Foreword

During 2012 we continued on our transformational journey to deliver the very best in IT services and support for our users. Recognising that IT underpins every aspect of a person’s day-to-day university life, we continued to make significant investment in our IT infrastructure to further enhance the services available and improve their resilience.

During the transformation programme, we felt we needed a new image and have rebranded IT Services. We’re working hard to establish a consistent look and feel across all media and are in the process of updating our support information to ensure it is both user-friendly and comprehensive.

An emerging trend facing many organisations is ‘bring your own device’ (BYOD). At St Andrews, we have faced this challenge for many years, however the improved infrastructure means we can now support fully the many devices (laptop, smart phone, tablet, ebook reader, etc.) that students bring that need connected to the University network. For the first time, due to significant expansion of wifi coverage, all arriving students at the start of of Session 2012 / 13 had wireless access in their hall of residence. In addition, we took a different approach to supporting the students – engaging proactively with them to get their devices connected rather than, as in previous years, waiting for them to come to us with a problem.

Student and staff satisfaction with our services has continued to increase and I’m extremely grateful to my team for embracing change and for their commitment to providing excellent services. We continue to invest in the development of our staff, supported by a revised appraisal system (Q6) that ensures they are clear as to their objectives and how their work contributes to the bigger picture.

During 2012 we developed and published our ICT Strategy for 2012-15, which is closely aligned to the University’s strategy.

I was delighted that we were the first university in Scotland to appoint IT Apprentices. The new recruits (Sam, Peter and Steven) work in the Service Desk, Web and Desktop teams, gaining a wide range of technical, practical and customer care skills. They are receiving a great ‘on the job’ learning experience along with invaluable training and support from QA (the UK’s leading learning company). The new recruits are tapping into a wide range of IT expertise here at St Andrews and, in turn, will allow us to produce the IT professionals needed in the future.

We also offered 3 internship placements, in support of the University’s summer internship program.

2012 saw us achieve the British Computer Society’s Gold CEEDA (Certified Energy Efficient Datacentre Award), win a European award for Innovation in IT Optimisation and be placed as a finalist in the UK IT Industry Awards for Project Excellence.

Steve Watt
Chief Information Officer
During 2012 the facilities in several areas were upgraded.

**Teaching Spaces**
AV upgrades were carried out to:
- Gateway Lecture Room 2
- Gateway Seminar Rooms 1, 2, 3, 4, 5 & 6
- Gateway Boardroom
- Arts Building Lecture Theatre
- Irvine Lecture Theatre
- Swallowgate Room S11
- Swallowgate Room S4
- Maths Microlab (PC Classroom)

Additional teaching spaces were created by installing AV and computer equipment into the Old Union Diner and in Maths.

**PC Classrooms**
PCs were replaced in:
- Butts Wynd
- Econometrics
- English Postgraduate classroom
- Irvine
- Psychology

New classrooms were set up in the Library on Levels 3 and 4.

**Site-Wide Software Licensing**
New licenses purchased in 2012:
- Wolfram Mathematica
Licenses renewed in 2012:
- Microsoft Campus Agreement
- Esri ArcGIS Desktop + Extensions
- F-Secure Business Suite
- E-Views (Labs)
- Mathworks Matlab
- IBM SPSS Statistics / Amos
- PDF Convertor Pro became a perpetual licence
Research Computing Service
In response to the publication of the Research Councils UK (RCUK) Common Principles on Data Policy and the resulting Engineering and Physical Sciences Research Council (EPSRC) Policy Framework on Research Data, activities of the service have focused on investigating support needs for Research Data Management (RDM). With the assistance of the Digital Curation Centre, Data Asset Framework audits were carried out across the University, the outcomes of which are feeding directly into service developments. To help the University ensure compliance with the new EPSRC policy framework, a RDM Roadmap was written, outlining the steps that need to be taken before 1st May 2015 to achieve the required level of conformance with EPSRC expectations. The Digital Archive mentioned in the 2011 annual report is now, technically, largely developed and the policies and procedures necessary to be able to provide a pilot digital archiving service are in the process of being developed. It is hoped that the Digital Archive will feed into future RDM service provision.

