF.REQ.001	Make			
NGF.REQ.002	Model			
NGF.REQ.003	Next Generation Firewall	Industry Certifications and Evaluations		
NGF.REQ.004	Next Generation Firewall	Firewall appliance should have common Criteria EAL4+ Or NDPP Or ICASA Certification .		
NGF.REQ.005	Next Generation Firewall	Hardware Architecture		
NGF.REQ.006	Next Generation Firewall	The appliance based security platform should be capable of providing firewall, IPS, URL Filtering, Application Control, and IPSec VPN functionality in a single appliance from day one.		
NGF.REQ.006	Next Generation Firewall	This should also provide SSL VPN Gateway functionality and should have Host Scan capability to gather information and to control which hosts are allowed to create a remote access connection to the VPN Security Appliance based on pre-login policy for evaluating the host operating system, antivirus, anti-spyware.		
NGF.REQ.007	Next Generation Firewall	Should support minimum 100 VPN concurrent users with scalability option.		
NGF.REQ.008	Next Generation Firewall	The appliance should support at least 8 10 Or 100 Or 1000 ports from Day one.		
NGF.REQ.009	Next Generation Firewall	Firewall should support dual stack (IPv4 and IPv6) for all features.		

Section 5: Scope of Work

Next Generation Firewall				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
NGF.REQ.010	Next Generation Firewall	Firewall should support IPv4 & IPv6 static routing, RIP, OSPF v2 & v3 and BGP Or BGPv6		
NGF.REQ.011	Next Generation Firewall	Performance & Scalability		
NGF.REQ.012	Next Generation Firewall	Firewall should support at least 1000Mbps with all modules enabled (firewall, Application Control, and VPN etc.).		
NGF.REQ.013	Next Generation Firewall	Firewall should support at least 5,00,000 concurrent sessions.		
NGF.REQ.014	Next Generation Firewall	Firewall should support at least 20,000 new connections per second.		
NGF.REQ.015	Next Generation Firewall	Firewall should support at least 200 VLANs.		
NGF.REQ.016	Next Generation Firewall	Firewall should have support for at least 2 virtual firewalls and should be scalable further.		
NGF.REQ.017	Next Generation Firewall	Firewall Features		
NGF.REQ.018	Next Generation Firewall	Should be a Stateful packet inspection firewall.		
NGF.REQ.019	Next Generation Firewall	Firewall module should support security policies (firewall) rules) based on:		
		IP address		
		Network subnet		

Section 5: Scope of Work

Next Generation Firewall				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
		Protocol (TCP, UDP, ICMP, etc.)		
		Services		
		User-group		
NGF.REQ.020	Next Generation Firewall	Firewall should provide application inspection for DNS, FTP, HTTP, SMTP, ESMTP, LDAP, MGCP, RTSP, SIP, SCCP, SQLNET, TFTP, H.323, SNMP.		
NGF.REQ.021	Next Generation Firewall	Firewall should support creating access-rules with IPv4 & IPv6 objects simultaneously eg: IPv4 source & IPv6 destination.		
NGF.REQ.022	Next Generation Firewall	Firewall should support operating in routed or transparent mode at any time. Should be able to set mode independently for each context in multi-context mode.		
NGF.REQ.023	Next Generation Firewall	In transparent mode firewall should support ARP-inspection to prevent spoofing at Layer-2		
NGF.REQ.024	Next Generation Firewall	Firewall should support DOS protection functionalities like TCP intercept Or TCP Syn cookie protection, Dead Connection Detection Or TCP sequence randomization, TCP normalization to clear TCP packets of anomalies like clearing or allowing selective TCP options, reserved bits, urgent flags & provide TTL evasion protection.		
NGF.REQ.025	Next Generation Firewall	Should support Routing protocols such as Static, RIP, OSPF v2 & v3, BGP Protocol.		
NGF.REQ.026	Next Generation Firewall	Firewall should support static NAT, PAT, dynamic NAT & destination based NAT.		
NGF.REQ.027	Next Generation Firewall	Firewall should support NAT 66 (IPv6-to-IPv6), NAT 64 (IPv6-to-IPv4) & NAT 46 (IPv4-to-IPv6) functionality.		

Section 5: Scope of Work

Next Generation Firewall				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
NGF.REQ.028	Next Generation Firewall	High-Availability Features		
NGF.REQ.029	Next Generation Firewall	Firewall should support stateful failover of sessions in Active Or Standby and Active Or Active mode and have internal redundant power supply.		
NGF.REQ.030	Next Generation Firewall	Should support Non Stop Forwarding in HA.		
NGF.REQ.031	Next Generation Firewall	Management		
NGF.REQ.032	Next Generation Firewall	The management platform should be accessible via a web-based interface or console based interface.		
NGF.REQ.033	Next Generation Firewall	The management platform should provide dashboard for management purposes and should have role based logging capabilities.		
NGF.REQ.034	Next Generation Firewall	The management platform should be capable of role-based administration, enabling different sets of views and configuration capabilities for different administrators subsequent to their authentication.		
NGF.REQ.035	Next Generation Firewall	The device should allow access log to be sent to:		
		External Log server		

Section 5: Scope of Work

Security Incident & Event Management (SIEM)				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
SIEM.REQ.001	Make			
	Model			
SIEM.REQ.001	Security Incident & Event Management	The solution should support the event throughput rate of minimum 10K EPS (events per second) and should have capability to upgrade up to 20K EPS.		
SIEM.REQ.002	Security Incident & Event Management	The solution should have single integrated facility for log investigation, incident management etc. with a search facility to search the collected raw log data for specific events or data.		
SIEM.REQ.003	Security Incident & Event Management	A well-defined architecture along with pre and post installation document need to be shared by the bidder.		
SIEM.REQ.005	Security Incident & Event Management	The solution should support collection of events Or logs and network flows from distributed environment(s).		
SIEM.REQ.006	Security Incident & Event Management	The solution should correlate security Or network events to enable the SIEM to quickly prioritize it's response to help ensure effective incident handling.		
SIEM.REQ.007	Security Incident & Event Management	The solution should integrate asset information in SIEM such as categorization, criticality and business profiling and use the same attributes for correlation and incident management.		
SIEM.REQ.008	Security Incident & Event Management	The solution should provide remediation guidance for identified security incident:		

