University of Glasgow

University Services

IT Services

**Strategic Plan to 2016/17 incorporating
Annual Plan 2012-13**

Contents

Introduction and high level description of service

Overview

IT Services delivers a range of services covering infrastructure, networking, application development, integration, user services, support and training. In addition, the service manages the ClydeNET Metropolitan Network on behalf of Janet, the Regional Support Centre covering Scotland on behalf of JISC, and an academic research unit known as the National e-Science Centre (NeSC) which is focused on the application of e-Science/e-Research and Grid technologies with emphasis on supporting domains requiring finer grained, user-oriented security.

All activities and services focus on supporting the strategic objectives of the University in partnership with the relevant stakeholders in Learning and Teaching, Research, Administration and other areas of the University. As part of the overall strategy for IT Services, further progress requires to be made on how services are defined, delivered and supported in order that business units can achieve maximum return / advantage. Our focus should be primarily on delivering business benefit in partnership with the end user(s) and only secondarily on the nature of the technical solution.

The majority of this document outlines planned strategic activities and implementation thereof, with the traditionally accepted focus of reducing costs, enabling the business, and improving processes / efficiency. Key changes in the world of IT are now taking place which require the traditional approach to be amended to deal with the impact of four new forces:

- The increasing expectation of **Mobile Delivery**
- Approaches based more on **Social Interaction**
- Utilising **Cloud Services**
- More creative use of Information, including **Analytics and "Big Data"**)

In isolation, each of the above may be easily understood as they are now a commonplace in other areas of peoples' lives, but their combination results in a scenario where end users will expect to have more control in constructing their own working models. No longer will students be limited to the Common Student Computing Environment as their only launch pad for work, instead they will utilise a combination of mobile, cloud and social technologies accessing a much wider range of information sources and collaborating in new and different ways with a more diverse range of contacts. This may be viewed as a change from the University pushing information and services out to the end user communities, to a model where end users are pulling selected services and information into environments and collaboration areas of their choice. Those Universities who move with the behavioural changes of students, and how they wish to interact with each other and their academic leaders, will greatly benefit from being correctly positioned as an integrated part of student life, rather than as an outsider looking in. The Academic and Research community and Administrators are likely to modify their behaviour in a similar manner.

Over the course of the 2013/14 IT Services requires to work closely with the Vice Principals for Learning and Teaching and Research, to formulate strategies and approaches for each of the above elements building, amongst others on the e-learning and internationalisation strategies.

Over the past five or six years in-house developed business systems have been replaced by best of breed packaged software solutions. Not only has this changed the profile of development work, the impact on the various business areas has been to help introduce more tightly defined business processes, enhanced integration and a reduction in the number and range of local solutions across the four Colleges. This means that increasingly IT Services are working in

close partnership with business areas in the delivery of services, rather than being solely responsible for those services. There is therefore an increased emphasis on collaborative development, maintenance and support and good mechanisms for liaison are essential.

Although there is still work to be done to complete the transition of the University's core software business applications (e.g. implementation of On-Line Admissions and Research systems planned for 2013 and 2014 respectively), through a period of change these have in general been widely adopted leading to greater consistency in processes and quality / availability of data. The challenge of comprehensive adoption of standard processes remains however and IT Services will continue to work with key stakeholders to achieve improved consistency. In order to fully capitalise on these investments, it is important to take advantage of the information that they contain and, by the use of Business Intelligence (BI) and Business Analytics (BA) techniques, provide decision-makers with a better quality of information on which to base their decisions. During 2013, therefore, it is vital that the area of BI / BA is reviewed in detail and an appropriate strategy defined.

From a more technical perspective the outlook looks relatively stable, although as described elsewhere in this document there are significant plans to continue to improve the technological support for business activity and so facilitate the delivery of greater business benefit. Oracle and Microsoft technologies will continue to dominate the Database platforms. Linux, Solaris and Windows will continue as the strategic operating systems.

