

Information Technology Services

Annual Report
August 10, 2006

ITS was one of the units reviewed in the campus-wide “5-year Administrative Review.” A regular process to ensure accountability of administrative units, this review had special significance because it would also be a factor in UMSL’s accreditation process in 2008. Accordingly, the review focused on a unit’s contribution towards student outcomes. ITS was able to demonstrate its contribution in its self-study and in the review. The final report of the review committee was very positive but also contained a number of good suggestions that we will act upon.

Most units continue to require significant amounts of customer contact and problem resolution skills necessary for excellent customer service. As technology changes, each group relies on the others as vital resources to provide technical expertise and to devise common and consistent solutions for the campus community. We continue to develop our intradepartmental communications to that end. We also continue to enhance our communications with campus units.

Following the trend begun in last year’s report, we have again structured the report according to the services that align with the University’s mission rather than along organizational units.

A. Teaching, Learning and Technology

1. Special Events

- a) To facilitate wider discussions of the use of technology in teaching and learning, we continued the tradition we began last year by sponsoring another Provost’s Forum on Teaching, Learning and Technology.
- b) We also partnered with Dr. William Klein, a faculty member in English, to sponsor a special Provost’s Forum on Innovative Classroom Design which was also supported by the Center for Teaching and Learning, the Provost’s Office and the Instruction subcommittee of the Assembly Committee on IT. The Forum was well attended by faculty, staff, and students; participants took part in envisioning innovative classroom environments that can stimulate teaching and improve student learning. The summary recommendations will go forward to the University Assembly Committee on IT.
- c) In Fall 2005, we again co-sponsored the Focus on Teaching and Technology Conference with the Center for Teaching and Learning. Obtaining significant sponsorship from Blackboard, Dell, Apple, HP and other vendors allowed us to increase the scope of the program as well as the level of excitement. UMSystem President Elson Floyd was able to join us by video to launch the conference,

sharing his thoughts on the importance of technology in teaching and learning. We increased attendance by 50% over the 2004 event and planning is underway to make the Fall 2006 conference a regional one involving colleagues from other institutions in the region.

- d) We worked with Apple to co-sponsor several podcasting seminars to introduce this exciting new technology to faculty, staff and students. Several of the seminars were “standing-room only” in a 100-seat lecture hall. New iPods are able to display video as well as play music and other audio; they offer a way to make lectures and other course materials truly portable.
- e) We describe below our pilot implementation of Horizon Live Classroom and Wimba voice tools for enhancing web-based courses. We held several seminars to introduce the technology.
- f) We initiated the “Technology and Career Briefing” series in the Fall of 2005. Targeted towards students, these briefings brought technology experts to campus to talk about a “hot” technology topic as well as career opportunities in technology companies. The series was co-sponsored by Cisco Systems as well as a number of firms in the region, including Nortel, Edward Jones, KPMG, Symbol Technologies, and others. Campus sponsors included Career Services and Alumni Relations.

2. Online Tools

- a) Previously informal collaboration between the UM campuses to support the Blackboard Course Management System (known as MyGateway at UMSL) grew into a Blackboard Intercampus Collaboration (BbIC) working group to identify areas for consolidation and collaboration between campuses. Because of this effort, UMSL will be running Blackboard (MyGateway) for the UMKC and UMR campuses starting with the fall 2006 semester. Further collaborative efforts to improve faculty and student support and user experience are also under way. This effort also proactively supports the UMSystem drive for “administrative efficiencies” by avoiding future increases in costs caused by projected increased demands in usage and support.
- b) We implemented a new look for the MyGateway academic portal for the Fall 2005 semester and rolled out new portal pages for student and faculty/staff to improve access to campus online resources.
- c) MyGateway usage greatly increased again this year (July 2005 thru June 2006).

<u>Visits</u>	<u>Hits</u>	<u>Bandwidth (Gb)</u>	<u>Courses</u>
3,869,194	324,223,583	2,511	4,898

This represents a 30% increase in the number of courses using MyGateway, a 43% increase in visits, a 44% increase in hits and a 56% increase in bandwidth usage.

- d) Another of our regular surveys of MyGateway usage again demonstrated the contribution of MyGateway to student recruitment, retention and success.

