



INFORMATION + COMPUTING TECHNOLOGY

2012-2013 ANNUAL REPORT

Mission Statement

The Information, Computing and Technology Group's mission is to provide the Maxwell community with the highest quality computing, multimedia and web services available. Our vision is to increase productivity and promote sustainability through innovation, collaboration and application of state of the art technology. We strive to create an efficient, secure and educational environment for our faculty, staff and students.

Summary of the Year

ICT accomplished all of its goals for the 2012-2013 fiscal year. Our top priority and most important accomplishment is our continued success in providing high quality, reliable service and collaborative support to our community. Major milestones for the year included the completion of the production server and data migration to the Green Data Center on South Campus, computing and research support for the new Aging Studies Institute, and the continued security and computing support for the FAIR Health project.

This year, ICT's technology initiatives included the deployment of the LTN video system with broadcast quality capability, completion of the technical and programming areas of the new Maxwell website, and Salesforce.com development.

These accomplishments are detailed in subsequent sections.

Strengths and Accomplishments

Infrastructure/Network

ICT continues to maintain and support an up-to-date infrastructure consisting of over 40 servers (most of them virtual), over 50TB of storage and 83 network switches. Additionally, the ICT staff maintains and supports services such as DHCP, DNS, WSUS, firewall, license server, and web services. The Maxwell community experienced a 99.99% uptime on Maxwell's network, as well as ICT's supported core servers and services this fiscal year.

The centralization of Maxwell production servers is now complete. Key production servers such as file, print, DNS, database and web resources are now housed at the Green Data Center located on south campus. While the ICT staff continues to develop, support and maintain these servers, they are now located in the secure and sustainable GDC, whose infrastructure is maintained by the central computing group (ITS). Our development, security, software packaging and network monitoring servers remain within Maxwell. ICT also supports a set of web servers located within Maxwell which mirrors the content of www.maxwell.syr.edu. These servers can be used as a fail over system in case of an emergency or outage in the GDC.

This year, ICT, in partnership with the central IT group, is in the process of upgrading the Maxwell network backbone from a one gigabit to 10 gigabit transmission speeds. This will significantly improve the data flow from the Maxwell school to the Green Data Center resulting in seamless transfer of large data files such as research data and audio/video files.

ICT also upgraded our desktop imaging system to allow us to deploy Windows 8 quickly and securely to the desktop clients.

Research

ICT continues to play both a collaborative and supportive role in the area of research for the Maxwell community. The Aging Studies Institute (ASI) added a new secure room which represents the third secure room supported by ICT at Maxwell. This room allows ASI faculty to securely work on research projects using restricted datasets. ICT provides the setup, design, security, dataset management, and backup of the computers and data housed in the secure rooms.

In addition to the three secure rooms, ICT also supports dozens of faculty research projects using the Academic Virtual Hosting Environment (AVHE). The number of virtual research servers used by the Maxwell faculty has doubled in 2013 from the previous year. ICT manages users accessing the 96 core Matlab cluster hosted in the GDC by the central IT group.

This coming year, ICT will upgrade the student research labs and research faculty computers to high powered Intel i7 Desktops with 16GB of ram. This will provide faster computational output using statistical software such as Stata, SAS, and

SPSS. When not in use, these 8 CPU core desktops will also contribute their computing power for use in the campus Condor Grid. The Maxwell School provides unused desktop computing cycles for use in the ITS supported Condor system, which is a specialized workload management system for compute-intensive jobs. The Maxwell School continues to be one of the largest contributors to the Condor Grid.

Computing

Training classes and workshops continue to be an effective way for ICT to aid in the professional development of the Maxwell community. ICT's training curriculum includes Ektron, Office (Word, Excel, PowerPoint, and Access), Windows 7 and Adobe Creative Suite. This year, ICT added training classes and workshops for Windows 8, Office 2013 and Salesforce.com. Over the past year, there were over 370 attendees between all classroom sessions and individual instruction sessions. The Training mailbox processed approximately 3,850 help requests this year. Additionally, ICT continues to provide student support through general and department-based orientations, and during normal and extended help desk hours throughout the year.

