

Department of Enterprise, Trade  
and Employment



# ICT Strategy 2008–2010

ICT Unit



Department of  
**Enterprise, Trade and Employment**

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## **Foreword by the Secretary General**

Welcome to the Department's Information and Communications Technology (ICT) Strategy 2008 – 2010.

This Strategy reflects the considerable effort of a number of working groups in which the challenges and opportunities facing the Department's ICT offering were explored. I would like to thank all involved including the Offices and Business Units of the Department in providing valuable input to help ensure that the ICT strategy will support their business.

Over the last decade we have all witnessed the radical impact that ICT is having on our lives both at home, throughout society, and professionally in how organisations now do business. This has also been reflected in our Department which has had an excellent record in using technology to improve how it carries out its business. Our websites, online applications and eGovernment services have rightly focussed on improving the delivery of our business to our customers. As ever, new technologies continue to emerge which will further change how we work, and how our customers interact with us. The wider ICT environment is changing, with more and more attention being given to Information Security as well as ensuring that ICT projects are properly governed. Also, our Department is changing with a growing geographical footprint, many new entrants and new objectives as reflected in our new Statement of Strategy 2008-2010 ( shortly to be published ). These factors present new challenges for our ICT that are addressed in an integrated way in this new ICT Strategy. This new Strategy reflects on the position of the Department's current ICT and our emerging needs, it looks at trends in ICT deployment in other organisations and it sets a course for the further development of our ICT over the next three years. The challenge now is to achieve the Strategy.

While the obvious lead in this regard rests with ICT Unit, everyone in the Department will have an interest because, as the Strategy explains, the Department's ICT is owned by everyone in the Department and it exists only to meet the Department's business needs. This requires knowledge and information sharing through communications

and collaboration – in short it requires us to have the technology to effectively manage our information and how we communicate with each other.

Effective ICT management requires people to deploy the right technology in the right way for the right reasons, commonly referred to as ‘People, Process and Technology’. The Strategy explores these themes with a view to arriving at the best possible fit to ensure that the ICT Unit’s mission, “To provide appropriate Information and Communication technologies that enable our clients to access the information and services necessary to do their jobs” is delivered.

I now look forward to the delivery of the commitments contained in the Strategy. Through this work we can achieve a more integrated approach to the management and development of ICT in the Department, as we strive to achieve our Mission and Business Goals.

**Sean Gorman**  
**Secretary General**  
**March 2008**

## **1. Executive Summary**

### **1.1 Introduction**

The Department of Enterprise, Trade and Employment continues to experience rapid change and faces many complex challenges over the coming years. Information and Communications Technologies (ICTs) will continue to have a key role to play in enabling the Department to achieve its corporate goals. In common with other business units, ICT Unit must therefore adopt a strategic approach to the ongoing development of its services.

This ICT strategy has been informed by a series of meetings with the Department's Divisions and Offices to understand the key business challenges which our clients are likely to face over the coming years. The strategy development process involved staff at all levels within ICT Unit to encourage ownership of the objectives and strategic actions identified, with advice and commentary sought from consultants and independent industry analysts as required.

ICT Unit in the past few years has concentrated on what might be labelled as 'front garden' work such as implementing new online systems and new back office management systems, providing greater remote access and professionally meeting the growing demands of individual staff and offices both organisationally and politically. Such work is 'front garden' in that it is highly visible. It is also vitally important as it makes an impact experienced by our customers, both internal and external. Excellent progress was made in this regard and now it is time for ICT Unit to focus on the 'back garden', i.e. those activities and processes which are hidden from end users but which underpin the delivery of services to our clients. Both management and staff alike in ICT Unit consider it imperative that the focus of our work over the course of this ICT Strategy should be on the back garden, to protect the progress we have already made, to establish best practice in terms of our processes and governance controls and to achieve a solid foundation through our infrastructure architecture, systems design and work processes which will continue to support robust ICT throughout the Department. In the long-term this approach will greatly assist the ease with which ICT Unit can

react to new business challenges and adopt new technologies aimed at increasing efficiencies and impact for our clients.

## **1.2 Mission**

ICT Unit's primary function is to support the business in its day-to-day activities and considers its mission to be, simply,

**“To provide appropriate Information and Communication technologies that enable our clients to access the information and services necessary to do their jobs.”**

This will be our mission for the next 3 years. However, ICT Unit would like to develop its abilities, skillsets and resources to a point where it can focus more on increasing business productivity and adding strategic value with the following medium term vision:

**“ICT Unit will become an enabler of change within the Department, by assisting Business Units to enhance productivity through the innovative use of technology.”**

## **1.3 ICT Unit - Strengths and Weaknesses**

As a starting point for deciding how it can deliver its current Mission while developing towards its Vision, ICT Unit developed a SWOT analysis (Section 8.5.11), identifying its current strengths and weaknesses and the threats and opportunities it faces in the future. In summary, ICT Unit faces the following key challenges:

1. Increasing reliance/ dependence on ICT by the business;
2. ICT Unit is under resourced when compared to industry benchmarks;
3. Increasing expansion of systems with new demands at short notice (e.g. arising from political decisions);

4. ICT Unit staff are responsible for the availability and performance of key business systems which can often lead to intense pressure on these individuals when problems arise;
5. There is a perception within the Unit that career progression for IT staff is limited compared to peers in other Units;
6. Considerable time and experience is required for a Civil Service generalist to become an ICT specialist;
7. Skills are continually lost as staff move on and are not replaced by experienced IT specialists, as would happen in the private sector;
8. Lack of time and resources to ensure adequate cross-skilling between staff within the Unit;
9. The information security stance (as evidenced by the recent security review and web-site hacks) falls short of best practice, while the external security environment to which all organisations are exposed is becoming increasingly hostile;
10. Dispersed groupings of ICT staff across the Department and its offices leads to varied and inconsistent implementation of controls and procedures;
11. Staff are often too busy to maintain documentation on existing procedures or consistently implement new ones;
12. Technologies are becoming increasingly more complex to deploy, manage and secure;
13. The Department's existing technical architecture is very diverse and decentralised;
14. ICT equipment is a significant contributor to the Department's carbon footprint.

#### **1.4 Strategic Objectives**

To address these challenges, ICT Unit is adopting five strategic objectives which will be achieved through a combination of **people, process and technology**:

- 1.) Provide a secure IT infrastructure which delivers appropriate levels of data Confidentiality, Integrity and Availability.

- 2.) Ensure access to appropriate skills and resources.
- 3.) Incorporate effective governance and Project Management practices to promote a close alignment between IT and Business Units.
- 4.) Maximise value for money from existing and future technology investments.
- 5.) Incorporate best environmental practices into its IT operations.

## **1.5 Strategic Actions**

The key strategic actions to be implemented as part of this strategy include:

- Refocusing of staff on core technical and managerial skills, with a corresponding emphasis on training and cross-skilling;
- Increased use of out-/ in-sourcing for specialist / non-core skills;
- Reorganisation of ICT Unit including the creation of an Infrastructure Management Team and a full-time Information Security Officer;
- Increased focus on formalised procedures and standards, and authority given to ICT Unit to enforce these centrally on all locations and Offices where required;
- Introduction of a formalised Project Management methodology to ensure proper project governance and the provision of training for all ICT Unit staff and where appropriate, business unit staff in this discipline;
- Increased ownership by Business Units of IT-enabled business projects, including aspects such as the business case, risk analysis, post implementation review and information security;
- The impact on ICT Unit resources of any new initiatives or projects to be carefully considered by ICT Steering Group;
- Ongoing investment in and upgrading of technology platforms as required;
- Increased consolidation of technologies and sites;
- The migration of the telephone system to a Voice over Internet Protocol platform;
- Increased emphasis on Total Cost of Ownership when making procurement decisions;
- Increased emphasis on power management and energy usage.

## 1.6 Benefits

By adopting these strategic initiatives, ICT Unit believes it can address all the key challenges outlined earlier. Specifically ICT Unit believes this strategy will result in:

- The Department's information security stance being significantly improved;
- Reduced technological complexity;
- ICT Unit staff having time to engage with the business, and research and introduce innovative solutions;
- Improved cross-skilling and documentation of processes leading to less dependence/ pressure on key individuals;
- Development of key management skills, career progression opportunities and improved staff morale;
- Improved involvement, understanding and ownership by Business Units of projects involving ICTs;
- ICT Unit's annual Business Plans being clearly linked to the overall strategic direction of the Unit;
- Reduced energy usage/ carbon footprint.

## 2. Structure of this document

This strategy document aims to set down the current situation in relation to ICT Unit, explores the external and internal drivers which will impact on the Unit over the coming years and finally considers how ICT Unit propose to respond to these challenges through a series of strategic actions.

- *Chapter 3* outlines the strategy development process;
- *Chapter 4* outlines ICT Unit's current organisation and staffing, the services it offers and the perception and satisfaction levels with the current level services;
- *Chapter 5* outlines the technology platforms currently being used;
- *Chapter 6* outlines the governance structures under which ICT Unit currently operates

- *Chapter 7* reviews the previous 2003-2006 strategy and summarises the progress made against that strategy
- *Chapter 8* considers the environment within which ICT Unit operates, including the Department's overall strategy as well as the external and internal challenges facing the Unit
- *Chapters 9 and 10* outline ICT Unit's Mission and Strategic objectives for the period of this new strategy
- *Chapters 11, 12 and 13* detail the specific strategic actions which ICT Unit proposes to take to achieve its strategic objectives, in terms of People, Process and Technology.
- *Chapter 14* identifies other recommendations for further consideration
- *Chapter 15* outlines the risks and dependencies which may impact the successful implementation of the strategy
- Finally *Chapter 16* summarises the findings from each of the seven working groups. The groups' detailed reports are available as a separate addendum to this document.

### **3. Introduction**

In late 2006, ICT Unit began work on the development of a new ICT strategy to succeed the previous strategy developed by IBM in 2003. This 2003 strategy included 75 specific recommendations, many of which were implemented either entirely or partially. Where recommendations were not implemented it was because circumstances changed, the recommendation required changes or decisions outside of ICT Unit's control, the recommendation itself was deemed to be premature or indeed prioritisation, and therefore resources were given over to more immediate demands.

At an early stage it was decided that the new strategy would be developed in-house, using outside experts and consultants as required, rather than outsourcing it in its entirety. This new approach was adopted for a number of reasons:

- It was felt that ICT Unit staff would understand the technology and business challenges facing the Unit and the wider Department better than an external consultant;
- ICT Unit could access specialist expertise as required through its existing relationships with consultants and contractors, and through its subscriptions to analyst companies such as Gartner Inc. and Butler Group;
- It was felt that ICT Unit staff would have an opportunity for valuable personal development through a deeper involvement with the strategy development process;
- It was recognised that a key factor in the execution of any strategy is employee involvement in the strategy formulation process.

In preparation for the main body of work, ICT Unit met with each Business Division and Office to understand the key business challenges which the Department was likely to face over the next 3 years. The outcome of these meetings was documented and informed the subsequent analysis work carried out within ICT Unit.

ICT Unit then began a process of looking at its own internal challenges in terms of its financial and human resources, its core technology platforms, its key relationships and

its internal processes as well as the findings of the RITS security review which was being carried out contemporaneously. Arising from this, seven Working Groups were formed to look at key technology and operational issues as follows:

*Group 1:* Messaging, email and collaborative technologies

*Group 2:* Desktops and Office Productivity tools

*Group 3:* Network operating system and network services

*Group 4:* Data and voice networks/ convergence

*Group 5:* Applications and database technologies

*Group 6:* Websites and online systems

*Group 7:* Relationships with the Offices

These Groups worked to a predefined terms of reference (see sample in Appendix 1), with the objective being to identify and analyse the main technology options or approaches and to recommend a strategy for the coming years. Supporting each of these technology issues were horizontal factors which groups also discussed e.g. security, unit structure, training and development, succession planning, management processes, resource levels etc. Outstanding issues from the previous strategy were also reconsidered to see if they were still relevant or valid.

A series of meetings including a full day facilitated workshop were also organised to discuss how ICT Unit should address some of the non-technology issues such as staffing and governance processes.

The involvement and commitment of ICT Unit staff to these exercise has been impressive given that they also had to continue to deliver a busy day-to-day work programme as well as supporting the setting up of the Carlow office. To put it in context, there were some 24 participants on the seven Working Groups, with a total time input in excess of 360 hours, not including research and preparatory work done between meetings. A series of presentations were organised with our key technology suppliers e.g. Microsoft and Novell, and there was also extensive consultation with independent technology analysts from Gartner Inc. and our existing consultants and 3rd party suppliers.

## 4. Organisation and Services

### 4.1 Organisation

The ‘central’ ICT Unit comprises 35 staff, assigned as shown in the organisation chart below, Figure 1:

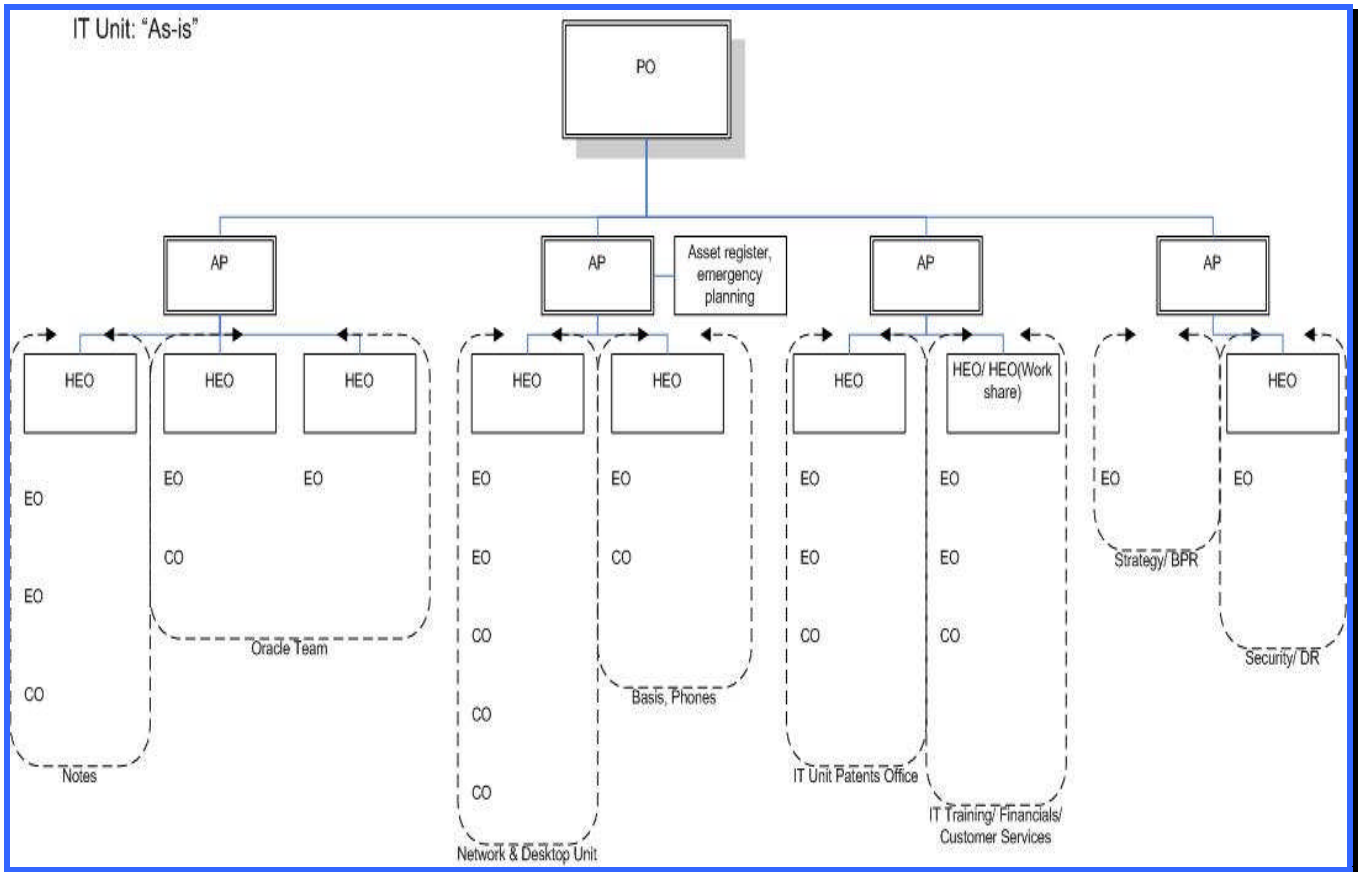


Figure 1- ICT Unit organisation chart

For the most part staff are Civil Service generalists, and although there are six Systems Analyst/ Junior Systems Analysts at HEO and EO grades, these staff also joined the Unit from generalist grades.

In addition to these ‘central’ staff there are local IT support staff in the Companies Registration Office (three) and the National Consumer Agency (two). Three staff are also provided by BT to provide on-site helpdesk support.

## 4.2 Service Portfolio

ICT Unit provides the following key services for its customers.

Workplace support services: Services that provide a productive workplace for knowledge workers, including

- Workstation management: Provision and management of PCs, user access and ID management;
- Communications and Collaboration: Phones, email, etc;
- Mobile Connectivity: Remote access, Blackberries/ GPRS (wireless) cards, mobile phones;
- File and Print: Managed File & Print services;
- Personal productivity: Word, Excel, PowerPoint, Internet access.

Business Unit Support Services: Services that enable the Business Units to service their clients, including:

Back-office systems	On-line Systems
<ul style="list-style-type: none"><li>• Redundancy Insolvency Recovery management system</li><li>• RPS back office</li><li>• On-line Export Licence Application System (OELAS) back office</li><li>• Employment permits management system</li><li>• Employment rights case management system</li><li>• Register of Friendly Societies management system</li><li>• Employment Appeals Tribunal</li></ul>	<ul style="list-style-type: none"><li>• Redundancy Payments System (RPS) online</li><li>• OELAS on-line</li><li>• Patents and Trade Marks online search systems</li><li>• Patents Office online payments system</li></ul>

**Back-office systems**

**On-line Systems**

system

- eCabinet
- Iken- LRC case management system
- PQ system
- Ministers' offices systems
  - Reps
  - Contacts
- FOI system
- Patents Office management systems for patents and trade marks, including Ptolemy, Accepto and Espacenet

Internal Corporate Services: Services to support internal business processes, including

- Oracle Financials
- Intranet
- TMS Time and attendance system
- Progress Travel and Subsistence
- Core Payroll

Facilitation services: Services that are provided to enable individual users and units to increase their effectiveness, including

- Training services
- Business Process Re-engineering service
- Procurement advisory service
- IT Newsletters

Infrastructure services: Services that are hidden from end users but are consumed indirectly in the delivery of other services, including

- Local Area Networks
- Wide Area Network
- Server hosting & management
- IT security, including

- Firewall management
- Anti-virus
- Anti-spyware
- Backup/ restore
- Support outsourced to 3<sup>rd</sup> parties

Management Services: Services that support the Management Information Framework (MIF) and governance requirements, including

- Budget management
- PMDS
- Contract management
- Licence management
- Asset management

### **4.3 Helpdesk**

For many users the helpdesk is the main, and sometimes the only, contact with ICT Unit. The Helpdesk provides first and second level support to users in each of the Department's offices. The service is currently outsourced to BT and operates to pre-defined Service Level Agreements (SLAs). This contract is subject to regular quantitative and qualitative review, looking at performance against the SLA as well as the quality and skills of the personnel delivering the service. Three staff from CarabT are permanently located in the Department. The Helpdesk provides both Level 1 support (i.e. call logging and limited telephone support) and Level 2 support (onsite / deskside support), with more complex issues being referred back to ICT Unit for resolution.