With the help of the Research Computing Team a number of academic funding successes were achieved for Digital Humanities projects across the Faculty of Arts. These will contribute a total of £2.8m towards the University’s research income. Over the past year the team provided technical support to the following research projects:

- A Corpus of Scottish Medieval Parish Churches (School of Art History)
- Late Antique churches as evidence for the diachronic complexities of the Christianization of the Peloponnese (School of Classics)
- The Islamisation of Anatolia, c.1100-1500 (School of History)

The Research Computing Service was invited to present at The Born (Digital) Identity digital archiving conference organised by the Archives and Records Association (Scotland), and at the Institutional Policies, Strategies, Roadmaps workshop organised by the JISC Managing Research Data Programme.

Research Information Management
PURE: the University’s Research Information Management System.

Preparation for REF2014 (the Research Excellence Framework) got well underway with submission due in autumn 2013. Pure is critical to managing the REF2014 preparation and eventual submission with all data being collected, reviewed and submitted via this system. Together with the 20 other UK universities that use Pure, St Andrews has worked with Atira, the software provider, to design and deliver a fit-for-purpose REF module. This is managed by the Research Policy Office with support for publication data from the Library, and used by the Principal’s Office and School management, as well as by individual researchers across the University.

Pure is also being developed to support open access to journal articles and underlying data and is pivotal to the University’s response to the open research strategy and policy framework set by government (UK and EU) and related funders.

Pure successfully delivered the first submission to the new RCUK research outcomes system with researchers linking publications and other outputs to research grants within Pure and a bulk upload being submitted centrally from the Research Policy Office. These data are being pulled through to a publicly available UK research portal – the Gateway to Research.

Many School web sites have been or are currently being redeveloped to reuse data from Pure in the run up to the REF and beyond. This has reduced duplication of effort by removing multiple lists of publications, and improved the quality of the data available via School web pages and the University’s research portal.

Supporting Information Governance
The REF exercise presented an opportunity for the University to revisit how personal data is used to support that activity and to consider what issues may arise should third-parties seek discovery of REF data/information via the Freedom of Information (Scotland) Act 2002. Guidance provided to staff on REF (the use of personal and sensitive personal data) was revised and briefings on data protection and FOI issues were provided to Heads of School.

The University also provided guidance to the Snowball project team across a number of information governance areas, including drafting the protocols for information sharing and the transfer of personal data between the partners.
Start of Term – New Arrangements
For students, the ability to connect their PCs, tablets and phones to the internet is extremely important. Prior to and during arrivals weekend and orientation week (September 2012), we adopted a more proactive approach to the service provided to new students. A ‘Welcome from IT Services’ email was issued to all new students two weeks prior to their arrival in St Andrews, outlining start of term arrangements, the support on offer and the services provided by ITS:

- During arrivals weekend, IT support was available all day on Saturday and Sunday
- In addition to the main support at our Service Desk, members of the Service Desk team were based in David Russell Apartments and Agnes Blackadder Hall – two of our largest halls of residence – to assist with any IT connectivity issues
- A wi-fi clinic was run during arrivals week
- Newly updated booklets and leaflets were made available in all halls of residence and at the Service Desk
- Members of IT Services staff attended many of the welcome talks, academic fayres and orientation events to meet with new students to make sure they could connect to the network and to have a positive IT experience from the moment the students arrived.

SMRU Ltd
IT Services is now supporting computer and network services for SMRU Ltd other University owned companies. Integrating the diverse networks and systems of these companies is proving an interesting challenge.

Self Service Portal
In September 2012 the Self Service Portal was made available to all staff and students. This system allows users to create a new incident online and track the progress of any current incidents they raised.

PC Clinic
The PC Clinic is a University service, operating through the IT Service Desk, which provides staff and students with technical support when faced with personal computing issues. Offered initially only to students, it was extended to staff in October 2012 due to its popularity.

Service Desk
IT Services strives to provide the best possible IT support to everyone who uses our services. To measure and improve effectiveness, we were assessed by the Service Desk Institute during 2012, using the only industry standards-based accreditation programme. Nine certification concepts are measured: Leadership, Policy & Strategy, People & Management, Partnerships & Resources, Processes, People Satisfaction, Customer Satisfaction, Performance Results and Social Responsibility. In early 2013, we received accreditation status – the first University in Europe to achieve this.