- e) To support this increased usage and need for increased reliability, we designed and began implementation of a new hardware environment to support growth of MyGateway. This effort was quickly folded into the Intercampus Collaboration effort since other campuses anticipated similar requirements. The new environment will provide increased reliability through load-balancing, application server failover and warm spare backup database server.
- f) We implemented new building blocks in MyGateway, including:
 - i. Journals, Teams and Expo from Learning Objects to provide in-course and personal wikis and blogs to users.
 - ii. Discussion Board Grader to enable instructors to more easily grade discussion board postings.
 - iii. Seneca Who's Online to provide system administrators with additional information for troubleshooting.
 - iv. Document Unpackager to help instructors with the uploading of multiple documents to their courses.
- g) We worked with the College of Education's Teaching and Learning Center staff to evaluate e-Portfolio solutions for the campus. The TLC and ITS collaborated on a successful proposal to the SBC Excelerator Grant program for funds to expand the capacity for e-Portfolio at UMSL.
- h) Centra usage continues to grow

<u>2005 Total Live Sessions</u>	<u>2005 Total Live Minutes</u>
5936	71,096
<u>2006 Total Live Sessions</u>	<u>2006 Total Live Minutes</u>
10,116	453,965

- i) Podcasting is an exciting new technology for the dissemination of audio and video material. We implemented a production-quality podcasting server this year. Many faculty have expressed interest in recording lectures and making them available to the students for review through this medium. UMSL has also been accepted by Apple as a participant in their iTunesU service, which makes podcasts available through Apple's iTunes site. This gives UMSL educational content international visibility.
- j) MS Producer Multimedia Streaming services were added to the popular Windows Media Streaming services. Course development in Education and Continuing Education & Outreach will use this new technology.
- k) We have begun piloting of Horizon/Wimba LiveClassroom and Audio Tools, through MyGateway during the Spring Semester 2006. This is a web-based collaborative tool similar to Centra that may be more cost-effective. Live Classroom was piloted by four credit courses and Voice Tools became an invaluable tool for a newly designed Spanish Class during Spring semester 2006. Popularity led to a plan for expanded usage during Summer and Fall 2006 semesters by the Foreign Language Department.

- l) Live Classroom Usage Stats: 400 Unique Users, 192 Live Usage Hours, and 9602 hours of archive playback usage.
- m) Voice Tools Usage Stats : 82 Unique Users, 120 Live Usage Hours, 2436 hours of archive playback usage

3. Classrooms and Labs

- a) Six additional Media Enhanced Classrooms were added to the inventory of classrooms having at a minimum: instructor computers, overhead data projection systems, sound systems, VCRs, and Internet connectivity. There are now 79 such classrooms on campus.
- b) We partnered with the Library to increase wireless access to cover the entire Thomas Jefferson Library. In addition, we provided 15 laptop computers for checkout to students to use within the TJ and WEB libraries on the wireless network. This pilot program has enhanced the students' abilities to complete their research in the libraries.
- c) In a similar pilot, we partnered with the Office of Transfer Services and Articulation and the Center for Student Success to provide 5 laptop computers for checkout by students to use in the MSC225 suite.
- d) The CPS Personal Response System has been expanded to include all Instructional Computing classrooms. We have also added the ability for faculty to attach a digital tablet to the instructor computers for use in teaching with the CPS. CPS is a wireless student response system. The response pads enable students to provide immediate feedback for quizzes, voting, etc. We worked with the vendor and the Bookstore on a pricing scheme that helped to lower the cost barrier for adoption of this technology.
- e) We partnered with Disability Access Services and Student Support Services to provide Instructional Computing hardware and images on 9 systems in the DAS/SSS lab and testing rooms. This provides more consistent access for students with disabilities.
- f) We partnered with the Office of the Dean of Arts and Sciences and the department of Mathematics & Computer Science to convert University Center 50 to a new Math Technology Learning Center with 115 student computer stations which opened in August, 2005. The MTLC has been instrumental in helping students succeed in their math courses through the use of technology.
- g) In response to student requests, the hours of computer labs are being extended to open earlier and remain open later.
- h) We partnered with the department of Mathematics and Computer Science to create a new computer lab in Computer Center Building 316 with 8 student computer stations. This lab was opened in January, 2006. Situated in the departmental space to be more convenient for graduate students, this lab maintains our policy of keeping labs open to all students.
- i) The utilization of the computing labs has grown by 9% this year.

