



# **Proposal to Implement the Information Technology Infrastructure Library Framework for IT Service Management**

**Prepared for the ITM  
By Hamish Duff in consultation with the  
ITIL Implementation Working Party  
July 28<sup>th</sup> 2002**

## 1.0 Executive Overview

The Information Technology Department wishes to move towards internationally recognised best practices which will enable the achievement of a measurable improvement of service levels to the University.

The Information Technology Infrastructure Library (ITIL) is a framework of best practices, which forms the basis of the British Standard for IT Service Management. It has been selected as it is rapidly becoming the internationally accepted standard, and provides a clear set of processes into which the IT Department and the prevailing internal service culture will integrate.

The proposed project for implementation of this framework will prioritise and progressively address the outstanding issues experienced with inconsistent levels of service provided by IT, and will enable the IT Department to provide a higher quality customer service given the current budgetary constraints.

Realignment of the IT Department processes with the strategic direction of the University as a whole using this framework will also allow IT to become an enabler for the University rather than simply a support function.

## Contents

<b>1.0</b>	<b>Executive Overview</b>	<b>2</b>
<b>2.0</b>	<b>Introduction</b>	<b>4</b>
<b>3.0</b>	<b>Reasons for Examining this Approach</b>	<b>5</b>
<b>4.0</b>	<b>Initially Identified Requirements for Change</b>	<b>6</b>
<b>5.0</b>	<b>Scope</b>	<b>8</b>
<b>6.0</b>	<b>Objectives</b>	<b>8</b>
<b>7.0</b>	<b>Project Structure</b>	<b>9</b>
<b>8.0</b>	<b>Project Deliverables</b>	<b>10</b>
8.1	Service Desk	10
8.2	Incident Management	11
8.3	Configuration Management	11
8.4	Problem Management	12
8.5	Change Management	12
8.6	Release Management	12
8.7	Service Level Management	13
<b>9.0</b>	<b>Project Organisational Structure</b>	<b>14</b>
9.1	ITIL Implementation Project Manager	14
9.2	Service Management Project Team (ITSM)	14
9.3	Implementation Teams	14
9.4	Steering Group	14
9.5	Reference Groups	14
9.6	Reporting Lines	14
<b>10.0</b>	<b>Key Challenges to the Implementation</b>	<b>15</b>
<b>11.0</b>	<b>Communications Strategy and Change Management</b>	<b>15</b>
<b>12.0</b>	<b>Resource Requirements</b>	<b>17</b>
12.1	Human Resources	17
12.2	Helpdesk Telephone System	17
12.3	Software	17
	<b>Appendix A – The Canterbury Way Forward</b>	<b>18</b>

## 2.0 Introduction

The Information Technology Infrastructure Library (ITIL) is a set of over forty texts developed in the late 1980s by the Office of Government Commerce in Great Britain. More recently these have been updated and merged into a set of six manuals covering all aspects of quality provision of service and support. The library forms the basis of the British Standard: Specification for IT Service Management (BS 15000:2000), and is well recognised as a stepping stone towards ISO 9002 certification.

The ITIL framework provides a comprehensive, consistent and coherent set of best practices and is widely accepted as the de facto standard for IT Service Management worldwide. As it has been developed for use in the public sector, it is particularly well suited to the University environment.

ITIL provides a quality driven approach to achieving business effectiveness and efficiency in the use of its information systems.

The main driver behind the development of ITIL is the recognition that increasingly organisations are becoming dependent on IT in order to satisfy their strategic aims and meet their business needs. This increasing dependency leads to a growing requirement for high quality IT services which are matched to business needs and user requirements as these evolve.

Since its initial development, ITIL has been revised in collaboration with hundreds of organisations and individuals from both public and private sectors. This approach has led to the identification of genuine, recognised world class practices for service provision. It has been adopted by some of the world's largest corporations, including British Airways, Sun Microsystems, Microsoft, and IBM.

Through adopting appropriate, quality driven, efficient practices, targeting scarce resources where they will be most cost-effective and matching budget cycles more consistently, higher quality services can be delivered within the same budgetary constraints. The outcome of this is the provision of IT Services which provide a high level of customer satisfaction that is within current means.