Simplified Wi-Fi
During 2012, we made it easier for staff and students to connect to Eduroam – the University’s secure and fast wireless network provision. As well as directly benefiting users, this has released IT support resources, particularly during the very busy first weeks of term.
Purdie Annex
Failing infrastructure and unsupportable cooling systems within the Purdie Annex meant that core IT applications were vulnerable to failure. These critical services were relocated to the Butts Wynd Data Centre, resulting in a far more reliable environment, over £5,000 in power saving per annum and the release of valuable space that can now be used for teaching or research.

Janet Links Upgrade
The University connection to the Janet network was upgraded from a pair of 2GB links to four 10GB links. This has greatly improved the resilience and helps meet our ever-growing bandwidth requirement demands.

Salix Bid
We were successful with a Salix bid for three Oracle T4-4 servers to replace much of the ageing Unix estate. The new servers will replace more than 40 physical devices by taking advantage of virtualisation and automated provisioning. This will enable the University to save on power consumption and cooling, and ensure efficient utilisation of our server resources. A new management layer will allow easy virtualisation and control of the environment.

Wordpress
There has been regular demand for a centrally supported Wordpress service allowing Schools, Units and Student Societies to create blogs and websites quickly and easily without coding work. This service was implemented successfully and integrated with single-sign-on for easy access by all University staff and students.

Wireless / Eduroam
Following significant investment the number of wireless access points was increased from 357 to 1,067. This extends coverage to over 95% of University buildings and, for the first time, all students in halls of residence have access to the wireless network.

UniPrint
One of the main sources of student dissatisfaction in recent years was printing facilities. To address this, we rolled out a secure, managed print service (UniPrint) during summer 2012. Over 60 multi-function devices (MFDs) were installed across the University, including in halls of residence, allowing users to print, copy and scan. Many of the devices have A3 and colour options. Whereas previously a user’s print job appeared automatically at the nearest printer, this is a secure ‘pull’ print service whereby students submit their document to a central print queue then release it at a time and location suitable to them. The service is ‘managed’, which means we are alerted by the device when toner cartridges need to be replaced or paper supplies are low, thereby maximising availability. Students will, for the first time, have the option to scan documents to file (which is free).

SAN (Storage Area Network)
Having completed the tender process to replace the ageing central data storage system, commissioning of a Dell Compellent SAN was started. This will provide one Petabyte (1 million gigabytes) of storage, split between two sites. Over the next 12 months this will be used to provide resilient storage for business-critical databases, central file stores and some research data.

Access Control
We completed the roll-out of contactless smartcards to all students and staff. The University’s managed print service and the Library access control gates work best through contactless technologies therefore it was deemed necessary to accelerate the existing replacement programme. For the first time the University made use of an external card bureau to produce cards in bulk. This worked very well and it is anticipated that external partners will continue to be used in the future.

Recognition of Our Work
In December 2012 we received a European award, recognising the work we have done in not only consolidating and enhancing our infrastructure and systems, and delivering and populating a data centre, but also in the ICT transformation that we have undertaken which has been underpinned by all of these activities. The DatacenterDynamics EMEA Annual Awards recognise innovation, leadership and ‘out of the box’ thinking in the data centre industry across Europe.

Category: Innovation in IT Optimisation
Project Name: ICT Transformation at The University of St Andrews
University Website
The Web Team is responsible for assisting Service Units and Schools with any web-related matter. The team works closely with software developers and other staff within IT to manage and deliver a wide variety of web projects. The past year was particularly busy, with the redesign of several websites (e.g. Saints Sport, Music Centre, School of Psychology & Neuroscience and School of Art History), the launch of a new Google Search Appliance and the upgrade of TerminalFour Site Manager (the University’s content management system). The team also updated the underlying infrastructure used by the University to publish and manage web content. The changes made will allow us to automate and semi-automate a number of routine tasks. Publishing time will be reduced and outdated content will be purged.

