

NORTH DAKOTA STATE UNIVERSITY

IT DIVISION

ANNUAL

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REPORT

NDSU



MISSION

**TO PROVIDE RELIABLE SYSTEMS AND SERVICES
TO ENCOURAGE THE ADOPTION OF INNOVATIVE TECHNOLOGIES**

The new Information Technology Division took on a life of its own in FY09, with its entire staff engaged in defining the division's organizational structure. Due to the tireless leadership of those charged with the task, three new departments with associated budgets were put in place. Finishing touches included developing and adopting a statement defining who we are and what we do — with special emphasis on customer service.

THE THREE DEPARTMENTS WITHIN THE DIVISION ARE:

ENTERPRISE COMPUTING AND INFRASTRUCTURE

led by Marc Wallman, assistant vice president



INFORMATION TECHNOLOGY SERVICES

led by Jeffrey Gerst, Ph.D., associate vice president and CIO



TELECOMMUNICATIONS AND EMERGENCY SUPPORT TECHNOLOGIES

led by Joan Chapek, assistant vice president



Simultaneously, IT Budget Coordinator Janet Stringer, Director of Special Projects Jean Ostrom-Blonigen and ITS Business Manager Kim Lammers divided and/or reassigned appropriated and local budgets to each department. Another major task of defining the division was completing the initial development and deployment of a Service Level Agreement with the North Dakota University System's System Information Technology Services. This agreement defines the IT services the division will provide to all NDUS institutions and the price of those services.

2008-09 IT DIVISION OVERVIEW

Talented IT staff are on the forefront in creating innovative ways to help improve and enhance services to the university system, campus, departments, students, faculty and staff. Whether it's enhancing infrastructure, assisting with technology support, or creating new teaching tools to support learning, IT staff members work hard as a team to enable NDSU's success.

There are many aspects to working effectively as a team. Establishing an environment of openness, respect, collaboration and adaptability are core components to strengthening communication and human understanding. We interact with each other in many ways that foster strong relationships, encourage creativity and build collaboration. Gatherings such as our monthly all-staff IT time, occasional coffee with the vice president for IT, and special events such as the United Way silent auction provide opportunities to develop stronger bonds with one another.

We also extend our service model to the community by collecting items for the Fargo Food Pantry each month. And as team members and individuals, we responded to the area's need for assistance during the 2009 flood. Our monthly InTouch newsletter is another way for individuals in our division stay informed, inspired and connected — in other words, to stay in touch.

I.C.E. AWARD ESTABLISHED

To foster a climate of openness that encourages employees to become engaged in the process of innovation and organizational renewal, the IT Division has established the Innovation, Collaboration and Excellence (I.C.E.) award. This award recognizes an employee who makes a unique contribution to the organization and performs in an exemplary manner to further the mission of IT and the university.

Vice President Bonnie Neas presented the first annual IT Divisional award for Innovation, Collaboration and Excellence to Randy Wald, ITS instructional services consultant, on May 21, 2009.

Wald was nominated for his creativity in producing "Bb Buzz," a series of video training episodes for Blackboard users. The video clips are produced bi-weekly to help instructors learn about the basics and new features of Blackboard. Each clip features Randy and Tammy Cummings who worked together to produce a professional-quality product. "Great care goes into each Bb Buzz, including research, writing the script, recording the screen shots, synchronizing the audio with the video, and publishing the product in a usable format. The short and to-the-point format is perfect for our busy faculty who need to know things quickly and just in time for when they need it," said Nancy Lilleberg, IT instructional services manager, who nominated Randy.

Jill Anderson also was nominated for the I.C.E. award. She discovered a new critical vulnerability on the TYPO3 Content Management System. Once the problem was identified, Anderson collaborated with multiple NDSU engineers, the chief IT security officer, law enforcement, IT management, and the TYPO3 user community to quickly identify and fix the problem.

Britt McAlister was nominated for an I.C.E. award for several creative IT solutions including a new Web development portal, new search architecture for NDSU's Web site and planning tool called "scenarios" that helps customers more clearly describe what they want from custom-developed applications.

ORGANIZATIONAL STAFFING AND CHANGES

Embarking on its second year of existence, the division continued its efforts to more clearly define its mission, vision and guiding principles. As a result, the organization underwent some restructuring as groups and individuals were realigned to improve the services and operational functionality.

Three Desktop Team staff members were transferred to the Classroom Technologies group. This is part of a restructuring effort linking the commonalities of classroom and clusters together, which allowed for imaging and GoPrint support for both environments to be more efficiently administered. The emphasis to define clusters as "another type of classroom" supported this shift of staff to the classroom group. Several other staff members made cross-departmental transfers, allowing the organization to make the most of their skill sets.

Every Telecommunications and Emergency Support Technologies department position description was updated to match the changing responsibilities these individuals have in supporting campus wide directives and initiatives. Such new, enhanced or expanded systems and support functions include VoIP technologies and networks, statewide telephony integration, emergency communications, card access and video surveillance technologies.

