

Summary

The objective of Information Technology Services (ITS) is to enable, support, and enhance the goals of UMass Lowell and the UMass System through state-of-art technology infrastructure and tools.

Our Mission is to:

- Support all teaching activities and help expand interdisciplinary teaching.
- Promote research within and across disciplines and increase research output in all disciplines.
- Extend and deepen our commitment to local communities and cultures.
- Constantly improve the delivery of administrative services on campus.

Our Vision is to:

Be an innovative and efficient technology organization, with a reputation for providing top quality support for all areas of university activities: administrative, teaching, research and community outreach.

Our Current Strategic Initiatives are:

1. **Teaching and Research infrastructure.** Continue increase in network stability and reliability to support the growing teaching and research infrastructure. This involves UITs adding a second, reliable Internet link, improved Internet 2 connectivity for research and expanding the wired and wireless components of the network.
2. **Classroom Technology.** Continue to outfit classrooms with information technology. Currently there are about 90 classrooms with technology, but that number should be double that size for the university to fully engage faculty and students in the use of technology in teaching, learning and research.
3. **Improved Business Processes.** Continue to support the upgrades to our ERP systems to ensure the administrative system environment for faculty, staff and student support and productivity. Continue our efforts to have the central UITs environment provide a better and more robust access to useful reports. We expect to use this and other data to expand the current reporting environment to support assisting in decision making, planning and forecasting.
4. **Business Continuity.** Update and support the business continuity plan. The current plan is being updated and there is likely to be a need to implement a number of changes in our processes and technology.
5. **Secure and Seamless Access to Infrastructure Assets:** Continue to enhance the Information Technology infrastructure to provide the university community with secure, seamless, and timely access to enterprise data, systems, services, and support anytime, anywhere. This includes a university-wide data storage strategy in support of interdisciplinary research and university

business processes; an enterprise class messaging environment; and a simplified and secured login strategy for critical services needed to protect individual and enterprise data.

6. **High performance computing for research.** Purchase and install high performance computing clusters for researchers on campus that will crunch numbers or manipulate large amounts of data. The goal being that researchers of today will conduct research in combination with high speed computing with visualization systems all riding on a high speed network.

The Critical Issues we Face in order to be successful:

- **Funding for the Network Upgrade.** The University network infrastructure is a critical need for faculty teaching and research, staff and student access to information. The network is in need of significant change as described in the Next Generation Network Plan. Continued bond funding for network upgrades (next generation network) is needed. Years 1, 2, and 3 are/have been funded; and 4 is planned (FY09) but as yet unfunded.
- **Scope of Institutional Research.** Expand the scope of Institutional Research & Reporting to include planning, data and analysis. IR historically has been a compliance reporting office. As the University looks to grow and make strategic decisions, IR must have the capacity to provide comparative data and analysis for long range planning.
- **Decision Making Support.** Increase data reporting ability on campus to support decision making processes. The amount of data available to UMass Lowell with the implementation of the ERP systems has grown substantially. The capacity to mine the data will inform management of key information and will assist in forming our strategic directions.
- **Expand support and collaboration for the academic aspects and initiatives of the Campus.** Increase support for wiki, blogs, personal networks, video conferencing (static and ad hoc), personal academic portfolios, hybrid course offerings, ...

Introduction

The objective of Information Technology Services (ITS) is to support the goals of UMass Lowell and the UMass System. ITS aligns itself with these goals and works to provide the information technology infrastructure to support and sustain the goals and provide the platforms on which faculty, staff and students can teach, learn and perform research while integrating several of the latest technologies with a stable, reliable and secure information technology infrastructure.

UML Strategic Plan Goals

1. Support all teaching activities and expand interdisciplinary teaching.
2. Promote research within and across disciplines and increase research output in all disciplines.
3. Extend and deepen our commitment to local communities and cultures.
4. Promote the sustainability of the physical, economic and social lives of the community in all areas of university activity.
5. Maintain a clean, safe, and inviting work environment for all members of the University community.