- j) The utilization of the Online Testing Center has grown by 27% this year. Planning is underway to establish a center on North campus to alleviate congestion in the current one.
- k) We have partnered with the Regional Center for Education and Work to provide support for the ACT testing operations in the On-Line Testing Center.

4. Video and Multimedia

- a) We are collaborating with Express Scripts, the College of Fine Arts and Communications and the Chancellor’s office on the planning for a joint use media (including video) studio that may form the core of an Institute for Health Communications and Information
- b) We have had increased requests for DVD video productions. One notable production was a movie funded by the Baringer Library for the National Railroad Museum entitled “Preserving the Past, Promoting the Future.” Over 200 DVD have been duplicated and distributed to libraries and to large railroad companies throughout the U. S.
- c) The number of requests for video streaming accounts doubled over last year.

Video Streaming Statistics:

Windows Media Services

<u>Unique Visitors</u>	<u>Hits</u>	<u>Bandwidth</u>
4648	57762	325.5 GB

QuickTime Streaming Services

<u>Unique Visitors</u>	<u>Hits</u>	<u>Bandwidth</u>
2161	6106	44GB

5. Faculty, Staff and Student Support

- a) Technology Support Center (Helpdesk)
 - i. In FY2006, the total number of Remedy trouble tickets logged by Information Technology Services staff was 18,889. The Technology Support Center (TSC) logged 16,148 Remedy trouble tickets.
 - ii. Out of the 16,148 Remedy trouble tickets logged in FY2006, TSC staff resolved 13,183. This represents a first call resolution rate of 81.63%, a significant improvement over the rate of 73.91% in FY2005.
 - iii. Created self-service Remedy Ticket Submission
- b) Created or enhanced the following user support tasks as self-service web applications:
 - i. Email forwarding application– allows students to forward their UMSL email to another address of their choice
 - ii. Alumni account activation system

iii. User Request Management System (assists TSC in supporting users)

c) We continue to offer training workshops on a variety of topics to the campus community:

<u>Workshop Topic</u>	<u>Attendees</u>
Creating Your Personal Web Site	40
Excel: The Basics	17
Getting to Know Your Desktop/PC	7
HR Functions using PeopleSoft	17
Introduction to Windows Media Streaming	4
MyGateway 6: Assessments, Respondus, and StudyMate	14
Outlook: Advanced Topics	5
Outlook: Making it Work For You	5
PeopleSoft HR V8.9 Upgrade – AM	129
PS Application Entry V8.9 Upgrade	18
PS Grant Training	45
PS Prospect Entry V8.9 Upgrade	30
Streaming video at UMSL: An introduction	10

d) Mark-sense Scanning in support of exams and evaluations: for Year ended June 2006

7 new scan tool applications created
5 new form designs
Exams scanned – 1,316
Evaluations scanned - 148
Data collection – 38
Sheets Sold – 115,175
On campus sheets scanned – 97,967
Off campus sheets scanned – 107,248
Programming on-campus – 690 hours
Programming off-campus – 52 hours

e) The Degree Audit Requirements system (DARS) continues to grow in usage. 244 Advisors/Faculty have requested access to use DarsWeb. A batch scouring program was made available to departments for batch submission. This allows a submitter to extract repetitive fields from an audit and deliver the result in a spreadsheet. This saves the submitter from cut-and-pasting values from hundreds of audits into a spreadsheet.

Usage statistics:

- Advisors and Faculty submitting audits – 155
- Unique Students submitting own audits – 8,586

- Total Audits submitted – 170,251
- Student Submitted Audits – 60,618
- Advisor Submitted Audits – 109,633

The 3.5.1 version was deployed in 2006. The Transfer Articulation (TA) module is currently being worked on for 2006. Besides replacing the rules for External Institution courses, TA will allow potential new UMSL students to submit What-If degree audits with their courses from other institutions. This will give prospective students a direct path of coursework to follow at UMSL in order to complete their desired degree.