Section 5: Scope of Work

Security Incident & Event Management (SIEM)				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
SIEM.REQ.009	Security Incident & Event Management	a) Solution should be able to specify the response procedure (by choosing from the SOPs) to be used in incident analysis Or remediation.		
SIEM.REQ.010	Security Incident & Event Management	b) The solution should have provision for work flow based multiple levels of escalations. The solution should offer a means of escalating alerts between various users of the solution, such that if alerts are not acknowledged in a pre- determined timeframe, that alert is escalated to ensure it is investigated.		
SIEM.REQ.011	Security Incident & Event Management	The solution should facilitate best practices configuration to be effectively managed in a multi-vendor and heterogeneous information systems environment.		
SIEM.REQ.012	Security Incident & Event Management	The solution should provide capability to discover similar patterns of access, communication etc. occurring from time to time, for example, slow and low attack.		
SIEM.REQ.013	Security Incident & Event Management	The solution should have an exhaustive incident tracking system that can track, investigate and resolve events in work-flow like environment		
SIEM.REQ.014	Security Incident & Event Management	The bidder should perform regular (at least twice a year) health check and fine tuning of SIEM solution and should submit a report to the Department.		
SIEM.REQ.015	Security Incident & Event Management	The solution should share the list of out of the box supported devices Or log types.		

Section 5: Scope of Work

Security Incident & Event Management (SIEM)				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
SIEM.REQ.016	Security Incident & Event Management	The solution should support hierarchical structures for distributed environments. The solution should have capability for correlation of events generated from multiple event sources at different location in single management console.		
SIEM.REQ.017	Security Incident & Event Management	The event correlation on SIEM should be in real time and any delay in the receiving of the events by SIEM is not acceptable.		
SIEM.REQ.018	Security Incident & Event Management	The solution should support internal communication across SIEM-components via well-defined secured channel. UDP or similar ports should not be used.		
SIEM.REQ.019	Security Incident & Event Management	Event dropping Or caching by SIEM solution is not acceptable in normal circumstances and same should be reported and corrected immediately.		
SIEM.REQ.020	Security Incident & Event Management	The solution should be able to import the vulnerability information from scanning and assessment tools on real time basis and correlate them Or provide contextual information on vulnerability data to incidents for all possible implications.		
SIEM.REQ.021	Security Incident & Event Management	The solution should be able to facilitate customized dashboard creation, supporting dynamic display of events graphically.		
SIEM.REQ.022	Security Incident & Event Management	The solution should be able to capture all the fields of the information in the raw logs.		
SIEM.REQ.023	Security Incident &	The solution should support storage of raw logs for forensic analysis.		

Section 5: Scope of Work

Security Incident & Event Management (SIEM)				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
	Event Management			
SIEM.REQ.024	Security Incident & Event Management	The solution should be able to integrate logs from new devices into proposed collectors without affecting the existing SIEM processes.		
SIEM.REQ.025	Security Incident & Event Management	The solution should have capability of displaying of filtered events based on event priority, event start time, end time, attacker address, target address etc.		
SIEM.REQ.026	Security Incident & Event Management	The solution should support configurable data retention policy based on organization requirement.		
SIEM.REQ.027	Security Incident & Event Management	The solution should provide tiered storage strategy comprising of online data, online archival, offline archival and restoration of data. Please elaborate on log management methodology proposed.		
SIEM.REQ.028	Security Incident & Event Management	The solution should compress the logs by at least 70% to 90% or more at the time of archiving.		
SIEM.REQ.029	Security Incident & Event Management	The solution should have capability for log purging and retrieval of logs from offline storage.		
SIEM.REQ.030	Security Incident & Event Management	The solution should support networked and scalable storage using SAN, NAS, DAS etc.		
SIEM.REQ.031	Security Incident &	The solution should provide capability for configuration backup.		

Section 5: Scope of Work

Security Incident & Event Management (SIEM)				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
	Event Management			
SIEM.REQ.032	Security Incident & Event Management	Solution should be capable of replicating logs at Primary site and DR site.		
SIEM.REQ.033	Security Incident & Event Management	The solution should provide proactive alerting on log collection failures so that any potential loss of events and audit data can be minimized or mitigated.		
SIEM.REQ.034	Security Incident & Event Management	The solution should provide a mechanism (in both graphic and table format) to show which devices and applications are being monitored and determine if a continuous set of collected logs exist for those devices and applications.		
SIEM.REQ.035	Security Incident & Event Management	The solution should support automated scheduled archiving functionality into file system.		
SIEM.REQ.036	Security Incident & Event Management	The solution should support normalization of real time events.		
SIEM.REQ.037	Security Incident & Event Management	The solution should provide a facility for logging events with category information to enable device independent analysis.		
SIEM.REQ.038	Security Incident & Event Management	The solution should support aggregation techniques that consolidate multiple identical raw events into one processed event.		

Section 5: Scope of Work

Security Incident & Event Management (SIEM)				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
SIEM.REQ.039	Security Incident & Event Management	The platform should be supplied on Hardened OS embedded in Hardware Or Virtual Appliance. The storage configuration should offer a RAID configuration to allow for protection from disk failure.		
SIEM.REQ.040	Security Incident & Event Management	The platform should have High Availability(HA) Configuration of necessary SIEM components to ensure there is no single point of failure including central management console Or Enterprise Security managers Or receivers in HA. Please describe the architecture proposed to meet this requirement.		
SIEM.REQ.041	Security Incident & Event Management	By default at the time of storage, solution should not filter any events. However, solution should have the capability of filtering events during the course of correlation and report generation.		
SIEM.REQ.042	Security Incident & Event Management	The solution should ensure the integrity of logs. Compliance to regulations should be there with tamper-proof log archival.		
SIEM.REQ.043	Security Incident & Event Management	Solution should have inbuilt query analysis capability without requiring any third party solution.		
SIEM.REQ.044	Security Incident & Event Management	The solution should be able to continue to collect logs during backup, de-fragmentation and other management scenarios.		
SIEM.REQ.045	Security Incident & Event Management	The solution should support collection of logs from all the devices quoted in RFP.		
SIEM.REQ.046	Security Incident &	The collection devices should support collection of logs via the following but not limited methods:		

Section 5: Scope of Work

Security Incident & Event Management (SIEM)				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
	Event Management	1. Syslog over UDP /TCP		
		2. SNMP		
		3. ODBC (to pull events from a remote database)		
		4. FTP (to pull a flat file of events from a remote device that can't directly write to the network)		
		5. Windows Event Logging Protocol		
		6. XML		
		7. NetBIOS		
SIEM.REQ.047	Security Incident & Event Management	The solution should have native audit capability for end to end incident management. Complete audit trail of incident life cycle (like incident alerting, action taken by each user, final outcome of incident, closing of incident) should be maintained.		
SIEM.REQ.048	Security Incident & Event Management	The solution should allow a wizard /GUI based interface for rules (including correlation rules) creation as per the customized requirements. The rules should support logical operators for specifying various conditions in rules.		
SIEM.REQ.049	Security Incident & Event Management	The solution should support all standard IT infrastructure including Networking & Security systems, OS, RDBMS, Middleware, Web servers, Enterprise Management System, LDAP, Internet Gateway, Antivirus, and Enterprise Messaging System, Data loss prevention (DLP) etc.		
SIEM.REQ.050	Security Incident & Event Management	The solution should have provision for integration of the following:		
		a) Inclusion of "user context" (through systems such as LDAP).		

