



Fast, Secure, Reliable:

Building a strong technology network



We educate Minnesota. We make it work.

APRIL 2008



Minnesota
STATE COLLEGES
& UNIVERSITIES

Wells Fargo Place
30 7th St. E., Suite 350
St. Paul, MN 55101-7804

Phone: (651) 296-8012 or toll-free (888) 667-2848
Fax: (651) 297-5550
TTY: (651) 282-2660

www.mnscu.edu

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A network of 400,000 users

- More than 400,000 students, faculty, staff and others use the Minnesota State Colleges and Universities technology network, which stretches across the state.
- The network connects dozens of smaller networks that supply technology services for the system's 32 colleges and universities.
- The network is shared with the University of Minnesota and local and state agencies.

The network

- Performs essential functions, such as academic and student record keeping, business transactions and online courses at all Minnesota State Colleges and Universities;
- Enhances teaching and learning at all campuses;
- Provides student services online, such as course registration and advising;
- Protects private student and employee information;
- Increases productivity of students, faculty and staff;
- Supports leadership, planning and decision making on campuses, and
- Enables more than 200 programs and 6,400 course sections to be offered entirely or predominantly online.

Aging technology is vulnerable

- The aging technology infrastructure needs overhauling to provide reliable protection against security threats such as identity theft and to prevent massive breakdowns during class registration and other high-demand periods.
- Dramatically increasing demand by students and faculty for technology services has made the system's current technology infrastructure inadequate.

Four major goals

A \$62.8 million investment, made possible by funding from the governor and the Minnesota Legislature, is helping to overhaul and strengthen the technology network that serves the 32 colleges and universities. The initiative has four major goals:

- Provide easy and reliable access to the technology network and tools, including round-the-clock availability for students, faculty and staff;
- Significantly enhance protection against security breaches;
- Modernize software for student records, finance and human resources to streamline access and provide up-to-date functions; and
- Make it easier and faster for students, faculty and staff to complete computer-related tasks.

When the technology initiative is completed

STUDENTS WILL BE ABLE TO:

- Apply or transfer online to any system college or university.
- View and update their records at any system institution they have attended.
- Search online for courses at any system institution and register or drop courses.
- Use sophisticated instructional tools with a more reliable Internet connection.
- Receive text, e-mail and phone messages about emergencies, cancelled classes and other important course information.
- Map course schedules using an automated graduation planner.
- Use a single login for online learning, grades, records and classroom technology.
- Be assured their personal information remains private.

FACULTY WILL BE ABLE TO:

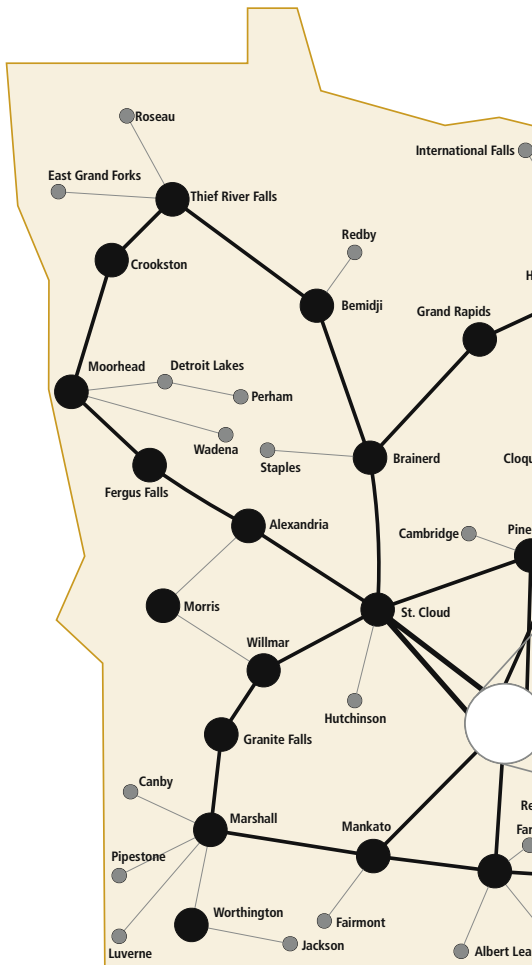
- Create courses and presentations from an online catalog of instructional tools.
- Post and view syllabi and other course materials.
- Create and grade online exams.
- Manage class enrollment, tests and grades.