In summary, therefore, the key areas where IT Services requires to focus it attention on over the next two to three years is on joined-up and coherent services:

1. Analytics and Business Intelligence
2. Improving business alignment and stakeholder / user relationships
3. Improved IT management / policies / flexibility
4. Business systems (Process improvement / efficiency/ effectiveness)
5. Mobile Delivery to a constantly changing set of devices
6. Cloud Services
7. Collaboration across boundaries as well as within teams
8. Social Networking
9. Virtualisation and Infrastructure Development
10. Security

IT Services Structure

There are four groups in the unified IT Services as follows:

- Networking and Infrastructure
- Service Delivery, Information Strategy and Teaching Support
- Development and Integration
- e-Science

Networking and Infrastructure

The Technical infrastructure teams provide the core services, which support the Information Technology that underpins the teaching, research and administration functions of the University. In particular the Technical infrastructure teams support, operate and provide strategic direction for the following 'core' services.

- The campus data communications Networks

- The ClydeNET Metropolitan area Network
- The infrastructure services that are required to support other 'core' services, business applications and College-specific applications; e.g. DNS, filestore, databases, e-mail relays, identity management, disaster recovery, network directories and information security
- The managed desktop paradigms that provide the secure and productive desktop environments for staff and students
- The Administration services that support the work of the Division and provide the support and management services for Campus wide Software licensing, IT procurements and Student Disability IT support.

The ICT Infrastructure strategy and associated Roadmap provides the framework, which ensure that the technical infrastructure develops and aligns with the University's strategic objectives.

Service Delivery, Information Strategy and Teaching Support

The user support, helpdesk, training, and information office teams provide and manage a range of IT-based services to staff and students. This includes the service-management system SupportWorks, now used not only for IT support but also Data Protection, Freedom of Information, Library, Site Security and other types of support. These teams also provide, for the University community, support and training in the use of a wide range of services and systems.

- The Teaching space Audio-Visual, Video-Conferencing and IT environments which are essential for teaching and learning.
- The development of both policy and technological approaches to ensuring that ICT is deployed and used in a secure way, that protects the University from both litigation and technological assault.
- The processes by which new services are developed, managed, released into use and monitored and the flows of information to the staff and students about IT systems.

Development and Integration

The software development and integration teams develop and support integrated business solutions, covering both in-house and third party applications to maximise the effectiveness of business processes. This encompasses technical support for a wide range of business systems including HR & Payroll, MyCampus, Research, Programme Information, Document Management, etc.

- The development and maintenance of business systems to meet the changing needs and strategic objectives of the University, along with statutory obligations and government legislation.
- The development and support of interfaces to ensure consistency of data across corporate systems and to minimise data input.
- The development and support of appropriate management reporting solutions.
- The provision of adequate support, training and advice to users so that they can utilise the systems effectively.

e-Science

The e-Science and research team provides support for research activity through attracting external grant funding for compute intensive research project in collaboration with researchers in Schools and Colleges.

Engagement with stakeholders and service users

New services

New services are delivered through projects normally with a Project Board. Success is critically linked to the quality of the consultation and engagement with a full range of appropriate stakeholders throughout the process:

- Project Board members being given adequate information to make informed decisions and understand the resource requirements to deliver an effective service to meet a defined business need.
- Project team members drawn from appropriate parts of University services and from Colleges and Schools working in partnership with IT Services as a coherent team.
- The project lifecycle gathers user needs at the outset as part of the business requirements and analysis stages, and involves users throughout the project to assess how well those needs are delivered in options appraisal, and in later user acceptance testing.

Changes to services

User feedback is gathered either informally or through formal user groups and this can lead to a service change request that is progressed in conjunction with the relevant support team. Consultation about such change proposals may result in them being addressed as part of routine service maintenance or lead to the creation of a project to refine the requirements and deliver an improved system.