Trustees Strategic Priorities

To support the university mission:













1. Enhance the student learning experience
2. Strengthen the University's research and development enterprise
3. Develop a leadership role in public service
4. Maintain and improve affordability and access

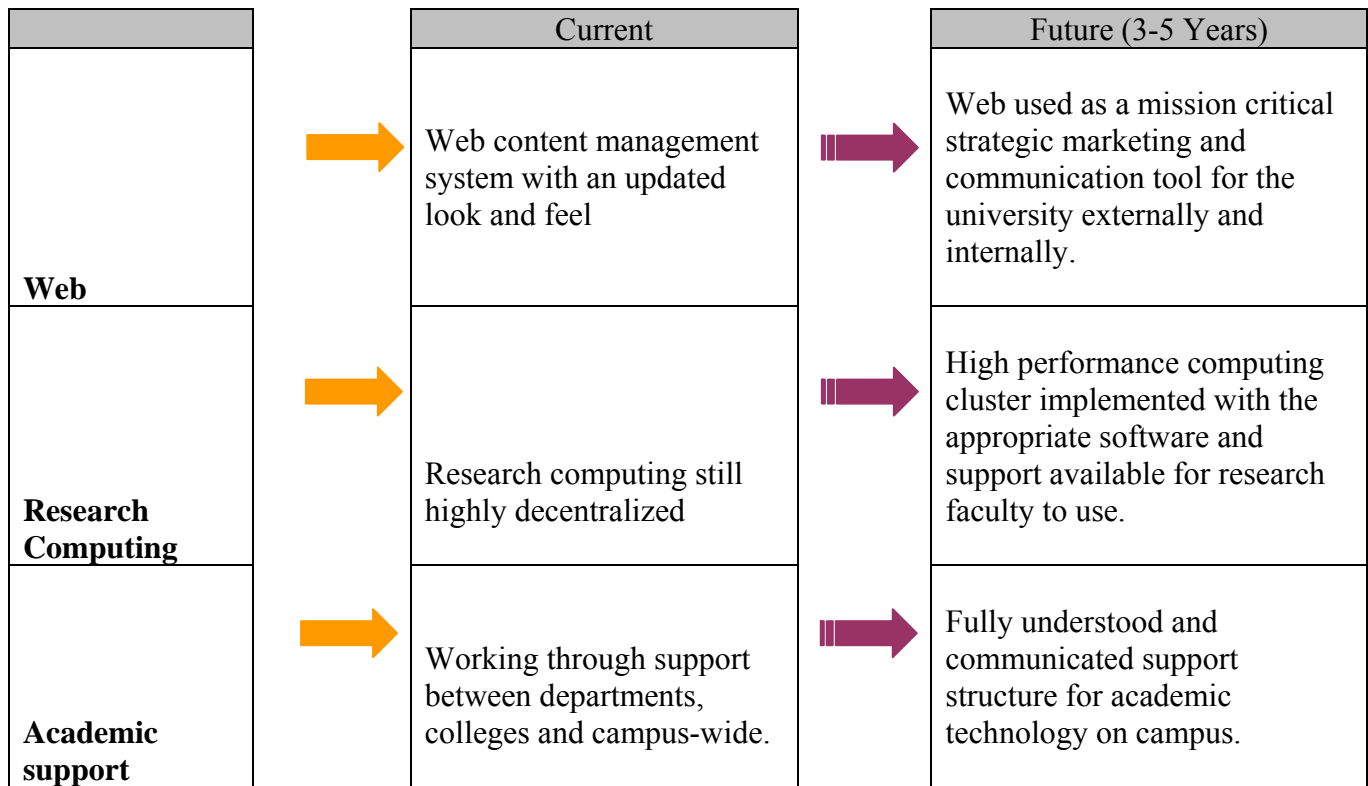
To develop a supportive environment that enables us to carry out the mission:

1. Continue a focus on diversity and positive climate
2. Increase the endowment
3. Renew the faculty
4. Develop a first rate infrastructure
5. Improve the delivery of administrative and IT services
6. Position the University effectively in the higher education marketplace

Information Technology Goals

	Current	Future (3-5 Years)
Governance	Hardware/software committee, Web Steering, ERP systems	Governance structure for IT functions to ensure IT is aligned with university direction.
Network	Network upgraded (1GB) With Firewalls in-place in key areas. Secure wireless deployed (over 120 access points) 60% coverage Internet bandwidth (100mb)	Network upgraded to 10GB, fully deployed wireless and with Internet and I2 capability with redundancy to provide improved access to faculty, staff and students.
Administrative Systems	All major systems replaced with integrated package (ERP) with web self service (Human Resources, Finance, Student, Contributor Relations, Residence Hall, Room Scheduling)	Upgrades to current ERP versions with increased functionality, development of management reporting and integration with academic online environment creating a seamless environment for faculty and students.
Telephone system	New Telephone System with Voice Mail, E911 and Unified Messaging	Convergence of voice data and video on the (IP) network. Fully deployed Unified Messaging to simplify communications for faculty and staff.
Email system	Email hardware and software replaced with Active Directory (single source for User IDs) and Exchange for Email.	Implementation of Portal with Identity Management to create a single look and feel for faculty, staff and students.
PCs	Faculty, staff and labs on 4 year replacement PC cycle.	Three year replacement cycle and combining of some labs on campus to support interdisciplinary programs.

