

information services

News of the UMass Medical School Department of Information Services

The evolution of Information Services

Did you join UMass Medical School (UMMS) after 1998? If so, you may not know that when the University of Massachusetts Medical Center's Clinical System and Memorial Health Care merged that year to form what is now UMass Memorial Health Care (UMMHC), the school was left without an Information Services (IS) department, and users had access only to network connectivity. There were several distinct e-mail systems—that may or may not have talked to each other; no central storage/back-up; no program and network security and Help Desk service; sporadic Internet access; unstable and outdated network infrastructure; no UMMS-specific applications; and minimal investment for school-specific technology. What did exist was a strong commitment to build a technology infrastructure for UMMS.

Since then, IS has evolved to provide the technology access, tools and services required by an institution of UMMS' world-class stature. The wealth of services include network connectivity, telephony support, desktop applications, e-mail services, network storage with automated backup, application support, instructional technology, research computing support, data center hosting, Help Desk support and much more. In 1998, IS provided services to 3,000 users on the University Campus. Today it provides services for more than 6,000 users at 26 locations.

One of the issues that leadership of UMMS and UMMHC is tackling is how to best remove technology, related barriers between the two organizations and explore opportunities and possible solutions toward creating a seamless service experience for users of the two IS systems. They have contracted with an outside IT

consultant to conduct interviews with key end-users to identify the daily challenges of having two non-integrated IS systems. The consultant is charged with recommending immediate and long-term solutions for integration and enhancing the user experience regardless of organization or location. The report and recommendations are currently being reviewed and proposed solutions evaluated; communication on the progress is forthcoming.

In this issue of *Focus on Information Services*, you'll learn more about the five IS service areas. Central to all of these areas is our commitment to excellence in research and academic computing, including bioinformatics and genomics, curriculum development and distance learning initiatives. Additionally, IS has a core administrative area that encompasses finance/budget, program management and strategic planning. These



Systems Administration Engineer Sean Frenette installing a server in the Data Center.

Below, the Data Center in the 80s



service areas respond to the needs of an array of people and programs, including federally and privately funded research projects, the UMass President's Office, Commonwealth Medicine and its affiliate Public Sector Partners, Inc., UMass Memorial Health Care, and UMMS campuses in Worcester, Jamaica Plain, Shrewsbury, Westborough, Waltham and Auburn. ■

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Academic and Research Computing

Academic Computing Services is the division of Information Services that focuses on the education and research missions of UMMS. The major groups in Academic Computing include Research Computing, Instructional Technology and Internet Publishing.

■ *Research Computing* provides bioinformatics and biostatistics support and maintains a variety of hardware and software to support research. The BIOTOOLS Web site serves as a gateway to Web-based tools for nucleic acid and sequence analysis. The site is popular both in and outside the institution. Biocluster is a 42 CPU Beowulf cluster hosting applications such as BLAST, pFAM and HMMER. The statistics server, STATS, which hosts applications such as SAS and STATA, is scheduled to be upgraded this summer. In addition to managing tools for researchers, Research Computing staff also offer training, consulting and custom programming for research groups at UMMS and graduate-level courses in statistics and bioinformatics.

■ *Instructional Technology* creates and supports electronic resources for teaching and learning. More than 300 courses are part of the WebCT Vista inventory. Instructional Technology, which partners with faculty to design and deliver courses, last year logged 900 hours of group and individual training. Additional courses were offered through the Office of Faculty Administration's Faculty Development Series.

■ *Internet Publishing* provides support for the creation and maintenance of Web pages and online training and is currently in the final phase of implementing a new content management system that includes tools such as discussion boards, RSS feeds, blogs, polls, membership areas and more. Internet Publishing staff consult with content editors—now number-

ing more than 200 in the UMMS community—to plan and design their Web sites. Online and face-to-face training classes are offered regularly. Internet Publishing also recently introduced the Adobe suite of online training tools, which enhances its ability to provide online training and conferencing. ■

Conquering diseases through technology

UMass Medical School, in collaboration with UMass Memorial Health Care, is establishing the infrastructure to support clinical and translational research. A number of projects are under way led by Vice Chancellor for Research John Sullivan, MD, professor of pediatrics, to position the institution for a National Institutes of Health Clinical Translational Science Award. A priority in this effort is the "Conquering Diseases" initiative led by Craig M. Lilly, MD, professor of medicine, and Associate Chief Information Officer Ralph Zottola, PhD, instructor in biochemistry & molecular pharmacology. The goal of the project is to develop a biorepository of plasma, RNA and DNA from volunteers receiving care at UMMHC.

Dr. Lilly is working collaboratively across school and clinical systems in preparation for full Institutional Review Board approval. This approach ensures the protection of human subjects and adherence to Health Insurance Portability and Accountability Act privacy standards and invites wider public participation in UMMS research programs.

Dr. Zottola is leading the development of information systems that support this project and a larger clinical research data repository strategy. UMMS will use a framework made available by the NIH-funded National Center for Biomedical Computing, which will position the institution to participate large-scale projects at the national level.

Enterprise Network Services

The Enterprise Network Services (ENS) Group provides infrastructure support and management functions through the service areas of Desktop Support, Systems Engineering, Network Engineering, Information Technology (IT) Security and Technology and Media Services.

■ The *Desktop Support* group is responsible for the specification and configuration of all desktop PCs and peripherals, management of supported software applications and end-user phone and on-site PC support. The group is testing Vista, Microsoft's new desktop operating system, and the new Web browser,

Internet Explorer 7. Microsoft Office 2007 was recently made available.