Lean Activity
Staff within Lean continued to make a significant contribution across the University, ensuring business processes are reviewed and new, more efficient ways of working promoted. Significant external work was also undertaken giving the staff considerable experience of practices in other sectors.

Google Search Appliance
We installed a Google Search Appliance (GSA) to replace the ageing Mini Search Appliance. More than 7 years old, the latter was capable of indexing only 100,000 documents, while more than 275,000 are now indexed with the GSA, with scope to include many more systems. Between 5,000 and 9,000 search requests are received per day.

The GSA is currently indexing departmental websites as well as the main University website and has hooks into Google Apps, MMS, Moodle and the Data Warehouse, as well as MySQL databases, to provide an enhanced search experience, adding results from staff directories, module catalogues and map data where appropriate.

Qlikview
During 2012, the Business Intelligence Team increased to 3 staff with the addition of a new QlikView developer. The Team is set to grow again next year when two graduate developers will join to help us in the areas of data management and dashboard design. This growth reflects the University’s increasing dependence on operational reporting, analysis and decision support information. The Team now supports several business-critical reporting applications, including HR Staff Analysis, Finance Budget Monitoring and Research Grant Analysis. These applications have had excellent feedback from users, reflected in an increase in usage of some 150% over the period, translating to almost 1,000 individual sessions per week. Looking forward, the team began working with Registry and Admissions staff to make improvements to the way the University reports student data.

Video Production / Streaming
The volume and quality of video/audio production increased significantly over the year. A greater number of Schools and Departments were catered for and several different ways of recording employed. Production was facilitated by the addition of a Mac Pro for editing as well as a full HD video camera for use by the team, which have sped up production markedly.

The type of production has varied: streaming a live graduation or conference, recording inaugural lectures, recording interviews and debates, poetry readings, producing DVD series of different conferences, filming chapel services, carol services and inauguration ceremonies, and providing images and footage for inclusion in the 'Ever to Excel' film for the 600th Anniversary.
Social Media
Embracing the continually changing methods of communicating and sharing information with those who use and are interested in our services, the IT Services Twitter page was launched in summer 2012. This provides users with a valuable way of keeping up-to-date with our news and services, as well as receiving hints and tips from the Service Desk team. The Chief Information Officer started blogging too! A number of IT teams and individuals have their own blogs and twitter pages about their specific areas of expertise.

External Influences
In September 2011 the McClelland Report was published and subsequently, the Scottish Government’s ‘Scotland’s Digital Future’ strategy, which includes plans for SWAN (Scottish Wide Area Network) – a single network infrastructure and shared services for the public sector. The University of St Andrews has adopted a proactive role in this area since the publications of these documents, led by our Chief Information Officer, who is currently chair of HEIDS (Higher Education Information Directors Scotland). The University of St Andrews is working closely with other public sector bodies to investigate shared services and explore opportunities.

Surveys, Feedback and Engagement
During 2012 a number of surveys were conducted, including the annual iGrad survey – the international student barometer – in which we ranked first for several areas of IT support and provision. The University conducted a staff-wide satisfaction survey in June 2012 and for the first time in 4 years, student and staff surveys on IT Services were conducted in late 2012.

Satisfaction rates continue to improve and we are working hard as a service to engage with our users to understand their needs and requirements, and ensure continued satisfaction. We meet monthly with the Student President and his Sabbatical Officers and attend many formal and informal meetings/events to ensure we have a good awareness of student requirements.

CEEDA
The University achieved the British Computer Society CEEDA Gold standard for the Butts Wynd Data Centre, becoming not only the first UK university but the first public sector organisation in the UK to achieve this accolade for energy efficiency.

This ‘best-in-class’ award demonstrates that the data centre meets advanced standards of energy use including a low annualised power usage effectiveness (PUE) rating and economised cooling.

The award followed an intensive audit of all aspects of the data centre project and operation, and is a significant recognition of the University’s commitment towards good energy management.

Green IT
Around 30% of the electricity consumed by the University is used to power ICT equipment, much of which runs 24 hours a day, every day. With energy costs continuing to rise and our commitment to becoming carbon neutral by 2016 the University faces a real challenge. Our initial efforts focused on reducing the number of locations which house servers and storage by constructing a very energy-efficient data centre. We continue to consolidate locations and, over the next year, will seek to optimise our data centre configuration to further reduce our environmental impact.