		Current		Future (3-5 Years)
Virus protection		Standard campus-wide virus protection for students, faculty and staff including home use		Elimination of viruses and spy ware from university information technology environment.
Software packages		MS Operating System, MS Office, SPSS, Mathematica, MacAfee Virus, Adobe Professional, Zoomerang		Increased number of software packages available to students and faculty for teaching and learning.
Video Conferencing		Hardware replaced and running over IP network		Voice, data and video running on a converged network with desktop and conference room video conferencing availability.
Training		Training for MS, UML system services; HR, Finance, Student, Contributor Relations, Room Scheduling, Web Content Mgmt System		Training for administrative and academic software available online or in person for faculty and staff.
Help Desk		Help desk hours extended and software to track issues for all IT applications.		Open 7x24 with service level agreements in place and measured through help desk to improve reliability and support issues for faculty, staff and students.
Classroom technology		Over 70 technology classrooms on campus, some with standard configurations		80% of classrooms on campus with standardized and supported technology.



Nationwide Trends

1. Students are increasingly mobile and “connected”. They arrive at the universities with mobile phones and laptops or desktop PCs. PDA and smartphone usage is also increasing and will likely become a key device for students.
2. Internet viruses, worms, Trojans, spam and spyware continue to rise at universities across the country.
3. Expectations for technology in the classroom continues to grow and be an important component in the teaching environment, providing students with a mechanism to communicate better with their instructor and other students in the class.
4. Online web based learning is growing rapidly and students are more often choosing a blended approach of online and in-class courses to complete their degrees.
5. Expanding web technologies (web 2.0) incoming students (Facebook, MySpace, YouTube, Second Life, etc.).

UMass Lowell Direction

- Lowell, and early leader in the academic use of IT, continues to incorporate information technology more and more into the curriculum and all academic activities.

- There is a need, in larger classes, to address faculty availability to a larger population of students. Lowell's video capability may serve to address a need for access to lectures on an asynchronous basis.
- Greater utilization of information technology, especially the web is necessary to improve student self-services for both learning and administrative needs.
- Use of newer technology continues to accelerate among the faculty. Podcasting, ePortfolio, eMail and Web continue to be used in pockets around campus; use of wikis, blogs has jumped in the past year.

The Student System (ISIS) is implemented, the network has been expanded to include wireless, a new email system is in place and the campus web direction is set and moving forward. Also, at this point in time all the mission critical legacy systems have been replaced with current web based integrated systems. Moving forward the University will need to continue to address security, reliability and stability within the IT infrastructure. The infrastructure needs to continue to be expanded to meet the needs and expectations of faculty and students to take advantage of the technology available for teaching, learning and research.

Activities completed in support of UML and President's Office strategic direction

Activity	Support all teaching activities and expand interdisciplinary teaching	Promote research within and across disciplines	Commitment to local communities and cultures	Develop a first rate infrastructure	Improve the delivery of administrative and IT services
Finished the network infrastructure upgrade in the residence halls.				■	■
Continued upgrade (10) and additional (20) classrooms with information technology.	■			■	
Completed planning for UML next generation network.	■	■	■	■	■
Deployed wireless network on north, south and east campuses.	■	■	■	■	■
Worked with UMass System to implement Internet 2 connectivity.		■		■	
Developed web strategy plan	■	■	■	■	■
Converted of 100 out of 150 websites to the web content management system.					■
Develop set of ISIS reports for colleges and departments.					■
Converted Career Services, Research Administration and Library to campus-wide active directory.	■			■	

Activity	Support all teaching activities and expand interdisciplinary teaching	Promote research within and across disciplines	Commitment to local communities and cultures	Develop a first rate infrastructure	Improve the delivery of administrative and IT services
Installed central hardware infrastructure that can expand and grow with university needs.				■	
Provided faculty and staff training including PC software, security, ERP applications.	■			■	■
Continued PC purchases for student labs, faculty and staff. Specifically, upgraded general access and library labs.	■			■	
Increased centralized storage space available to faculty and staff. Increased Email quotas, faculty web server tripled.	■			■	■

While UMass Lowell Information Technology Services has completed a number of projects and activities, it is time to plan for the longer term direction. ITS has incrementally upgraded the network wiring infrastructure and implemented a number of solutions to increase network speed and stability. That being said, much needs to be done for the current campus environment. Many areas on campus are using older network wiring, installed in the late 1980's; that limits network speeds. The university engaged a consulting firm to work with the campus to develop a strategy and plan for moving forward with the network and applications that will be riding on the network. That plan is complete and we are moving forward to upgrade the network to meet the needs of the campus over the next 5-7 years.