Interactions with Stakeholders

- Technical Review Group (TRG) – planning group consisting of IT Services staff and College IT staff and TRG short life working groups
- ICT strategy managed by ITS and overseen by IPSC
- Project Boards, interviews and requirements gathering as pat of systems development and feedback during testing phases and at the end of training sessions.
- Monthly IT Helpdesk Satisfaction surveys are run, providing detailed analysis of performance and satisfaction rates for both staff and students. Comments are analysed and corrective action taken as appropriate.
- Regular College meetings assist in identifying required / desired enhancements.
- Regular liaison meetings with other services such as Learning and Teaching Centre and with the teams supporting business activities such as MyCampus and Core HR.
- Staff/student surveys
- The SRC is consulted periodically about proposed changes in services to students.

IT Services aims to become more proactive with regards to stakeholder engagement, clarifying services, policies and procedures, performance standards and service level agreements to facilitate benchmarking and continuous service improvement.

University Services is currently reviewing how it, as a group, should engage with Colleges and Schools in a manner that avoids fragmented communication and planning. IT Services will play an active role in the revised model

Additional methods to improve engagement with the wider university community which will be complementary to University Services plans are under consideration, including:

- Regular meetings with the colleges managements to discuss better alignment of services with the business need.

- Regular meetings with the wider distributed IT support community to ensure facilitate two-way flow of information on central systems and available services.
- Establishing user-group activities for some of the major services and systems to help to provide feedback on the services or systems and regular review of systems with the users to ensure they continue to be fit for purpose.

Delivering Excellent Research

Context

The ITS teams provide a range of services including the basic infrastructure and systems that are available to all staff and students and which underpin the services and specialised facilities that are provided by individual research groups and the College IT teams. Centrally provided services for Researchers include:
- A High Performance Compute (HPC) cluster.
- High bandwidth communications links for research projects.
- Access to the National 'Light path' high bandwidth inter-site network.
- Collaboration tools and file store.
- Training developed for Researchers; e.g. introductions to programming, and software engineering good practice.
- Support for attracting external grant funding for compute intensive and 'big data' research projects in collaboration with Schools and Colleges.
- Support and maintenance of the Research System and the Time Allocation System (TAS) and management of system that provides the Enlighten repository of research outputs.
- Provision of a central repository of managed documents, to support all aspects of research contracts and the evidence required for the REF.

Objectives for improving the service and assisting delivery of the University's Strategic Plan

- To facilitate research collaboration with external partners by:
  o developing mechanisms for registration and authentication of partners so that they can access appropriate services as part of research consortia;
  o providing suitable file storage services for research consortia to permit collaborative working with appropriate levels of security and audit;
  o providing a set of collaboration tools for use by research consortia led by Glasgow wherever they are.
- To develop services to support the new requirement of the Research Councils for the retention and public availability of research data for periods of at least ten years after the completion of the work.
- To improve College IT/ IT Services interaction mechanisms to ensure that researchers get joined-up support from all parts of ITS services and their College IT teams.
- To enhance the campus network in a three year project funded by IPSC, to facilitate better research collaboration and access to data sources both on campus and across the world.
- To provide further IT training courses that will enable researchers to manage and manipulate their data efficiently.
- To streamline, automate and audit the ethical approval process for non-clinical research projects involving human subjects.
- To support the production of the 2014 REF.

Table Key	In Progress	Already Resourced	Resourcing Required

Actions to be taken in delivering objectives	By when/ other performance indicator
• Provide mechanisms to register and authenticate external research collaborators	• Define requirements by summer 2013 and deliver a production service by end of 2013.
• Review of the data storage technologies and services currently available in order to provide services targeted at research collaboration and long-term data storage.	• Review by summer 2013, definition of services required and resource needed by Nov 2013, provision of new services by summer 2014.
• Develop (or identify eternal provision of) new IT training courses in response to demonstrable demand.	• Within three months of demand being identified provide a business case and a course within six months.