■ *Systems Engineering* provides support and expertise related to Microsoft Windows servers, Sun UNIX servers and SUSE LINUX servers. The staff operates and maintains UMMS internal Windows, UNIX and LINUX servers, file and print queues and e-mail services. The group has just completed an upgrade of the e-mail servers (in anticipation of Microsoft's next release of Exchange e-mail service) and increased individual e-mail storage from 100Mb to 1,500Mb.

■ *Network Engineering* is responsible for the design, implementation and maintenance of UMWnet, a high-speed Ethernet network that joins many local Ethernets to form a large, geographically distributed network. The group is responsible for monitoring and management of the network for performance and reliability, as well as maintaining security appliances such as firewalls and remote access devices. Staff are planning to make 1 gigabit Ethernet available in all research areas and expect to complete a wireless network upgrade by summer. Currently, about 90 percent of the University Campus has wireless network access.

■ *IT Security* provides UMMS with security policy and functions as a resource to all areas of IT. The Security team works with customers and users to educate them on security concepts and practices; recently the group presented security best practices to the application development and support areas within IS.

The entire ENS team is also participating in the planning for a new data center that will support the continued growth in research computing support and Commonwealth Medicine programs. ■

Help when and where you need it

Whether you are having a computer performance issue, inquiring about a piece of software or just need a recommendation on a PC or PDA, you'll probably interact with the UMMS Help Desk. The Help Desk is the first point of contact and support for faculty, students and employees as well as non-University users of Commonwealth Medicine applications.

The Help Desk is responsible for call logging, triage and priority escalations received by phone, e-mail and priority walk-ins; e-mail spam filtering updates by customer-supplied suspect e-mail; account requests; department transfers/departures; and e-mail account maintenance and modification. The Help Desk serves as a liaison between UMMS and UMass Memorial clinical support services as well as basic wireless setup and troubleshooting for laptops, PDAs and smart phones. The Help Desk also ensures that the institution is in compliance with the distribution and maintenance of application software.

UMMS Help Desk	
	508-856-8643
	helpdesk@umms.edu
	www.inside.umassmed.edu/IS/helpdesk

Product Support and Business Relations

Working together, the Business Relations and Consulting (BRC) group and Product Support and Technology (PST) group provide professional application development and support services. BRC/PST is responsible for crafting and delivering information technology solutions for Commonwealth Medicine programs, academic and research communities and school enterprise needs. Among the services offered are technical evaluations; product development, implementation and support; database design and administration; business/systems analysis; business and product scope development; project management; and vendor management.

BRC/PST has recently completed

a software development effort for Commonwealth Medicine to provide Clinical Pharmacy Services (CPS) with an integrated enterprise software application to support Drug Utilization Review (DUR). DUR was developed to help Massachusetts Medicaid (MassHealth) meet its federal requirements in providing drug utilization review for its pharmacy program. It has since evolved into a comprehensive prescription drug management program that services Massachusetts and other states. The new software application, which is scheduled to go live in June 2007, will allow CPS to provide consistent service to its clients with enough flexibility to meet differing state requirements. ■

Coming this fall — Virtual Microscopy!

Virtual Microscopy is the technique used to digitize a glass microscope slide at multiple common objective magnifications to produce a digital virtual microscope slide with diagnostic image quality. The Virtual Microscopy Working Group, with representation from the departments of Cell Biology, Pathology and Information Services, selected the WebSlide suite from Bacus Laboratories to make it possible for students to review virtual microscope slides anytime from any computer connected to the Internet. The Virtual Microscope will be online this summer. Check the IS intranet site for updates.

Telecommunications

The Telecommunications Department, which comprises the operations, application/customer service and infrastructure/project management areas, provides 24/7 telephone service and support with advanced telephony solutions for all users and call and contact centers.

Telecommunications is responsible for managing and providing support for 800 numbers, pagers, telephones, voice mail and conference bridge services and supports multiple locations, including UMMS, UMass Memorial Health Care, Commonwealth Medicine and Public Sector Partners, Inc., and the President's Office University Information Technology Services.

With an eye toward evolving technology, Telecommunications is currently evaluating options for an Enabled Voice Mail (EVM) Unified Messaging solution, which would provide convenient access to voice and other messages via phone or computer through the Exchange mail server. The group is also evaluating emergency communication systems that can be used to notify University faculty, staff and students in the event of a disaster or other emergency. Telecommunications is also exploring Voice Over Internet Protocol (VOIP) technology to allow users to make and receive telephone calls through an Internet connection and a PC or IP telephone set. ■

IS at a glance

Servers supported	520
Total usable disk (Terabytes)	160 Tb
Active network ports	11,200
Wireless access points	157
Average Help Desk calls logged monthly in 2006	3,263
Intel/Apple computers supported	4,500
Applications supported	156
E-mail mailboxes	8,000
Active phone extensions	10,717
Voicemail accounts	4,832
Visits to www.umassmed.edu in 2006	4,526,520

High Performance Computing

Information Services is upgrading its High Performance Computing environment, which includes the hosting of HPC clusters Droplet and Biocluster. Droplet is funded by a National Institutes of Health shared instrumentation grant and is used for investigator-initiated projects. Biocluster is funded by IS and is configured to run bioinformatics programs. An additional 55 nodes, each with 2 CPUs, 4 GB memory, single 80 GB SATA disks and an NFS file server with 3.6 TB total disk space are being added. This sum-

mer, IS will add an additional 30 dual core two processor nodes, 2 quad core two processor nodes, each with 4 GB of RAM and 26 TB of high speed network attached storage. This configuration is flexible and powerful enough to support current research needs and scalable for future needs. Because of its track record for designing, implementing and supporting collaborative HPC services, IS has been asked to lead a University system-wide HPC initiative. ■

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