The Helpdesk's hours of cover have recently been extended to provide level 1 support from 8.00am to 5.30pm. In addition extended cover is provided approximately once every six weeks to ensure that technical assistance is available when responses to Parliamentary Questions (PQs) are being transmitted to the Oireachtas. This cover extends to 6.30pm on the preceding day of the Oral PQ date and from 8.00am on the actual morning of the Oral PQ session.

The contract provides for the nomination of 60 high priority/ VIP users and the helpdesk undertakes to treat all incidents logged by VIPs as Priority Level 1, requiring immediate response and a target resolution time of 30 minutes. The helpdesk currently receives in excess of 1,000 calls per month with an average cost per call of approximately €20. A typical breakdown of monthly calls is shown in Appendix 2.

#### 4.4 Customer Charter

As part of the Department’s overall Quality Customer Service initiative, ICT Unit has developed and published its own Customer Charter, a copy of which is shown in Appendix 3.

#### 4.5 Perception of IT

##### 4.5.1 Customer Satisfaction Survey

Since 2004 ICT Unit has conducted a Customer Satisfaction Survey and analysed and published the results in a report. The latest survey, which was conducted online during the month of May 2006, attracted 216 participants, representing a 23% response rate. The results are summarised below. As can be seen from Figure 2, the overall feedback derived from the survey results were very encouraging, with above satisfactory ratings being reported consistently across all service areas.

Service Category	Very Good	Good %	Satisfactory %	Poor %	Very Poor
Helpdesk	34.6	43.8	17.6	3.6	.6
Desktop & Network	31.8	40.6	23	3.9	.8
IT Training	39	48	11	1	1

Figure 2- Overall Service Ratings

IT Training was rated highest overall, with 98% of respondents indicating satisfactory, good, or very good ratings. A closer examination of this section indicates that the most important focus for customers is how quickly and competently they are offered courses and whether these courses are pitched to their Business Units needs.

Similarly, some 96% of participants indicated satisfactory or above ratings for helpdesk services, the survey also showed that over 46% of users found the speed of staff in responding to a query very good. Desktop and network services also attracted favourable ratings, with 95% of participants reporting satisfactory, good, or very good service levels. PC reliability, access to work related sites, printing facilities, along with the quality of email management were particularly well regarded, with over 96% above satisfactory ratings across the Department.

Customer service maintained a high rating for 2006. Participants were aware of who to contact for IT training and customer service issues and compared to previous years the survey showed a higher level of awareness on specific issues such as procurement advice/information or where to send feedback on all IT matters. Similar to 2004 and 2005 the most important customer service issue for staff is the overall time to resolve problems from first reporting.

In conclusion, the survey indicates that satisfaction levels in 2006 are on par with 2005, which exceeded those of 2004. Throughout the Department there is a high degree of confidence in the level of IT skills and how they are used, and an appreciation for the services provided by IT staff.

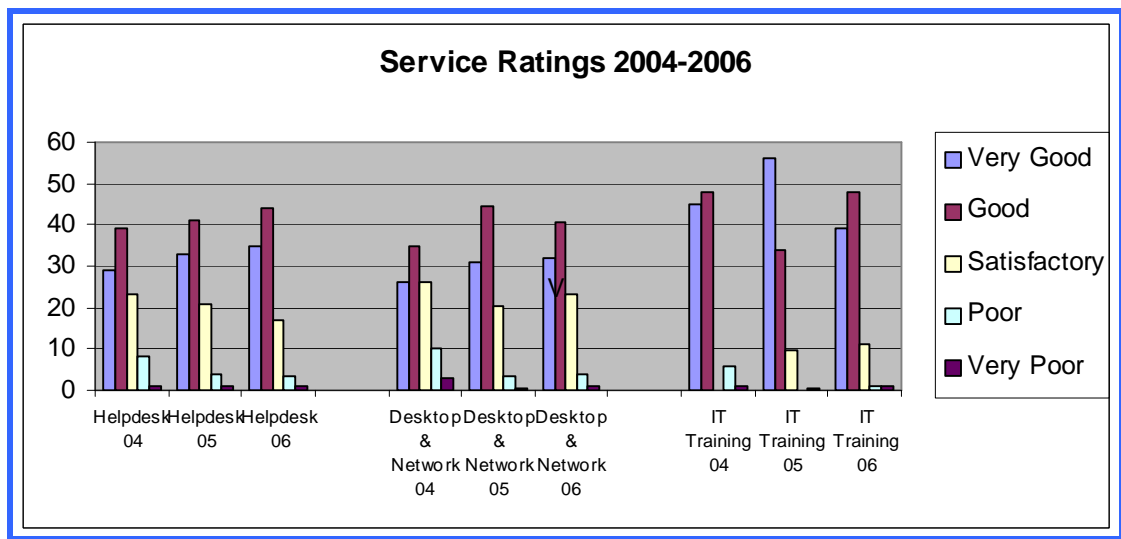


Figure 3- Comparison between 2004, 2005 and 2006 results

#### *4.5.2 Management Perception*

As part of the background research for this strategy document, ICT Unit met with senior management in each Division. The feedback from these meetings, which are discussed in more detail in Section 8.4, showed a high level of satisfaction with the service provided by ICT Unit, broadly reflecting the findings of the Customer Satisfaction Survey.

A number of Business Units reinforced the message that system availability is an important issue for individual officers, particularly at crucial times such as responding to PQs, preparing items for Cabinet etc.

A number of managers also pointed to the increased tendency towards mobile working and teleworking and raised concerns that the level of support currently available to staff using these facilities, particularly outside core business hours, may not be sufficient in the future.

## **5. Existing Technology**

This chapter outlines the current ICT infrastructure and technologies deployed across the Department.

### **5.1 Desktop Environment**

In accordance with the recommendation from the previous ICT Strategy a standard desktop based on Windows XP Service Pack 1 has been built and deployed across the Department. All PCs are now built from standard images which provides a consistent configuration and security template and speed up the process of rolling out machines to users. ICT Unit is currently undertaking a pilot roll out of Windows XP Service Pack 2, which if successful will be deployed across the Department.

A small number of Windows 98 machines remain in use in specific locations typically to accommodate legacy systems.

Desktop hardware is predominantly Dell PCs, although there are a small number of Fujitsu-Siemens machines as well. PC suppliers are selected following a procurement exercise, with the Local Government Computer Services Board (LGCSB) framework being used in the recent past. ICT Unit operates a policy of renewing PCs on a 4-yearly cycle, with approximately one-quarter of all PCs replaced every year.

Staff are provided with accessories such as external speakers as required and staff at Assistant Principal level and above are provided with personal printers in their offices.

In excess of 150 laptops have been deployed to mobile workers, for example the Labour Inspectors and a pool of laptops is available for staff that may need them on a temporary basis. All laptops are built with an XP image.

Almost 100 staff also use the Blackberry mobile device to access email and calendar information whilst out of the office.

## **5.2 Server Environment**

The Department operates in excess of 80 servers (including test and Disaster Recovery systems) in a mixed environment comprising HP Alpha and Proliant servers, and Dell PowerEdge servers.

Because of the diversified nature of the Department's infrastructure Storage Area Network (SAN) technology has not been widely adopted, although some entry-level SAN arrays from EMC and RaidTec have been deployed in high-availability configurations.

Operating systems include Tru64 Unix v4 and v5, SCO Unix, RedHat Linux 2.1 and 4, Windows NT, 2000 and 2003 and Netware 6.5.

Servers are backed up to a local tape library using Computer Associate's BrightStor suite.

## **5.3 On-line systems**

The Department and its offices supports a number of important on-line transactional systems supporting the business processes of the Companies Registration Office ([www.cro.ie](http://www.cro.ie)) the Patents Office ([www.patentsoffice.ie](http://www.patentsoffice.ie)) and redundancy payments ([www.redundancy.entemp.ie](http://www.redundancy.entemp.ie)). Another on-line system to support applications for export licences (OELAS) will soon go live. Technologies used to support these systems include IIS, ASP, ASP.NET, J2EE (Oracle 10g application server), PHP, MySQL and Oracle RAC.

## **5.4 Business systems**

ICT Unit supports a variety of internal business applications running on Oracle and SQL server, using client-server and browser technologies. A variety of Oracle database versions are supported from 8.0.4 up to 10.2.0.2.

A number of systems are also built using IBM's Domino 7.0.1 and the Department's Intranet is built on Domino 5.0.12.

An inventory of business applications is shown in Appendix 1 and Figure 4 positions both the on-line and back-office business systems on a matrix comparing their functional adequacy/ business value against their technical adequacy.

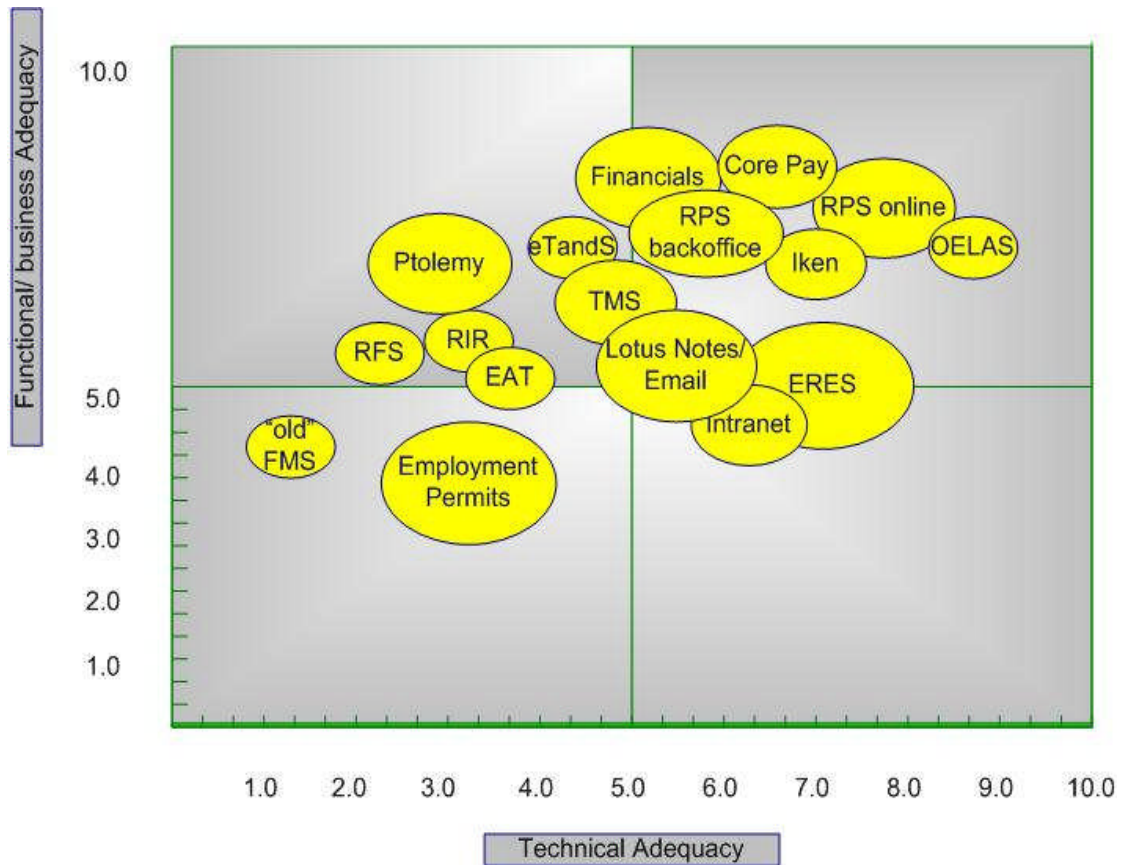


Figure 4- Application Portfolio

## 5.5 LAN

Each office has a dedicated switched Local Area Network providing 100Mbps to the desktop over minimum Category 5 cable, with a copper backbone. Switches are typically 24-port 3COM managed switches.

Network Directory Services are provided by Novell's eDirectory providing identity and authentication and directory administration services. Zenworks is used for desktop and server management.

Two Windows domains with Active Directory also exist, one for the Citrix server farm and the other for the BrightStor backup servers. Active Directory in the Citrix domain synchronises with eDirectory.

## **5.6 WAN**

The Department's offices are linked by a Wide Area Network (WAN) which is currently being upgraded so that all sites being connected by fibre using Metro Ethernet within Dublin and MPLS circuits in Kilkenny and Carlow. When this new WAN is fully deployed bandwidth to all sites will range from 20Mbps to 1Gbps.

## **5.7 Voice**

Voice services are provided to each office by a local PBX, typically Nortel Meridian Option11c, with a Meridian 6c in Kildare St. Phonemaster software provides a graphical interface for administering the PBX and Ringmaster software provides statistics on call costs and traffic activity. Centralised Voice mail is provided from Kildare Street.

With the addition of the decentralised office in Carlow, new technologies such as Voice over Internet Protocol (VoIP) and IP telephony have been introduced to replace the more traditional PBX/ leased line technology. This has resulted in voice servers deployed in Kildare St and Earlsfort Terrace, providing voice services to user in Carlow over the WAN. The deployed technology includes:

- Cisco CallManager cluster
- Cisco Unity Voicemail
- CiscoUnity IP Media Gateways
- Cisco ISR Voice Gateways
- A survivable remote telephony server in Carlow
- Witness IP call recording server
- Cisco switches and WAN routers.

The Department also operates call centres for Employment Rights Enforcement, Employment Rights and the CRO. Additional call-centre functionality such as skill-set management, queuing and reporting which had been provided by Symposium express software is currently being migrated to VoIP technology using Cisco's Unified Contact Centre Express.

## **5.8 Email**

The Department's email system is based on IBM's Notes/ Domino platform using the 5.0.12 client. An upgrade to the Version 7 client is planned for early 2008.

All emails entering and leaving the Department are scanned for malware (e.g. viruses, worms, trojans, etc). All incoming mail is filtered by a third party service provider (Eurokom) for malware and spam before it reaches the Department and it is further filtered by DETE's own systems for inappropriate content and certain types of attachments which are likely to contain malware.

The Department receives significant amounts of spam and overall quantity of email being received is growing at around the industry average of about 300% per year. Incoming email statistics for November 2007 are shown in Figure 5:

### **Incoming mail delivered**

Clean mail	213,507		4.63%
[Possible spam]	14,756		0.32%
Total mail delivered		228,263	4.95%

### Incoming mail not delivered

Virus-infected mail	1,532		0.03%
Filtered attachments	1,277		0.03%
Spam discarded	4,184,638		90.75%
Spam quarantined	195,429		4.24%
Total mail not delivered		4,382,876	95.05%

### Total incoming mail

Total mail received		4,611,139	100%
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Figure 5- eMail statistics for November 2007

This shows that only about 5% of the 4,611,139 emails sent to the Department is actually legitimate with only 0.03% containing viruses (although that still amounts to 1,532 potential viruses outbreaks avoided). The remaining 95% is either spam or suspected spam and is either discarded or quarantined.

By way of demonstrating the ever- increasing nature of the spam threat it should be noted that in September 2007 the Department was sent in excess of 4 million emails, with the percentage of spam being 95%.

## 5.9 Remote Access and Teleworking

The Department provides a variety of remote access facilities to support an increasing number of staff who work away from the office including Labour Inspectors whose role requires them to spend a significant amount of time on the road, officers who telework from their own homes and officers who travel irregularly.

Remote access facilities are also provided for 3rd parties who support and maintain key business systems.

The primary method for providing remote access is by means of a Citrix Presentation Server V4 farm consisting of 3 load-balanced Windows 2003 servers and a Citrix

Secure Gateway appliance incorporating RSA 2-factor authentication for enhanced security.

A Blackberry Enterprise Server (BES) pushes email to a variety of Blackberry clients to enable mobile email.

### **5.10 IT Security**

The Department has a variety of security technologies deployed, adopting a “defence in depth” strategy.

A variety of firewalls including Cisco PIX and Lucent bricks are used to protect the internal LAN and create a number of security zones and DMZs. A number of Juniper Netscreen IDP systems are also deployed.

Sophos Antivirus technology is deployed on desktop PCs, laptops and servers. Incoming and outgoing email is scanned by MailMarshal and website content filtering is provided by Novell’s BorderManager.

### **5.11 Physical Environment**

The Department has servers located in dedicated rooms in 9 separate locations. The server rooms are of varying degrees of quality in terms of access security, racking and cable management, air-conditioning, fire suppression, power supply and general housekeeping.

## **6. Governance**

A number of Governance systems and structures are in place to provide a framework for better communication between ICT Unit and the Business. Arising from the recommendations of the 2003 strategy the Business Services group was formed within ICT Unit specifically to provide a linkage between IT and the business. An important role of the Business Services group has been to improve communications with the business and to manage and monitor customer satisfaction. This is done through a number of mechanisms, including

- The ICT Steering group which meets as required and ensures ICT Unit and Business Units are working to a shared and agreed agenda;
- The IT Users' group which meets quarterly and represents the interests of staff, and provides feedback in relation to the performance of the IT systems and associated support services;
- The IT newsletter which provides updates on developments within ICT Unit as well as providing tips and help features;
- The annual online Customer Satisfaction report which measures customer satisfaction in four main service areas: helpdesk services, desktop and network services, customer service, and IT training;
- Measurement and publication of the annual Key Performance Indicator (KPI);

### **6.1 ICT Steering Group**

The ICT Steering Group is one of four teams established under the Strategic Management Initiative (SMI) within the Department to progress the modernisation agenda. The ICT Steering Group provides a high level co-ordinated approach to the delivery of the Department's ICT strategy.

The Group comprises representation from each of the Divisions of the Department and each of its Offices and is chaired by the Assistant Secretary of Corporate Services. The Committee prioritises and evaluates ICT projects on the basis of Project

Proposals submitted by Business Units, taking account, in particular, of the strategic priorities of the Department and its Offices.

## **6.2 ICT Users Panel**

The ICT Users Panel was established in 2002 to create a forum whereby the ICT Unit and its customers could discuss IT matters of mutual interest in a formal and structural setting.

The role of the ICT Panel is to provide information, advice and assistance in relation to the services provided by the ICT Unit to the Department, and is chaired by the Principal Officer, ICT Unit.

The Users Panel provides the ICT Unit with the opportunity to listen to its customer and to understand their needs. It also enables the ICT Unit to keep its customers informed as to developments in the ICT arena by providing updates on projects and initiatives.

## **6.3 Budget management**

ICT Unit's budget for 2007 amounted to €4,901,000, representing a reduction of 3.7% on the 2006 budget. This figure covers items such as licences, support and maintenance, equipment procurement, consultancy and development projects, but does not include the costs of the telecommunications circuits or phone lines which are paid by Organisation Unit.

## **6.4 Procurement**

ICT Unit works hard to ensure that all procurement is carried out in line with the relevant Public Sector Procurement guidelines, with most competitions being published on the [www.etenders.gov.ie](http://www.etenders.gov.ie) website or in the OJEU journal.

The Head of ICT is also currently the Department's procurement officer and as such the Unit has recently been providing procurement advice to other Business Units. ICT Unit also recently produced a detailed Procurement Plan for the Department.