• Enhanced Networking – The 3 year Network Upgrade project will deliver a range of benefits including;
   o 40Gbs campus routing service
   o 10Gbs LAN switching services
   o 1Gbs to the desktop as standard
   o 10Gbs to HPC clusters and high end server farms
   o improved Eduroam WiFi service and Web cache removal.
	• Starting financial year 2012/13 and finishing 2015

• Further develop the existing College IT/ITS relationship at both management and operational levels.	• Ongoing , complete during 2013
• Develop a strategy and work to facilitate access to information and systems via mobile devices covering both staff and students	• Progressive 2012-2015 • Project Board to be established in January 2013
• Work in Collaboration with the University Library, other Services and Colleges to identify the research data retention needs and define the services required to satisfy it.	• Consultation during first half of 2013. • Establishment of a project to deliver a service September 2013.
• Lead generation of strategic Business Intelligence business case.	• A pilot programme of work was approved by SMG in December 2012 to address the needs of introducing a standard Work Load Management tool. The target solution is based on a data warehouse / BI analytics architecture. Subject to progress of the pilot a University wide BI proposal will be produced – target date autumn 2013.
• Introduce Research Ethics Approval system	• Full roll-out by March 2013.
• Assisting with production of the 2014 REF return and with new interfaces to the new Research System.	• During 2014

Providing an Excellent Student Experience

Context

The ITS teams provide a wide range of IT services for UG, PGT and PGR students and to facilitate their teaching and learning at undergraduate and postgraduate levels.

- The Common Student Computing Environment (CSCE) delivers a secure and productive desktop environment to support students IT needs. There are 3,600 CSCE desktops on campus including over 800 in the library and reading room. The CSCE provides file store, an e-mail account and calendar, and a wide range of tools, including the MS office suite, Matlab, Minitab and SPSS. CSCE is also available off campus via the CSCE remote service.
- The Wifi service allows students to use their own devices to access the University's IT services in a secure manner and a VPN service gives access to restricted resources.
- A student portal provides a single sign-on to other Student services and a range of collaboration tools, file store and document management.
- AV and IT facilities are provided and supported in the nearly 200 centrally booked teaching rooms and support for additional rooms (such as the Bute Hall and Hunter Halls) when required. In a number of locations video conferencing or video linking facilities are provided together with lecture recording.
- Basic IT and intermediate training on a wide range of IT applications and topics and tailored training in response to College requirements, which are reviewed annually. For disabled students (and staff members) individual assessment of assistive technology and suitable training are offered, in conjunction with the Disability Service.
- A dedicated Student IT Helpdesk based in the Library, provides walk-up IT support for students using CSCE or their own devices, 09:00-23:00 daily and reduced hours at weekends.
- ITS develops and supports teaching-related business systems such as MyCampus and Moodle.
- Systems such as On-line Voting and the Leisure Management system support student life outside the classroom by supporting the SRC and Student Services. In addition, the Student Texting System enables staff to engage with students directly when appropriate, aiding student support and retention.

Objectives for improving the service and assisting delivery of the University's Strategic Plan

The challenge for the University and for IT Services is to provide a more joined-up set of services in teaching rooms, in collaboration and in support of the developments in trans-national and distance education that the University is embarking on. During this period the major focus will be on meeting the aspirations of the e-learning strategy that will be published by the Vice-Principal for Learning and Teaching in 2013 and the steady increase in demand for support for mobile working whether on campus or elsewhere from a wide and changing variety of devices.

- To improve the support available to students, on campus, at home and at other learning centres.
- To ensure that services are mobile-friendly and allow students to get the information that they want, where and when they want it, on whatever device they have to hand.
- To provide a fully joined-up service in relation to all the technologies in all centrally supported teaching rooms so that the technology serves to realise its potential in enhancing the learning experience.

- To provide the complete teaching timetable to MyCampus to enable availability of full individual student timetables in MyCampus and on mobiles.
- To support the University as it develops Trans-National Education developing the IT support model to embrace students learning at a distance, in different time zones.
- To support the emerging e-learning strategy by providing a range of well-defined, joined-up services through Moodle and the Student Portal.