ICT developed several solutions on the Salesforce.com platform this year. Salesforce is a leading customer relationship management (CRM) and cloud computing software program. We were able to develop a unique business process for two departments, Executive Education and Career Services in the Maxwell school that will streamline workflow, increase productivity, and better organize their data. We also developed a research business process to help manage the dozens of research projects and security plans supported by ICT.

This year, ICT worked with the Learning Environments and Media Production Group to upgrade existing technology, and added new technology in some of our classrooms and conference rooms. PARCC's main conference room in M400A had a 70" LCD monitor and a small teaching station installed and is also capable of being used for Skype video conferences. Executive Education's main conference room in Maxwell 204A had a 90" LCD monitor installed and is currently the largest LCD display in the entire Maxwell complex. While there is no teaching station in the room, there is an internally mounted mini-computer that can be utilized for PowerPoint presentations. There is also a wall mounted patch bay with audio and video inputs for laptops and other equipment that may be connected to the monitor. Included in the new office space constructed in Lyman Hall for the Aging Studies Institute was a large conference room. Technology for this room included an HD projector, motorized projection screen, and PA system. A small, portable TV cart was built with Skype capability for the main conference room used by Social Science in Maxwell 402. The classroom in Lyman 411A had new AV equipment installed including motorized dropdown projection screen, projector, and teaching station. Finally, the Eggers 070 classroom was updated with all new technology including a new projector and teaching station.

This year also included the annual upgrade of computers that have reached their end of life. Over 100 computers were replaced across the Maxwell school during

this period. This year we have also extensively tested and prepared for the new Windows 8 operating system and Office 2013 suite of applications. ICT hosted Windows 8 town hall meetings and training sessions for users interested in upgrading to Windows 8. The operating system was tested for software compatibility with existing software packages used by our users. We have also begun the process of upgrading select public and assigned computers with the new operating system. On May 10th ICT rolled out Office 2013 to the Maxwell School which featured a brand new user interface. As part of the roll out, we worked with users to update their application shortcuts and assist them with learning how to navigate the system.

ICT coordinated the installation of new technology, the placement of new computer systems, and relocation of existing computer systems for the new Aging Studies Institute as they transitioned to their newly constructed space in Lyman Hall. This included the installation of new computers, printers, and AV equipment as well as the coordinated moves of existing computers and peripherals from Eggers Hall to Lyman Hall.

This year, ICT developed a new system for adding Macintosh computers to the domain which will allow our Macintosh users greater security and a more accurate way of computer object tracking. We also upgraded our asset tracking database used to keep track of university owned laptops, tablets, and peripherals. This secure database contains important information such as serial numbers and encryption hashes in the event a piece of equipment is ever lost or stolen.

To assist with the training of our student workers, ICT developed a new comprehensive employee handbook for our work study student employees.

ICT continues to maintain its excellent reputation for service and this year we processed 9,013 support email messages sent to our service address between July 1st, 2012 and June 1st, 2013. We also had approximately 908 service appointments with various faculty, staff, and students. Visits should remain consistent with last year's totals; a steady decrease from past years totals is expected. Wireless connectivity and account related issues remain constant as well as other various laptop and mobile device issues keep visits consistent with last year.

Web/Multimedia

ICT maintains three principal public-facing web servers. Each server houses thousands of web pages and hundreds of distinct web sites. These servers meet markedly different needs for the school:

- 1) www.maxwell.syr.edu – Maxwell's primary web site.
- 2) Webhost – Maxwell's academic and personal web site server.
- 3) Survey.maxwell.syr.edu – A web application for building online surveys.

In partnership with the Deans Office, ICT has successfully coded and updated www.maxwell.syr.edu with a completely new web site design. This marked the first major overhaul of the site's look and navigation since 2008. Another major technical goal accomplished in this project was creating a better experience for our growing number of mobile-device and tablet users. We have found this segment has grown by 157.35% in the past fiscal year (25,848 visits to 66,520 visits). Additionally, ICT migrated our production Ektron and Webhost servers to the centralized ITS virtual hosting environment with negligible downtime on any of these servers. Throughout the year we applied Ektron updates keeping us no more than one release behind Ektron's current version.