### **3.0 Reasons for Examining this Approach**

Initially, the IT Department started investigating the implementation of the ITIL framework following a series of incidents of miscommunication and misunderstanding which led to a reduced level of service provided to some users. It was recognised that standardisation of internal processes may lead to a more consistent and higher quality service provision, and also that more control over internal change management processes was required.

Another major problem which has been recognised is that since the merger of various departments and support groups to form the IT Department in 2000, there has been no corresponding re-alignment of the customer's perceptions of IT and little integration of the services and support provided. The perception of IT as a consistent, coherent, coordinated unit will greatly enhance the confidence of users in IT Department capabilities.

The ITIL approach means providing improved support to the University by delivering better services to customers tailored to their needs, and designing and developing services in sympathy with the University's core business objectives. By using the effective and appropriate underlying principles provided by the ITIL framework, IT will be able to enhance and develop University initiatives, rather than act simply as a support function.

These points will be elaborated somewhat in the body of this document.

## 4.0 Initially Identified Requirements for Change

The working party has recognised that many existing internal processes already follow best practice standards, and as such will not require changes. It has however, also identified a number of areas where immediate change is required to effect a better service and ensure that customer service expectations are met. It has also. A synopsis of the concerns discussed by the working party, and those communicated by other IT Department staff follows. This list is not intended to be exhaustive, and it is likely that other concerns will be identified as the project progresses, or for other concerns to take precedence for implementation over those included here.

- Anomaly of two 'Helpdesks' means that some users are confused as to who to contact for support
- Unreliable performance of the Helpdesk telephone system, resulting in inconsistent response times and a reduction in the level of service offered
- Reliance on single support staff members means that staff absence and turnover has an abnormally high impact on service levels
- Only a small percentage of incidents are logged correctly
- Lack of standardised call categorisation and prioritisation schemes results in limited meaningful management information that can be extracted from the Configuration Management Database software
- Incomplete definition of the service level users can expect
- Users experience inconsistent service, depending on who they contact within the department
- Formal service catalogue and identification of staff responsibilities has not been undertaken.
- Desktop support staff are regularly approached with unnecessarily unscheduled incidents
- Second level consultants regularly answer front-line enquiries or resolve minor incidents
- Prevalence of 'Shoulder-tapping' where users ask colleagues for advice rather than calling the IT Department
- Problems passed to second level or higher staff without correct logging and escalation
- Deficient incident escalation paths or procedures and automation of these
- Little proactive communication with clients – delays in service, etc
- Limited Configuration Management Database, with no relationships identified between components

- Measurement of customer satisfaction levels poor or non-existent
- No systematic means of identifying user training requirements
- Inadequate identification of internal requirements for service, leading to confusion and reduced service levels between some groups.
- Lack of standardisation of process documentation, leading to fragmented documents, held in a large number of locations, some inaccessible to most staff
- Inequitable support levels to departments supported
- Lack of consistent training, appropriate for the roles of each group
- Clear provision for user support during and after major projects is required e.g. MIS projects
- Poor coordination of changes to services which impact directly on the wider campus community
- Inadequate documentation of major changes

Prioritisation of these issues for resolution will take place during the initiation phase of the project as detailed in a later section of this document.

## 5.0 Scope

The initial scope of this project is:

*To improve the quality of IT Department support for research and teaching, by implementing the features of the ITIL framework where appropriate, and aligning them in accordance with the strategic objectives of the University as stated in 'The Canterbury Way Forward'.*

## 6.0 Objectives

This list of objectives will define what is initially intended to be achieved during the overall project. Each sub-project (as discussed in Project Structure below) will by necessity have its own scope, objectives and deliverables.

- Achieve a unified customer service ethos across the whole of the IT Department
- Identify components of the ITIL framework which are appropriate to the IT Department and to the University of Canterbury
- Prioritise and implement components within the agreed timeframe
- Provide a quality of service which is measurable
- Initiate a cycle of continuous improvement of quality of service
- Implement standardised best practices in all areas of IT
- Eliminate inefficiencies in the core IT Department functions
- Make efficient use of existing services and resources
- Effect changes that align with ITIL practices without impacting on existing services or service levels

## 7.0 Project Structure

The size and complexity of this project dictates that a number of different groups within the Department are involved. The proposed structure will take the form of an umbrella project, monitoring and reporting on progress to the ITM and reference groups, and several sub-projects, which will concentrate on specific processes within the ITIL framework. This will enable the inclusion of staff from a wider pool, gaining buy-in and providing a broader base of opinion on proposed changes.