Table Key	In Progress	Already Resourced	Resourcing Required

Actions to be taken in delivering objectives	By when/ other performance indicator
• Develop a strategy and work to facilitate access to information and systems via mobile devices	• Progressive 2012-2015 • Project Board to be established in January 2013
• Improve range of learning tools and use by academics to provide enhanced learning experience for students	• 2013 – building on the e-learning strategy that is being developed by the VP for Learning & Teaching
• Develop the infrastructure and seamless integration of services in teaching rooms.	• By August 2013
• Set up a project board for the student portal, to guide the development of a roadmap to provide easy access to all student-facing systems.	• Project board to be established by February 2013. • A roadmap for development of the portal to be agreed by August 2013.
• Improve the responsiveness and convenience of the IT support provided to students	• Ongoing – Student Satisfaction key measurement
• CSCE improvements are included in ICT roadmap and require investments capital, recurrent and staff time to achieve – current priorities include; o CSCE Cluster upgrade to replace systems that are 5years old o new student print service providing access to more printers, pull printing and printing from student owned devices o Network upgrades providing higher bandwidth (1Gbs) connections for CSCE workstations and an improved Eduroam WiFi service	• ICT strategy and Roadmap are presented each year to IPSC for approval and budget prioritisation.
• Consider cloud provision for commodity services e.g. e-mail	• 2012/13 – Consult with Colleges and the SRC. Potential for reduction in maintenance costs, environmental costs and staff resources.
• Research and if appropriate introduce a multi-function ID/payment card system.	• Consult with Estates and Buildings, L&T VP to progress high level requirements and proposal. Target completion of proposal April 2013.
• Provide automatic population of complete class timetables into MyCampus from the timetabling	• By August 2013

system.	

Extending Global Reach and Reputation

Context

The ITS teams provide a wide range of IT services for staff and students to facilitate communication beyond the borders of the University. This communication is important for potential students and staff to find out what the University has to offer, to support the learning and teaching of students and staff involved in TNE and to enable students studying away from home to maintain contact with the family, friends and peers back at home. With the rapidly changing interaction education landscape, the key to success in this area is to have flexible and adaptable services and systems which include:

- The technologies that enable the University to have a Web presence.
- The technologies that provide a Virtual Learning Environment to support the learning and teaching of the University for students both on and off campus and thus facilitate any-place any-time learning.
- The Programme Information System maximises the speed and ease of the approval process to facilitate staff in developing new programmes with global reach, such as the courses being developed with Institutions in Singapore and China.

Objectives for improving the service and assisting delivery of the University's Strategic Plan

- To collaborate with other Services on projects like the Glasgow Welcome project that seek to provide a one-stop-shop and joined-up services, to facilitate the organisation and support of visitors from abroad to the University, whether for a few days or a much longer period.
- To provide a stable and resilient set of web technologies to ensure that the University can present itself to the world in ways that are appropriate.
- To provide a flexible suite of reliable communications tools to enable our staff and students to interact with their peers, contacts, family and friends around the world.
- To provide the underpinning technologies to support learning and teaching of students wherever they are in the world, whenever they need it.
- Implementation of My Campus Direct Admissions module and its integration with other business systems will provide enhanced tools for Direct Admissions.

Table Key	In Progress	Already Resourced	Resourcing Required

Actions to be taken in delivering objectives	By when/ other performance indicator
- Contribute to the Glasgow Welcome project by making IT Service information readily available and provide support for underlying processes.	- Delivery of the project by April 2013.
- Implement My Campus Direct Admissions module and integrate with existing business systems to provide enhanced tools for Direct Admissions.	- This will result in greater number of applicants to the University hence improving the income by 2013
- Develop a service to deliver tools for	- This will increase the frequency of

virtual classroom delivery of teaching and learning to support existing modes of delivery and to support virtual meetings.	teaching and learning that does not require the students to be gathered together in one place and reduce the need for travel in research and administration collaboration. Service in place by mid 2013.
• Enhanced Networking	• We expect the network upgrade project to deliver the capabilities necessary to facilitate Collaborative research projects between the University and other partners nationally and internationally. In addition the project with facilitate closer collaborations within and between Colleges.