Section 5: Scope of Work

Security Incident & Event Management (SIEM)				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
		b) The solution should enable the correlation of identity and session information to assist in responding to incidents that are user centric.		
		c) Inclusion of "Data context". : The solution should provide the ability to display the country of origin based on IP address.		
		d) Inclusion of "Application context".		
SIEM.REQ.051	Security Incident & Event Management	Solution should have license for minimum 10 users for SIEM administration.		
SIEM.REQ.052	Security Incident & Event Management	The solution should have the ability to define various roles for SIEM administration, including but not limited to: Operator, Analyst, SOC Manager etc. for all SIEM components.		
SIEM.REQ.053	Security Incident & Event Management	The solution should support SIEM management process using a web based solution.		
SIEM.REQ.054	Security Incident & Event Management	The solution should support the following co-relation:		
SIEM.REQ.055	Security Incident & Event Management	Statistical Threat Analysis - To detect anomalies.		
SIEM.REQ.056	Security Incident & Event Management	Susceptibility Correlation - Raises visibility of threats against susceptible hosts.		

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Security Incident & Event Management (SIEM)				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
SIEM.REQ.057	Security Incident & Event Management	Vulnerability Correlation - Mapping of specific detected threats to specific Or known vulnerabilities		
SIEM.REQ.058	Security Incident & Event Management	Rules based Correlation - The solution should allow creating rules that can take multiple scenarios like and create alert based on scenarios.		
SIEM.REQ.059	Security Incident & Event Management	The solution should also support historical correlation and have capability to analyse historical data using a new correlation rule and carry out trend analysis on collected data.		
SIEM.REQ.060	Security Incident & Event Management	Solution should have capability to correlate based on the threat intelligence for malicious domains, proxy networks, known bad IP's and hosts.		
SIEM.REQ.061	Security Incident & Event Management	The solution should provide ready to use rules for alerting on threats e.g., failed login attempts, account changes and expirations, port scans, suspicious file names, default usernames and passwords, High bandwidth usage by IP, privilege escalations, configuration changes, traffic to non-standard ports, URL blocked, accounts deleted and disabled, intrusions detected etc.		
SIEM.REQ.062	Security Incident & Event Management	The solution should support the following types of correlation conditions on log data:		
		a) One event followed by another event		
		b) Grouping, aggregating, sorting, filtering, and merging of events.		
		c) Average, count, minimum, maximum threshold etc.		

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Security Incident & Event Management (SIEM)				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
SIEM.REQ.063	Security Incident & Event Management	The solution should prioritize & enrich events based on existing threats Or alerts Or incidents on the asset. E.g. If there is a known vulnerability detected by vulnerability scanner on an asset, solution should categorize the risk higher since the vulnerability was already known so that action may be taken pro-actively.		
SIEM.REQ.064	Security Incident & Event Management	The solution should offer a user interface that is capable of providing the Information Security team an intuitive way of using recognized network tools e.g. whois, nslookup, ping etc. to assist in analysis and response work.		
SIEM.REQ.065	Security Incident & Event Management	Solution should provide threat scoring based on:		
		a) Host, network, priority for both source & destination		
		b) Real-time threat, event frequency, attack level etc.		
SIEM.REQ.066	Security Incident & Event Management	The solution should correlate and provide statistical anomaly detection with visual drill down data mining capabilities.		
SIEM.REQ.067	Security Incident & Event Management	The solution should have the capability to send notification messages and alerts through email, SMS, etc.		
SIEM.REQ.068	Security Incident & Event Management	Solution should support Real-time reporting as well as scheduled reporting		
SIEM.REQ.069	Security Incident &	Solution should support report designing capability without using any third party product.		

Section 5: Scope of Work

Security Incident & Event Management (SIEM)				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
	Event Management			
SIEM.REQ.070	Security Incident & Event Management	Reporting feature should be inherent in the solution and not provided by a third party. The solution should have flexibility to design custom made reports as required by Department from time to time. Bidder should design customized reports as desired by Department from time to time.		
SIEM.REQ.071	Security Incident & Event Management	Customized reports should be configurable Or designable via GUI and not CLI		
SIEM.REQ.072	Security Incident & Event Management	The tool should provide facility for separate alerting and reporting console for different asset groups.		
SIEM.REQ.073	Security Incident & Event Management	The solution should support RADIUS and LDAP / Active Directory for Authentication.		
SIEM.REQ.074	Security Incident & Event Management	The solution should provide highest level of enterprise support directly from OEM.		
SIEM.REQ.075	Security Incident & Event Management	The solution should provide a single point of contact directly from OEM for all support reported OEM.		
SIEM.REQ.076	Security Incident & Event Management	The solution should mention the response time for customized parsers writing for unsupported device log types or in case of version upgrade(s) which lead to a new log type.		

Security Incident & Event Management (SIEM)				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
SIEM.REQ.077	Security Incident & Event Management	The solution should ensure continuous training and best practice updates for onsite team from its backend resources.		
SIEM.REQ.078	Security Incident & Event Management	The solution should provide the report generation progress status in the console.		
SIEM.REQ.079	Security Incident & Event Management	Solution should support log integration for IPv4 as well as for IPv6.		
SIEM.REQ.080	Security Incident & Event Management	Solution should provide inbuilt dashboard for monitoring the health status of all the SIEM components, data insert Or retrieval time, resource utilization details etc.		
SIEM.REQ.081	Security Incident & Event Management	Solution should support at least 100 default correlation rules for detection of network threats and attacks. The performance of the solution should not be affected with all rules enabled.		