It is essential that ITM is involved in the project to provide strategic direction, and for the project team to refer strategic and policy issues for decision.

A phased approach needs to be taken to the ITIL implementation. This recognises the limitations of staffing resources that can be allocated to the project, and acknowledges that staff will still be required to complete their normal activities.

The four major phases of the project are:

### **Phase One - Planning and Initiation**

- Project and sub-project planning
- Communications strategy
- ITIL awareness and training
- Identification of current problems which require resolution
- Baseline current service levels and identify key performance indicators for measurement of success
- Identification of essential features of ITIL framework which will underpin further developments
- Prioritisation of implementation plan
- Identification of project milestones

### **Phase Two – Implementation**

- Implement essential ITIL features as identified in phase one
- Implement improvements in processes prioritised in phase one

### **Phase Three – Integration**

- Document internal procedures and align with ITIL framework
- Re-engineer processes for greater effectiveness and efficiency
- Produce management information on improvements in key performance metrics

### **Phase Four – Consolidation**

- Formalise processes for documentation control
- Initiate regular quality oriented review of processes
- Continually assess relevant performance metrics

It is anticipated that this project will concentrate on the first three of these phases, with the bulk of the implementation completed by the start of the 2003 academic year.

## 8.0 Project Deliverables

This section summarises the key deliverables from this project, and their expected benefits to the IT Department and to the University. Further benefits resulting from the project implementation will undoubtedly become apparent during its course.

This list is separated into logical groupings based on the relevant ITIL disciplines.

### 8.1 Service Desk

#### **Improved responsiveness to users contacting the Helpdesk**

- Reduced user downtime, allowing enhanced productivity
- Increased user satisfaction with services provided
- Lessened incidence of user 'shoulder-tapping' for support
- Enhanced user confidence in IT capabilities and competence

#### **Improved training of Helpdesk staff**

- Increased ability for incidents to be resolved at first point of contact
- Greater staff satisfaction and therefore retention
- User confidence in Helpdesk abilities

#### **Centralised communications with clients**

- Improved perception of IT as a coherent, coordinated unit
- Consistent interface between IT and users

#### **Customer satisfaction levels monitored**

- Services can be enhanced in response to user requirements
- Services become more customer oriented

#### **Logging of all calls in support software**

- Management information available for accurately determining support requirements as they evolve
- Training requirements will be apparent based on statistical data
- Increased accountability to clients
- Enhanced ability to diagnose faults based on incident history
- Statistical information available for incident matching and problem identification
- Provide accurate information for knowledgebase construction

#### **Self-service facility for users**

- Non-urgent incidents may be logged when they occur
- Users may take ownership of their outstanding issues
- Users resolve own incidents via the support knowledgebase

### **User Service Expectations Met**

- Customer satisfaction improves as service levels become more consistent

## **8.2 Incident Management**

### **Standardised incident categorisation**

- Allows the extraction of relevant statistics for identification of problems
- Allows incidents to be assigned by skill area, so that the most appropriate staff are assigned to assist with resolution
- Improved utilisation of staff from second or third level

### **Standardised incident prioritisation**

- Ensures that incidents receive the appropriate escalation

### **Formalised escalation of incidents**

- Guarantee that the appropriate staff are working on an incident
- Incidents are resolved within the agreed timeframe
- Processes are in place to deal with breaches

### **Reduction in unnecessary support calls to second level consultants**

- Allows optimal utilisation of consultants to resolve system problems

### **Management information provided on call volumes**

- Assists IT management to make sound decisions on resource allocation based on statistical figures of support levels being provided

## **8.3 Configuration Management**

### **Accurate database of supported IT systems**

- Effective management of University IT assets
- Assists IT internally, and other supported departments with budgetary requirements for IT equipment
- Ability of support staff to diagnose faults is enhanced

### **Recorded relationships between inventory items**

- Increased ability to complete appropriate impact analysis for changes

### **Procedures for updating CMDB**

- Ensures that the configuration database is kept accurate and current

## 8.4 Problem Management

### Identification of common incidents and development of workarounds

- Reduced downtime for users
- Identify where staff training will provide rapid incident resolution
- Identify where user training will reduce reliance on IT for minor incidents