Staff

Context

The ITS teams provide a wide range of IT services for staff which are designed to assist staff with their IT-related tasks, work and social collaborations and help increase productivity in their research, teaching and administrative duties. The services available include:

- A central IT Helpdesk provides telephone, email and walk-up support, together with customer self service access to report and track requests and faults. This facility is increasingly being used to support non-IT activities across the University.
- The Standard Staff Desktop environment delivers a secure and productive desktop environment to support the IT related activities of admin, teaching and research staff. The SSD enables hot-desking and provides flexible managed file store options, an e-mail and calendar service. and a range of productivity tools including the MS Office suite. The SSD is also available as a remote service which provides staff with access to an SSD environment from their own devices.
- The Wifi service enables staff to use their own devices to access the University's IT services in a secure manner and a VPN service gives access to restricted resources.
- A staff portal provides a single sign-on to other staff services and a range of collaboration tools, file store and document management.
- AV and IT facilities are provided and supported in the nearly 200 centrally booked teaching rooms and support for additional rooms (such as the Bute Hall and Hunter Halls) when required. In a number of locations video conferencing or video linking facilities are provided together with lecture recording.
- IT training for staff that is designed to meet the wide range of needs for those engaged in different activities in the University and to improve their effectiveness and efficiency.
- The recruitment and retention of high quality staff is assisted by our e-Recruitment and Job Seekers Register systems.
- The Core HR system supports an increasing number of staff activities in relation to their employment and payment and also facilitates the statistical returns to HESA.

Objectives for improving the service and assisting delivery of the University's Strategic Plan

- To develop the technology environment that supports staff daily work in ways that provide flexibility to meet existing and likely future needs.

- To develop systems that support staff in the line management activities.

Table Key	In Progress	Already Resourced	Resourcing Required

Actions to be taken in delivering objectives	By when/ other performance indicator

- Service improvements are included in ICT roadmap and require investments capital, recurrent and staff time to achieve. Current priorities include
  o Migrating staff accounts, file store and print services from Netware Microsoft AD
  o Providing significant (.5Petabyte) storage to support College admin, teaching and research requirements
  o Introduction of OCE managed print service
  o Migrating staff email to exchange 2010 supporting closer integration with MS Office, SharePoint and providing increased mailbox size
  o Network upgrade project as described above
	- ICT strategy and Roadmap are presented each year to IPSC for approval and budget prioritisation.

- Complete implementation of Core HR/Payroll system and Campus
  o rollout of the P&DR module of the HR/Payroll System
  o rollout of the Training module of the HR/Payroll System
  o assess the suitability of Core's E-recruitment module and implement if suitable
  o rollout Core-Mobile technology to allow staff to view payslips via a mobile phone
	- Improve the business process efficiency, reducing costs by 2013
	  o in place for May 2014
	
	  o in place by July 2013
	
	  o if appropriate, in place by October 2013
	
	  o in place by April 2013

Processes and Systems

Context

All corporate systems aim to be customer-focused, flexible and fit for purpose, and provide effective support for the core business activities of the University. The systems also enable the University to meet legislative (FOI, DPA, UK Border Agency, DDA) and statutory requirements (HESA, SHEFC, USS, General Medical Council). The last few years has seen the replacement of many of the University core business systems and the implementation of these will be completed by early 2014.

Objectives for improving the service and assisting delivery of the University's Strategic Plan

The service improvement objectives are focussed on removing silos and providing seamless process supported by joined-up systems. Integration of both processes and systems will be the principal goal once the current round of systems implementation is complete. The emphasis will then be on the delivery of fully joined-up services to support staff and students in their primary activities to facilitate learning and teaching, research and effective and efficient administration.