- f) A Photo roster application was made available in the fall of 2005. The application puts a “face to a name”. Student pictures are taken from their ID card and used for display on the web.
- g) An application for tracking Nursing students’ clinical start dates was deployed in 2006. It eliminates the paper shuffling and Clinical and Possible Clinical start lists. Future enhancements will be to streamline the advising process by creating a DARS program to evaluate and insure the students are on track for their Clinical start date.
- h) The Advanced Credit trial application is broadening its scope to include more High Schools. This provides an easier method for High School students to interact with the University.
- i) We partnered with the College of Education to provide Faculty Resources from the E. Desmond Lee, Technology and Learning Center on south campus. This partnership eliminated redundant services being provided by the South Campus Faculty Resource Center and allowed ITS to close the center while continuing to provide support for faculty on the south campus.
- j) The Faculty Resource Center began to take their support services directly to departments through Departmental Technology Workshops. These bring workshops to departments rather than waiting for faculty to come to the FRC facilities.
- k) FRC staff have begun working with several faculty to introduce podcasting into their instruction.
- l) The Web Office completed a redesign of the ITS website (<http://www.umsl.edu/technology>) to conform to new design standards established in FY2005. We also created an ITS identifier to be used on web and printed materials.
- m) The Web Office has administered the new design standard for various campus websites, promulgating a template that can be used by different units, allowing them flexibility, but creates a consistent look and feel for all campus web pages.
- n) The University increasingly uses e-mail to communicate and the web to provide important information to staff. However, some staff do not regularly use computers in their work, and therefore have not had good access to electronic information. Moreover, the University will soon begin the use of time and attendance tracking tools that require computer access. We worked with the Chancellor’s Office, the Staff Association and Administrative Services to pilot the installation of computers in selected locations for general staff access. By using

“thin clients,” we were able to minimize the costs of the pilot and yet provide a robust environment for information access.

B. Research Computing

1. In support of research computing, we partnered with Dell Computers and Intel to sponsor the second annual High Performance Computing Day in February 2006. Software specialists from Intel gave seminars on software tools for efficient use of multi-threaded and multi-processor computing. We attracted attendees from public and private sector entities throughout the region.
2. We established the UMSL High Performance Computing Collaboratory (HPCC), a virtual nexus of research activities on campus that use high performance computing. Over time, this will provide some organizational structure for HPC at UMSL, including the development of an academic core.
3. We agreed to sponsor network support for the Missouri Estimation of Distribution Algorithms Laboratory (MEDAL). Research at the MEDAL is facilitated by use of the high performance cluster computing facility operated by ITS and MEDAL is an element of the UMSL High Performance Computing Collaboratory (HPCC).
4. We continued collaboration with the Office of Research Services to develop the plans for the IT Incubator building and associated Center for High-Performance Computing. The Incubator is due to be available in July 2007. The intent is that the Center for High-Performance Computing will offer computing resources and services to Incubator tenants and the larger community. We have begun development of the service and business model that would put the Center on a fiscally sustainable basis. To develop our knowledge of the operations, management and business models for High Performance Computing facilities, we made a site visit to the Ohio Supercomputing Center at Ohio State University. Several other site visits are planned in FY07.
5. Usage of the HPC facility continues to grow:

Usage Statistics:

- a) Expedition (new cluster) processed 813,907 jobs for 19 users July 2005 thru June 2006; compared to 76,627 jobs for 19 users from January 2005 to July 2005
- b) Valhalla (old cluster) processed 241,159 jobs for 10 users July 2005 thru June 2006; compared to 68,855 jobs for 17 users July 2004 thru June 2005

C. Administrative Process Enhancement

1. The COGNOS reporting system was deployed at UMSystem. This server is intended to provide centralized reporting capabilities to the campus. It will allow the campus to create reports of various types that can generate PDF or EXCEL formats. ITS is

beginning to test the reporting capabilities and is planning on converting many Infomaker reports into COGNOS giving a more standard way for ALL users of UM data to retrieve reports without purchasing individual software licenses.