Information Technology Services Support

The ITS services include: campus network infrastructure, core administrative systems and campus-wide technical services, voice services, information technology security, training and help desk. Currently the organization consists of six departments:

Network Services: This department includes maintaining the wiring plant, data network, voice network, Internet connection to MITI, domain name services, remote access, dynamic internet addressing, virtual private network access services, network security, firewalls and network management tools, voice services, emergency notification systems.

Enterprise Services: This department is responsible for the functional deployment and operational management of Active Directory, faculty/staff and student email, university-wide data storage and backup, tier 2 desktop support, secure file transfer services, centralized authentication and authorization, centralized antivirus and anti-spam management, desktop/server patch management, campus-wide PC deployment, and desktop image creation, Help Desk.

Security Services: This department includes the development of security policies, procedures and guidelines; recommendations for the purchase and management of information technology security hardware and software, network and desktop security vulnerability assessments, incident investigations and antivirus strategy.

Training and Change Management Services: This department includes the development and implementation of training materials to provide campus faculty and staff with an understanding of the latest desktop supported tools along with an understanding of the current administrative systems environment (i.e. Human Resources, Finance and Student Administration systems). Additionally, Training Services coordinates external training to ITS staff as needed.

Institutional Research & Reporting: This department provides data and analysis on nation-wide, university-wide and campus-wide trends and directions and works with campus departments needing reports. These are either standard reports run periodically throughout a year or term. In addition the department provides for *ad hoc* reporting to the general campus. We envision a substantial and substantive increase in the sophistication and capacity of the offerings from this department as the campus looks to develop a better understanding of the information contained in our data (and the corrections they suggest).

Project Management: This department supports system-wide and campus implementation project management for ISIS Student Administration (including FUnD-alumni and development), empac Human Resources and Finance, Residence Hall System (RMS), Student Health Tracking (Nuesoft), Timeclocks (Kronos), Room Scheduling (R25) and final exam scheduling(Schedule Expert); EOO Tracking (EEONet); UMass System Portal.

Assumptions

- The state budget stability will continue for the foreseeable future.
- Staffing count will remain relatively stable with no large increases or decreases.

Areas to Address Over The Next 5 years

Activity	IT Area ¹	Impacts		Issues
		Academic	Admin	
Collaborative teaching and learning labs for faculty and staff.	All	•		Working with Provost to increase centralization of labs that will address interdisciplinary activities in addition to saving space and improving support.
Expanding role of Institutional Research to provide planning and decision making information to the campus.	IR	•	•	IR mostly a compliance reporting office. A plan to address providing planning data is needed.
Developing a reporting infrastructure that provides access to data in a timely fashion and establishing efficient processes for users to obtain necessary reports.	Reporting	•	•	Reporting in legacy limited in departments. With ERP systems a significant increase in data available that needs to be understood for accurate reporting to all levels of the campus.
Increasing use and support of classroom technology.	Network, Help Desk, Desktop	•		Continue to standardize technology in the classrooms. Reaching 80% is a funding and support issue.
Implementing next generation UML network.	Network	•	•	This is a 4 year process and funding is needed over the 4 years. Currently using Bond funds. Bond funding in place for FY07 but not for out years.
Increasing use of web for services, information, marketing and research.	Web	•	•	A continual learning process given the rapid expansion of the web. A plan adopted with development of new extranet underway. New sustainable content is key.
Implementing a high performance computing environment for research.	IT	•		Needs are defined. Funding needed to purchase and install the hardware.