### Elimination of recurring errors

- Reduced incident volume
- Reduced frustration caused by duplicated incidents
- Progressive provision of increased service quality
- Permanent solutions to systematic problems

### Provision of an accurate and relevant knowledgebase

- Provide front-line support staff with the ability to resolve a greater percentage of incidents at first point of contact
- Assist users to take ownership of their incidents

## 8.5 Change Management

### Formalisation of change processes

- Reduced impact by changes on users, resulting in reduced incident volumes
- Planning will be documented, allowing impact assessment review
- Ensure resources are available to implement the change

### Improved communication of intended changes to users

- Users will be able to plan activities around major changes
- Elimination of change scheduling conflicts, which may generate a high volume of incidents

### Ability to assess impact of changes more accurately

- Reduced impact of changes on the user community
- All appropriate groups involved in change decisions

### Proactive identification of beneficial system enhancements

- Enhancement of services based on requests for change from users will allow IT to be more responsive to user expectations

## 8.6 Release Management

### Definitive Software Library

- Control software versions and licenses available on campus
- Rationalisation of support costs via standardisation
- Reduction in licensing costs by identifying usage

### **Inclusion of training as part of change management**

- Improved product knowledge provides enhanced incident management
- Awareness of package capabilities allows staff to identify common incidents
- Where common incidents are identified, user training needs to be provided

### **Support for MIS projects**

- Improved communication channels between project development and support roles
- Ensure appropriate documentation and training is provided to deliver support
- Release of further MIS developments is more successful as users can rely on support from IT

## **8.7 Service Level Management**

### **Service catalogue**

- Users understand what services the IT Department can deliver with available resources

### **Operational level requirements (OLR)**

- Understanding of the services required internally
- Improved inter-group communication

### **Operational level agreements (OLA)**

- Enhanced service levels internally will allow enhanced services to be provided externally
- Identify resource requirements for delivery of efficient service

### **Service level requirements (SLR)**

- Understanding of user requirements through an open process
- Allows the IT department to tailor services around user requirements more effectively

### **Service level agreements (SLA)**

- Users expectations are managed and met by IT
- Eliminate misunderstandings
- Service levels can be measured against agreed targets
- Escalation processes in place to manage SLA breaches
- Provide equitable support

### **Service improvement program**

- Allow IT to focus resources where required
- Constantly evolve services with a quality improvement approach

## **9.0 Project Organisational Structure**

### **9.1 ITIL Implementation Project Manager**

It is proposed that the project manager will be Hamish Duff.

### **9.2 Service Management Project Team (ITSM)**

The Service Management Project Team will consist of the initial working party which investigated the ITIL framework, plus other staff appropriated from the IT Department to provide balanced input without prejudice.

The ITSM should not exceed six members as this may hinder flexibility, mobility and forward progress.

The current Service Management Project Team consists of:

Hamish Duff (Chair), John Todd, Mark Andrews, Chris Rodd and Zane Gilmore.

### **9.3 Implementation Teams**

Implementation Teams for each specific process within the ITIL framework will incorporate selected members of the ITSM and key staff members in each area. Managers and Group Leaders from affected areas will need to be included as changes recommended will affect staff under their control.

### **9.4 Steering Group**

The ITM will act as a steering group for this project, bringing in other parties as required to make sound decisions.

### **9.5 Reference Groups**

It is proposed that two reference groups are created; an internal reference group, comprising of employees from a number of areas affected by the implementation, and an external reference group, made up of academic and general staff who have regular dealings with the IT Department.

### **9.6 Reporting Lines**

The process implementation teams will report at pre-defined intervals to the ITSM. Collated progress information, problems encountered, etc will be reported to ITM monthly through the IT Director. Both levels of project teams may seek guidance from the ITM on strategic decisions and policy issues. Day-to-day resolution of problems which hinder the progress of the project may be attended to by the IT Director.