Maxwell ICT is also continuing to leverage the SU Expressions WordPress web hosting system for specialized web projects (i.e. program web pages, Maxwell student organizations, workshops, etc.). These WordPress sites complement existing Maxwell site content by providing enhanced user interaction such as blogging, commentary and other user-generated content. ICT's own web site (ict.syr.edu) is a successful pilot test of SU's Expression server. It continues to be a test-bed of design and mobile-friendly technology.

While the Maxwell School's primary web site (www.maxwell.syr.edu) has always been synchronized to a redundant "fail-over" Ektron server, this year we added an additional level of protection by physically hosting our live and fail-over servers in separate locations on campus. Doing this provides us with greater security in the event of some physical problem in one of the server rooms (i.e. damage from water, fire, electrical or HVAC failures).

Event Support

Building on last year's successful renovation of the Global Collaboratory control room and new recording studio, Maxwell ICT has supported over 325 events this past year. This reflects an increase in both number and complexity in events. Significant among these events are the 30 + occasions when ICT supported simultaneous (overlapping) events as well as our consistently short (typically two business-day) turnaround time for delivering these recordings. In November of 2012 ICT hosted several Open House events and crafted more informational web pages to introduce these new services to the Maxwell community.

Highlights of events we supported include:

- Live and recorded NPR radio interviews
- Live video interviews with media outlets such as Yahoo News and Canadian Business Network
- Video interview recordings with International NGO representatives
- Live streams of the Campbell Institute's State of Democracy, Tanner Lectures, and Debates series
- Maxwell faculty "Job Talk" recordings

- Faculty and student promotional videos
- Classroom lectures, dissertation defenses, capstone projects
- Various Peer-to-Peer speaker series recordings
- Video teleconferences (VTCs) with numerous Admirals, Generals, Under Secretaries, Ambassadors & Dept. of State officials
- Live Election Policy Discussions and Election Day events
- Interactive remote presentations via web conferencing (Skype)
- Live streams of panel discussions, symposiums and award presentations

Contributing to our success this year has been the standardization of internal processes, training and equipment used in nearly all our recordings. These efficiencies enabled us to absorb the noticeable increase of events and recordings outside of the Global Collaboratory. Such video recordings and webcasts tend to be the most labor-intensive to setup and produce. (See event data in appendix for details.)

Campus Collaboration

ICT is a major contributor and partner with the central computing group on a variety of projects and initiatives. ICT continues to collaborate with SU's central computing group to provide security and computing support to both Maxwell faculty researchers and researchers from other universities on the FAIR Health Project. FAIR health is a nonprofit company formed to calculate the "usual and customary" medical charges used by insurance companies. The final phase of this 3 year project will end in December 2013.

In addition to research, ICT staff sat on several committees and councils with the central computing group and other colleagues from across campus to provide governance on technical and policy issues. These include the Technical Leadership Council, Security Council, Dell Purchasing Group, High Performance Computing Group, Distributed Staff Group, Salesforce.com Governance, Windows 8 and Office 2013 Development group, and the Mobile Computing group, just to name a few. This participation allows the ICT staff to be involved with, and have a "seat at the table" for all technology matters on campus.

ICT Staff Recruitment and Staff Dependencies

ICT maintains a stable, well-seasoned staff. By promoting teamwork, professional development and cross-training, ICT staff is able to provide cutting edge technology, top-notch service and collaborative support to the Maxwell community. There was no attrition in the ICT staff this year. Several staff members continued their professional development by attending training sessions and conferences, as well as completing certification tests.

We presently have three individuals that maintain the core elements of our infrastructure. These staff members would be difficult to replace. ICT tries to reduce this threat by growing talent internally and by maintaining a network from which to pull talented staff. The centralization of core services will also help reduce this risk.