- Use electronic simulations or educational games with single or multiple users.
- Access digital library resources at institutions within and outside the system.
- Manage advisee rosters and counseling schedules.
- Access student records from other system institutions.
- Assist students in identifying courses needed to graduate.
- Be assured their personal information remains private.

STAFF WILL BE ABLE TO:

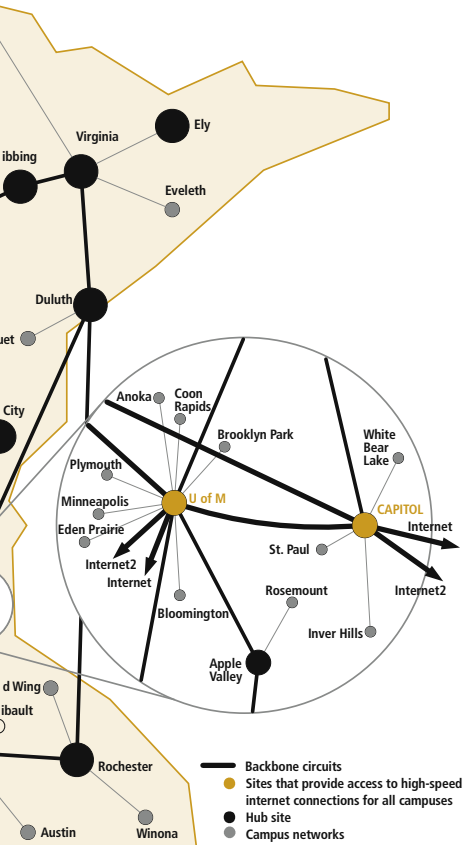
- Conduct more business office functions online.
- Submit time sheets, expense reports and purchase orders more efficiently.
- Improve recruitment of and communication with prospective students.
- Provide online advising services.
- Register for and complete internal online training courses.
- Use college and university Web sites as student recruiting tools.
- Be assured their personal information remains private.

Minnesota State Colleges and Universities



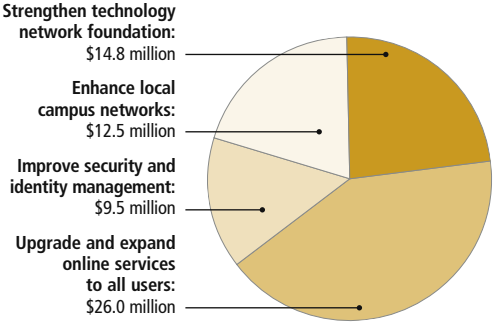
es technology network serves the state

The technology network connects the system's 53 campuses and other users.



What the money provides

The \$62.8 million is being spent in four major areas:



- **Strengthen technology network foundation: \$14.8 million**
 - ~ Replace obsolete, unsupported technology
 - ~ Increase backup capacity of critical network components
 - ~ Reduce time required to diagnose and fix problems
 - ~ Add tools to monitor network performance
 - ~ Build backup data center for critical functions
 - ~ Improve network performance
- **Enhance local campus networks: \$12.5 million**
 - ~ Improve local network capacity and reliability
 - ~ Upgrade equipment and software programs on campuses

- **Improve security and identity management:
\$9.5 million**

- ~ Detect, handle and investigate security breaches
- ~ Replace and upgrade 70 firewalls
- ~ Develop security assessment instruments to prevent breaches
- ~ Reduce equipment failures and disruptions
- ~ Improve incident response time
- ~ Eliminate multiple logons for students, faculty and staff