Section 5: Scope of Work

Data Leakage Prevention (DLP)				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
DLP.REQ.001	Make			
DLP.REQ.002	Model			
DLP.REQ.003	General Requirement	The Solution should have Centralized Management, web based console for System Administration		
DLP.REQ.004	General Requirement	The solution should integrate with the existing LDAP for Authentication and provide Administrative roles based on LDAP groups.		
DLP.REQ.005	General Requirement	The solution should maintain audit logs that track administrator activity within the DLP suite that can provide details on policy modifications, logins, and other administrative activity. The following details should be logged-		
		a) creation, deletion, and updating of DLP groups		
		b) creation, deletion, and updating of DLP user roles		
		c) changes to the configuration of DLP Network, including creating, deleting, or modifying the configuration		
		d) all logins to the centralized web console		
		e) creation, deletion, and updating of DLP policies		
DLP.REQ.006	General Requirement	The solution should have Ability to deploy agents for scanning and support incremental scans to speed up the scanning time		
DLP.REQ.007	General Requirement	The solution should provide a very fine grained access control allowing creation of roles with any combination of permissions		

Section 5: Scope of Work

Data Leakage Prevention (DLP)				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
DLP.REQ.008	General Requirement	The solution should have feature to create a role with access to system administration functions but not to policy, incident, or employee information.		
DLP.REQ.009	General Requirement	The solution should have feature to create a role to have the ability to author policies but not to deploy them live on the network.		
DLP.REQ.010	General Requirement	The solution should have feature to create a role to that allows users to view incidents but not to modify or remediate them.		
DLP.REQ.011	General Requirement	Feature to create a role that has the ability to see summary reports, trend reports and high-level metrics without the ability to see individual incidents?		
DLP.REQ.012	Content Recognition	Pre-Built Described Content Definitions, dictionaries with Contextual Criteria, Proximity Criteria, Weighting Criteria, Fingerprinting, Fingerprinting Crawler with definable parameters, Databases Fingerprinting with Ability to select Must Have and May have columns. Detection of Encrypted Files and Password protected files		
DLP.REQ.013	Content Recognition	The solution should detect based on file content and not file extension. The solution should not modify or add to the actual content in any case unless it requires encryption and / or quarantining		
DLP.REQ.013	Policies	The solution should have Out of the box predefined Policies.		

Section 5: Scope of Work

Data Leakage Prevention (DLP)				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
DLP.REQ.014	Policies	The solution should have Custom Policy definition upon File type (extension and true file type) , Network Destination - sender Or recipient IP and / or email address, Transmission attributes, protocol types, Identity per LDAP user and groups, content type, Risk and Severity		
DLP.REQ.015	Configuration	System should allow for configurable scoring of incident severity based on the following -		
		a. Expose amount of data?		
		b. Senders or recipients		
		c. Network protocol		
		d. existing exposed records Or documents		
		e. Directory service attribute		
		f. Network Source and Destination		
DLP.REQ.016	General Requirement	The solution should support rules based on corporate directory data to enforce policy based on attribute of senders or receivers like business unit, department etc.		
DLP.REQ.017	General Requirement	The solution should have predefined detection policies to cover regulations and detection best practices, including pre-defined lexicons for commonly required regulations		
DLP.REQ.018	General Requirement	The solution should support fingerprinting along with described content		
DLP.REQ.019	General Requirement	The solution allow creating policies applicable to individual users or groups as a whole. It should be possible to define exceptions of		

Data Leakage Prevention (DLP)				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
		individual users in a group when the policy is defined for the whole group		
DLP.REQ.020	General Requirement	The same policy should be applicable for the defined content in all possible locations as described above - data at rest, data in motion and data in use		
DLP.REQ.021	General Requirement	The policy should be able to apply different actions when a particular endpoint is within the company network and while it is not connected to the network. The scanning capabilities should not differ in both the modes		
DLP.REQ.022	General Requirement	The solution should provide identical detection capabilities across all threats covered (e.g., for both network and endpointbased products, and for both data monitoring and prevention and data discovery and protection)		
DLP.REQ.023	General Requirement	Support segregated mechanism to define policy and content definition allowing the same content discovery definition to be used by multiple policies and each policy to act on multiple content discover definition		
DLP.REQ.024	General Requirement	the solution should provide a SINGLE web based interface for ALL aspects of policy editing and policy management, across all products (across monitoring and prevention and across network and endpoint)		
DLP.REQ.025	General Requirement	The solution should protect data on move e.g SMTP including attachments, POP3 including attachments, IMAP, HTTP including file uploads, FTP, IM protocols (AIM, Yahoo,		

Section 5: Scope of Work

Data Leakage Prevention (DLP)				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
		MSN, Google) and properly classify tunneled IM traffic (HTTP)		
DLP.REQ.026	General Requirement	For each of the Internet gateways for SMTP and web traffic dedicated appliances should be provided to monitor and manage any remediation locally without requiring sending the traffic back to a remote server		
DLP.REQ.027	General Requirement	Support scanning Windows file systems, Unix File Systems, Storage devices, MS SharePoint, WebDAV, archived and stored emails and RDBMS		
DLP.REQ.028	General Requirement	Definable Scan Schedules, OS etc.		
DLP.REQ.029	General Requirement	Ability to measure the scanning speed to ensure optimal resource usage, balance scan load across multiple scanning systems and ability to dynamically commission additional scanning systems to increase scan performance		
DLP.REQ.030	General Requirement	The solution should support full and partial text fingerprinting and full binary fingerprinting		

Section 5: Scope of Work

Network Access Control (NAC)				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
NAC.REQ.001	Make			
NAC.REQ.002	Model			
NAC.REQ.003	General Requirement	The solution must be deployable using an integrated single appliance supporting all the features and functionalities (multiple appliances may only be used to increase scalability and /or support high-availability).The minimum no. of end points can be in range of 2000-5000 or higher		
NAC.REQ.004	General Requirement	The offered solution must be physical appliance based.		
NAC.REQ.005	General Requirement	The solution should discover any new network device entering the network and permit network access based upon the policy for this network device.		
NAC.REQ.006	General Requirement	The solution should provide access solution for guests and visitors. The solution should support Captive portal based solution for these classes of users.		
NAC.REQ.007	General Requirement	The solution should be able to restrict any unmanaged device in the network and should be able to provide LAN and guest users access to network resources based on policy based (Authentication, posture check etc.) rules.		
NAC.REQ.008	General Requirement	The solution should have a provision to support non-NAC capable hosts (i.e., printers, IP phones, etc.) based on Mac address or other parameter and it should support exception lists for non-NAC capable hosts.		
NAC.REQ.009	General Requirement	The logs should support logs for all activities		
NAC.REQ.010	General Requirement	The solution should provide real time alerts.		