2. A new application for the College of Education was set up on the Campus Electronic Commerce server. The application requests payments for Police Background checks on prospective teachers. The application allows the user to pay for the background check with their credit card.
3. The planning for UMSL's implementation of Peoplesoft Student Administration intensified in the latter part of FY06. The system has the potential to revolutionize how we deliver services and information to students from admissions through graduation. We worked closely with the team from Student Affairs to develop an approach that would be successful in the UMSL environment. Although the project is not officially due to start until January 2007, this "pre-implementation" planning and preparation is crucial. Several specialized IT staff were recruited to enable us to meet the resource requirements of this critical project.
4. We worked with the Touhill Performing Arts Center to continue to support online and in person ticket sales through Tessitura, a third party software ticketing application.
5. We continued to pilot and support Microsoft SharePoint Services as a potential online collaboration tool for the campus. In FY2006, this tool was adopted by the Provost's Office to gather documentation and facilitate processes leading up to the Accreditation process expected for UMSL in 2008.
6. A new Web application for Cashiers streamlines the process of assigning student parking permits. It also allows for timely uploads into the student information data base. This system was then expanded to include assigning of temporary/guest parking permits by cashiers. A database of handicapped student parking information was also added so that those students with permanent disabilities do not have to get their handicapped status renewed every year.
7. ITS again hosted the Kids Voting Missouri project. Although we did minimal scanning locally, ITS performed all programming to read and tabulate the November 2005 election ballots. UMSL distributed the ScanTools programs to all scanning sites, collected all data via FTP to UMSL, ran SAS programs to tabulate, and posted results live on the web. The director of the project, Sandra Diamond won the 2006 Barbara Ericksen Affiliate Excellence Award from KidsVoting USA.

D. Core Infrastructure

1. E-mail and Identity Management
 - a. We converted students to a new Microsoft Exchange based email system for Fall 2005. During this conversion, ITS system administrators were able to migrate all existing emails and address books into the new system. Mailbox quotas were also increased to 50MB per user.
 - b. Staff participated in a UMSystem-wide committee to analyze the possibilities for cost-savings by consolidating email services. One early result was a recommendation to pilot student email with Microsoft's WindowsLive@edu, a

free email service operated by Microsoft for any U.S. university. This has the potential to save the UMSystem approximately \$300,000 per year.

- c. We continued to develop the Single Sign On (SSO) system to improve portability and extend pass through authentication features to additional campus applications.

2. Information and Network Security

- a) Improved security of campus desktops by delivering critical Windows operating system patches through SMS and installing up to date anti-virus software.
- b) Delivered several security awareness presentations to colleges and departments on campus. These sessions were very well received, and will continue next year.
- c) Opened up Wireless internet access to users from all UM System Campuses.
- d) Strengthened administrative access to campus computing resources by using two-factor Authentication and certificates. This involved building a campus certificate server which will allow for more secure access in the following areas:
 - i. File and disk encryption
 - ii. Email encryption
 - iii. Network traffic encryption
 - iv. SmartCard and other secure logon methods

3. Desktop System Program

- a) The base configurations offered were: Dell OptiPlex GX620 with 17" flat panel monitor, Dell Latitude D810, Apple iMac with 17" LCD and Apple PowerBook G4. The following enhancements were also offered: upgrade to a 20" LCD Apple iMac from the 17". Users with no monitor or a CRT-style monitor were given a 17" flat panel monitor with a Dell desktop order. Users with existing flat panel monitors did not receive replacements.
- b) The year 3 database indicates 369 records. The status of each is as follows:
 - i. 298 – Year 3 orders installed.
 - 256 – Dell OptiPlex desktops
 - 18 – Dell Latitude laptops
 - 18 – Apple iMacs
 - 3 – Apple PowerBooks
 - 3 – other (3 Apple G5 Towers)
 - ii. 18 – Open slots
 - iii. 53 – Did not order

4. Networking

- a) DHCP - the main UMSL campus has been upgraded to a system called Dynamic Host Control Protocol (DHCP), where the network automatically assigns computers and printers an IP address. This simplifies configuration and management of these devices.

- b) Pursuant to the Action Plan, wireless Internet connectivity was broadened across campus as 22 additional wireless “hot spots” were created for faculty, staff and student use. 79 secure Wireless Access Points have now been deployed on campus. An interactive campus map is available online to view Wireless “hot spots”; a building with a hot spot is indicated by a red dot on the building. One can click on the red dot, which will allow the user to select which floor of the building they would like to view.
- c) Networking Services has begun a life-cycle management project for network hardware. This is a three year project which includes updating data wiring closets with newer hardware and wiring, while consolidating equipment when possible to reduce maintenance requirements and purchase costs.
- d) We participated in planning of the new South Campus Oak Residence Hall and fiber relocations for the Express Scripts building construction and campus entrance changes.
- e) Installed a redundant network core facility in the new Lucas data center that will allow for increased availability of the network and core server infrastructure.