Seven new staff members were hired during the fiscal year 2008-09, and three individuals left the organization. Recruitment costs were slightly up from the previous year as we continued to promote the use of more catchy display ads. We also tried some unique online Web-audio/visual clips on the Web site of the Fargo Forum.

Nearly \$3,000 also was spent with the North Dakota Newspaper Association to help recruit EduTech staff who support K-12 technologies and initiatives in rural North Dakota. Our cost

per hire averaged \$1,200. Several positions we recruited for were not filled because we received few applicants who met the job qualifications.

However, our candidate pool during the last six months of the year has changed, and we have been seeing significant responses to position posting with individuals who are qualified. Applications are being received from across the country, and the weaker economy certainly plays a role in having larger pools. We also were able to reach candidates from the global market via the Internet. We have much to offer a candidate even though our salary levels lag behind the market. An extensive healthcare plan, flexible work culture and strong professional development program may appeal to jobseekers who want to balance their work-life career.

FIRST IMPRESSIONS ARE LASTING IMPRESSIONS

Culture and values set the tone for an organization. The image potential candidates receive from their first encounter with NDSU and a department is critical to whether they feel welcome or not. Once hired, it's even more important to have an administrative process that helps smoothly integrate a newly hired faculty or staff member into the organization.

NDSU's Human Resources/Payroll Department identified service providers on campus who have an impact on the hiring of staff and faculty, and formed a campus New Faculty/Staff Services committee to discuss improvements. A subcommittee was formed to investigate an "on boarding" process for new employees. In particular, providing IT services in a timely fashion was identified as a critical need. Several IT staff were instrumental in making significant improvements to obtaining core IT services through an automation process.

All new employees, faculty, staff and international hires can get core IT services, typically within 24 hours, once HR enters the appropriate data into the PeopleSoft system. These

core services include e-mail, desktop authorization, wireless access, library services and access to the Gartner Research Group knowledgebase. Processes for obtaining GroupWise, file sharing and other specific IT services still must be manually created, but the option of automating these services is being investigated.

On-boarding programs need to start the moment an applicant accepts a job offer. A smooth beginning sets the tone for building a positive working relationship at NDSU. As a result of campus collaboration, an on-boarding checklist has been implemented to aid departments in making the work environment ready for a new employee. Having appropriate access to technologies is essential — we have done this in the past and will continue to make this a priority for new and existing staff on campus.

PERFORMANCE COMPETENCIES INVESTIGATED, PILOTED WITH ECI

To complement NDSU's current 360 feedback responsibility review process, the IT Division supported ECI piloting a competencies-based performance system to help more clearly define attributes, behaviors, areas of knowledge, skills and abilities that lead to superior job performance and professional growth. Our model was based on Microsoft's Competency Wheel and processes.

This additional assessment tool would be helpful in more objectively evaluating and comparing performance levels for top, median or low performers within the organization, allowing for more equitable salary adjustments based on performance. Coupled with feedback from supervisors, co-workers, team members

and other sources, the competency assessment helps employees take the next steps toward excelling in their career path. For ECI this project has proven to be successful and will continue to be implemented. Future use of a competency model across the division continues to be investigated.

STUDENT TECHNOLOGY FEE CONTINUES TO SUPPORT KEY SERVICES

Vice President Neas' effort to work with the Student Technology Fee Advisory Committee developing budgets and sharing fiscal reports continues to be a priority. With strong student government support and the TFAC initiative, several changes were implemented this year to enhance the budgeting process and provide clearer direction for how the technology funds should be distributed. Students took an active role in developing a set of bylaws designed to support the committee's structure, focus and budgeting allocations. After several meetings and revisions, a new set of bylaws was approved in February 2009.

One of the significant outcomes of the bylaws was a section related to the allocation of the funds, which specifies the following:

1. Ten percent of the funds shall be reserved for a contingency, which may be drawn upon outside of the regular funding cycles;
2. A maximum of 15 percent shall be reserved for the support of campus IT infrastructure, including wireless routers and necessary equipment;
3. A maximum of 10 percent shall be reserved for the support of a learning management system;

4. A maximum of 45 percent shall be reserved for the ongoing support of Information Services;
5. The remaining dollars (at least 20 percent) may be allocated to accomplish the action plans submitted to the TFAC.

The TFAC reviewed seven action plans during the fall 2009 funding cycle, including a total of \$1,279,024 in funding requests. Although the committee had \$1,270,000 available to allocate, members recommended disbursing \$523,476. Two major ITS proposals requesting funding for new classrooms and ongoing funding to support students and services within ITS were reduced considerably. Such action has prompted ongoing discussions about various ITS support activities as well as campus cluster use and need. Students are very interested in evaluating and conducting studies related to clusters.

During the spring 2009 review process, 10 proposals were submitted asking for \$578,033. Six projects received funding totaling \$201,115. The Memorial Union Movie Theater update was one of the major proposals supported. This proposal, submitted by Student Government, received \$56,125 and was unanimously supported by the students.