- Across IT Services, to redefine service delivery to a more user-centric focus by following IT industry best practice to:
  - overhaul the way that services are designed, delivered, supported and improved.
  - ensure that services are supported with appropriate training and documentation to promote effective use.
  - enable the gathering of feedback and to readily respond to suggestions for improvement.
- To improve the quality of trouble shooting information obtained in initial contact with customers to reduce the need for secondary questions and speed up the resolution of issues.
- To improve the identification of frequent minor IT problems and take preventative actions.
- Offer an integrated approach to document and information management which will provide the University community with more coherent services and solutions optimal to their needs.
- To provide tools to support governance and enable the efficient management of University committees including the creation, management, long term storage and publishing of committee records, ensuring the University meets its legislative and statutory obligations.
- Extending the Document Management system and its associated workflow tools to further areas of the business to improve overall business processes
- Improve management information reporting and introduce Business Intelligence techniques to assist Senior Managers in their decision making processes
- Reduce the cost of the University estate by improving the use of the CMIS system and related processes so that teaching space is managed more efficiently
- Investigate Data Warehousing solutions and applications

Table Key	In Progress	Already Resourced	Resourcing Required

Actions to be taken in delivering objectives	By when/ other performance indicator
• Develop and introduce new management processes for ensuring that IT Services are matched to business needs and fit for purpose and define services on offer, how to use and access..	• Pilot an ITIL-based approach on new and changed services early 2013; introduce ongoing review of all services by end of session 2012-13.
• Develop a process for analysing data collected in the IT Helpdesk system and combining the findings with other indications and hold regular reviews to initiate and track preventive action.	• Process available, and reviews underway, by mid 2013.
• Develop the Self-Service HelpDesk interface to capture additional information specific to the category of problem or request.	• By the end of 2013

• Produce a project governance framework and project assurance process to be applied to all major projects.	• Available for use from June 2013. • Continually review against industry standards and good practice.
• Analyse the current internal information architecture that provides staff with the information that they require to do their jobs and develop a coherent Internal Information Framework integrating the systems and technologies that staff interact with.	• Analysis by early in 2013 • Establish an Internal Information Project by March 2013. • Progressive implementation from Summer 2013 – Summer 2014.
• Produce a roadmap for the development of Document Management systems and services.	• By May 2013
• Improve management information through the development of Business Intelligence services to assist Senior Managers in their decision making processes.	• To be discussed with Planning Services and Vice Principal for Strategy by 2013
• Formulate a plan to identify data quality issues in core systems and then take action to resolve them.	• June 2013
• Enable more efficient Committee Management by improving and integrating existing systems.	• Deliver proof of concept for committee management by April 2013
• Streamline the process of Exam Paper production	• Deliver Exam Papers System and Document Management system interface ready to pilot by August 2013
• Improve the management of admissions data in line with updated requirements from the UK Border Agency	• Deliver Document Management system interface to MyCampus Admissions module when this goes live
• Implement first phase of the centralised timetabling of both central and local rooms in one system to allow more efficient teaching space management.	• By August 2013
• Provide complete online room availability and booking system	• First half of 2013

Infrastructure

Context

The ITS teams are responsible for providing the data communications, server and services infrastructure that is crucial to the delivery and development of the University's IT services on which they depend.

- A fibre-optic backbone linking all University buildings which in turn each have a pervasive distribution scheme This delivers a range of data communications services to end users and other service providers.
- Ethernet switching and campus routing services in all University buildings, provides end-user and server access to the campus network
- A steadily developing WiFi network, remote access services and a VPN service provide flexibility of working with respect to device and location.
- The ClydeNET metropolitan area network which provides resilient and high bandwidth internet connectivity to the University.
- The VOIP telephony system is progressively replacing the old analogue telephony system.
- The identity management service provides staff, students and affiliates with a single identity and access to a wide variety of systems using a single identifier and password.
- The efficient use and maintenance of the University's estate is facilitated using the Quemis (Physical Resources), CMIS (Room Allocation and Timetabling), Car Parking and Access Control systems.

Objectives for improving the service and assisting delivery of the University's Strategic Plan

- To achieve economies of scale with respect to the provision of computing power, file store and computer room provision.
- To deliver a high bandwidth, robust, resilient and well supported network service to enable efficient data communications across not only the University but nationally and internationally and support research projects that require significant network resources.
- To develop the AV, IT and VC infrastructure in teaching rooms to provide a joined-up service to provide flexible support for the 2000 learning and teaching events carried out in the rooms each week.
- To develop the services and systems to provide a managed information infrastructure to support the storage of corporate records and to facilitate the effective use of all the information available in corporate systems for business decision making.