Virtualisation
A reduction in power consumption was also achieved by reducing the number of physical servers through on-going investment in virtualisation technology (VMware). Further expansion of our VMware environment with the implementation of the new SAN (Storage Area Network) will provide a much needed platform for test & development as well as allowing virtualisation of more servers.
In 2012 the University dealt with 216 requests that required a response under the Freedom of Information (Scotland) Act 2002 (FOISA) or under the Environmental Information (Scotland) Regulations 2004. In one instance, relating to issues surrounding academic freedom, the applicant asked the Scottish Information Commissioner for a decision and we await the outcome.

Colleagues from IT Services also provided assistance on European law on environmental information to support an on-going program of research.

During 2012 we piloted a revised employee appraisal system (Q6), which not only included agreed objectives but also focused on four key staff behaviours or values. In a significant change to previous practice, all staff development must now be agreed within the Q6 framework to ensure explicit alignment with the member of staff's role. If feedback is positive, Q6 will continue to be used during 2012/13.

A programme of developing managers commenced with all staff designated as team leaders registering on the Passport to Management. In addition, some staff participated in the Environmental Facilitators programme.

Significant improvements were also made to inter-team working through the introduction of a weekly, service-wide operational meeting plus other cross-team meetings.
Further Facts and Figures

Email Statistics for 2012
Incoming email rejected by blacklists: 38,470,351
Incoming mail rejected as spam or virus: 1,611,979
Incoming email delivered to users: 20,635,150

Telephone Statistics
Total number of extensions: 6,870 (includes 3,874 student rooms)
 Analogue: 6,229
 Digital: 641
 Voicemail (staff): 467
 Voicemail (student): 10
 Mobiles: 394 (includes 32 SIM-only data)
 Apple iPhones: 195
 Blackberry / HTC / Samsung: 34
 Provider:
 O2: 231
 Orange: 48
 Vodafone: 115

University Website Statistics
Between 1 January 2012 and 31 December 2012, there were
Page views: 35,808,426
Visits: 10,745,420
Unique visitors: 3,088,620
Average duration of a visit: 4m 22s

77% of visits were from the UK, with 7% from the United States, followed by Germany, China, Canada and France accounting for about 1% each.

58% of visits came as a result of searching for it elsewhere, while 26% were from visitors coming directly to the website.

The most popular browser used to access the website was Safari (30%), followed by Internet Explorer (26%), Chrome (22%) and Firefox (18%). This is a big change from the previous year (2011) where Internet Explorer was most popular (34%) followed by Safari (26%), Firefox (21%) and Chrome (16%).

The number of visitors using mobile devices has increased dramatically from about 80,000 in 2011 to 300,000 in 2012. Mobile operating systems now account for about 10% of visits (up from 3% in 2011).

Social networks such as Twitter and Facebook are becoming important sources of traffic as people provide links to specific pages on the website such as press releases and the Graduation website. Over the year, about 155,000 visits were from referrals shared via Facebook.

For external visitors, the most popular pages were prospective students, postgraduate students, subjects, International Relations and visiting. For internal visitors, the most popular pages were current students, IT classroom, current staff, postgraduate students, IT support and the Library.

IT Service Desk Call Statistics

Freedom of Information
In 2011, the University received and processed 203 requests for information under the Freedom of Information (Scotland) Act 2002 and the Environmental Information (Scotland) Regulations 2004. 93% of these requests were responded to within the statutory timescale of 20 working days. A total of 216 requests were received in 2012, which represents a 6% increase in activity on the previous year. Despite this increase, there has been an improvement on the University’s overall compliance against the 20-working day target with a response rate of 95%. The cooperation and support of colleagues from across the whole of the University is appreciated in making this achievable.

Pure
During 2012, a total of 5,631 research publications and 3,138 research activities, honours and prizes were added to Pure.

Note: As Pure is still being updated with historic information in preparation for REF2014, these figures include publications and activities from years prior to 2012 as well as publications and activities taking place in 2012.

Identity Management
Total accounts: 75,500
Active accounts: 36,673