## 6.5 Key Performance Indicator

Since January 2007 ICT Unit has been recording and reporting a Key Performance Indicator (KPI), with the aim of achieving an overall 99% average uptime over the course of a year (measured and reported on a quarterly basis). Rather than measure every system the KPI is calculated against a representative sample of key systems and applications. The ICT Steering group approved the following approach to measuring the KPI.

*Planned downtime* is the time systems are off air, agreed with users in advance, and essential for maintenance, but not for application of fixes. *Downtime* refers to the time during which a system is not available during hours of coverage (including time spent applying fixes). *Hours of coverage* is the declared time window during which the KPI applies is 08:00 - 19:00 Monday to Friday excluding Bank Holidays and planned downtime; except for Patents Office Online Services for which we can report on 24/7/365 basis.

### 6.5.1 KPI calculation:

ICT Unit records downtime and calculates monthly percentage in relation to the available hours for each application based on an 11-hour day, multiplied by number of business days in each month (with the exception of Patents Office Online as noted above). For corporate-wide services (e.g. E-mail and Netware) the available hours are multiplied by the number of servers supporting the service (i.e. 8).

### 6.5.2 Applications and Services to be measured:

Redundancy Payments System (RPS) Online	PABXs & Phones
RPS Back office	E-mail (Lotus Notes)
Oracle Financials	Local Area Network (LAN)
Core Payroll System	Wide Area Network (WAN)
Patents Office Ptolemy & Acspeto systems	
Patents Office Online Services	

Since January 2007 ICT Unit has been consistently been exceeding the KPI of 99% availability for these systems.

## **7. Strategy 2002- 2006**

In 2002 ICT Unit engaged IBM to develop an ICT Strategy for the period 2003-2006. This strategy considered the technologies and business applications deployed across the Department, as well as the organisation and staffing of the Unit itself, and produced a series of recommendations which have influenced ICT Unit's work programme for the past few years.

### **7.1 Goals of the 2002-2006 Strategy**

The mission statement for the 2002 strategy was:

“To further the development of staff, support structures and systems to assist the Department in achieving its objectives and in implementing a programme of further and continuous improvement”

A number of strategy goals were devised, covering technology, applications, information and organisation as follows:

- To provide staff with an efficient and reliable IT infrastructure that meets the business requirements of each division and office;
- To put in place appropriate measures and procedures to protect the IT infrastructure from unforeseen events;
- To provide the Department and associated offices with appropriate automated services in order to maximise the efficiency of processes;
- To put in place a framework for the effective and efficient evaluation and specification of projects and ensuring new projects adhere to specified standards;
- To become a leader in implementing services within the eGovernment framework;
- To ensure the necessary systems and processes are in place to manage information as a valuable asset of a knowledge-based organisation;
- To provide a high-quality information service to the public;

- To provide a high-quality ICT support service to everyone within the Department and associated offices;
- To create an effective organisational structure which supports the vision of this strategy;
- To develop and retain IT skills within the Department and associated offices;
- To actively work with the business to create an understanding and overall alignment between business and IT priorities.

To achieve the above goals in excess of 70 specific recommendations were made.

## **7.2 Progress against 2002 Strategy**

There have been a number of significant achievements over the lifetime of the 2002 Strategy.

The most notable achievement, which cannot be over-looked, is that ICT Unit has provided the Department and its Offices with a comprehensive and effective IT system which has met all of the Department's essential requirements without any major breakdown in service delivery. The achievement of this can be directly attributable to the dedication and hard work of all of the staff in the Unit, often working under very trying conditions. Other achievements that can be noted include -

- Implementation of a wide range of applications / projects, including online payments in the Patents Office, the on-line Redundancy Payments System, the Peoplesoft HR system, Oracle Financials, development of the Intranet and the Employment Rights Case Management System;
- Implementation of the Xwave E-Strategy to e-enable Departmental services;
- Putting in place an ICT governance procedure (ICT Steering Group, project proposal documentation and approval procedure);
- Introducing a very strong customer service focus to the work of the Unit and regular communication with users;
- Implementation of a Disaster Recovery regime;
- Development of a detailed security policy;
- Provision of effective ICT back-up resources and procedures;

- Provision of an extensive mobile working environment for Departmental staff;
- Standardisation of desktop environment (around Windows XP) as well as considerable progress towards standardisation of back-office systems around Lotus Notes (for smaller developments), and Oracle and SQL Server (for large database projects);
- Provision of a business process review service to the Department and the Offices;
- Provision of procurement advice and assistance to the Department and Offices.

### **7.3 Actions still to be implemented**

Not all of the recommendations contained in the Strategy were fully implemented and these are listed in Appendix 4. The primary reason for this is that since 2002, as noted elsewhere in this document, the DETE ICT environment has expanded dramatically and the technologies deployed have become increasingly complex. This has meant that staff have been focussed on the short term delivery of new projects and services to the business at the expense of focussing on longer-term strategic initiatives and improvements in areas such as management processes, security and skills development. Other reasons why these recommendations were not fully implemented include:

- Circumstances may have changed from the time the original strategy was drawn up;
- On further consideration some recommendations were considered to be premature;
- Some recommendations (e.g. implementation of Knowledge Management/ Electronic File Management/ Collaboration tools) require decisions and leadership from outside the ICT Unit;
- Local Office management may have adopted different strategies (e.g. in relation to website design);
- Constraints imposed by Departmental or Civil Service guidelines and procedures (e.g. the recruitment and retention of IT staff).

## 8. Environmental Analysis

In order to develop an ICT Strategy which is informed by, and relevant to the core business of the Department it is necessary to identify the key drivers which underpin DETE's own Strategy, as well as recognising the external drivers which impact on the Department.

To better understand the key issues facing DETE, ICT Unit considered the Department's Statement of Strategy 2005-2007 and supplemented this with a series of meetings with the Department's Business Units and Offices to get a better understanding of their business plans for the next 3 years and to discuss what services ICT Unit should be providing to support those plans. In addition a number of external drivers were identified which affect the public sector generally and this Department specifically.

### 8.1 DETE Business strategy

The Department's Mission as set down in its Statement of Strategy 2008-2010 is as follows:

**“Driving Ireland’s competitiveness and productivity by creating the conditions where enterprise, entrepreneurship and innovation can flourish and quality employment opportunities are grown and maintained.”**

As our Mission is to drive Ireland's competitiveness and productivity by creating the conditions where enterprise, entrepreneurship and innovation can flourish and quality employment opportunities are grown and maintained, we have identified the following key supporting “Pillars” and High-Level Goals for our Strategy for the 2008-2010 period.

Pillar	Goal
<i>Investing in Knowledge and its Application</i>	To improve our competitiveness by significantly enhancing our capacity to generate, protect and use new knowledge for economic and social gain.

Pillar	Goal
<b><i>Enterprise Development Policies in a Competitive High-Value Economy</i></b>	To enhance national competitiveness, innovation and enterprise capacity across the economy to underpin sustainable and balanced economic growth, new employment opportunities and dynamic export activity in both products and services and to further initiatives in the area of the all-island economy
<b><i>Skills Supply, Enhancement &amp; Participation in the Workforce</i></b>	To pursue labour market policies which support enterprise development and promote the development of human capital by improving the skill levels of the workforce, thereby facilitating increased participation in and access to employment.
<b><i>Better Business Regulation &amp; Consumer Protection</i></b>	To ensure that the business regulatory system facilitates competition in the marketplace along with high standards of consumer protection and corporate governance.
<b><i>Workplace Partnership and Employment Rights</i></b>	To foster good industrial relations and the partnership model, supported by an appropriate employment rights legislative and institutional framework
<b><i>Delivery of our Strategic Goals.</i></b>	To provide high level professional support, service and advice in facilitating the implementation of the Department's business goals, on a Value for Money basis, while continuing to be at the forefront of the modernisation agenda across the Civil and Public Service.

## 8.2 DE TE Structure

The Department is a complex multi-functional organisation. Its institutional environment comprises the central Department itself, which is divided into seven Divisions, along with a range of statutory offices and agencies which carry out a range of executive functions on its behalf as follows:

**Divisions:**

- Enterprise and Agencies
- Competitiveness and International Affairs
- Science, Technology and Intellectual Property
- Labour Force Development
- Employment Rights & Industrial Relations
- Commerce, Consumers and Competition
- Corporate Services and Economic Policy

<b>Offices:</b>	<b>Agencies:</b>
Labour Court	FÁS
Employment Appeals Tribunal	Health & Safety Authority
Labour Relations Commission	Enterprise Ireland
Rights Commissioners	IDA Ireland
Office of the Director of Corporate Enforcement	Shannon Free Airport Development Company Ltd.
Patents Office	Forfás
Companies Registration Office	City & County Enterprise Boards
Office of the Registrar of Friendly Societies	Competition Authority
National Employment Rights Authority	National Consumer Agency
	National Standards Authority of Ireland
	Science Foundation Ireland
	InterTradeIreland (North/South Implementation Body)
	Personal Injuries Assessment Board
	Irish Auditing and Accounting Supervisory Authority

The ICT requirements of the Agencies are provided by their own internal IT departments and are therefore not considered in the context of this strategy.

### **8.3 Horizontal Drivers**

The Department is influenced by a range of external drivers which cut across and impact all of its activities, including the work of ICT Unit.

#### *8.3.1 Modernisation Agenda*

Since the launch of the Strategic Management Initiative and Delivering Better Government in the 1990s, the Department has been engaged on a sustained programme of modernising the way it does its business so that it deploys its scarce resources – both human and financial – in the best way possible to meet the growing, and ever more complex, demands placed on the Department by its stakeholders – the Government, Oireachtas, Citizens and International Institutions.

The Department has developed clear goals and initiatives which the Department will seek to deliver in furtherance of its modernisation agenda over the first phase of the latest Social Partnership Agreement, Towards 2016 (T16). The Department has developed an action plan showing the actions it is proposed to initiate, progress or complete during this first phase of the T16 agreement in order to create an ever more flexible, modern and agile Department delivering its mission and business goals to its customers/stakeholders. A key component in delivering the T16 action plan will be the exploitation of ICTs, particularly in areas such as e-enablement of business processes, flexible working and decentralisation.

#### *8.3.2 Regulatory environment*

All organisations, both public and private, exist in an increasingly regulated environment. The Official Secrets Act, Data Protection Act, Child Trafficking and Pornography Act, Freedom of Information Act, and the Copyright and Related Rights Acts are just some examples of the legislative environment within which the Department operates and which have profound consequences for how the Department operates its ICT infrastructure.

As an example, not only can the Department be held responsible for content it legitimately creates and stores on its ICT systems but it may also be held responsible

for inappropriate or illegal content which may have been placed on its systems without its knowledge or consent.

The Department DETE maintains a number of databases containing sensitive, personal information including databases of employment permit applications, redundancy payments and payroll. The Data Protection Act requires the Department to value and protect this data appropriately.

#### *8.3.4 Mullarkey*

Specifically in a Civil Service context, the “Report of the Working Group on the Accountability of Secretaries General and Accounting Officers”, commonly referred to as the Mullarkey Report (in common with legislation such as Basel 11 and the Sarbanes-Oxley Act in the US), emphasises the importance of managing risk and implementing internal controls:

“Internal control in the wider sense is a management responsibility primarily concerned with ensuring that the business of the organisation is carried out efficiently, that management practices are adhered to, that assets are secured and that records are accurate and complete.”

#### *8.3.5 Security issues*

The external information security threat environment has evolved in recent years to a point where such threats are now well organised and may be driven by either for-profit or political/ patriotic motives. A comprehensive response to this threat requires a “defence in depth” strategy combining technology solutions with best practice security management and change control processes.

Recent cases of identity loss and theft suffered by other organisations demonstrate the importance of having security measures in place which protect not only against external hackers and threats but also against inadvertent or deliberate actions on behalf of staff and trusted 3<sup>rd</sup> parties.

### *8.3.6 Green Issues*

Recent research by Gartner suggests that Information and Communication Technologies account for 2% of CO<sub>2</sub> globally, the same contribution as aviation.

This 2% includes the in-use phase of PCs, servers, cooling, data center uninterrupted power supply (UPS), fixed and mobile telephony, Local- and Wide-area networks, printers and disk storage, as well as an estimation of the embodied (i.e. that used in design, manufacture and distribution) energy in the large-volume devices, namely PCs and cell/mobile phones.

The disposal of ICT equipment is also problematic. Electrical and electronic components are not biodegradable. They contain toxins such as heavy metals and, therefore, pose environmental and health threats. PCs are particularly difficult to dispose of because they contain any number of hazardous materials including lead in cathode ray tubes and circuit boards; cadmium in semiconductors, chip resistors, batteries and infrared detectors; mercury in switches, position sensors and flat-panel screens; chromium in steel housings; flame retardant in circuit boards and connectors; and PVCs in old cabling and PC casings. During the next five years, Gartner estimate that consumers and businesses will replace more than 800 million PCs worldwide. Approximately 550 million cell/mobile phones will be replaced in 2007 alone — a number growing rapidly each year. Server shipments are expected to exceed 40 million units during the next five years, many of which will be replacement machines. Taken together, it is clear that this problem (called "e-waste") is only going to get worse.

Many new and proposed initiatives exist for the collection and handling of e-waste worldwide. The most significant initiative is the EU's WEEE Directive (Waste Electrical and Electronic Equipment Directive). Similarly, the EU is leading with RoHS Directive (the Restriction of the use of certain Hazardous Substances in electrical and electronic equipment).

### 8.3.7 *Impact of Horizontal Drivers on ICT strategy*

In summary then, it is clear that over the coming years, ICT will be a key enabler of modernisation and change within the Department, particularly in areas such as e-enablement of business processes, flexible working and decentralisation.

The impact of increased regulation along with increased consumer awareness of issues such as privacy and identity theft will require a more mature approach to the implementation of data and information security controls and procedures amongst all staff, rather than simply the deployment of ever more security tools and technology solutions by ICT Unit.

Finally it is reasonable to presume that the Green agenda is going to become ever more important over the coming years, with an increasing focus coming on the carbon footprint of Government Departments, to which the power requirements of ICT equipment is a major contributor.

## **8.4 Internal Drivers- Business Unit interviews**

ICT Unit conducted a series of meetings with each of the Department's Divisions and Offices to get a better understanding of their business plans for the next 3 years, to understand how ICT Unit could support the achievement of their business objectives and to consider how ICT could become an enabler of change within the business. The main findings revolved around the following issues:

### 8.4.1 *National Employment Rights Authority (NERA)*

The creation of NERA is a key Government commitment under the *Towards 2016* social partnership agreement.

NERA will be headquartered in Carlow and has already (since July 2007) commenced its activities there. The plan is for the existing Labour Inspectorate, Call Centre, Prosecution and Enforcement sections to migrate into this new Office, with staff levels projected to rise from 61 to 142 by the end of 2007. The Director has been

appointed and the management team will comprise 2 Principal Officers, an accountant, a lawyer and 5 Assistant Principals.

Approximately 55 staff will be in Carlow, 50 in Dublin and the remainder will be located in a number of regional locations in Cork, Shannon and Sligo. These will probably be co-located with officers from Revenue and Social Welfare and will form joint investigation units. This will require a certain amount of openness with these other Departments and possibly some form of collaborative working.

All corporate services will continue to be provided by the Department, (i.e. NERA is an office rather than an Agency) and it is likely that there will be requirements for new or enhanced IT-enabled projects, such as the development of a web-based entitlements calculator.

#### *8.4.2 ODCA/NCA*

The legislation giving effect to the National Consumer Agency (NCA) was enacted in April 2007.

The NCA will eventually (2009) be relocated to Cork and will probably adopt a regional structure with offices in Dublin catering for 15/ 20 people and another location somewhere in the West. Numbers are expected to grow from the current 65 in the ODCA to about 80/ 90 with more than 20 inspectors.

Currently NCA are part of the Department's network and email systems, however this will change as the new Agency becomes independent. An extensive Corporate Planning exercise is ongoing, including work on the requirement for ICT systems. Deloitte are assisting with this exercise and are recommending that the NCA will need a number of key systems including Case Management, Financials, HR, Time and Attendance and Payroll. Deloitte are suggesting that non-core activities such as salaries and elements of ICT should be outsourced, and they are currently looking at having 2 in-house ICT staff.

NCA provides a call centre which receives about 40,00 calls per year and they have

recently developed their own website with its own content management system which is supported by two staff.

NCA have expressed a desire to consult with ICT Unit and Deloitte to finalise what their ICT requirements will be and to draw up an exit strategy with the Department, but as yet (December 2007) ICT Unit is not aware of any significant progress towards NCA implementing its own ICT systems

#### *8.4.3 Decentralisation*

Decentralisation is a key business issue facing a number of Business Units, particularly NERA, Work Permits, Insolvency Recovery and the Companies Registration Office (CRO). The expectation is that the current level of ICT services and support will continue to be available to staff on decentralisation to Carlow.

These decentralising Offices and Units did not prescribe how they thought that support might be provided, and they agreed that their co-location in one building along with the availability of high bandwidth network connections to Dublin means that there are a now variety of support options and models to be considered.

#### *8.4.4 Teleworking and Remote Access*

A review of the teleworking pilot project has been undertaken, the recommendations from which will be major determinant of the growth in teleworker numbers over the coming years. However a number of Divisions are already of the view that the trend towards teleworking will continue, with numbers increasing possibly up to 100 or more. One factor driving this could be decentralisation, with staff seeking to telework from Dublin, or staff currently living in Carlow seeking to telework pending the relocation of their Business Unit.

Allied to this is the issue of remote access and mobile working, with most Divisions currently using some form of remote access (anything from the Blackberry to full VPN access) and expressing a desire for enhancements to the existing systems such as:

- Faster and more robust access for an increasing number of mobile workers (such as the Labour Inspectors);
- The ability to more easily access and work on attachments to emails;
- Remote access to a full desktop environment which would allow officers to work from home and/ or outside of working hours;
- Remote access from “untrusted” systems, such as computers in delegate rooms, conference centres etc., while at the same time maintaining the security of our data and systems.

The Blackberry technology has been generally well received, with most Divisions extremely happy with its usefulness as a tool for mailbox management with the only frustration being around reading and working on attachments as a result of the limited screen size.

#### *8.4.5 Support*

As evidenced by the findings of the annual customer survey, staff are generally happy with the level of user support provided and the levels of uptime and availability currently being achieved. However a number of Business Units reinforced the message that system availability is an important issue for individual officers, particularly at crucial times such as responding to PQs, preparing items for Cabinet etc.

System availability also arose in the context of whether 24x7x365 availability is a real business requirement for the Department’s on-line systems and whether ICT Unit has the capacity to continue to host and support such systems.

An increasing tendency towards mobile working and teleworking is beginning to lead to concerns that the level of support currently available to staff using these facilities may not sufficient in the future and again the issue arose as to what resources ICT Unit would need to support these work patterns outside of normal business hours.

#### *8.4.6 Support for Offices*

In general the Offices are happy with the support and service they receive from the central ICT Unit, however a number of issues arose which distinguish the Offices from other central Business Units.

The Offices typically have some level of local IT support which looks after business systems specific to the Office. The local IT support may include Office staff dedicated to IT duties and 3<sup>rd</sup> party contractors who develop and/ or maintain business applications and databases, for example Iken in the LRC, ERS in CRO or Sword in the Patents Office. The Office IT staff can either report to local management (e.g. CRO) or to central ICT Unit management (e.g. Patents Office). In all cases however the Offices are reliant on the central ICT Unit for core services such as file and print, email, internet access, wide area networking etc. Helpdesk services are also provided as part of the central BT outsourced helpdesk.