Section 5: Scope of Work

Network Access Control (NAC)				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
NAC.REQ.011	General Requirement	The solution must support multiple operating systems Windows Client Operating System, Apple MAC client operating system.		
NAC.REQ.012	General Requirement	The offered solution must have HA (High Availability) implemented. Failure of a single device should not affect the functionality of the overall solution.		
NAC.REQ.013	Integration with Network environment	Platform must be deployable in out-of-band model. Should not add bottle necks Or more overheads to existing network operations and performance.		
NAC.REQ.014	Integration with Network environment	Solution must be agnostic to wired, wireless and VPN network in place today and it must support any type of networking equipment (wired, wireless, VPN).		
NAC.REQ.015	Integration with Network environment	Should dynamically set VLANs on the switch ports according to the policies set for the devices connected to it.		
NAC.REQ.016	Content Recognition	Solution must validate List of Allowed Applications running on the Machine [Mandatory and Optional] with User Notification or Auto-Remediation.		
NAC.REQ.017	Device Authentication and Network Access Control	The solution must support the following authentication methods:		
NAC.REQ.018	Device Authentication and Network Access Control	1. 802.1X Authentication		
		2. Agent-Based		
		3. Agent-less Authentication /captive portal		
		The solution must support the following enforcement technologies:		
		1. VLAN steering /CoA		
		2. Access control lists		

Section 5: Scope of Work

Network Access Control (NAC)				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
		Solution must support access based on device type and ownership		
NAC.REQ.019	General Requirement	Should support AAA Server Functionalities		
NAC.REQ.020	General Requirement	Management and administration functionalities		
NAC.REQ.021	General Requirement	Should support GUI-based management.		
NAC.REQ.022	General Requirement	<p>The solution must be able to generate report for the following parameters:</p> <ol style="list-style-type: none"> 1. PCs complied with the NAC Policy 2. PCs quarantined 3. Guest PCs connected 4. Network devices connected 		
NAC.REQ.023	General Requirement	Must support searching of Devices by MAC Address Or IP Address Or Device Name.		
NAC.REQ.024	General Requirement	Solution must correlate and organize user, authentication and device information together for easier troubleshooting,		
NAC.REQ.025	Network Discovery	Solution should support MAC based 802.1 X authentication		
NAC.REQ.026	Network Discovery	Should provide information regarding the endpoint connected to switch, MAC address, IP address and VLANs.		
NAC.REQ.027	Organization wide asset Management & Remediation	All assets should be checked against the policies set & should classify hosts as compliant & non-compliant.		

Section 5: Scope of Work

Host Based Intrusion Prevention System (HIPS)				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
HIPS.REQ.001	Make			
HIPS.REQ.002	Model			
HIPS.REQ.003	General Requirement	The proposed solution should be a virtualization aware solution that provides advanced protection for systems.		
HIPS.REQ.004	General Requirement	The proposed solution should be supported on multiple operating systems: Microsoft Windows, Solaris , Red Hat Enterprise & Suse Linux, etc.		
HIPS.REQ.005	General Requirement	The proposed solution should be able to provide protection such as Antimalware real time, IDS / IPS, Firewall, Integrity changes, and Inspection of system critical logs for all the system		
HIPS.REQ.006	General Requirement	Should provide intrusion detection and protection by analysing events, operating system logs and inbound Or outbound network traffic on enterprise servers.		

Section 5: Scope of Work

Host Based Intrusion Prevention System (HIPS)				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
HIPS.REQ.007	General Requirement	The proposed solution should provide security monitoring across physical and virtual servers including real-time file integrity monitoring, configuration monitoring, consolidated event logging, and file and system tamper prevention. should prevent the following: a) Prevents the delivery and installation of kernel-level Root kits. b) Prevents DOS, DDOS, worm, botnet and Trojan agents from installing. c) Prevent Buffer overflow attacks d) Prevents backdoor communications and protocols. g) Restrict application and operating system behavior using policy-based least privilege access control		
HIPS.REQ.008	General Requirement	The proposed solution should have rule based protection, and for servers.		
HIPS.REQ.009	General Requirement	Server Security solution should have targeted prevention policy to respond to server incursion or compromise immediately with quickly customizable hardening policies.		

Section 5: Scope of Work

Host Based Intrusion Prevention System (HIPS)				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
HIPS.REQ.010	General Requirement	The proposed solution should have detailed events data to provide valuable information, including the source of the attack, the time, and what the potential intruder was attempting to exploit, shall be logged.		
HIPS.REQ.011	General Requirement	The proposed solution should be capable of blocking and detecting of IPv6 attacks.		
HIPS.REQ.012	General Requirement	The proposed solution should have detection capability of reconnaissance activities such as port scans and also detect protocol violations of standard protocols.		
HIPS.REQ.013	General Requirement	The proposed solution should have an auditable reporting should generate within the solution, along with alert generations, and automated report creation and delivery.		
HIPS.REQ.014	General Requirement	The proposed solution should have Agent installation methods to support manual local installation and distribution through LDAP / Active Directory.		
HIPS.REQ.015	General Requirement	The proposed solution should have comprehensive Role Based Access Control features including controlling who has access to what areas of the solution and		

Section 5: Scope of Work

Host Based Intrusion Prevention System (HIPS)				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
		who can do what within the application.		