¹ IT-Information Technology, IR-Institutional Research, ERP-Enterprise Resource Planning System

Activity	IT Area ¹	Impacts		Issues
		Academic	Admin	
Incorporating electronic imaging into university information technology infrastructure.	ERP		•	Readiness and funding are the issues. This system implementation will save on searching for documents, space and copying.
Implementing support structure and clearly understood responsibilities for web intranet and extranet.	Web	•	•	Coordination of web content largely decentralized. Monitoring of updates key.
Developing a long term plan for use of the Internet 2.	Network	•		Part of the current next generation network for UML. This will provide for improved and increased research and collaboration among institutions.
Identifying key tracking and reporting measurements to assist in facilitating awareness of the current and future academic environment.	All	•	•	Expanding the help desk and its tracking software to gather information is needed. Tracking system in place and developing reports to monitor the timeliness of our services.
Deploying video/media content over the network.	Network	•		Training of faculty and students to develop media content.
Expanding network to include voice over IP.	Network	•	•	Waiting for technology to stabilize. Should be in the next 2-3 years.
Protecting campus investment in technology by upgrading as appropriate to current releases of enterprise applications.	ERP		•	UML has implemented new ERP systems. Ensuring we keep them current is key. This commitment will involve current staff and funds.
Continuing to explore ways in which information technology can facilitate community outreach.	Network, Desktop	•		Expansion of UML network into downtown Lowell being explored with the city and parks department.
Developing support structure and service levels for information technology services.	IT	•	•	Staffing. Need to continue coordination of services between central IT and colleges.
Continuing to explore ways in which the university can be more efficient and responsive to printing and copying.	IT	•	•	This is very decentralized. We need to develop a policy to address this. We can save money on purchases and support if we organized printing and copying on campus.

Activity	IT Area ¹	Impacts		Issues
		Academic	Admin	
Continuing to centralize desktop/server antivirus and security management.	Desktop	•	•	We continue to address viruses on campus every term. The amount of labor involved is significant. A more central approach is needed.
Maintaining effective campus solutions to effectively protect sensitive data including the personal data of faculty, staff, and students.	IT	•	•	Nationwide there continues to be break-ins to sensitive data and particularly in university environments. A number of servers with sensitive data have been centralized. We need to continue to be diligent in identifying and rectifying this situation to protect UML sensitive data.
Improving and expanding Help Desk services to 24x7.	Help Desk	•	•	Help desk is open from 8 until 6, five days a week. There is an ongoing need to expand this to 7x24 to support the university.
Developing Business Continuity plans to follow in event of a disaster.	IT	•	•	Lowell in good shape. Campus workgroup working through updating the plan. Funds will be needed to address the plan as it is completed.
Continuing to institutionalize applications and databases which are essential to ongoing campus operations.	ERP		•	There are still some localized systems on campus the may need to be changed over to new and current technology.
Providing network registration of critical assets: desktops, servers and other devices.	Network	•	•	A better understanding of what is connected to the UML network will help in making it more secure and reliable. IT currently monitors about 70 servers on campus.
University-wide central storage for research and university departmental business processes.	ESS	•	•	

Goals 2007/08

Security continues to be an issue for ITS. While continuing to address security ITS will move forward in key areas to implement the next generation network infrastructure, provide increased help desk services, increase IT technical skills and continue to increase IT awareness through training and communications.

In addition to greatly expanding availability of classroom technology, ITS will continue working toward a key goal of providing support for the enterprise planning resource (ERP) system. This includes Human Resources, Finance, Student Administration and Contributor Relations, Residence Hall and Room Scheduling.

In recent years, budgetary constraints and other priorities created a lack of attention to our support for fundamental academic mission. During the coming months, we will develop an organizational structure and capabilities to provide assistance and support for some academic activities. Over the next several years, we will further balance our attention to the academic and administrative responsibilities of the campus.

High level direction includes:

- Implement new extranet web site based on the approved web strategy.
- Add technology to 12 more classrooms.
- Continue to update faculty, staff and students on information technology functions and issues on campus through the web and email.
- Develop data consistency reports across the ERP system to improve data accuracy.
- Work with senior management to analyze and produce management reports from the ERP system to assist in decision making.
- Continue the next generation network upgrade including finishing the outside fiber plant replacement, upgrading laterals and building to building connectivity, along with replacement of a third of legacy category 3 wire (slow speed) with currently supported category 6 wire (high speed).
- Hire a replacement Institutional Research director and expand the department scope to include analysis of information based on benchmark data for colleges and universities.
- Continue migrating departments to campus-wide active directory to improve data security on campus and consolidate servers with critical and sensitive data behind firewalls in the Olsen Computer Center. This includes Continuing Education, Centers for Learning, Engineering and Computer Science labs.
- Conduct second pilot of Voice Over IP.
- Continue PC purchase program for faculty, staff and student labs.
- Develop a strategy for the long term use of multimedia for the campus utilizing information technology.
- Continue to increase the level of web based self-service available to faculty, staff, students and alumni.
- Provide Alumni email for life using Microsoft initiative.