A number of Offices expressed slight frustrations at the delays which they believe can arise as a result of the dependence on central IT. They believe that these issues could be resolved with greater local autonomy if someone in the Office could be trained up to act as a “superuser” with limited administrative privileges. An example given in one Office was that because of a vacancy “quick fix” issues such as password resets which were previously done locally are now being done through the helpdesk and can take up to two hours. Another Office felt that because they were heavily dependent on central IT for network-related issues they lost credibility in front of their own users, as they could not help in resolving certain issues.

However these requirements would have to be carefully considered and balanced against the needs for consistency in the application of security policies and management.

#### *8.4.7 Email*

Users are generally happy with the email service provided through Lotus Domino/ Notes. However there was a general frustration with the problems of managing email efficiently, due to the sheer volume of emails received. The concept of “internal

spam” was raised on a number of occasions in terms of emails, which, although legitimate and business related, were simply unimportant and unnecessarily sent to too many recipients. A consequence of this is that urgent and important emails are often ignored or overlooked. This is not specifically an ICT issue is more to do with how people choose to use ICT.

The anti-spam filter can be a source of frustration, particularly where emails from the Agencies are blocked despite the user having whitelisted them, or when outbound emails are blocked, especially when the email is a reply to an incoming mail which itself had not been blocked. Despite much publicity by ICT Unit it appears that users are still not comfortable with the process of whitelisting. Increasing the frequency of notification emails from Eurokom seems to have relieved some of the frustration.

Email security was identified as an issue for some Units and Offices, principally ODCE and Commerce, Consumers & Competition Division. The issue typically is around the confidentiality of information transmitted by email, where for example the information might relate to an impending prosecution or a case before the Competition Authority. In another context concerns were expressed that as a result of the devolution of HR-related activities to local managers, many more emails may be circulating containing personal/ personnel-related information. Again, the issue is how to assure the confidentiality of such emails and how to ensure that only the intended recipient actually reads it.

#### *8.4.8 Collaboration*

A number of scenarios were identified where existing processes result in a significant amount of paper handling and might lend themselves to some form of e-enablement or electronic collaboration although it was not specifically identified as a priority issue. A number of Business Units had experience with Extranets for collaboration with external bodies with mixed success, although it was suggested that they might be a solution for the problem of circulating confidential documents by email.

However it was felt that where some form of electronic collaboration might be useful would be in situations where inputs were required from a variety of people and where

the resultant version management and control could be problematic. Examples of this were identified as the creation of the strategy statement or the drafting and designing of legislation.

On a related theme, there was some frustration evident with the inability to submit and manage financial and official forms electronically. It was claimed that staff are fatigued with the laborious tasks of manually filling in forms for submission and signature, and that collaboration or workflow technologies could be used to simplify these tasks. Similarly the Department should be able to accommodate electronic submission of comments from the public or from particular constituencies, with the Company Law Review Group and the Groceries Order being quoted as examples of where this could be applied.

Notwithstanding the above examples no clear, well-defined collaboration requirement emerged around which a business case could be built at this point in time.

#### *8.4.9 Knowledge Management, Intranet and Records Management*

A number of Business Units, particularly those involved in developing policy or drafting legislation, spoke about the issue of “corporate memory” and how to make the existing body of knowledge and information available quickly and accurately. For example, one Division spoke about the usefulness of having access to a database of briefs, debates and acts related to a particular area of legislation similar to what appears to have been put together for company law.

However it was acknowledged that this was not necessarily an IT issue and that a culture for the management of computer files has not developed in the way that it is well defined for paper files. There is a need for well-defined protocols surrounding activities like opening a new folder- who opens it, what is it named, where is it registered. In the paper system all files were registered in the central register and there was a well-defined way of naming files that everyone learnt from an early stage. The problem is likely to get worse with decentralisation as there will be a churn of staff over the next 2-3 years, with people coming into the Department from different parts of the civil service used to operating with different protocols.

(Note this issue was also discussed by the Travers working group, in the context of a general business need for efficiency and continuity, particularly in the civil service, where personnel regularly move between sections and Departments, sometimes at short notice.)

It was generally agreed that staff do not instinctively use the Intranet as a source of information, other than for applications such as the phone directory or conference room booking. The idea of having a localised Intranet facility where Division-specific information could be published was suggested, with a variation on this being a Division-specific PQ tracking system which would make it easier to see if a similar PQ had already been answered by another Unit.

There was a commonly expressed view that navigation around the site is too complex, with too many clicks required to find information that is currently published.

It was also suggested that access should be provided to on-line information and news sources such as the Irish Times and other subscription-based sources.

#### *8.4.10 Training*

The training currently being provided by ICT Unit is generally regarded as being of good quality and appropriate to most users' needs. However there is a question over the ongoing provision of training to achieve certification levels such as the ECDL. A view expressed on a number of occasions was that staff may be getting certified in packages that they never use (such as Microsoft Access) and that maybe training should focus on only those packages that were commonly used, with refresher courses as appropriate. Training could also be customised to include some of the technologies and tools we use in-house, for example increasing productivity through effective use of the Blackberry device.

A related theme was the view that current training is focussed on the features of individual packages, such as Excel, Word etc, rather than on proper usage of these packages within the context of the Department, i.e. categorisation of information, indexing, etc.

(It should be noted that the IT Business Services section conducted an analysis of these issues and prepared a paper for consideration by the ICT Steering Group who decided that the Department should continue to provide certified training.)

#### *8.4.11 Websites and On-line systems*

The Department and its Offices support a wide variety of websites and on-line systems, which are important “shop-fronts” for the services being offered.

As has been previously noted, one of the issues that arises is whether 24x7x365 availability is a real business requirement for the Department’s on-line systems and whether ICT Unit has the capacity to continue to host and support such systems and provide a level of availability that satisfies the Business Unit concerned. For example it appears that a majority of the redundancy claims received by that Business Unit comes from the on-line system and there are now four less staff working on processing these claims. The Business Unit therefore believes that having to revert to paper when the on-line system is not available seriously affects their ability to process claims within the time targets they have set for themselves.

Another issue that has become evident from meetings across the Department is that a large number of different 3<sup>rd</sup> parties are involved in developing, supporting and hosting these sites and that each site appears to be developed independently of any other. It is therefore likely that there are varying approaches taken to issues such as technology platforms, coding standards, accessibility, backups, security patching, content management systems etc.

Some Offices, for example the LRC predict an increasing demand for the facility to apply for services on-line. In some cases there are legal problems around the acceptability of on-line applications in the absence of a signed document, but mechanisms are being looked at for dealing with this. For example, one idea that has been adopted by the EAT is to only look for a signature if a case is actually going ahead.

## 8.5 Internal Drivers - ICT Unit

### 8.5.1 Resource levels

The central ICT Unit comprises 35 staff plus three helpdesk staff provided through an outsourcing arrangement with BT. (It should be noted that included in this figure are 12 staff who are either management or involved in non-technical functions such as procurement, training, and BPRs.) This represents just fewer than 4% of the Department's entire staff complement.

There are a number of studies and benchmarks which track the numbers of IT staff against the size of an organisation. According to one such piece of research from Gartner, IT staff in private sector organizations will generally represent somewhere between 5 and 7% of the total employee population. This will vary somewhat by industry (slightly less in manufacturing, more in financial services, etc.) and by company size. Gartner's research further suggests that public sector organisations exhibit a higher level of IT staffing than private sector firms:

“In the public sector, IT headcount will typically be between 8-10 percent. In some agencies that are highly-IT centric, the number will be higher. There are many reasons government entities have proportionately more IT staff than private sector. Some of it has to do with the model of government vs. private sector organizational structure. Governments tend to be more de-centralised, so they don't get as much in the way of economies of scale and leverage from their people. Governments also have challenges attracting and retaining much-sought-after IT professionals. As a result, they often hire individuals with less IT experience, and then train them to do the job. This results in a higher level of IT staffing, too”

Even using the lower end of the private sector ratios (5%) would suggest that to support 1100 staff ICT Unit should have 55 staff, including contractors, so it reasonable to suggest the Unit is currently under-resourced.

### 8.5.2 Diversity and Continued Expansion

At the time the last ICT strategy was developed the IT headcount was 32. However in the interim the IT environment has expanded dramatically, the technologies have become more complex and the threat environment in terms of IT security has become more sophisticated. Figure 6 highlights some of the key changes:

2007	2002
35 staff in ICT Unit plus 3 outsourced Help Desk 12 are non-technical	29 staff in ICT Unit plus 3 outsourced Help Desk
<i>Functions and roles</i> 1. IT services 2. Business services section 3. BPR 4. Procurement 5. Emergency planning 6. Business Continuity	1. IT services 2. BPR
Approximately 1,100 users Support for a Variety of remote access mechanisms including Blackberries Pilot programme for teleworkers Increasing numbers of Labour inspectors	Approximately 1,100 users Limited dial-up remote access
Over 80 servers	30 servers
Variety of operating systems including both proprietary and open source.	Proprietary operating systems only
<i>Additional infrastructure / services</i> New applications, including Oracle Financials, RPS backoffice and ERES (employment rights) More sophisticated Test environments A number of Disaster recovery systems	No disaster recovery Limited test systems

2007	2002
<p><i>Security infrastructure</i></p> <p>Anti-spam system</p> <p>Anti-spyware system</p> <p>Anti-virus</p> <p>6 firewalls</p> <p>3 De-militarised Zones (DMZ)</p> <p>Web-filtering</p>	<p>Anti-virus</p> <p>3 firewalls</p> <p>No DMZ</p> <p>Web-filtering</p>
<p><i>New online systems introduced include:</i></p> <p>Patents Office</p> <p>Redundancy Payments</p> <p>CRO</p> <p>OELAS (online Export Licence application system) about to launch</p> <p>Work Permits in design phase</p>	<p>No online systems</p>
<p><i>Voice communications</i></p> <p>Voice over IP in Carlow</p> <p>Traditional PABX in other offices</p>	<p>Traditional PABXs only</p>
<p><i>Locations</i></p> <p>6 locations in Dublin, Kilkenny, Carlow 3 regional offices (Sligo, Cork and Shannon)</p>	<p>6 locations in Dublin and Kilkenny</p>

Figure 6- Comparison between 2007 and 2002

Such expansion has increased the pressure on an already under-resourced unit and has meant that, for example, while a lot of work has gone into implementation of security measures there has been no net improvement in the Department's overall security posture.

### *8.5.3 Increasing Service Demands*

Quite apart from the increased complexity of the technology infrastructure, the service demands on IT staff have also increased, and as indicated in the Business Unit interviews, are likely to continue increasing.

The Department has in the past few years launched a number of on-line systems, among them the RPS system, Patents Office online, CRO online and the on-line Export Licensing Application system (OELAS). As is evident from the Business Unit interviews conducted as part of the background to this strategy, these systems come with an underlying expectation from the Business Units and from clients that they will be available 24x7x365. While very high levels of availability are achieved from these systems, there is a clear mismatch between the 24x7 nature of the Internet and the 9-5 working pattern of the Civil Service, including ICT Unit staff. This mismatch becomes obvious when, for example, an on-line system fails over a weekend and there is no mechanism by which work can begin on troubleshooting, let alone recovering that system until the Monday morning.

Similarly, changes in working patterns, including teleworking and remote working mean that internal Department staff are now expecting IT support during times that extend beyond the traditional working day. One manager has already suggested that remote users should be provided with support between 8.00am and 8.00pm, with this support being available over the phone, not just by email, and accompanied by a troubleshooting handbook so that people can do a level of self-diagnosis of problems even outside these hours. However such support, if it is to be effective, will be resource intensive, because an IT issue experienced by the user could be as a result of a problem with any part of the supporting IT infrastructure. A wide variety of skills would therefore need to be available between these hours if a guaranteed service level is expected. Merely providing a first-level helpdesk resource with no technical backup would probably not suffice.

In the absence of a formal policy on remote working, and teleworking, including some estimation of likely overall numbers partaking of such arrangements it is difficult to estimate what resources would be required to support it.

#### *8.5.4 Security*

A review of IT and Information Security was carried out in early 2007 by RITS Information Security Consultants. While considerable work has been carried out by the Unit on IT Security over a number of years, RITS identified many specific areas where issues need to be addressed in order to bring security up to an acceptable level, including

- Varied and in some cases ad-hoc change control practices
- Poor supporting documentation for operational practices
- Over reliance on key personnel with silos of knowledge and limited cross skilling
- Dispersed IT groupings within DETE leading to varied and inconsistent implementation of security controls
- Lack of awareness of information security issues among IT staff leading to inappropriate configurations on IT infrastructure
- Insufficient staff levels and skill-sets to meet the increasing complexity and number of IT systems

Outside of the ICT Unit, RITS were concerned that there was a low awareness of Information Security among staff generally, and to the extent that there was an awareness of Information Security it was viewed as an issue for ICT Unit, not Business Units.

In tandem with this the external security environment has become more aggressive, with increasingly sophisticated attacks being carried out by hackers with both for-profit and political motivations. This was demonstrated quite clearly when a number of websites associated with the Department were hacked.

Accordingly, RITS formed the view that the level of information security implemented within DETE is considered inadequate both from an external and internal perspective, falling short of best practice as defined by ISO 27001 and that employed by peer departments and organisations.

### *8.5.5 Specialisation*

The IT function is one of the few specialist areas within the Department and because there is no mechanism for directly recruiting technical IT staff it makes the task of replacing experienced staff even more difficult. Not only do new staff require a basic aptitude for IT but they also need to learn the specifics of how the Department's ICT infrastructure is configured, while at the same time trying to understand the fundamentals of the technologies and the products underpinning that infrastructure.

In addition, if an existing staff member transfers into ICT Unit as a result of a promotion they may also need to take on increasing management responsibility for staff, budgets, projects etc. Not surprisingly then it could take up to two years for a new staff member to become fully productive and consequently the loss of existing skilled staff is perhaps felt more acutely in ICT Unit than in other Units.

By comparison, in private sector organisations a skilled and proven IT professional can be hired who will have the necessary technical and managerial skills; all they then have to do is acquire site-specific knowledge.

As the RITS report identified, currently within ICT Unit there is an "over reliance on key personnel with silos of knowledge and limited cross skilling". While such cross skilling across functional areas is obviously desirable, giving much needed cover for absences and succession planning, the reality is that key staff within the Unit are often too busy to either give or receive training in another area.

### *8.5.6 Career progression*

Whereas larger Departments have ICT Units of a scale which allows for career progression while maintaining an ICT specialisation, staff in smaller ICT Units such as DE TE's may be forced to look outside of ICT for promotional opportunities.

When staff do pursue such opportunities they are then concerned that their success in promotional competitions will be affected by a perception that staff are "techie specialists" with no skills to offer to the rest of the organisation. The reality is that

ICT Unit staff must carry out the same managerial tasks (for example, PMDS, budget management, project management, planning, policy and strategy development, vendor and contract management) as any other staff, in addition to their technical role, and are very aware of the short- and long-term directions within the Department due to the deep integration of ICT with the business.

There is perhaps an opportunity for an organisation such as Department of Finance/CMOD to play a leadership role in promoting the movement of ICT staff between different Departments, thus facilitating the creation of a cadre of skilled personnel who could enjoy career progression whilst also pursuing an ICT career.

#### *8.5.7 Innovation*

Many organisations monitor the percentage of their ICT budget which is invested in maintenance or “running the organisation” activities. This “Run the Organisation” investment (RTO) typically includes recurring items such as 3<sup>rd</sup> party support, maintenance contracts, licensing etc. The balance of the IT budget can then be directed at what is termed “Change the Organisation” (CTO) or “Innovate” investment.

Unfortunately there are no statistics available for public sector organisations, but a survey of the Financial Services Industry carried out by Datamonitor in 2003 and 2004 showed average RTO/ CTO across the industry of roughly 70% / 30%. Looking at retail banking specifically, the ratios varied from about 69% / 31% for best in class organisations to about 80%/ 20% for worst in class.

In 2007 ICT Unit’s budget was €4,901,000, with an RTO/ CTO ratio of approximately 78%/ 22%. (This ratio could vary a bit depending on how costs are classified). One of the main “change the organisation” projects for 2007 was intended to be the new on-line Work Permits application system, for which €750,000 was allocated. Excluding this single project, which did not progress significantly in 2007, the RTO/ CTO ratio would be approximately 92%/ 8%.

It should be pointed out that there is no right or wrong ratio between RTO and CTO investment; this will be determined by individual organisation's goals and objectives and will change from year to year as CTO projects or initiatives carried out in one year lead to increased maintenance/ RTO costs in subsequent years. However it is informative to calculate and monitor this ratio.

#### *8.5.8 Project Management*

There is a tendency within the Department for ICT-enabled projects to be seen as exclusively "IT projects". This results in projects being "thrown over the wall" for ICT Unit to manage and deliver. The reality is that all such projects are business projects, with the objective of delivering business value and should therefore be owned and managed by the relevant Business Unit.

Project management is an area where the public sector generally has received widespread criticism, with high profile over-runs such as the PPARS implementation within the HSE being identified as examples of what happens when a project is not run in a controlled way with proper governance structures in place.

#### *8.5.9 Focus*

ICT Unit also has responsibility for other functions such as Procurement, Emergency Planning in private industry and the Department's own corporate Business Continuity Planning. These activities divert management time and resources away from the Unit's core mission and it is timely to consider whether these activities should remain within ICT Unit in the medium term.

#### *8.5.10 Impact of Internal Drivers on ICT strategy*

Taking the forgoing into account it is clear that the coming years will be characterised by continuing change within the Department, with an ever-increasing dependence on ICT.

ICT will be expected to enable and support emerging (but as yet not well-defined) requirements such as knowledge management and collaboration and our technology

platforms should be flexible enough to support these or any other business requirements.

ICT Unit will be requested to support changing lifestyles and work patterns. Business Units and clients will increasingly demand high levels of availability from ICTs and ICT Unit will have to consider whether it can respond with appropriate levels of resilience and support for both individual users and key business systems.

These demands will have to be considered in an environment which is becoming increasingly complex from a technology and security viewpoint and where the specialist skills required to deliver the service may not always be available from within the Department's pool of human resources.

To meet these demands, ICT Unit will have to focus on increasing its ability to manage all aspects of its activities, including technologies, consultants, projects and security.