Section 5: Scope of Work

Heavy Duty Printer				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
HDP.REQ.001	Make			
HDP.REQ.002	Model			
HDP.REQ.003	General			
HDP.REQ.004	Warm-up time	20 Seconds		
HDP.REQ.005	First Output time	Full Colour:8 Seconds B / W: 6 Seconds		
HDP.REQ.006	Memory	1.5 GB		
HDP.REQ.007	Wiegth	81Kg		
HDP.REQ.008	Power Source	220-240V, 50 / 60Hz		
HDP.REQ.009	PRINTER			
HDP.REQ.010	Printer Language	Standard: PCL5c, PCL6, PDF direct print, Media print (JPEG / TIFF)		
HDP.REQ.011	Option	Adobe PostScript		
HDP.REQ.012	Resolution	Maximum:1200x1200 dpi		
HDP.REQ.013	Interface	Standard: USB2.0, SD slot, Ethernet 10 base-T, Ethernet1000 Base-T		
HDP.REQ.014	Option	Bi-directional IEEE1284, Wireless LAN(IEEE802.11a / b / g / n), Bluetooth		
HDP.REQ.015	Network Protocol	Standard: TCP/ IP (IPv4, IPV6) Optional:IPX Or SPX		
HDP.REQ.016	Windows environments	Windows XP, Windows Vista, Windows 7, Windows Server 2003, Windows Server 2003R2, Windows Server 2008, Windows Server 2008R2, Windows Server 2012		
HDP.REQ.017	Print speed	20 pages per minute		
HDP.REQ.018	Mac OS environments	Yes		
HDP.REQ.019	UNIX environments	Yes		
HDP.REQ.020	SCANNER			
HDP.REQ.021	Scanning Speed	Full Colour/ B&W:Maximum 50ipm		

Section 5: Scope of Work

Heavy Duty Printer				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
HDP.REQ.022	Resolution	Standard: 600dpi Maximum: 1200dpi		
HDP.REQ.023	File Format	TIFF, JPEG, PDF, High compression PDF, PDF-A		
HDP.REQ.024	Bundled drivers	Yes		
HDP.REQ.025	Scan to	Email: SMTP, POP, IMAP4 Folder: SMB, FTP, NCP		
HDP.REQ.026	COPIER			
HDP.REQ.027	Copying process	Dry Electrostatic Transfer System		
HDP.REQ.028	Multiple copying	Up to 900 copies		
HDP.REQ.029	Resolution	600dpi		
HDP.REQ.030	Zoom	From 25 to 400%		
HDP.REQ.031	FAX(OPTION)			
HDP.REQ.032	Circuit	PSTN, PBX		
HDP.REQ.033	Resolution	Standard: 8x3.85 line/ mm, 200x100 dpi, 8x7.7 line/mm, 200x200 dpi		
HDP.REQ.034	Modem speed	Maximum: 30 Kbps		
HDP.REQ.035	Memory capacity	Standard: 4 MB Maximum: 28 MB		
HDP.REQ.036	PAPER HANDLING			
HDP.REQ.037	Recommended paper size	A3, A4, A5, A6, B4, B5, B6		
HDP.REQ.038	Paper input capacity	Standard: 1200 sheets(55x2 trays+100- sheet Bypass) Maximum: 2300 sheets		
HDP.REQ.039	Paper output capacity	Maximum: 625 sheets		
HDP.REQ.040	Paper weight	Paper tray(s):60-300 g / m2 Bypass: 52-300 g Or m2 Duplex unit: 52-169 g Or m2		
HDP.REQ.041	ECOLOGY			

Section 5: Scope of Work

Heavy Duty Printer				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
HDP.REQ.042	Power consumption	Maximum: 2000 W Ready mode: 300 W		
HDP.REQ.043	SOFTWARE			
HDP.REQ.044	Standard	SmartDeviceMonitor, Web SmartDeviceMonitor, Web Image Monitor		

Section 5: Scope of Work

IP phones with headset				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
IPP.REQ.001	Make			
IPP.REQ.002	Model			
IPP.REQ.003	General Requirement	The IP phones with compatible wireless Or bluetooth headset should be supplied by the bidder. Wireless headset should be compatible with soft Phone in desktop also. Wireless headset should have a provision to switch between soft phone and IP Phone. Wireless headset should have echo cancellation.		
IPP.REQ.004	General Requirement	Bidder should provide the soft phone for the desktop users.		
IPP.REQ.005	General Requirement	The IP Phone shall have an interactive and user-friendly alphanumeric display to make use of the key phone very simple.		
IPP.REQ.006	General Requirement	The IP Phone shall provide at least 6 programmable keys along with fixed feature buttons for Hold, Redial, Volume Up and Down, Mute, Hands free, Directory, Voice Message. There shall be possible to configure officer Login, Logout etc.		
IPP.REQ.007	General Requirement	The IP Phone shall include minimum two (2) port (100 /1000BaseT interface) switch for connecting PC Or workstations.		
IPP.REQ.008	General Requirement	The IP Phones shall support connection of Headset.		
IPP.REQ.009	General Requirement	The IP Phone shall have LED Or LCD Indicator for Call Waiting and Message Waiting.		
IPP.REQ.010	General Requirement	The IP Phone shall support Dynamic Host Configuration Protocol (DHCP) based as well as statically configured IP address assignment.		
IPP.REQ.011	General Requirement	The IP Phone shall have minimum 2.5, high resolution graphical grayscale LCD display.		

Section 5: Scope of Work

IP phones with headset				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
IPP.REQ.012	General Requirement	It shall be possible to create Local Phone book with at least 50 contacts as well as pull information from the directory (Integration with directory like Active directory Contact details etc.).		
IPP.REQ.013	General Requirement	The IP phones shall support industry standard audio codec viz. G.711 (A-law and Mu-law), G.729 (including G.729 A and G.729 B), G.722 audio codec.		
IPP.REQ.014	General Requirement	The IP Phone shall support Voice Activity Detection, Silence Suppression and Echo Cancellation.		
IPP.REQ.015	General Requirement	The display shall provide features such as Date and Time, Calling Party Number and Digits Dialed.		
IPP.REQ.016	General Requirement	IP phones shall be able to work on SIP / H.323 protocols.		
IPP.REQ.017	General Requirement	There shall be provision to provide electrical power to the IP phones either through power adapter or via PoE (IEEE 802.3af) enabled Ethernet port.		
IPP.REQ.018	General Requirement	The IP phones shall support for POE Class 1 /Class 2 / Class3		
IPP.REQ.019	General Requirement	The Phones shall have configurable Abbreviated Dial & Speed Dial.		
IPP.REQ.020	General Requirement	The firmware of IP phones shall be upgradable using HTTPS /FTP / TFTP/SFTP.		