Table Key	In Progress	‖Already Resourced‖	Resourcing Required

Actions to be taken in delivering objectives	**By when/ other performance indicator**
- Service improvements are included in ICT roadmap and require investments and staff time to achieve; current priorities include the 3 year Network Upgrade project will deliver a range of benefits including; o 40Gbs campus routing service o 10Gbs LAN switching services o 1Gbs to the desktop as standard o 10Gbs to HPC clusters and high end server farms o improved Eduroam WiFi service and Web cache removal.	- We expect the network upgrade project to deliver the capabilities necessary to facilitate Collaborative research projects between the University and other partners nationally and internationally. In addition the project will facilitate closer collaborations within and between Colleges and provide the Network services necessary to support the increasing bandwidth demands of other core services
- Improve the back-up and availability of the Document Management System (Documentum) to provide 24/7 availability to interfacing systems.	- Software and hardware upgrade of all the environments by April 2013.
- Deliver an integrated data analysis	- Establish the project in conjunction

service defining requirements and researching technical options. o Define a unified, single University data schema which can form the basis for a data warehouse and core data services which can be used in conjunction with a variety of business services. o Analyse data quality, identify data gaps and initiate a data quality improvement exercise. o Gather management information requirements from schools, colleges and services, working in particular with Planning Office to define deliverables.	with the Planning Office by March 2013.

Resource implications of plans

Staffing

Subject to further discussions covering strategy and agreed additional projects it is anticipated further staff resources will be required from August 2013.

As a broad guide: (confirmation and full justification by end of Jan 2013)

3 analyst / programmers
2 project managers
4 infrastructure / technical support
1 information officer

Non-salary budgets

Additional non-salary costs will be identified as each project is approved.

Accommodation

The current server / machine rooms in the James Watt North Building are proving increasingly difficult to manage in terms of floor space, power supply and air conditioning. Discussions with E&B have commenced and IPSC have approved a programme of work to investigate and recommend an appropriate way forward via the creation of a single University data centre, and appropriate DR site, to be used by IT Services and all Colleges / Research Institutes. The green and carbon agendas will be part of this programme.

Following restructuring the traditional MIS and Computing Services teams have in many ways merged to become a single multi disciplined team. Discussions with E&B awaited to review possibility of identifying a single home for IT Services rather than the current multiple locations.

Potential impact on other University Services or on any of the Colleges

Improved service and responsiveness.

Analysis of key risks

Description of risk	Impact*	Likelihood*	Mitigating actions
Fewer staff resulting in increased pressure on remaining staff.	3		Be realistic in number of staff required to maintain and provide some degree of service improvements over time. Take a holistic view of IT staff reductions across the whole University rather than just University Services. Any loss of staff must be based on proper plans considering the impact and how best to deal with it.
Downwards spiral – fewer staff, reduced support levels leading to increased staff and student dissatisfaction.	3		Identify strategically important services and ensure these are maintained to acceptable levels.
Long term use of contractors risks lack of retained expertise by permanent staff.	4		Ensure all work is well documented and involve permanent staff in new development work. Where appropriate, re-assess whether there is a permanent need for an additional resource.
Reduced funding of maintenance overheads resulting in increased risk of infrastructure or systems failure.	4		Be carefully pruning maintenance budget but also accept that in difficult times it may take a bit longer to recover from a service failure and or provide the response users currently enjoy.
Reduced or no infrastructure investments resulting in a progressive falling behind in technology support for the University's activities.	3		Identify strategically important services and ensure that some investment is maintained.
Fragmentation of responsibility for major IT systems leading to a deterioration in service through a lack of communication, support structure and integration.	3		IT Services should retain responsibility for IT systems but work closely with other services under agreed protocols to ensure that user requirements and service standards are met.

* Impact rating 1 (low) – 4 (high); likelihood rating 1 (rare) – 4 (probable)