Goals for 2013-2014

- **Systems Assurance/Resilience.** ICT will continue to strengthen our defense against malware; to educate our community on threats and how to protect themselves from them, and will strive to maintain our reliability of 99.99% uptime for our network and all production systems.
- **High quality of service.** ICT will continue to maintain the superior quality of service that the Maxwell faculty, staff, and students have come to expect.
- **Windows 8 Deployment.** ICT has begun the deployment of the Windows 8 operating system to the desktop computers. Deployment will continue throughout the summer with completion in October of 2014.
- **Commitment to Research.** ICT will continue to work with the Maxwell faculty and students to promote, collaborate and support research.
- **Salesforce.com.** ICT will continue development of Salesforce.com, a Customer Relationship Management (CRM) cloud solution now available on campus. ICT will also write custom applications for Salesforce using the Force.com platform.
- **Web Publishing.** ICT will continue to support stable, secure and robust web publishing platforms while assisting the Communications Office by the coding of their new web templates, as well as providing support and training for Maxwell site maintainers. In the rapidly-changing sphere of the web and social media, ICT is committed to beta testing new and promising technologies.
- **Event Support and Production.** ICT will continue to develop and upgrade the multimedia technology to offer the best possible production quality for the Maxwell school.
- **10 gigabit network.** ICT will partner with ITS to complete the new 10G network and deployment of new 10G firewalls.
- **Faculty, Staff and Student Training and Orientation.** Training opportunities will continue to increase over the next academic year. Our training staff is developing new workshops, including Salesforce and the new Adobe Cloud Suite.

2012-2013 STATISTICS AND OPERATIONAL NOTES AND CHARTS

Advisory Committee

The role of this committee is to provide collaborative advice on a variety of technological and computing issues. This committee assists in helping ICT to consider trade-offs between requests for new services and the support of existing ones. Some of the issues discussed are the development of policies, procedures, and standards; user interface and support issues; the planning and implementation process of migration to new systems; and the development of programs which contribute to the School's leadership in research and teaching. The committee also assists ICT by helping to keep the community informed about IT related issues and initiatives, facilitating relevant communication between ICT and those who use our computing system and by providing ICT with information about faculty, staff, and student concerns and ideas.

Newsletter

The ICT newsletter is published once a semester and features IT related events in the Maxwell community, a faculty focus section where we feature faculty who do interesting things with technology, personal updates from ICT staff, as well as useful tips and tricks.

Student Focus Groups

ICT meets with the Maxwell student groups during the semester to demonstrate and promote the use of technology at Maxwell. This meeting also provides an opportunity to learn how ICT can best serve the students.

TAP Program

The Technical Advisor Project program assigns one of the ICT staff members to serve as a single point of contact for a defined faculty project. Such project tasks include assistance with grant writing, hardware and software specification and purchasing, project planning, application support, Intranet development and multimedia support, just to name a few.