Section 5: Scope of Work

IP phones with headset				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
IPP.REQ.021	General Requirement	It shall be possible to view call history for at least last 10 missed calls, 10 dialled calls and 10 received calls for each call taker desk.		
IPP.REQ.022	General Requirement	It shall be possible to set preferences such as Display Contrast and Ring Types.		
IPP.REQ.023	General Requirement	The IP Phones shall be SNMP manageable directly or through the PBX server. IP Phones or PBX server shall be able to send IP phone related SNMP traps to the configured Network Management System (NMS). Bidder shall provide generic as well as vendor / OEM specific SNMP MIBs of the equipment for monitoring /management through standard NMS systems along with the equipment.		
IPP.REQ.024	Message Waiting Indicator	Used as ringing call alert indicator		
IPP.REQ.025	Mounting	Desk or wall mountable with optional wall mount adapter.		

Section 5: Scope of Work

Desktop				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
DSK.REQ.001	Make			
DSK.REQ.002	Model			
DSK.REQ.003	Processor	Intel Core i7 , 64bit x86 Processor @ 3.2 GHz or more,4MB L3 cache, Memory support DDR3 or better specifications		
DSK.REQ.004	Motherboard & Chipset	OEM Motherboard		
DSK.REQ.005	Video	Integrated Graphic controller		
DSK.REQ.006	Network	Integrated 10 / 100 / 1000 Gigabit Ethernet controller		
DSK.REQ.007	Ports	1 HDMI port (Preferable), 2x USB 2.0 and 2 x USB 3.0 (Preferable) , 10 USB ports external - with minimum 4 ports USB 3.0 Front I /O includes (2 or more) USB 2.0 ports Rear I / O includes (2 or more) USB 3.0 ports, (2 or more) USB 2.0 ports, serial port, Parallel port, PS 2 mouse and keyboard ports, RJ-45 network interface, DisplayPort 1 VGA and 3.5mm audio in /out jacks; 4 in 1 Media Card Reader (Preferable)		
DSK.REQ.008	HDD Controller	Integrated dual port SATA-II controller		
DSK.REQ.009	Memory	16GB DDR III 1333MHz or higher expandable up to 8 GB or more		
DSK.REQ.010	Storage	1TB @ HDD 7200 RPM		
DSK.REQ.011	Optical Drive	22X DVD writer or higher and the corresponding software		
DSK.REQ.012	Monitor	21" TFT LCD touch screen monitor minimum 1920 x 1080 resolution with 5 ms response time or better specifications, TCO 03 or higher certified		
DSK.REQ.013	Keyboard	107 or more English + Hindi Keys keyboard		

Section 5: Scope of Work

Desktop				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
DSK.REQ.014	Mouse	2 Or 3 button USB Optical Scroll Mouse with anti-static mouse pad resolution of Optical 1000 cpi, Complying to CE and FCC norms		
DSK.REQ.015	Power Management and DMI	System with Power management features & Desktop Management Interface implementation		
DSK.REQ.016	Operating System	Supported by Windows, Linux etc.		
DSK.REQ.017	Power input	100 -240V AC		
DSK.REQ.018	Certifications	EPEAT		
Features - Thin Client For SOC and NOC				
DSK.REQ.019	Make			
DSK.REQ.020	Model			
DSK.REQ.021	Graphics	Intel HD Graphics		
DSK.REQ.022	Monitor	21" Or higher "TFT OEM color touch screen monitor. TCO Monitor. Same brand as Desktop		
DSK.REQ.023	Keyboard	107 Keys or more, USB bilingual (English + Hindi keys) keyboard		
DSK.REQ.024	Mouse	2 button Optical scroll Mouse		
DSK.REQ.025	Operating System	Supported by Windows,Linux etc.		
DSK.REQ.026	Power	320 W or less		

Section 5: Scope of Work

Network Rack				
Sr. No.	Nature of Requirement	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
NR.REQ.001	Make			
NR.REQ.002	Model			
NR.REQ.003	Dimensions	600(w)x 530(d)x 9U(h)		
NR.REQ.004	Weight Capacity	Minimum 88 lbs (40 kg)		
NR.REQ.005	Side doors	Complete knockdown format for easy installation & later maintenance; with lock & key		
NR.REQ.006	Ventilation	Top mounted exhaust fan		

Section 5: Scope of Work

100 KVA SOUND ATTENUATED DG SET				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
GENSET100.REQ.001	Make			
GENSET100.REQ.002	Model			
GENSET100.REQ.003	General	100KVA 150 HP at 1500 RPM, four stroke, electric start, six cylinder engine conforming to BS: 5514 Or ISO 3046 with capacity of 10% over loading for one hour in twelve hours operation		
GENSET100.REQ.004	Air Intake System	<ul style="list-style-type: none"> • Air intake manifold. • Dry type air cleaner 		
GENSET100.REQ.005	Exhaust System	<ul style="list-style-type: none"> • Turbocharger. • Companion flanges for silencer & bellow. • Residential silencer. 		
GENSET100.REQ.006	Coolant System	<ul style="list-style-type: none"> • Engine water pump. • Radiator. • Coolant additive concentrate 		
GENSET100.REQ.007	Lubricating System	<ul style="list-style-type: none"> • Oil pan. • Engine mounted lube oil pump • Full flow spin-on lube oil filter. 		
GENSET100.REQ.008	Fuel System	<ul style="list-style-type: none"> • In line fuel pump with Mechanical Governor. • Spin-on fuel filter 		
GENSET100.REQ.009	Starting system	<ul style="list-style-type: none"> • 12V DC electric starter. • 12V DC battery charging alternator 		
GENSET100.REQ.010	Power start Control Microprocessor based	Yes		

Section 5: Scope of Work

100 KVA SOUND ATTENUATED DG SET				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
GENSET100.REQ.011	LED including lamps	The control includes LED lamp indication for the following functions Genset Running Remote Start Shutdown Warning Manual, Auto and Stop		
GENSET100.REQ.012	Data Logs	Includes Engine run time and controller on time		
GENSET100.REQ.013	Alternator Data	Yes		
GENSET100.REQ.014	Engine Data	Yes		
GENSET100.REQ.015	Control	Engine Metering, Alternator metering, Battle switch function, Delay Start /Stop, Configurable Cranking cycle, Sleep mode time		
GENSET100.REQ.016	Protection	Low lube oil pressure warning Or shutdown High engine temperature warning Or shutdown Low coolant temperature warning Sensor failure indication Low and High battery voltage warning Weak battery warning Fail to start shutdown Cranking lockout High Or Low AC voltage shutdown Under Or Over Frequency shutdown Loss of sensing voltage shutdown.		