## 10.0 Key Challenges to the Implementation

Key challenges to the success of the project can be identified as:

- Insufficient management commitment and support for the changes required
- Inequitable process ownership and responsibility
- Continuation of reluctance to effect change when best practices are identified as beneficial
- Perception of change as occurring too rapidly
- Inadequate training for IT support staff
- Resistance to integration of services between different groups
- Perception of processes as too bureaucratic
- Minimal commitment to changes from staff
- Circumvention of established processes
- Improve user involvement with the implementation process
- Ensuring key stakeholders have appropriate input into process development

## 11.0 Communications Strategy and Change Management

Once this Project has been approved by ITM, the ITSM will release a letter to the IT Department staff, advising them that the ITIL framework will be implemented. The letter will outline the impact and changes that will affect them in the short term. The letter will also indicate what involvement staff can expect in the planning exercise. Some staff will be requested, via ITM, to assist on the implementation groups.

A letter will be sent to selected reference group members, external to the IT Department, informing them of the anticipated changes likely to occur during the ITIL framework implementation. A request will be made asking which changes they would like to see occur within the IT Department, from their perspective.

Initial training sessions to increase management and key staff member awareness of the ITIL framework have already been completed. These will be followed by a one-day awareness seminar, to which we may send any interested parties, but which should include all of the major stakeholders in the IT Department services.

An intranet site will be implemented to allow dissemination of information regarding project progression, and details of steps to be completed. This web site will also include a system for staff to provide feedback on their concerns regarding this change, and so that their input may be added to the implementation process. Concerns and questions will be collated and they and their answers will be made available publicly via an FAQ page.

An article will be run in the IT newsletter describing the process that the IT Department will be going through, to keep the wider user community informed. Regular newsletter articles will ensure the campus community is kept abreast of changes.

Regular reports will be provided for the ITM, allowing ITM to retain overall control of the progression and direction of the project. The reports will document the achievements for the current period, the expected achievements for the next period, and any issues encountered which require ITM input. ITM will also act as change controllers, for example if the scope, resource requirements or period of the project require changes.

Buy in for the ITIL framework will be increased by the involvement of staff in the project implementation as previously described. The members of the ITSM should be respected in their various areas. The members will act as an internal reference group, allowing the propagation of both ideas and progress for the project. This will allow the collation of concerns in a non-prejudicial environment to the project team.

Perception of the framework as a bureaucratic system will lessen buy-in; therefore when the implementation is occurring it should not impact on staff's normal workload.

Buy in may also be enhanced by emphasizing that many of the current processes already fit within the ITIL framework. This clearly indicates to staff that the effort already invested in standardisation of internal processes is well recognised.

## 12.0 Resource Requirements

### 12.1 Human Resources

It is proposed that the second level PC support position held by Hamish Duff is backfilled to allow him to concentrate full time on this project.

Allocation of time to the project will be requested from a number of staff within the IT Department. Requests and authorisation for staff resources will be directed through the proper Manager and Group Leader structure.

Some staff will also be required to take part in the project and sub-project teams, however the costs to IT of this temporary involvement is difficult to quantify.

### 12.2 Helpdesk Telephone System

The Helpdesk telephone system currently in use may require modification; however the resource requirements are unknown at present.

### 12.3 Software

#### **Magic Total Service Desk**

The Magic service desk system is the main tool currently in use to track incident data, and configuration information. It requires an upgrade to be optimally effective for ITIL implementation. The option pack 'Magic Change and Configuration Management' will allow Magic to be extended into a number of management areas where it is not currently utilised.

Initial cost of upgrade:	\$17,325
Plus	\$3,850 per concurrent seat

Estimated initial requirement of 5 seats.

The initial quote obtained will, in all likelihood, be reduced at the time of purchase.

Currently the IT Department has purchased 15 concurrent seats in the main product. The ITIL implementation may identify the need for more concurrent seats than currently provided. Further seats have been quoted at \$7,700 per seat. The ITSM has already identified a requirement for an extra 5 seats to allow for concurrent use by all front line support staff.

Ongoing support costs per annum for this product are \$1,465 per seat in the main product, plus \$330 per seat for the option pack.

The prohibitive costs of these additions to Magic may require a review of its usage if determined by ITM.

## Appendix A – The Canterbury Way Forward

The strategic direction of the IT Department is currently defined from the University Plan 2000. The key objective extracted from that document is:

***To develop an integrated approach to information technology and information services throughout the University, involving a partnership between all information service providers and users. (Ref 12.2 in the "Canterbury Way Forward")***

This objective is referred to throughout the planning document, and will provide direction where strategic decisions are required.