#### 8.5.11 SWOT

In summary then, the strengths, weaknesses, opportunities and threats facing ICT Unit are as shown in Figure 7:

Strengths	Weaknesses
<ol style="list-style-type: none"> <li>1. High levels of staff commitment</li> <li>2. High client satisfaction levels</li> <li>3. Achieving KPI of 99% uptime</li> <li>4. Modern technology base</li> <li>5. Good engagement with business</li> <li>6. All core ICT systems to support the business are currently in place</li> <li>7. Strong commitment from the business in relation to budgetary resources</li> <li>8. Extensive technical expertise available from the consultant/contractor 'ecosystem'</li> <li>9. Good training programme for staff</li> <li>10. Many ICT staff have come from</li> </ol>	<ol style="list-style-type: none"> <li>1. Under resourced (2.6% of headcount Vs Gartner public sector benchmark of 8%)</li> <li>2. Staff joining the Unit are typically Civil Service generalists, not IT professionals</li> <li>3. Lack of cross-skilling within the Unit</li> <li>4. Security stance falls short of best practice</li> <li>5. Lack of consistently applied controls and procedures</li> <li>6. Lack of consistency with respect to management of IT in the Offices</li> <li>7. Diversity of technical architecture (80+ servers, 6 operating systems)</li> <li>8. Decentralised infrastructure (6 locations in Dublin + Kilkenny + Carlow + 3</li> </ol>

Strengths	Weaknesses
<p>business units and therefore understand the business</p>	<p>regional offices)</p> <ol style="list-style-type: none"> <li>9. Poor physical environments in server rooms</li> <li>10. Dependency on key individuals within the Unit</li> <li>11. Insufficient commitment from the business in terms of project, risk and data ownership</li> <li>12. Dependence on consultants/ contractors</li> <li>13. ICT Unit responsible for other “non-core” activities</li> <li>14. ICT equipment is a significant contributor to the Department’s carbon footprint</li> </ol>
Opportunities	Threats
<ol style="list-style-type: none"> <li>1. Existing modern technology base can be further exploited</li> <li>2. Bandwidth between sites is increasingly cheaper and more available</li> <li>3. Emergence of new service models being provided by both public and private sector organisations, such as Shared Services and Managed Services</li> <li>4. Management overhead can be reduced through the consolidation of locations/ platforms/ contracts</li> <li>5. New technologies can provide new functionality and business value.</li> <li>6. Carbon footprint &amp; hazardous waste can be reduced further</li> <li>7. ICT innovation can help change the business</li> <li>8. Staff are too focused on running existing systems</li> <li>9. Further exploit existing strong consultant/ contractor ecosystem</li> <li>10. Increasing ICT literacy of users</li> </ol>	<ol style="list-style-type: none"> <li>1. No skills pool for succession planning</li> <li>2. Staff stress/morale is an issue – perceived lack of career progression for ICT Unit staff</li> <li>3. Increasingly specialist technical knowledge required</li> <li>4. Business Units making decisions and commitments which impact on ICT Unit without consultation</li> <li>5. Increased expansion of Departmental locations through Decentralisation/ regionalisation</li> <li>6. Increasingly sophisticated security risks and threats</li> <li>7. Increasing dependence on ICT &amp; on-line systems availability</li> <li>8. More stringent audits focussing on controls</li> <li>9. Changing work patterns</li> <li>10. Emerging but as yet undefined requirements for collaboration/KM/ records management</li> <li>11. Trend towards eGovernment integration</li> <li>12. Increasingly stringent regulatory environment, e.g. FOI/ DPA/ Copyright/ Child Trafficking &amp; Pornography</li> </ol>

Figure 7- ICT Unit: Strengths, Weaknesses, Opportunities, Threats

## **9. Mission**

Taking the foregoing into account ICT Unit has restated its mission as follows:

**“To provide appropriate Information and Communication technologies that enable our clients to access the information and services necessary to do their jobs”.**

This mission statement is intended to reflect the reality that the vast majority of the Department’s staff are “knowledge workers”; they are either directly involved in knowledge work (e.g., writing, analysing or advising) with a view to inform a decision making process or in carrying out tasks in support of a decision or policy (e.g., public facing work, processing, enforcement).

This will be our mission for the next 3 years. However, ICT Unit would like to develop its abilities, skillsets and resources to a point where it can focus more on increasing business productivity and adding strategic value. This medium term vision is:

**“ICT Unit will become an enabler of change within the Department, by assisting Business Units to enhance productivity through the innovative use of technology.”**

## 10. Strategic Objectives

To fulfil this mission, ICT Unit will, in partnership with the Department's Business Units seek to:

- Provide a secure IT infrastructure which delivers appropriate levels of data Confidentiality, Integrity and Availability.
- Ensure access to appropriate skills and resources.
- Incorporate effective governance and Project Management practices to promote a close alignment between IT and Business Units.
- Maximise value for money from existing and future technology investments.
- Incorporate best environmental practices into its IT operations.

ICT Unit will achieve these objectives by focussing on the continuous development of its **People**, its **Processes** and its **Technology**.

### 10.1 Strategic Objective 1: Providing a secure IT infrastructure

The primary role for any IT function is to provide a secure ICT infrastructure that supports the business in its day-to-day activities.

A secure ICT infrastructure is defined as one that delivers levels of Confidentiality, Integrity and Availability that are appropriate to the value the business puts on its data.

Confidentiality ensures that the data remains private, with access limited to those who are authorised to view or use it. This Department deals with personal information belonging to its own staff, private citizens and commercial companies, all of whom have an expectation of privacy when they entrust their data to us. Breach of confidentiality could prove damaging to the Department's reputation or have serious commercial consequences.

Integrity refers to the trustworthiness of data; has it been modified deliberately or by accident, does it come from a trustworthy source, was it input correctly in the first

place? Because this Department manages and disburses significant monies on behalf of the Government and the EU, the integrity of its financial systems and records is especially important, with the Secretary General required to submit an annual statement on internal financial controls to the Comptroller and Auditor General.

Availability refers to the timely and reliable access to data and systems for authorised users. Whereas data confidentiality and integrity may be important to specific business units, availability affects everyone. In recent years the Department has become increasingly dependant on its ICT resources, with changing working patterns such as teleworking, flexible working and remote working putting increasing pressure on IT systems to be available for extended periods throughout the day. Increasingly, online systems are expected to be available 24x7. Such enhanced availability cannot be achieved in the absence of security controls. Any successful attack will result in downtime of the affected system in order to prevent further attack, to investigate the cause of the attack, to ascertain the level of damage caused, and to restore and secure the system. Furthermore, in some circumstances failover to back-up systems may not be an option due to the risk that the back-up system, unless secured, would also be compromised.

## **10.2 Strategic Objective 2: Ensure continued access to appropriate skills and resources**

The key strength of ICT Unit is undoubtedly the quality and commitment of its staff. For the most part, these staff have entered the Unit as Civil Service generalists and through dedication and hard work have produced remarkable achievements not least being the successful management of an increasingly complex and resilient IT system that supports the business in its day-to-day activities. This human resource is the single biggest investment that the Department makes in ICT.

As is evident from the Environmental Analysis, ICT Unit is not in a position to provide all the necessary resources and skills from its current internal staff complement, nor is it likely that sufficient numbers of additional skilled staff can be made available to it from elsewhere within the Department. This strategy will consider how ICT Unit can address issues of career progression, staff retention and

development, and succession planning as well as considering how best to acquire the specialist skills necessary to continue to deliver a professional service to the business.

### **10.3 Strategic objective 3: Incorporating effective Governance to ensure close alignment between IT and Business Units**

ICT Unit invests significant financial and human resources in developing, operating and maintaining ICT assets. Even if these assets are operated efficiently and securely it does not necessarily follow that ICT is contributing effectively to the achievement of corporate goals. The Department must strive to maximise the business value that is derived from its existing and future ICT investments through a close alignment between ICT Unit and the Business Units. This requires the prioritisation of projects and the provision of services that are driven by a clear business case from Business Units, recognising that successful ICT is not simply about deploying leading edge technology. As a strategic partner to the business ICT should also suggest innovative ways of achieving corporate goals or improving the delivery of existing business processes and client services.

Within DETE a number of governance processes are already in place to ensure alignment between ICT Unit and the Department's business objectives. Arising from the recommendations of the 2002 strategy the Business Services group was formed within ICT Unit specifically to provide a linkage between ICT and the business. An important role of the Business Services group has been to improve communications with the business and to manage and monitor customer satisfaction.

During the course of this strategy ICT Unit will build on these governance mechanisms to continue to ensure that its activities are closely aligned with the Department's business objectives.

### **10.4 Strategic Objective 4: Maximise value for money from existing and future technology investments.**

Even where ICT is closely aligned with the business, full value may not be realised from ICT investments if the Department does not make the right technology choices

or does not obtain value for money from the technology investments it chooses to make.

During the course of this strategy ICT Unit will need to continue to invest in the core ICT infrastructure and upgrade or migrate this infrastructure where required, so that it has the technological flexibility to respond to future changes in the Department's strategy.

In doing so it must be recognised that while the Department has over many years already made significant investments in Information and Communications Technologies it should not continue investing in technologies which have limited lifespan, where the vendor does not have a clear development roadmap or where the technology is not capable of meeting the organisation's needs in the future. Accordingly, a key part of the development of this strategy has been a review of the major ICT platforms that make up the Department's ICT infrastructure, which is detailed in Section 15.

#### **10.5 Strategic Objective 5: Incorporating best environmental practices**

The Department's Sustainable Development Strategy 2003-2005 commits the Department *inter alia* to incorporate best environmental practice into its management and activities. As part of this strategy the Department created a Green Team to examine issues across all functions of the Department and develop and implement an environment management plan.

Gartner's research shows that for retail banks ICTs account for 50% of their CO<sub>2</sub> emissions, the majority of the remainder being related to buildings. In other industries or sectors (for example local Government) transportation may also be a large contributor, but given the nature of this Department's business it is likely that our figures are broadly similar to the retail banks.

Gartner estimate that by 2010, two-thirds of best-practice enterprises will achieve a 25% reduction in ICT-related power consumption on 2007 levels for the same workload, simply by changing the behaviours associated with client devices and in

data centres/ computer rooms. Gartner also predicts that by year-end 2009, one-third of IT organizations will include relative environmental sustainability as a top-six buying criterion for ICT hardware and services, increasing by a factor of 10 from the position in 2006.

During the course of this strategy ICT Unit will seek to reduce the contribution of ICT equipment to the Department's carbon footprint.

## **11. Strategic Response- People & Organisation**

### **11.1 Out / In-sourcing and Core Skills**

As discussed earlier, ICT Unit is not in a position to provide all the necessary resources and skills from its current internal staff complement, nor is it likely that sufficient numbers of additional staff with relevant expertise can be made available to it from elsewhere within the Department. Accordingly, ICT Unit will need to procure these additional skills and delivery capacity from specialist 3<sup>rd</sup> party providers while carefully managing its own scarce resources to ensure that staff spend their time on activities that are of most value to the Department and that best utilise their skills.

A distinction will therefore have to be drawn between the specialist skills required to support highly complex technologies specific to a particular application which, although important, may affect only a single Business Unit (for example a highly available on-line application system) as against the skills required to maintain systems which affect some or all Business Units (for example the email system, the network, backups or database management), or skills required for core management activities (for example security management, contract management, project management).

As a means of creating additional delivery capacity for ICT Unit to meet new demands whilst maintaining and managing existing systems, contracts with 3<sup>rd</sup> parties could evolve from being support contracts which supplement ICT Unit staff, to a situation where, conceivably, entire applications are managed by a 3<sup>rd</sup> party as part of a Managed Services contract. In a similar fashion to the existing Help Desk service, ICT Unit would continue to be responsible for the provision of quality support for these applications, but the service would be delivered by the 3<sup>rd</sup> party, with reduced day-to day involvement by ICT Unit staff. ICT Unit would agree, monitor and review Service Level Agreements and Key Performance Indicators with a constant focus on continuous service improvements. In this situation, ICT Unit would be assuming greater governance, procurement and contractor management roles.

This Managed Services model could be applied to a variety of activities, from hosting of servers in a secure server farm, to providing insourced helpdesk services specifically for the users of a particular application. The motivation in all cases would be to free up ICT Unit staff to enable them to focus on new and strategically important work.

## **11.2 Productivity Gains**

Adoption of new technologies by business units can radically improve work efficiencies in the Unit and reduce workloads through automated IT processes. Online systems are especially suited to such purposes as data is input in a DETE controlled manner by the public thereby reducing much manual inputting and processing by DETE staff. While the Unit and Department can benefit by utilising resulting Human Resource savings and applying them to other priorities it should be noted that ICT Unit acquires additional workloads as a result.

It is therefore proposed that for significant projects, Business Units include verifiable efficiency indicators (where applicable) as part of its pre-project business case to the ICT Steering Group (which has responsibility for approving IT projects). As part of the approval process the ICT Steering group will evaluate the additional workload on ICT Unit and, in light of identified efficiencies, make recommendations to Personnel Unit with regard to the resourcing required for ongoing support of any new system.

The benefit to the Business Unit will have to be balanced against the additional workload for ICT Unit in implementing and supporting the system to ensure that the Business Case remains valid when looked at from an overall Departmental perspective.

## **11.3 ICT Unit Human Resources**

In terms of immediate actions, ICT Unit propose to make some changes to its internal structure with an objective being that two people are capable of performing every task.

The post of Information Security Officer (ISO) will become full-time (in line with the recommendations from the original RITS Information Security Review in 2002 and endorsed by the 2003 IBM strategy) as opposed to the current situation where the ISO also looks after the Phone system and the Basis website. It is also proposed to split the existing Networks and Desktops team which has an unrealistic workload and create a new Infrastructure Management team, headed by a manager at HEO level, which will take over management responsibility for the core networks and server infrastructure.

To implement these changes ICT Unit will require the filling of existing vacancies as well as an additional HEO resource to fill the role of Infrastructure Manger.

A suggested “to-be” organisation chart is shown in Figure 8, below:

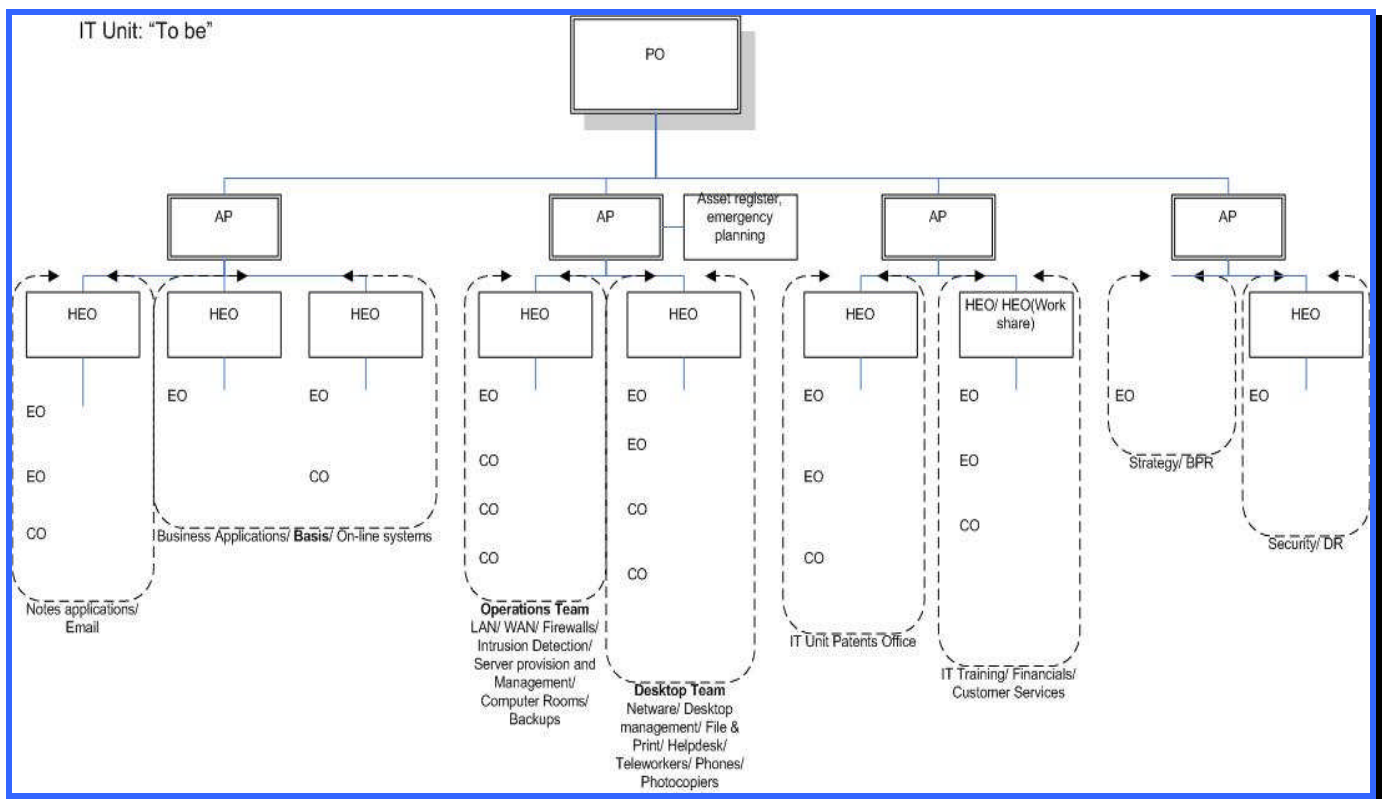


Figure 8- Suggested “to-be” organisation chart

#### **11.4 Succession and Career Development**

In the longer term, mechanisms need to be identified to support career progression and skills retention for staff already in ICT Unit, whilst also identifying staff with the necessary interest, aptitude or experience to move into the Unit.

One such mechanism would be to create IT-specific promotional panels. The competitions, which would apply across all grades would emphasise the skills and competencies of particular interest to ICT Unit. While they would be open to all staff, such competitions would over time provide greater opportunities for career progression for staff within ICT Unit and facilitate succession planning.

It should be noted that this mechanism would only be utilised where insufficient interest is expressed by staff already on the grade in joining ICT Unit.

Another mechanism would be to ensure that staff at all levels within the Unit are rotated between roles at agreed periods, so that over time staff develop an awareness and knowledge of a variety of roles. This would improve succession planning and minimise the impact of losing any one individual.

Similarly, focussing more on the key management competencies outlined earlier and less on highly specialised technologies will mean that there is a greater chance of staff transferring into ICT Unit with relevant skills and experiences, whilst also providing existing ICT Unit staff with skills which could be applied in other areas across the Department, thus assisting career progression.

#### **11.5 Strategic Actions- People & Organisation:**

##### SA1

In Q1 2008, the role of Information Security Officer will be come a full time, dedicated post and, with the support of appropriate external expertise, will be responsible for ensuring the full implementation of the RITS report and the ongoing monitoring and development of security controls and best practices.

- [SA2](#) By mid-2008 an Infrastructure Management team, led by a new manager at HEO level, will be created specifically to monitor and manage the core infrastructure, including Local and Wide Area networks, computer rooms, server hardware and operating systems.
- [SA3](#) The decision making process for the establishment of any further Offices must take into account and address the resourcing levels required by ICT Unit to establish and service such offices.
- [SA4](#) As part of the approval process for any new system, the ICT Steering group will evaluate the additional workload on ICT Unit and, in light of identified efficiencies, make recommendations to Personnel Unit with regard to the resourcing required for ongoing support of the system.
- [SA5](#) ICT Unit will continue to enter into outsourcing or insourcing contracts, including fully Managed Services as appropriate to ensure that it has access to the technical and specialised skills necessary to manage increasingly complex technologies.
- [SA5.1](#) New on-line systems and websites will be hosted off-site in dedicated highly resilient “server farms”, where 3<sup>rd</sup> parties can provide 24x7 monitoring and support.
- [SA5.2](#) During 2009 a procurement exercise will be carried out to with a view to hosting the Redundancy Payments System (RPS) and OELAS online services off-site and outsourcing their monitoring, maintenance and management to an external service provider.
- [SA6](#) Core infrastructure and management activities will continue to be carried out in-house.

[SA6.1](#) Maintenance contracts will be maintained with specialist support providers for all key business systems.

[SA6.2](#) ICT Unit will continue to ensure that its staff have the necessary skills in the technologies and services that are managed internally, and will ensure that at least 2 staff will be capable of performing each task.

[SA6.3](#) ICT Unit will also ensure that staff continue to develop the skills required to procure and manage these contracts.