Section 5: Scope of Work

100 KVA SOUND ATTENUATED DG SET				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
GENSET100.REQ.017	Alternator	Synchronous alternator, single bearing, Stamford make of 100 KVA rating, suitable for continuous operation at 1500 RPM generating 415 volts at 0.8 p.f.(lag), 50 Hz, 3 phase, 4 wire system. The alternator shall be Brushless type, self excited & self regulated through an AVR. The alternator will be suitable for tropical climate The salient features of the alternator are:- + 1.5% voltage regulation (max) in static conditions. IP: 23 protection with insulation. Permanent lubricating bearing. Permissible overload of 10% for one hour in 12 hours of operation		
GENSET100.REQ.018	Control Panel	The standard Control Panel is alternator mounted & fabricated from 14 Or 16 SWG sheet and Powder Coated after seven tank treatment process. The panel is equipped with:- 200A TP MCCB 10KA (Fixed O /C, & S/C) Thermal Magnetic Release With Spreader Link PS-500 (DG Auto start Or stop, Alt. Mtg., Protection and Engine Protection) Relay Module with 2 relay, 12V DC		
GENSET100.REQ.019	Base Frame	Engine and alternator are mounted, coupled and aligned on a common channel iron fabricated Base Frame with pre-drilled holes		

100 KVA SOUND ATTENUATED DG SET				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
GENSET100.REQ.020	Fuel Tank	Daily service fuel tank of 300 lts. fabricated from 14 SWG sheet metal built inside base frame complete with drain valve, air vent, inlet and outlet connection		
GENSET100.REQ.021	Battery	Yes		
GENSET100.REQ.022	Documentation	1 set of following documents shall be provides with each set:- O & M Manual of Diesel Engine Spare parts catalogue of diesel engine Test Certificate of diesel engine Test certificate of Alternator Test Certificate of D.G. Set		
GENSET100.REQ.023	Others	<ul style="list-style-type: none"> • Vibration damper. • Flywheel with housing 		

Section 5: Scope of Work

200 KVA SOUND ATTENUATED DG SET				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
GENSET200.REQ.001	Make			
GENSET200.REQ.002	Model			
GENSET200.REQ.003	General	200KVA 256 HP at 1500 RPM, four stroke, electric start, six cylinder engine conforming to BS: 5514 Or ISO 3046 with capacity of 10% over loading for one hour in twelve hours operation		
GENSET200.REQ.004	Air Intake System	<ul style="list-style-type: none"> • Air intake manifold. • Dry type air cleaner 		
GENSET200.REQ.005	Exhaust System	<ul style="list-style-type: none"> • Turbocharger. • Companion flanges for silencer & bellow. • Residential silencer. 		
GENSET200.REQ.006	Coolant System	<ul style="list-style-type: none"> • Engine water pump. • Radiator. • Coolant additive concentrate 		
GENSET200.REQ.007	Lubricating System	<ul style="list-style-type: none"> • Oil pan. • Engine mounted lube oil pump • Full flow spin-on lube oil filter. 		
GENSET200.REQ.008	Fuel System	<ul style="list-style-type: none"> • Electronic Governor • 24V DC solenoid coil. • Dual fuel filter system 		
GENSET200.REQ.009	Starting system	<ul style="list-style-type: none"> • 24V DC electric starter. • 24V DC battery charging alternator 		

Section 5: Scope of Work

200 KVA SOUND ATTENUATED DG SET				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
GENSET200.REQ.010	Power Command Control	Yes		
GENSET200.REQ.011	LED including lamps	The control includes LED lamp indication for the following functions Genset Running Remote Start Shutdown Warning Manual, Auto and Stop		
GENSET200.REQ.012	Data Logs	Includes Engine run time and controller on time		
GENSET200.REQ.013	Alternator Data	Yes		
GENSET200.REQ.014	Engine Data	Yes		
GENSET200.REQ.015	Control	Engine Metering, Alternator metering, Battle switch function, Delay Start / Stop, Configurable Cranking cycle, Sleep mode time		
GENSET200.REQ.016	Protection	Low lube oil pressure warning Or shutdown High engine temperature warning Or shutdown Low coolant temperature warning Sensor failure indication Low and High battery voltage warning Weak battery warning Fail to start shutdown Cranking lockout High / Low AC voltage shutdown		

Section 5: Scope of Work

200 KVA SOUND ATTENUATED DG SET				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
		Under /Over Frequency shutdown Loss of sensing voltage shutdown.		
GENSET200.REQ.017	Alternator	<p>Synchronous alternator of Stamford make of 200 KVA rating, single bearing, suitable for continuous operation at 1500 RPM generating 415 volts at 0.8 power factor (lag) suitable for 50 Hz, 3 phase, 4 wire system. The alternator shall be Brushless type, self excited & self regulated through an AVR. The alternator will be suitable for tropical climate . The salient features of the alternator are:-</p> <ul style="list-style-type: none"> + 1.5% voltage regulation (max) in static conditions. IP : 23 protection with class 'H' insulation. Permanent lubricating bearing. Permissible overload of 10% for one hour in 12 hours of operation 		

Section 5: Scope of Work

200 KVA SOUND ATTENUATED DG SET				
Sr. No.	Item	Minimum Requirement Description	Compliance (Yes Or No)	Deviations Or Remarks
GENSET200.REQ.018	Control Panel	The standard Control Panel is fabricated from 14 Or 16 SWG sheet and Powder Coated after seven-tank treatment process. The panel is floor mounted type & equipped with: • 300A TP MCCB 16KA (Fixed O/C, & S/C) Thermal Magnetic Release With Spreader Link • PC-1.2 (DG Auto start / stop, Alt. Mtg., Protection and Engine Protection)		
GENSET200.REQ.019	Base Frame	Engine and alternator are mounted, coupled and aligned on a common channel iron fabricated Base Frame with pre-drilled holes		
GENSET200.REQ.020	Fuel Tank	Daily service fuel tank of 400 lts. fabricated from 14 SWG sheet metal built inside base frame complete with drain valve, air vent, inlet and outlet connection		
GENSET200.REQ.021	Battery	Yes		
GENSET200.REQ.022	Documentation	1 set of following documents shall be provides with each set:- O & M Manual of Diesel Engine Spare parts catalogue of diesel engine Test Certificate of diesel engine Test certificate of Alternator Test Certificate of D.G. Set		
GENSET200.REQ.023	Others	• Vibration damper. • Flywheel with housing		

Section 5: Scope of Work

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