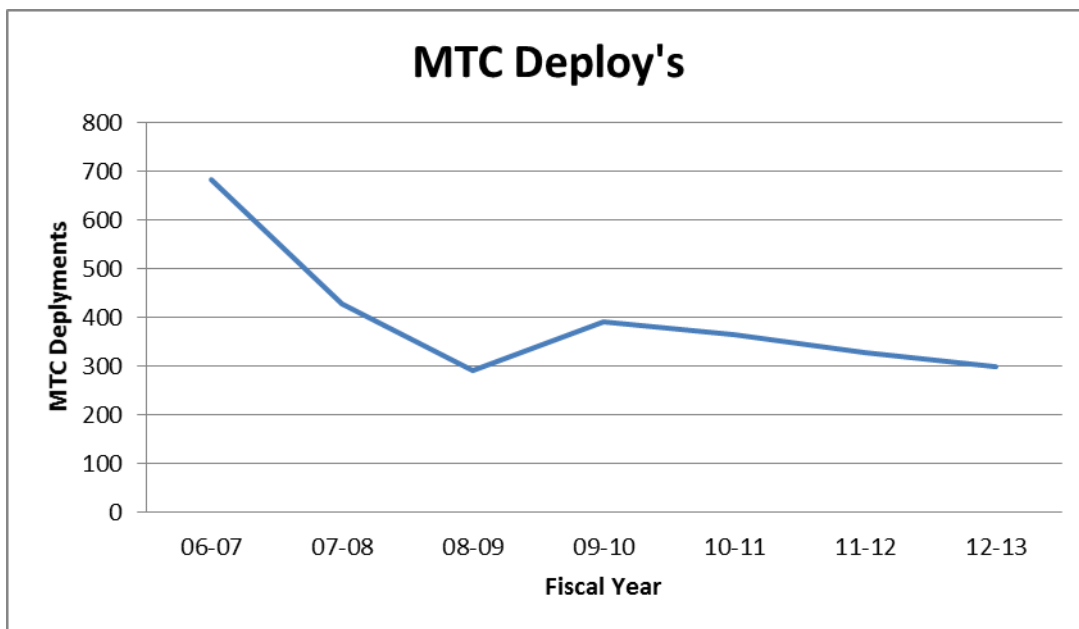
Software Training Website

ICT maintains a robust training website on SUShare, SU's campus intranet, where the Maxwell community can download tutorials and training materials to enhance their software skills.

Support Statics at a Glance 2012 – 2013

Support email requests handled	9,013
Training email requests handled	3,847
Support request phone calls	615
Service related appointments	908
Training Sessions (group and single)	370
Help desk support visits	312
Mobile teaching cart deployments	328
Mobile Skype cart deployments	51
Departmental orientations	10

Mobile Teaching Carts 2012 – 2013



Expected Trends:

As predicted last year, the number of reservations for laptops and projectors has decreased. We believe this is due to users that continue to invest in smartphones, tablets and small form factor laptops. We expect the trend of low demand for loaner devices such as laptops, projectors and cameras from ICT to continue. Loaners will most likely be limited to faculty who may need temporary replacement in the event of an issue with their personal laptop, or a rare one off request.

Web and Media Services Data 2012 – 2013

Notable achievements this year include:

- The successful upgrade of our core Ektron CMS technology to the most current available version. This will allow us to better leverage new methods of searching the Maxwell’s School main web content, as well as additional web content from other servers.
- Developed and delivered a new set of Maxwell web templates and related web applications to the specifications of Maxwell’s Communications Department.
- The evaluation and testing of new web technologies such as SU’s centrally hosted Expression WordPress hosting, SUSHare Intranet and implementation of mobile-friendly technologies (web templates and video streaming technologies).

Statistic	www.maxwell.syr.edu	Web Host	Combined Total
Total Page Views	6,227,626	2,901,736	9,129,362
Average Page Views per Day	19,721	1,590	
Average Page Views per Visitor	3.4	1.4	
Total Visitors	1,860,036	2,479,948	4,339,984
Total Unique Visitors	935,895	1,532,980	2,468,875
Average Visitors per Day	4,754	1,358	

Notes:

- During the past fiscal year, over 5,300 distinct web pages have been updated with the new Maxwell School template design. ICT also supports over 160 web site editors who perform the day-to-day web page updates on www.maxwell.syr.edu.
- The Webhost server serves the following top-level web sites:
 - faculty.maxwell.syr.edu
 - classes.maxwell.syr.edu
 - staff.maxwell.syr.edu
 - student.maxwell.syr.edu
 - sites.maxwell.syr.edu
 - dfh.syr.edu
 - publicdiplomacy.syr.edu

- streamer.syr.edu
- info.maxwell.syr.edu
- project legal

Supported Systems

As more users look to the web as a common platform for communication and collaboration, ICT continues to provide and/or support a wide variety of web applications to meet the school's needs:

Enterprise Web Content Management – Ektron CMS400

Faculty/Class web site hosting – Webhost & WordPress

Web-based survey tool - Checkbox & Qualtrics

Video streaming - YouTube & UStream

Blogging - WordPress

Protected Intranet - SU Share

Image Slideshows - SlideShowPro

Web statistics - Google Analytics & Weblog Expert

Web conferencing - Skype

Web scheduling - Acuity

Course Management - Blackboard