[SA7](#) From 2008 targets for training and cross skilling of staff will be included in all Business Plans and role profiles.

[SA7.1](#) ICT Unit will create and maintain a skills matrix for all staff.

[SA7.2](#) A training needs analysis will be carried out across the Unit by Q3 2008 and will be updated on an annual basis.

[SA8](#) Where known vacancies will arise in ICT Unit, replacements will be provided well in advance of the vacancy arising to allow time for handover and up-skilling

[SA8.1](#) Vacancies unable to be filled from the existing pool of staff in DETE and its Offices will be filled from alternative mechanisms including dedicated ICT promotion panels

## 12. Strategic Response - Processes And Governance

### 12.1 Capability Maturity

A key theme throughout this strategy is the concept of *capability maturity*. This concept is increasingly being used to describe the degree to which a business applies formalised processes to the management of its IT function. Research work conducted by organisations such as the Software Engineering Institute at Carnegie-Mellon University, Gartner, Intel and the Innovation Value Institute based in NUI Maynooth has resulted in a number of maturity models being developed which provide a developmental roadmap for organisations wishing to apply a more formal approach to managing their activities.

The central message behind these models is that the more formalised and mature an organisation's IT management processes become, the closer ICT investments are aligned with the business and the more value is derived from those investments. The term "IT Governance" is increasingly used to describe the processes an organisation implements to assure that its ICT investments generate business value and to mitigate the risks that are associated with ICT projects.

Gartner has developed a 5 level capability maturity model for service and operations management as shown in Figure 9:

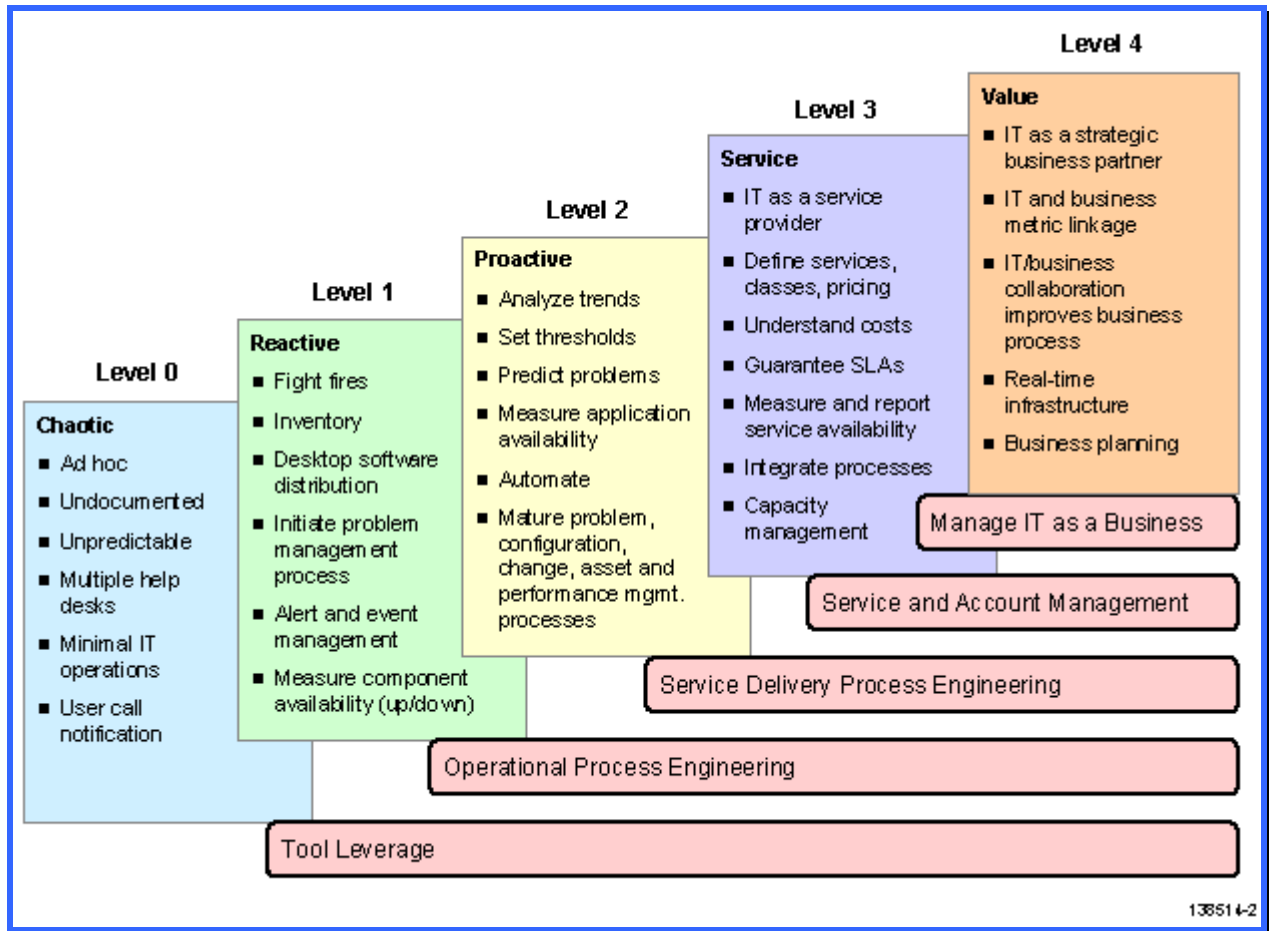


Figure 9- Gartner Capability Maturity Model - Source: Gartner (April 2006)

According to research from Gartner the vast majority of organisations' processes operate at either level 1 or level 2, with as little as 12% reaching level 3 (including IT-intensive organisations such as Microsoft and Intel) and 1% operating at level 4. Within this Department, ICT Unit believes that while most of its processes operate at level 1 or 2, some are still at level 0.

## 12.2 Information Security Management

Information Security is as much about the implementation of appropriate controls to ensure the security of the organisation's IT assets, data and records as it is about the technology solutions. Within this Department this was borne out by the recent RITS review of Information Security, which found that the management practices and controls applied to the Department's data were not as sophisticated as the technology solutions that had been deployed by ICT Unit. Accordingly, to address the issues identified by RITS, ICT Unit will need to change the way it conducts its internal

operations, with an increased emphasis on applying best practice policies and processes and doing things “by the book”.

There are a number of published standards and frameworks which set down what is generally regarded as best practice in operations and security management, including COBIT (Control Objectives for Information Technology), and the ISO standards 17799/ 27002 for Information Security Management Systems. While ICT Unit is already in the process of implementing the specific technical findings from the RITS report, a longer-term strategic action will be to develop a set of operational guidelines and practices based on these standards with the objective of adopting a more formal approach to managing its activities and achieving greater capability maturity.

These new practices will include the regular application of security patches to systems that will then require testing by Business Units. Inevitably this will lead to a higher workload for both IT and Business Unit staff in the short term as well as longer development times for projects. However, in the longer term, this will lead to a more secure infrastructure, less fire-fighting, a reduced risk of IT failure, greater integration of processes and a more strategic approach by ICT Unit resulting in the Unit being able to advance its mission to one which focuses on becoming a strategic partner to the business.

Finally, as the RITS report suggested, ICT Unit are merely the custodians of the Department’s IT Infrastructure and data. Staff in Business Units are in fact the “data owners” and therefore also need to develop greater awareness of the sensitivity and value of, and the risks to, their data. Business Units will need to become more involved in defining and operating the controls that are placed on their data, with changes to those controls only being made on the basis of a formalised risk assessment.

### **12.3 Project Management**

Another key process that ICT Unit will introduce is formalised Project Management. Project Management is a broader concept than simply project planning; rather it is a governance and development framework which considers the planning, monitoring

and control of all aspects of the project and the motivation of all those involved in it to achieve the project objectives on time and to the specified cost, quality and performance.

A number of formalised project management methodologies have been developed, such as PRINCE2. In these frameworks, project implementation becomes part of the overall project management framework, with significant emphasis being put on other aspects of the project including:

- Ensuring the right governance structures are in place, including a high-level Project Board which owns the Business Case and provides overall direction and management;
- The overall organisation and resourcing of the project, ensuring that appropriate cross-functional teams are put in place;
- Ensuring that a business case and risk analysis are developed and continuously monitored by the business;
- Ensuring that decisions to continue with or close down the project are taken at appropriate milestone points;
- Ensuring that changes are properly controlled and managed and that the project is closed down in an orderly and structured way, ensuring that the projects aims and objectives have been met;
- Planning and scheduling

Such a framework requires Business Units to take ownership of key aspects of the project (particularly the Business Case and Risk Management) and to recognise that IT-enabled projects are not simply “IT projects”. IT becomes an adviser and supplier

to a project that is driven by the Business Unit to achieve the outcomes and return on investment detailed in the Business Case.

#### **12.4 Business Process Re-engineering (BPR)**

Both the work and demand for BPRs within the Department has declined over the last two years. ICT Unit's current BPR expertise has also declined with only one member of staff currently assigned to the area. Some BPR exercises have been conducted by external consultants and it is proposed that this model be adopted for future BPRs (if any). The focus of ICT Unit's offering to clients will become more strategic by shifting the emphasis from remedial actions to activities which identify where efficiencies can be gained by IT enablement projects supplemented by a rigorous project management methodology. The Department will continue to utilise BPRs prior to significant ICT Projects.

#### **12.5 Implications**

Inevitably these new procedures and structures will lead to a higher workload for both IT and Business Unit staff in the short term as well as longer planning and start-up times for projects. However, in the longer term, this will lead to a more secure infrastructure, less fire-fighting, a reduced risk of IT failure, greater integration of processes and a more strategic approach by the Department resulting in the ICT Unit being able to advance its mission to one which focuses on becoming a strategic partner to the business.

It should be noted that formalised Project Management is not only best practice but is also common practice among organisations. Over time the Department will benefit from having trained staff who are competent in managing team-based projects.

#### **12.6 Strategic Actions- Process & Governance:**

SA8 ICT Unit will achieve higher levels of capability maturity by developing and implementing best practice operational and security policies and governance processes.

- [SA8.1](#) ICT Unit will develop its operational policies in line with the IT Infrastructure Library (ITIL) framework for service delivery.
- [SA 8.2](#) The specific recommendations of the recent security report in relation to security management and control processes will be implemented.
- [SA 8.3](#) ICT Unit will continue to develop a comprehensive suite of security policies in line with the ISO 27001/ 2 standard and guidelines.
- [SA9](#) The Information Security standards will be applied consistently across the IT infrastructure and on all systems, regardless of whether they are managed by the Central ICT Unit, the Offices or are outsourced to 3<sup>rd</sup> parties.
- [SA9.1](#) Enforcement of Information Security will be managed centrally. Responsibility will be devolved to local Offices only to the minimum extent necessary.
- [SA9.2](#) For Offices that retain local ICT staff and/ or contractors, Memoranda of Understanding will be agreed which will clearly set down the responsibilities of the Office in relation to the security of the Department's network and ICT assets.
- [SA10](#) In association with Business Units and Data Owners, ICT Unit will introduce appropriate controls to ensure the security of data and will deploy technology solutions as appropriate to implement these controls.
- [SA10.1](#) Risk Management techniques will be introduced for both new systems and changes to existing systems.
- [SA10.2](#) Business Units will be required to test new controls and / or security updates on a regular and timely basis.

- [SA11](#) In Q1 2008 ICT Unit will engage Security Consultants to conduct Vulnerability Assessments on a regular basis to ensure that no new vulnerabilities or risks have been introduced and that security standards are being adhered to.
- [SA12](#) ICT Unit will develop appropriate metrics and benchmarks to demonstrate the effectiveness of its IT security implementation.
- [SA13](#) From 2008, ICT Unit will introduce a formal Project Management methodology based on Prince2 or similar.
- [SA13.1](#) As part of this methodology Business Units will become key members of the Project Board, and with overall responsibility for developing and delivering the Business Case and Risk Management.
- [SA13.2](#) IT staff will be trained and certified against the chosen methodology. Project Management training will also be offered to appropriate staff in Business Units.
- [SA13.3](#) Existing Governance processes, including the IT Steering Group will continue, but with revised Terms of Reference.
- [SA14](#) BPR services will continue to be offered to Business Units, to enhance process efficiency and identify areas for further automation of processes, but with increasing use of external consultants.
- [SA 15](#) Recognising the importance of good communications with its clients, ICT Unit will adhere to the commitments in its client charter. ICT Unit will regard communication with its customers as a key part of managing the situation when problems do arise. At a minimum, ICT Unit will inform its customers that it is aware of the problem and that the appropriate people are working on it, along with progress updates as appropriate.

### **13. Strategic Response- Technology**

As part of the background work for this Strategy, seven Working Groups were formed to look at key technology and operational issues as follows:

*Group 1:* Messaging, email and collaborative technologies

*Group 2:* Desktops and Office Productivity tools

*Group 3:* Network operating system and network services

*Group 4:* Data and voice networks/ convergence

*Group 5:* Applications and database technologies

*Group 6:* Websites and online systems

A seventh Group looked at the relationships between the central ICT Unit and the ICT Units within the various Offices. As this is not specifically a technology issue this Group's findings are considered elsewhere in this document.

These Groups worked to a predefined terms of reference (see sample in Appendix 5), with the objective being to identify and analyse the main technology options or approaches and to recommend a strategy for the coming years. Supporting each of these technology issues were horizontal factors which groups also discussed e.g. security, unit structure, training and development, succession planning, management processes, resource levels etc. Outstanding issues from the previous strategy were also reconsidered to see if they were still relevant or valid.

A series of presentations were organised with our key technology suppliers e.g. Microsoft and Novell, and there was also extensive consultation with independent technology analysts from Gartner Inc. and our existing consultants and 3<sup>rd</sup> party suppliers.

The deliberations and specific technical recommendations from these working groups is summarised in Section 15, but a number of basic themes and principles have been identified as follows:

### **13.1 Technology Platforms**

The conclusions emerging from the Working Groups are that the Department's underlying technology platform is basically sound. Inevitably ongoing upgrades will be required to these technologies as new versions or security updates are released and old versions are de-supported. New investments may also be required to support new requirements, for example collaborative working or enhanced on-line services, but the Working Groups' analyses suggest that the technology platforms currently in place have a strong development road maps for the future and should prove sufficiently flexible to respond to changes in the Department's strategy and business objectives.

### **13.2 IT Efficiency**

Intel has developed the concept of "IT Efficiency" as part of its methodology for evaluating ICT investments. IT Efficiency gauges how well a proposed investment will use or enhance existing infrastructure, and Intel uses this measure along with measures of Business Value and Financial Attractiveness to decide on an overall Business Value Index for deciding between competing IT projects.

Continued compliance with procurement regulations, using competitive tendering for goods and services will ensure that the most economically advantageous purchasing decisions are made. However such decisions will incorporate a Total Cost of Ownership (TCO) basis in the selection criteria, recognising that the initial purchase price is often the lesser component of the overall lifetime costs, which include maintenance, support, upgrade, training and migration costs.

Another way in which IT Efficiency can be improved is through the consolidation of locations, hardware and operating systems. Currently the Department operates a diverse technology infrastructure, supporting over 80 servers, running 6 different operating systems spread over 8 sites. In addition 3 new regional offices are coming on stream. This situation has evolved over the years for a variety of reasons, some technical (for example limited and/ or unreliable bandwidth between buildings) and others "political" (for example where Business Units simply wanted the servers running their applications to be in the same building). As noted earlier the decentralised and dispersed nature of IT staff has lead to a number of problems,

including as RITS noted “varied and inconsistent implementation of security controls”. In addition, there is duplication of servers and infrastructure across these sites resulting in sub-optimal utilisation of skills and computing resources, increased licensing costs and increased management overhead.

Recent technical developments and the decreasing cost and increasing availability of high bandwidth networks, coupled with the increasing cost of office space mean that the original arguments for supporting so many sites need to be re-assessed.

ICT Unit will also, where possible, seek to implement “one size fits all” technologies and tools to minimise the management and skills overhead required in maintaining and supporting multiple overlapping solutions.

#### **13.4 New Technology**

ICT Unit will continue actively to monitor technology trends and will consciously introduce new technologies which have demonstrated clear business value as and when required (a good example of this was the introduction of the Blackberry). The most significant technology innovation envisaged at the moment is the migration to Voice over Internet Protocol (VoIP) which allows voice traffic to travel over the same infrastructure as data and allows for greater integration between the voice system, the PC and other collaborative technologies as well as providing significant cost savings on inter-office phone calls.

#### **13.5 Application Development**

Figure 4 in Section 5.4 positions the Department’s existing on-line and back-office business applications on a matrix which compares their functional adequacy/ business value against their technical adequacy. Systems which are towards the left of this matrix will typically be running on older technology which will not be supported in the medium term and which will begin to incur increased maintenance and support costs. These systems will therefore need to be either replaced or retired.

### **13.6 Desktop Environment**

For many users the only exposure to ICT is through the PC (or telephone) on their desktop PC. ICT Unit does not envisage any significant changes to the current desktop environment over the course of this strategy. PCs will continue to be upgraded on a rolling basis and Windows XP will continue to be the standard operating system on the desktop. However there may be an opportunity to introduce a free, open-source alternative to Microsoft Office 2000 (which will become de-supported within the next two years) for some if not all users, subject of course to thorough compatibility and usability testing.

An increasing number of users are accessing their desktops remotely and as this trend is forecast to continue an ongoing investment will be required in technologies to support remote access.

### **13.7 Green Issues**

The Department currently has approx 1200 laptops and PCs, as well as over 150 networked printers and photocopiers. A high proportion of these devices will be powered on every day, constantly using power and generating heat. The Department also has over 80 servers in nine separate server rooms, each of which has significant power and cooling requirements.

Using a model developed by Energy Star in the US, two power usage scenarios were modelled; the first (taking an extreme example) was where all PCs were left on 24x7. This was compared to a scenario where the PCs were switched on for only 9.5 hours per day, 264 days of the year and turned off at other times. The model shows that over the four-year lifespan of a typical PC this would involve a saving of 1,644,692 kWh, which converts to 2,631,607 lbs of CO<sub>2</sub>, or the equivalent of removing 229 cars off the road for a year. This would also equate to financial savings of approximately €196,000 at today's electricity prices.

Clearly then a concerted effort to reduce unnecessary power usage by ICT equipment would yield financial and environmental benefits.

### **13.8 Strategic Actions- Technology:**

[SA16](#) The specific technical recommendations from the recent security review of existing systems and infrastructure will be implemented.

[SA16.1](#) New technology installations will be designed, deployed and installed in compliance with the Department's Information Security policies and procedures.

[SA16.2](#) ICT Unit will continue to implement and upgrade a Disaster Recovery (DR) regime for key systems.

[SA16.3](#) DR systems and procedures will be tested twice yearly.

[SA17](#) ICT Unit will seek to reduce the complexity of the ICT environment to simplify its management, improve resilience, and reduce costs and energy usage.

[SA17.1](#) ICT Unit will initially seek to consolidate its servers onto fewer locations.

[SA17.2](#) Selected server rooms will be refitted - The physical and environmental infrastructure in the selected server rooms will be upgraded to an appropriate standard.

[SA17.3](#) Subsequent consolidation will look at the possibilities afforded by centralised management of storage through storage area networks (SANS) and virtualisation of hardware.

[SA17.4](#) The use of Virtualisation technologies will also be investigated to reduce the complexity of Disaster Recovery and Test environments.