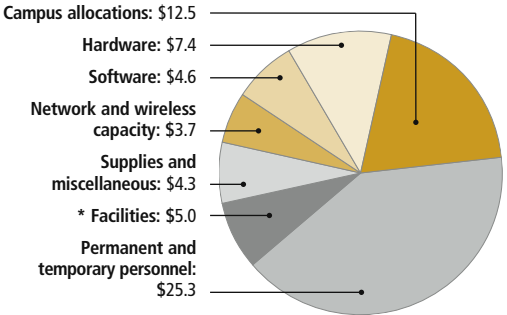
- **Upgrade and expand online services to all users:
\$26.0 million**

- ~ Enable students to find and register for available courses at any system institution
- ~ Allow students to access their records from any system institution
- ~ Enable students to pay application fees and tuition online
- ~ Provide Web-based planning tool to avoid delays in graduating
- ~ Send emergency information via e-mail or text messaging
- ~ Expand online library of teaching tools
- ~ Offer more simulation programs and educational games
- ~ Transfer high school diploma and immunization data as mandated by the state
- ~ Automate routine processes for job classification and salary approval
- ~ Enable prospective employers and employees to submit information online
- ~ Streamline management of 3,800 academic programs
- ~ Add data organizing tools to speed program planning
- ~ Assist campuses in managing budgets, staffing, supplies, equipment and facilities

How the money is being spent

- Replacing the system’s aging technology infrastructure requires people with sophisticated information technology skills to reengineer networks and tools used every day by students, faculty and staff.
- New hardware and software are needed to update the system’s technology platform. The current platform is becoming obsolete and is no longer being supported by the company that owns it.
- \$12.5 million will go directly to the colleges and universities to improve campus technology infrastructures.

FY 2008-2009 biennium
(in millions)



* Facilities are in St. Cloud, Bemidji, Eveleth, Minneapolis, St. Paul, Mankato, Granite Falls and Moorhead.

Why now?

Since the Minnesota State Colleges and Universities system formed in 1995, demands on the technology network have grown.

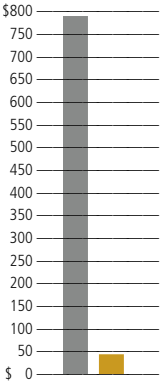
- Enrollment has increased 25 percent since 1997.
- Online programs and services have proliferated and new instructional tools, such as simulations, educational games and podcasts, now are part of classroom instruction.
- Threats to network security have grown, requiring more firewalls and constant vigilance to prevent hackers from obtaining private student and employee information.

Demand for technology has grown while staffing has declined

	FY2000	FY2006	Change
Rows of data in databases	400 million	1.2 billion	+200%
Lines of student records system programming code	2.5 million	4 million	+60%
Central servers with critical functions	30	112	+273%
Servers with 24/7 operations	15	90	+500%
Network capacity (bandwidth)	24 mbps*	300 mbps	+1,150%
Network hardware devices	100	350	+250%
Information technology staff positions	121	115	- 5%

* megabytes per second

How system-level technology spending compares



System-level spending of six systems for 2005 averaged \$793 per student.

They are:

- ~ University of Wisconsin
- ~ University of Minnesota
- ~ University of Missouri
- ~ Texas A&M
- ~ Pennsylvania State System of Higher Education and
- ~ Minnesota State Colleges and Universities.

In 2005, Minnesota State Colleges and Universities spent \$47 per student on system-level technology, far less than other systems.

Source: *Building Minnesota State Colleges and Universities Capacity for Innovation and Excellence in Enterprise IT Services*

(System-level comparisons of FY 2005 spending do not include campus spending on technology.)

- Historically, the Minnesota State Colleges and Universities system has spent less than 1.3 percent of its budget on systemwide technology operations. Other public higher education systems spend between 4 and 5 percent.
- With the new \$62.8 million investment, the system will spend about \$121 per student per year, still significantly less than other public higher education systems.

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