5. Telephone Services

- a) During FY 2006, Telephone Services continued service improvements and accommodations for the telecommunication needs of the campus. Highlights include:
 - i. Telephone Services issued an RFP last year to clarify expectations for the maintenance of our system. AT&T was the successful respondent to our proposal and began maintenance on February 1, 2006. After a period of transition, AT&T has become familiar with our site and, through audits of hardware and software, maintenance improvements may be determined.
 - ii. Telephone Services has provided coordination for several campus group moves which included the move of phones lines and computers, printers and network ports. Groups included: Theatre, CORO, DARS, Sue Shear, Center for Student Success and Transfer Services, Bridge Program, GearUP Program, Admissions/Records & Registration (in progress).
 - iii. Telephone Services also provided coordination for installation of phone equipment and computers, printers and network ports for new campus work groups, including the Development Call Center and the GearUP program.
 - iv. Telephone Services installed a new fiber remote for MSC to accommodate the PAC as well as other additions to MSC.
 - v. Equipment has been ordered and preparations are in progress to provide telephone services for the new South Campus dorm which opens in August 2006.
- b) Other projects currently in progress include:

- i. Addition or upgrade of an emergency generator, fire suppression system, and new fiber connections for Benton Hall.
 - ii. Re-wiring for South Campus, including installation of equipment to supply campus phone service to the basement of Provincial House (Honors College).
 - iii. Involvement with the West Drive and Natural Bridge construction project.
 - iv. Upgrade of the CallPilot voicemail system scheduled for August 2006.
- c) Statistics (from July 1, 2005 to June 5, 2006):
- Trouble Tickets - 645
 - Work Orders for Moves/Adds/Changes - 306 (including 19 in progress) which resulted in individual programming for the following:
 - i. Moves - 226 (including 27 in progress)
 - ii. Installs - 172 (including 23 in progress)
 - iii. Disconnects - 148 (including 7 in progress)
 - iv. Upgrades - 103 (including 5 in progress)
 - v. Other - 26
 - Voicemail and menu service updates - 151
 - Feature changes - 95
 - Reset passwords- 45/month (average number per month, excluding any group resets for student dorms each semester)
 - Enable/disable phones for students at University Meadows and Residential Life dorms - 800

6. Machine Room

- a) A second data center has been constructed on the first floor of Lucas Hall. The new data center houses the Beowulf Cluster, in addition to servers and networking equipment for redundancy. In addition, the second center will provide space for future growth.
- b) A video surveillance system was installed in both the Lucas Hall and Computer Center Building data centers for security and monitoring of critical servers and services.

7. Servers and Storage

- a) Installed MirrorStore appliances to continuously mirror the data in the general use filestore (Samba-based “steamboat”) and the production database files.
- b) Installed Qualstar SAIT tape robot to consolidate archival and offsite backups.
- c) Began consolidation of departmental backups to existing L700e tape robot.
- d) Installed new database server for DARS project.
- e) Tuned server and data storage for My Gateway to improve performance.
- f) New servers and technical architecture to support a reliable environment for MyGateway and the Blackboard software for UMKC and UMR.

E. Staff Development

As a technology organization, ITS must pay special attention to staff training so that our skills are up to date in order to provide the proper level of service. In addition to the challenge of keeping current with the rapidly changing technological environment, we also need to make sure that our staff have appropriate interpersonal, supervisory and management skills.

We consider attending and presenting at professional and academic conferences to be an important component of staff development as well as an opportunity to promote UMSL accomplishments to the larger community.

1. Several staff gave presentations at Helix and the Midwest Blackboard Users Group (SLATE) conference on UMSL's Single Sign On (SSO) system's integration to Blackboard and the campus Security Awareness program.
2. A presentation on "IPTV and Mobile Communications Technology Administration" was given at Helix 2006, the Missouri Distance Learning (MODLA) Annual Conference and the Missouri-Illinois TeleLearning Consortium Membership Conference.
3. Senior managers participated in:
 - a. mini-MBA program offered by College of Business and Continuing Education
 - b. UMSystem Administrative Leadership program
4. Several staff were promoted into supervisory positions; they were asked to attend management training
5. Continued specialized technical training for staff.