[SA18](#) ICT Unit will increasingly use centralised tools to manage, control and monitor its infrastructure.

- [SA18.1](#) ICT Unit will continue with the use of the Novell's Zen suite of products, and extend their use to provide greater centralised management of the Department's ICT environment, including patching desktops and servers.
- [SA18.2](#) ICT Unit will deploy appropriate tools to monitor the status of key applications and infrastructure. Monitoring tools will be deployed at network, operating system, database and application layers.
- [SA19](#) ICT Unit will exploit the availability of cheaper bandwidth between its offices and leverage the capability of its new fibre-based Wide Area Network (WAN).
- [SA19.1](#) ICT Unit will invest in increasing network resilience by procuring a second, geographically diverse Wide Area Network by Q4 2008.
- [SA19.2](#) Resilient Internet connectivity will be delivered to all sites through this WAN.
- [SA19.3](#) High speed, high quality video-conferencing will be delivered as required between sites over the WAN. An interim solution for Carlow and Kilkenny will be carried out in 2008.
- [SA19.4](#) As part of the WAN implementation ICT Unit re-assess its current firewalls and replace them with products which have a more definite investment roadmap.
- [SA19.5](#) Existing leased line connections to all sites will be decommissioned by Q1 2009.
- [SA20](#) ICT Unit will deploy Voice over Internet Protocol (VoIP) to replace the existing telephone system in each of its locations.

- [SA20.1](#) During 2008 and 2009 existing network devices and wiring closets will be upgraded to support Department-wide VoIP.
- [SA20.2](#) ICT Unit will seek to minimise its purchases of digital phones and will replace them by IP phones where this is possible.
- [SA20.3](#) ICT Unit will look at the cost-benefit of installing GSM gateways on its PABX to enable calls to be made directly to mobile networks.
- [SA20.4](#) ICT Unit will pilot the delivery of desk-to-desk conferencing using webcams and VoIP handsets.
- [SA21](#) ICT Unit will continue to provide end-users with appropriate desktop tools
- [SA21.1](#) By Q4 2008 Windows XP Service Pack2 with Internet Explorer 7 will become the standard desktop until 2010.
- [SA21.2](#) A decision on the next desktop operating system to be taken by end 2009.
- [SA21.3](#) Open Office to be considered for pilot project as alternative to Microsoft Office when Office 2000 becomes de-supported in July 2009. This decision should be made by end 2008.
- [SA21.4](#) PCs will continue to be upgraded on a 4-year cycle. New PCs will be capable of running the latest Windows operating system, Vista, and will be bought with Vista licences.
- [SA22](#) ICT Unit will continue to enhance its remote access capability and the preferred mechanism for providing remote access will continue to be through Citrix.
- [SA22.1](#) The Citrix server farm will be enhanced as required to accommodate a potential increase in the numbers of remote users.

[SA22.2](#) ICT Unit will investigate the security implication of connecting laptops to the internal DETE network, with the objective of giving laptop users the option of using a Docking Station instead of a separate PC.

[SA22.3](#) Laptop encryption will be used where users are storing data on their laptops.

[SA22.4](#) New remote access technologies will be investigated and deployed if a compelling business requirement emerges that cannot be satisfied through the Citrix technology portfolio.

[SA23](#) The Notes / Domino platform will continue to be the Department's messaging platform for the period of the strategy.

[SA23.1](#) The Notes client will initially be upgraded to Version 7 by Q3 2008, with further upgrades rolled out as deemed necessary to support the requirements of collaboration.

[SA23.2](#) The collaboration functionality provided by the Lotus notes / Domino platform will be investigated and a pilot project undertaken as the Department's requirements become clearer.

[SA23.3](#) ICT will monitor joint developments from Cisco and IBM which provide opportunities to integrate the phone system with the messaging system to provide unified communications.

[SA23.4](#) A new Intranet providing improved navigation, search and accessibility will be developed and deployed by Q3 2008.

[SA23.5](#) By end 2008, the intranet bulletin board will be replaced by a new online forum with greater functionality aimed at facilitating wider personal, social and business communications across DETE and its Offices.

- [SA24](#) ICT Unit will reduce the number of operating systems it supports.
- [SA24.1](#) ICT Unit will consolidate the operating systems for its business databases and applications onto a single version of Windows and a single version of Redhat Linux.
- [SA24.2](#) No new development will be carried out on the Alpha / Tru64 Unix platform.
- [SA24.3](#) Upgrade plans will be developed for existing applications running on the Alpha / Tru64 platform to be migrated to the x86 platform by end 2010 at the latest.
- [SA25](#) ICT Unit will continue to use Novell's suite of products to deliver file and print, directory and proxy services, provided that an appropriate support ecosystem continues to be available in Ireland.
- [SA25.1](#) The Netware platform will be upgraded to Novell's Open Enterprise Server running on the Suse Linux platform.
- [SA25.2](#) ICT Unit will investigate the costs and issues involved in migrating to Microsoft's Windows / Active Directory technology in case the Novell support ecosystem in Ireland declines to an unsatisfactory level.
- [SA26](#) ICT Unit will minimise the number of database and application server technologies which it supports.
- [SA26.1](#) Databases will be developed on either Oracle or Microsoft SQL Server.
- [SA26.2](#) Existing databases running on de-supported versions of Oracle will be upgraded. Specifically the Insolvency Recovery and EAT systems will be migrated to a supported version of Oracle by Q4 2008.

- [SA 26.3](#) Small case management or tracking systems will continue to be developed on the Notes platform.
- [SA27](#) ICT Unit will undertake application development, implementation and upgrade projects as required by the business.
- [SA27.1](#) External developers will continue to be used for application development, implementation and upgrades.
- [SA27.2](#) Off-the-shelf packaged solutions will be selected for new business applications where possible.
- [SA27.3](#) Custom applications will be developed on either Oracle Application Server or Microsoft's ASP.NET.
- [SA27.4](#) A new Work Permits management system will be designed and developed, commencing Q1 2008.
- [SA27.5](#) A review of the NERA case management requirements will be undertaken and the existing system upgraded or replaced.
- [SA27.6](#) The Oracle Financials application will be upgraded to Version 11.5.10.2 by Q3 2008.
- [SA27.7](#) The Patents Office Ptolemy system will be upgraded to the .Net platform by Q2 2008.
- [SA28](#) ICT Unit will continue to comply with procurement regulations, using transparent competitive tendering processes for goods and services as required.

- [SA29](#) All significant service contracts will be published in the EU Journal to accommodate longer-term, multi-year contracts
- [SA30](#) New technology investment decisions will be based on Total Cost of Ownership rather than simply initial purchase price and will seek to achieve higher IT Efficiency and to leverage the existing skills of ICT Unit staff.
- [SA31](#) ICT Unit will continue actively to monitor technology trends and will introduce new technologies which have demonstrated clear business value as and when required.
- [SA32](#) ICT Unit will constantly seek to drive down its annual “Run the Organisation” costs
- [SA32.1](#) ICT Unit will review licensing agreements and maintenance / support contracts to ensure value for money continues to be obtained.
- [SA32.2](#) Where possible, automated tools will be deployed to monitor and report on the usage of software licences across the Department.
- [SA32.3](#) Maintenance and support contracts will be tested against the market through regular procurement exercises.
- [SA33](#) ICT Unit will seek to reduce the power consumption of its computer rooms and, in co-operation with the Department’s Green Team, will seek to educate end-users on ways to minimise the power usage of PCs and other client devices.
- [SA33.1](#) ICT Unit will investigate and deploy technologies which proactively intervene to reduce energy consumption and consumables utilisation by ICT equipment.

[SA33.2](#) From 2008 ICT Unit will include green issues, including power consumption and end-of life disposal as criteria in its Requests for Tender when replacing existing equipment or acquiring new equipment.

[SA33.3](#) During 2008 ICT Unit will develop an awareness campaign of energy conservation practices with regard to ICT equipment.

[SA34](#) ICT Unit will provide a programme of training aimed at assisting end-users to maximise their benefit from the technology and tools provided to them.

[SA35](#) ICT Unit should agree a timetable for the cessation of the BASIS website with Enterprise and Agencies Division, in conjunction with progress concerning the Small Business Forum's recommendation on on-line advisory services to the enterprise sector.

[SA35.1](#) Pending such a timetable, ICT Unit should ensure that the current BASIS website continues to be kept up-to-date, with new content added as appropriate, until such a time as the new system has been launched.

[SA35.2](#) ICT Unit will continue to proactively market the services of the current BASIS site. The Department should develop and implement a comprehensive two year marketing plan for the current BASIS website.

## 14. Other Recommendations

### 14.1 Websites

While ICT Unit is not specifically responsible for the Department's various websites it nevertheless has a role in terms of providing technical advice to the website owners. In that regard ICT Unit makes the following recommendations:

1. The Department should establish a panel of three suitably qualified web development companies to meet its future web service requirements.
2. All proposals for new websites should continue to require sanctioning by the ICT Steering Group.
3. The Department should compile a mandatory minimum website specification document that addresses the following design and functional characteristics:

Corporate Logo	Disclaimers
Navigation	Feedback Form
Imagery	Irish Language Option
Spotlighting	Browser Compatibility
What's New	Accessibility Standards
Contact Us	Site Search
Site Maps	Text Only Options
Printer-Friendly Options	Links Section

4. The Department should ensure going forward that all static websites are externally hosted. Pending roll-out of the Government data centre infrastructure, the Department should tender for a 'single' suitably qualified external website hosting partner.
5. All future web development and hosting contracts should include a provision that requires third party compliance with all the Department's relevant security, disaster recovery and business continuity policies.
6. All Department websites should be subject to a complete content and design review every two years.

7. All Department websites, including hosting solutions, should be subject to independent security review annually.

## **14.2 Public Services Broker**

Business Units should consider the possibility of integrating with the Public Services Broker when developing functionality requirements for new on-line systems, particularly where this involves authentication of users or the exchange of data with other departments or Agencies.

The Public Services Broker (PSB) is an integration framework and shared services platform designed to facilitate high volume, secure transactions with citizens, businesses and public sector agencies in Ireland.

The Public Services Broker (PSB) infrastructure was first deployed in July 2004 and has been fully operational since mid-2005. It consists of a central integration framework that in turn supports a number of other linked services based on a services oriented architecture. The integration framework itself is based on a set of standards and guidelines and is implemented in the form of a central messaging hub based on the widely used XML standard.

A set of standard transport protocols and connector software is available to enable public service agencies to connect easily at low cost to the central framework.

## **14.3 Central Departmental Support for ICT**

There is an opportunity for the Department of Finance/ CMOD to play a leadership role in promoting the movement of ICT staff between different Departments, thus facilitating the creation of a cadre of skilled personnel who could enjoy career progression whilst also pursuing an ICT career.

Furthermore, it is vital that possible synergies across Departments' ICT functions be exploited. This requires a central lead. Senior management with DETE should bring to the attention of their counterparts in central Departments of the need for centrally lead initiatives in this regard.

## 15. Risks and Dependencies

There are a number of risks and dependencies which may impact the successful implementation of this strategy as follows:

Risk	Likelihood (1-5)	Impact (1-5)
Insufficient / unsuitable Human Resources made available to Unit.	4	4 Lack of staff with the necessary skills, or delays in the provision of such staff will significantly impact on the Unit's ability to deliver an ongoing service to the Department and to implement this strategy.
Insufficient budget made available to the Unit	3	4 Reductions in the Unit's budget allocation would impact on its ability to invest in new/ upgraded technology or to buy in the necessary skills and expertise from external consultants
Technology platforms become obsolete	2	4 Committing to a technology platform with no long-term future would limit ICT Unit's ability to respond to the Department's business needs and require an expensive and time-consuming migration.
Lack of suitable support ecosystem for core technologies	2	3 The lack of a suitable support ecosystem could limit ICT Unit's ability to support key technology platforms.

## **16. Recommendations from Workgroups:**

### **16.1 Group 1. Messaging, email and collaborative technologies**

This Group was tasked with considering what type of messaging/ scheduling/ collaboration tools the Department likely to require in the next 3-5 years, taking into account the feedback received from the Business Units interviews and resources available in the ICT Unit.

The Group's key conclusions were as follows:

- 1.) That the Department (for the duration of this Strategy) remain with IBM and use the Lotus Notes software package for email and calendaring.
- 2.) The IBM Suite of Lotus products be investigated first for any enhancements (IM, collaboration, document sharing) required. Email and calendar is well catered for in the current release of Notes 5 and the rollout of Notes 7 will improve the look and feel of Notes.
- 3.) Revisit the current document management system (basic SER390 folders) to identify all possible software solutions that can integrate with our current Lotus/Domino products.

### **16.2 Group 2: Desktops and Office Productivity tools**

This Group was tasked with considering the following issues:

- Where is the PC going? What will be the impact of new personal productivity devices?
- How effectively do we use IT within the Department? Are users skilled in using the tools they have?
- How do we decide if/ when to upgrade the desktop environment?
- Do we have the best licensing strategy in place for our desktops?
- What are the alternatives to the Microsoft desktop?
- What is the best way of managing our desktops?

- What should our hardware upgrade strategy be over the next 5 years?

The Group's key conclusions were as follows:

- 1.) Microsoft Windows XP to remain as the desktop operating system through 2010.
- 2.) Linux operating system as an alternative to Vista to be parked as this does not seem a viable solution at present and there are too many issues that would require review. However the situation should be reviewed again in 2009 when Linux and Vista could both be considered as replacement operating systems when XP is de-supported. This decision should be taken and compatibility testing completed by end 2009.
- 3.) Internet Explorer 7 to be rolled out at the same time as XPSP2. Again, thorough testing of all browser-based applications required before deployment.
- 4.) Open Office to be considered for pilot project as alternative to Microsoft Office when Office 2000 becomes de-supported in July 2009. This decision should be made by end 2008.
- 5.) Continue to upgrade PCs on a 4-year cycle. Purchase PCs that are capable of running Windows Vista and that come with OEM Vista licences.

### **16.3 Group 3: Network operating system and network services**

This Group was tasked with considering the requirements for network services and the management and monitoring of an increasingly diversified inventory of assets, including servers, storage, desktops, laptops and PDAs spread over a number of locations.

The Group's key conclusions were as follows:

- 1.) Continue with the use of the Novell suite of products, extend their use to provide greater centralised management of the Department's IT environment.
- 2.) Support the adoption of green initiatives aimed at reducing power consumption within the Department through the use of technology or educational initiatives.

- 3.) Security of the Department's IT environment should be carried out centrally, where possible and appropriate.
- 4.) Greater use of centralised tools to manage and patch desktops and servers

#### **16.4 Group 4: Data and voice networks/ convergence**

This Group was tasked with considering the Department's data and voice requirements and the implications of increased data/ voice convergence.

The Group's key conclusions were as follows:

- 1.) The VoIP implementation in Carlow should be viewed as a pilot project for a technology which will eventually be rolled out Department-wide over the course of this strategy.
- 2.) The new WAN will be capable of supporting any increased bandwidth requirements as they arise, but the Department should invest in increasing resilience by procuring a geographically diverse WAN.
- 3.) There is no immediate requirement for gigabit to the desktop and 100Mbps should remain the standard during this strategy.
- 4.) The Department should look for joint developments from Cisco and IBM which provide opportunities to integrate the phone system with the messaging system to provide unified communications, thereby enhancing remote access and collaboration possibilities.
- 5.) As part of the WAN implementation the Department should re-assess its current firewalls and replace them with products which have a more definite investment roadmap.

#### **16.5 Group 5: Applications and database technologies**

This Group was tasked with considering the Department's requirements for database-driven business applications, and the technologies and skills required to manage them.

The Group's key conclusions were as follows:

- 1.) Given the existing investment in both Oracle and Microsoft skills and technologies, both Oracle and Microsoft SQL databases will need to be maintained.
- 2.) The likely size of new applications and databases should be considered when deciding between developing new applications or databases in Oracle or Microsoft technology.
- 3.) The existing arrangement for packaged solutions should be continued with support being provided by the original system supplier.
- 4.) The Department should invest in developing the core skills required to manage and monitor the backend systems internally, supplemented by using on-site consultants as required.
- 5.) Support for Hewlett-Packard's Tru64 Unix operating system on the Alpha platform has begun to be phased out from mid-2007, although later versions will be supported at least through 2011. Similarly Oracle v9.2.0.8 is the last release of Oracle9i on Tru64 Operating System. Premier Support on 9i ceased in July 2007 and a 3-year Extended Support is only available thereafter. Extended Support will only provide bug fixes for known problems and does not ensure access to Engineering Staff where serious escalations are required. Tru64/ Alpha should not therefore be considered a strategic platform for the Department and should be phased out in favour of the x86 platform.
- 6.) Notes should remain the preferred platform for developing small case management/ tracking systems.

### **16.6 Group 6: Websites and online systems**

This Group was tasked with considering how the Department manages its on-line presence, including static websites and interactive on-line systems. It also considered whether there was a business case for hosting some or all of the on-line systems off-site.

The Group's key conclusions were as follows:

1. The Department should establish a panel of three suitably qualified web development companies to meet its future web service requirements.

2. The Department should compile a mandatory minimum website specification document that addresses agreed design and functional characteristics.
3. The Department should ensure going forward that all static websites are externally hosted. Pending roll-out of the Government data centre infrastructure, the Department should tender for a 'single' suitably qualified external website hosting partner.
4. All future web development and hosting contracts should include a provision that requires third party compliance with all the Department's relevant security, disaster recovery and business continuity policies.
5. The Department should ensure that the current BASIS website continues to be kept up-to-date, with new content added as appropriate, until such a time as the new system has been launched.
6. The Department should continue to proactively market the services of the current BASIS site. The Department should develop and implement a comprehensive two year marketing plan for the current BASIS website.
7. Host RPS online services off-site and outsource management (hardware & application) to external service provider. Retain hosting and management of back-office system in-house.

### **16.7 Group 7: Relationships with the Offices**

This Group was tasked with considering the variety of relationships between the Department's central ICT Unit and the IT staff in a number of the Department's offices. The Group's key conclusions were as follows:

1. A central ICT Unit with ICT support in the local Offices was the preferred option because it provided for
  - Local knowledge of business practices
  - Local knowledge of ICT systems
  - Higher availability on site
  - Quality Customer Service
2. Local ICT staff reporting to the Central ICT Unit can implement a common ICT Policy and Strategy across Local ICT Offices to ensure less security risks for the Department.

3. Permissions to be sought from Central ICT Unit in advance of installing all new systems and software in Local Offices to assess compatibility and security issues.
4. The Group noted the current arrangements with regard to CRO ICT (which reports to the CRO) and advocates a memorandum of understanding to be agreed between ICT Unit and the CRO as to their respective roles and responsibilities

The completion of the Department's decentralisation programme in 2009 presents challenges for ICT support to offices where DETE, NERA and CRO will share office accommodation in Carlow. Clearly there is a need to ensure that key systems of those offices continue to be supported. It is suggested that ICT Unit's role with regard to the CRO be reviewed in order to assist the Office in ensuring that its key systems are supported in the best manner possible.

## 17. Appendices

### Appendix 1. Current Application Inventory

Application Title	Year Developed	Decommissioned ?	Application Software	O/S	Client Server/ Browser	Hardware	No. Of Users	Support (in-house/ external)	Database Size/Storage	DR/BC Procedure	Vendor Support?
E-mail	1999	No	Lotus Notes	Windows 2003 Server SP1	Client Server	Dell PowerEdge 2800	1200	Both	30g	Yes	Yes
Parliamentary Questions	1994	No	Lotus Notes	Windows 2003 Server SP1	Client Server	Dell PowerEdge 2800	10	Both	116	Yes	Yes
Scanned Image Repository Applications	Annually since 2004	No	Lotus Notes	Windows 2003 Server SP1	Client Server	Dell PowerEdge 2800	6	Both	262	Yes	Yes
Representations Tracking	Annually since 2004	No	Lotus Notes	Windows 2003 Server SP1	Client Server	Dell PowerEdge 2800	6	Both	59	Yes	Yes
Invitation Tracking	Annually since 2004	No	Lotus Notes	Windows 2003 Server SP1	Client Server	Dell PowerEdge 2800	6	Both	15	Yes	Yes
Government Memo Tracking	1999	No	Lotus Notes	Windows 2003 Server SP1	Client Server	Dell PowerEdge 2800	9	Both	2	Yes	Yes

Application Title	Year Developed	Decommissioned ?	Application Software	O/S	Client Server/ Browser	Hardware	No. Of Users	Support (in-house/ external)	Database Size/Storage	DR/BC Procedure	Vendor Support?
Government Decision Tracking	1999	No	Lotus Notes	Windows 2003	Client Server	Dell Power Edge 2800	9	Both	7	Yes	Yes
ODCA SID Database	2006	No	Lotus Notes	Windows 2003	Client Server	Dell Power Edge 2800	70	Both	1605	Yes	Yes
Dataflex DC list	1999	No	Lotus Notes	Windows 2003	Client Server	Dell Power Edge 2800	70	Both	12	Yes	Yes
Labour Court Case Tracking	1996	No	Lotus Notes	Windows 2003	Client Server	Dell Power Edge 2800	39	Both	710	Yes	Yes
Labour Court Information	2001	No	Lotus Notes	Windows 2003	Browser	Dell Power Edge 2800	6	Both	30	Yes	Yes
Labour Court Web Live	2001	No	Lotus Notes	Windows 2003	Browser	Dell Power Edge 2800	4	Both	314	Yes	Yes
Labour Court Reporting	2001	No	SQL	Windows 2000	Client Server	Dell Power Edge???	20	Both		Yes	Yes
Employment Agency	2002	No	Lotus Notes	Windows 2003	Client Server	Dell Power Edge 2800	45	Both	8	Yes	Yes

Application Title	Year Developed	Decommissioned ?	Application Software	O/S	Client Server/ Browser	Hardware	No. Of Users	Support (in-house/ external)	Database Size/Storage	DR/BC Procedure	Vendor Support?
Employment Rights Mail Management	2005	No	Lotus Notes	Windows 2003 Server SP1	Client Server	Dell Power Edge 2800	25	Both	160	Yes	Yes
Work Permits	1994	No	Lotus Notes	Windows 2003 Server SP1	Client Server	Dell Power Edge 2800	60	Both	5904	Yes	Yes
File Registry	1998	No	Lotus Notes	Windows 2003 Server SP1	Client Server	Dell Power Edge 2800	1200	Both		Yes	Yes
Central File Registry	1999	No	Lotus Notes	Windows 2003 Server SP1	Client Server	Dell Power Edge 2800	7	Both	2	Yes	Yes
Import Licensing	1998	No	Lotus Notes	Windows 2003 Server SP1	Client Server	Dell Power Edge 2800	11	Both	534	Yes	Yes
Export Licensing	2000	No	Lotus Notes	Windows 2003 Server SP1	Client Server	Dell Power Edge 2800	11	Both	184	Yes	Yes
CRO Mail Management	2004	No	Lotus Notes	Windows 2003 Server SP1	Client Server	Dell Power Edge 2800		Both	689	Yes	Yes

Application Title	Year Developed	Decommissioned ?	Application Software	O/S	Client Server/ Browser	Hardware	No. Of Users	Support (in-house/ external)	Database Size/Storage	DR/BC Procedure	Vendor Support?
Intranet (Clustered)	2002	No	Lotus Notes	Windows 2000 Server SP2	Browser	Dell Power Edge 6600	1200	Both	9432	Yes	Yes
Email Archive	2005	No	SQL	Windows 2003 Server SP1	Client Server	Dell Power Edge 2800	All	Both	849	No	Yes
Risk Register	2004	No	SQL	Windows 2000 Server	Browser	Fujitsu Siemens	5	DETE	30	No	Yes
SIGL2 - Import Licensing	2006	No	WAS	Windows 2003 Server SP1	Browser	Dell Pentium	2	Both	0	No	Yes
Oracle Financials	2004	No	Oracle	Red Hat AS 2.1	Browser - some client server add-ons in use - Discoverer and ADI	Dell Power Edge 6600		Both		Yes	Yes
RIR	1995	Review to take place 2007	Oracle	Tru64	Client Server	Compaq Alpha Server DS20		Both		Yes	No - database and forms version de-supported by Oracle

Application Title	Year Developed	Decommissioned ?	Application Software	O/S	Client Server/ Browser	Hardware	No. Of Users	Support (in-house/ external)	Database Size/Storage	DR/BC Procedure	Vendor Support?
Iken	2005	No	SQL	Windows 2003 Server	Client Server			Both		Yes	Yes
Prose eTandS	2004	No	Progress	Windows 2000 Server SP3	Browser and Client Server versions			Both		No	Yes
Prose "old" FMS		Yes - Awaiting confirmation of successful data migration from users	Progress	Sco Unix	Client Server			Both		No	No
Corepay		No	Oracle	Windows 2003 Server SP1	Client Server			Both		In progress	Yes
CRO Registration Services System		No	Oracle	Windows	Browser and Client Server versions		140	Both			Yes
Ptolemy		No	SQL	Windows	Browser and Client Server versions		120	Both		No	Yes
EAT	c.1993	Review to take place by 2008	Oracle	Tru64Unix 4.0f	Client Server	HP Alpha DS20e	20	Both	390	Yes	No

Application Title	Year Developed	Decommissioned ?	Application Software	O/S	Client Server/ Browser	Hardware	No. Of Users	Support (in-house/ external)	Database Size/Storage	DR/BC Procedure	Vendor Support?
ERES	2002	Review to take place 2008	Oracle	Tru64Unix 5.1b3 (DB)/ Windows 2003(APP)	Browser	HP Alpha DS25 / Dell Power Edge	60 (100 by 2008)	Both	10500	Yes	Yes
RFS	c.1993	Yes 2008	Oracle	Tru64Unix 4.0f	Client Server	HP Alpha DS20e	6	Both	1400	No	No (Oracle version obsolete)
RPS (Back Office)	2005	No	Oracle	Tru64Unix 5.1b3(DB)/ RedHat AS4(APP)	Browser	HP Alpha DS25 / Dell Power Edge	25	Both	4200	Yes	Yes
TMS	2001	No	Oracle	Windows2000 Server	Client Server	Dell Power Edge	1000	Both	1300	In progress	Yes although vendor has officially ended support

**Appendix 2. Typical monthly Helpdesk call volumes**

<b>Monthly Report All Tickets Resolved in October 2007</b>								
<b>By Group</b>	<b>Volume</b>	<b>% of Total</b>	<b>By Region</b>	<b>Volume</b>	<b>% of Total</b>	<b>By Type</b>	<b>Volume</b>	<b>% of Total</b>
BT 1 Level	399	30%	Carlow	125	9%	Access for Files/Folders	125	9%
BT 2 Level	606	46%	Davitt House	266	20%	Account setup	45	3%
Mangement	0	0%	Earlsfort Terrace	156	12%	Anti Virus	0	0%
Telecoms	73	5%	Kildare Street	392	30%	Clock	3	0%
Consumer Affairs	0	0%	Kilkenny	199	15%	Internal Phone Directory	1	0%
Network Support	22	2%	Labour Court	37	3%	Internet	42	3%
Notes Support	15	1%	Labour Relations Commission	59	4%	Intranet (Internal)	61	5%
Oracle Support	12	1%	ODCA	50	4%	ITG Printers	0	0%
Patents								
Kilkenny	186	14%	ODCE	33	2%	Lotus Notes	44	3%
Carlow	15	1%	Parnell House	11	1%	Lotus Notes Email	75	6%
<b>Total</b>	<b>1,328</b>	<b>100%</b>	<b>Total</b>	<b>1,328</b>	<b>100%</b>	Mail Marshall	387	29%
						Microsoft Office	22	2%
						Miscellaneous	27	2%
						Network	28	2%
						Passwords	59	4%
						PC Specific	78	6%
						Photocopier	25	2%
						Printing	54	4%
						Ptolemy	146	11%
						Telephony	62	5%
						Toners\Consumables	44	3%
						<b>Total</b>	<b>1,328</b>	<b>100%</b>

### **Appendix 3. IT Customer Charter**

I.T. Unit is committed to providing you, our customer, with an excellent service. This charter sets out the standards of service you may expect from us.

#### *Information*

We will,

- Provide our customers with clear, easily understood, accurate, comprehensive and up-to-date information on our activities, policies, services and plans.
- Ensure that the potential offered by Information Technology is fully availed of and new developments are publicised to our customers.
- Publish all relevant information on the Intranet in a timely fashion.

#### *Timeliness and Courtesy*

We will, deliver quality services with courtesy, sensitivity and with minimum delay.

As part of this commitment:

#### *IT Helpdesk*

We will,

- Provide 24-hour telephone (voicemail), e-mail and intranet call logging facilities.
- Acknowledge all calls logged and assign a reference number.
- Provide a “tracking” facility for cases forwarded to the helpdesk via the intranet using the assigned reference number (not yet available to CRO or Patents Office)
- Advise customer of when the issue is concluded.
- Ensure the helpdesk is staffed continuously during core business hours (9.15am – 5.30pm, 5.15pm on Fridays)

#### *Telephone Enquiries*

We will,

- Identify ourselves and our section.

- Be helpful and courteous at all times and provide you with as much information as possible.
- If we cannot deal with your query immediately, we will take your details, give you an indication of the estimated time required to respond in detail, and we will call you when the information is available.

#### *Written Correspondence (including e-Mail)*

We will,

- Write in clear language.
- Endeavour to comprehensively answer 90% of your correspondence within 5 working days.
- Send you an interim reply, explaining the position, if it is not possible to answer within this period.
- Ensure that all correspondence contains a contact name, telephone number, and e-mail address.

#### *Personal Callers*

We will,

- Where appointments have been made, provide appropriate facilities for meetings and ensure that our offices are safe, clean and accessible.

#### *Co-ordination*

We will,

- Maintain cross-departmental co-ordination (i.e. ICT Steering Group), to further enhance the Department's co-ordinated approach to service delivery.

#### *Evaluation/Reporting*

We will,

- Evaluate our performance by measuring the delivery of services using for example electronic surveys.
- Report on our performance in Management Information Reports and the Department's Annual Report and also, on our section of the intranet site.

- Carry out an annual customer satisfaction survey.
- Publish the results of the survey on our section of the intranet site.

#### *Helping us to help you*

We will,

- Continue to work with the ICT Users Panel in addressing the ICT problems and issues of our customers
- Welcome and encourage you to provide us with feedback to assist us in meeting our service standards.

#### *Service Complaints Procedure*

We will,

- Operate a customer complaints procedure. All complaints received will be acknowledged and responded to within 5 working days and will be dealt with in a fair and confidential manner.

#### *Equal Status*

We will,

- Observe your rights to equal treatment as provided by equality legislation.

*This Customer Charter will be displayed prominently in each of our I.T. Units.*

#### **Appendix 4. Outstanding issues from 2002-2006 strategy**

1. A formalised and co-ordinated approach to software installations and upgrades has not been adopted (Recommendation 2). The issue is summarised in the strategy document as follows:

“Currently, most installations and upgrades to software within the Department are completed in an incremental and isolated manner, with little communication or documentation of the changes. This can result in upgrades and patches being applied inconsistently and uncertainty of the version and consistency of software in use throughout the Department, making it difficult to associate problems with a specific upgrade or patch.”

2. A proactive approach to monitoring the Department’s IT infrastructure has not been successfully implemented. This would allow for improved availability and uptime and the measurement of performance against SLAs/ availability targets. (Recommendation 3).

3. A number of recommendations from the 2002 RITS Information Security Review have still to be implemented. While IS awareness has improved, its implementation remains patchy and not co-ordinated. (Recommendation 4.1).

4. Backup links between the seven Dublin offices have not been implemented. However this issue was considered as part of the IT DR plan and new higher bandwidth and more resilient Wide Area Network has been installed. (Recommendation 5.2).

5. There has been no significant move towards a Central Data Centre with centralised storage as envisaged in the strategy. (Recommendation 6.1). However the backup infrastructure is now centrally managed and the applicability of SAN technology has been considered in some depth and is not considered a priority given the Department’s current structure. The focus most recently has been on server consolidation and other benefits to be gained from using virtualisation technology.

6. Centralised hosting of all websites for the Department and associated offices has not been adopted. (Recommendation 6.2). The database-driven websites are hosted internally (but in two different locations). The Basis website is hosted by Esat and the main Departmental site is hosted by LGCSB.

7. No common standard has been developed for the multiple Departmental websites. However this would appear to be a deliberate decision with each Office developing it’s own on-line presence and branding. (Recommendation 6.3).

8. There has been little reduction in the diversity of technical architecture within the Department (Recommendation 7). If anything the diversity has expanded to include increasing usage of Linux, Windows 2003, and Citrix while at the same time no platforms or Operating Systems have been completely dropped.

8. While there has been an increasing investment in laptops and remote access, some users still have a separate laptop and desktop machine (Recommendation 8.1). Ideally, a laptop with docking station should be sufficient for most users and would be more cost effective and efficient.
9. No formalised approach to project management has been adopted as a standard by the Department (Recommendation 10).
10. No single development architecture or web services platform has emerged; these decisions seem to be dependant on the third-party developer selected to implement a particular project, rather than on the Department's clearly expressed preference. (Recommendations 11.3 & 11.4).
11. While Lotus Notes/ Domino has been upgraded since the strategy was written the current version in use within the Department is somewhat behind the latest release, so the latest advanced messaging and collaboration features are not available to users (Recommendation 11.5).
12. The potential of Microsoft Office has not been maximised. (Recommendation 12). No standard templates have been developed and there are no common document styles. The Travers Response Group has recommended that such templates should be created for submissions to the Management Board and/ or the Minister, incorporating a standard format for presentation, depending on whether the document is a memorandum for decision or a note for information. There is limited integration between Office and the email/ calendaring applications or other Oracle applications. However users' productivity should have improved as a result of the ECDL training that has been provided.
13. The objective of having one person-record across the Department has not been achieved. Separate person-records exist in many systems including TMS, Core Payroll, eTandS and Peoplesoft (Recommendation 14.1).
14. An Electronic File Management system has not been implemented (Recommendation 15). However, as a result of the Travers report, file management generally (paper and electronic) is likely to get increasing attention within the Department. Planning Unit is about to publish a set of Records Management guidelines that will re-establish the hard copy file as the definitive version with electronic documents to be printed down and added to it. Apart from increased use of scanning there has been no significant progress towards fully utilising electronic files.
15. Although it is used in certain situations, no clear strategy in relation to XML appears to have been formulated. (Recommendation 16).
16. A Knowledge Management programme has not been established although it is being considered in the context of Planning Unit's Records Management Guidelines and the Travers Response Group (Recommendation 17.1).
17. Collaboration tools have not been implemented within the Department, probably because no clear KM strategy has yet evolved. (Recommendation 17.2).

18. An enterprise content management system has not been evaluated, procured or implemented, again probably because of the lack of a clear KM strategy. Future versions of Lotus Domino may include content management functionality. (Recommendations 18.1 and 18.2).

19. While the organisation structure has been changed it is not completely in line with what was recommended in the strategy. In particular, the Network and Software “Operations” groups have not been split out from the respective “Projects” groups and a full-time Security Officer has not been appointed. This has also meant that structured Project Management skills have not been developed as envisaged. (Recommendation 19).

21. The IT staff in the Offices still tend to operate fairly independently. The senior IT person from each Office is invited to the monthly HEO/AP/PO management meeting although they do not always attend (Recommendation 20.2).

22. There is still an over-reliance on key individuals in systems management. When these individuals leave a significant amount of system knowledge is lost. Replacement staff coming in to these posts often do not have sufficient technical knowledge and struggle to cope when serious problems occur (Recommendation 20.3).

23. The Department does not recruit experienced staff into IT roles either from inside or outside the civil service and the career paths available within the Department mean that staff continue to leave or join the ICT Unit merely to gain promotion. There seems to be a reluctance from staff and management to invest in expensive technical training which, while relevant to the current job, may not enhance an individual’s long-term career prospects (Recommendation 21).

24. Regular team and management meetings take place, but there is no quarterly meeting for all staff (Recommendation 23).

25. Apart from Notes and Netware services the Offices remain fairly independent from the central ICT Unit and reporting relationships are more focussed towards local office management, resulting in conflicts and/ or lack of coordination from time-to-time (Recommendation 25).

## Appendix 5. Sample Terms of Reference for a Working Group

### Objectives:

- 1.) Agree a high-level objective for the Department's messaging, email and collaboration technologies in the light of IT Unit's overall mission statement: "To provide appropriate Information and Communication technologies that enable our clients to access the information and services necessary to do their jobs".
- 2.) **Review the main technology options** to meet this objective.
- 3.) Recommend a strategy for 2007-2010.
- 4.) Identify qualifiers to the strategy, i.e. **events or triggers** which would require the strategic choice to be re-examined.
- 5.) Identify the work programme required to implement the strategy.
- 6.) Formally, set out your consideration in a document and circulate it for observations to any IT unit colleagues you consider relevant.

### The Group's discussion should be prompted by the following:

- What **type of messaging/ scheduling/ collaboration** tools is the Department likely to require in the next 3-5 years, taking into account the feedback received from the Business Units interviews?
- What are all possible **solutions / alternatives / scenarios** (even if impractical), e.g. Notes Vs Outlook; Domino Vs Exchange Vs Groupware; IBM Workplace Vs MS Sharepoint Vs Online collaboration tools, etc
  - What are the Strengths, Weaknesses, Opportunities, Threats/ risks of each, e.g.
    - What is the roadmap for the product?
    - Is the vendor committed to it?
    - Is it gaining/ losing market share?
    - How does it compare against the competition?
  - What is the availability of skills both in-house and externally?
    - Would IT unit require training?
    - Would end users require training?
  - What are other organisations/ Departments doing about it?
  - What do our consultants think?
  - Costs of each option, e.g.
    - Financial
    - Reputational
    - HR
    - Total cost of ownership
  - Benefits e.g.
    - Savings
    - Security
- Qualifiers e.g. we might change our mind should X change in meantime
  - How will we measure/ track these qualifiers (if applicable)
- Need for revisiting / further work
  - Should we undertake a pilot project?

7.) Please explicitly comment on the impact of these common issues/ drivers:

- Remote Access and Mobility
- Decentralisation (of Business Units)
- High Availability
- Open source software
- Security- Confidentiality, Availability and Integrity of data and systems
- Accessibility & Disability
- Centralisation & Consolidation (of systems, servers, hosting etc)
- Resources (Staff, skills, budgets)
- Procurement
- Records & Knowledge Management

8.) Highlight and comment on any other issues you feel are relevant, for example:

- Performance measurement issues/ KPIs
- Green/ environmental issues