Another key investment approved by the TFAC was Vice President Neas' request for

\$28,000 for the campus to obtain the knowledgebase developed by Gartner, a world leader in research on information technology related topics. This was approximately half the cost, with former President Chapman agreeing to provide additional support funds.

Vice President Neas also asked the committee to consider an action plan from the Department of Enterprise Computing and Infrastructure to replace 13 servers running the Novell file and print storage systems, with funds taken from contingency. This was approved at a later meeting. A one-time allocation of \$100,000 from Tech Fee funds also was used to support classroom technology needs at Richard H. Barry Hall.

Each year individuals submit requests to the TFAC for projects that have the potential to add significant value to the campus. Because funding is limited, not all projects receive financial support. However, the TFAC does its best to evaluate and recommend funding for those projects with the greatest potential to impact student learning. More details regarding the TFAC activities and funding information can be found at www.ndsu.edu/tfac.



WHO WE ARE

OUR MISSION - WHAT WE DO

An enabler of NDSU's success, the Information Technology Division is a talented team of professionals striving to provide reliable systems and services and to encourage the adoption of innovative technologies.

OUR VALUES - HOW WE WORK TOGETHER

As a team, our actions show respect for:

- The individual - We ensure the dignity of each person is preserved in all our interactions.
- Multiple perspectives - We respect one another's contribution by ensuring that we deliberately seek and hear each other's views and concerns through open communication.
- Personal growth and accountability - It is incumbent upon us to stay current in our professions to ensure our continued success.

OUR GUIDING PRINCIPLES - HOW

WE WORK WITH THOSE WE SERVE

To become a model information technology service provider, whose success is measured by the quality of support provided to those we serve by:

- *Recognizing that it's about people* - The Information Technology Division remains committed to the idea that technology is never an end in itself, but is only a tool to support the success of individuals in the NDSU community.
- *Focusing on what makes a difference* - The Information Technology Division directs resources to those efforts and activities that have the greatest potential to support innovation and effectively achieve NDSU's goals.
- *Being adaptable* - The Information Technology Division seeks to support, encourage and facilitate creative uses and applications of technology to meet a variety of needs.
- *Providing useful information, courteous service and appropriate follow-up* - The division seeks to ensure that all our interactions achieve these goals with the individuals we serve, whether in person, remotely or with automated systems.

OUR VISION - WHERE THE MISSION + VALUES + GUIDING PRINCIPLES WILL TAKE US

To realize the success of the Information Technology Division, we respectfully acknowledge the diverse and changing needs of the individuals we serve in the dynamic fields of teaching, research and outreach.

DEPARTMENT REPORT ENTERPRISE COMPUTING AND INFRASTRUCTURE

The Enterprise Computing and Infrastructure department was created in 2008 to engineer and maintain all centralized IT activities. ECI is composed of four units: Enterprise Application Development, Enterprise Systems, Network Engineering and Operations, and Research Computing Services.

ENTERPRISE APPLICATION DEVELOPMENT

Enterprise Application Development is responsible for delivering software engineering and development services to NDSU departments and to the North Dakota University System. By providing reliable systems and services, the EAD team is an integral part of the division. The EAD team maintains and supports 28 major Web applications, including the NDUS Help Center (Remedy Help Desk incident tracking system), NDSU's TYPO3 Content Management System, Blackboard learning management system, Blackboard Transaction System, campus wide, Web-based event calendar, and NDSU Project Management Portal (Gforge).

EAD-managed applications are selected or developed for stability, low maintenance and heavy utilization. By focusing on highly reliable applications, EAD has worked to lower costs and increase efficiency.

EAD PROJECTS FOR 2008-2009

Following are some highlights of services EAD provides to NDSU and the University System:

The TYPO3 Content Management System hosts 364 active content authors on 72 unique Web sites. In addition to meeting the communication needs of departments, the TYPO3 Content Management System is structured to ensure high levels of accessibility to individuals with disabilities.

The search engine for NDSU's Web server was built on the same Open Source core software that was subsequently chosen by the National Security Administration. The search application regularly "crawls" the content of 105 Web domains, indexing the content so it can

be rapidly located as users search for specific information.

EAD also maintains 293,581 unique user identities, which provide authentication and authorization for individuals from the following North Dakota state institutions and services:

- Bismarck State College: 15,042
- Dakota College at Bottineau: 362
- Dickinson State University: 8,955
- EduTech (N.D. K-12 Schools): 116,008
- Guests: 12,205
- IVN (N.D. video network): 13
- Lake Region State College: 7,863
- Mayville State University: 3,273
- Minot State University: 5,408
- North Dakota State College of Science: 10,879
- North Dakota State University: 55,809
- North Dakota University System: 146
- University of North Dakota: 63,734
- Valley City State University: 2,433
- Williston State College: 3,656

EAD provides learning management services through the Blackboard system. EAD upgraded Blackboard Version 7.2 to Version 8 in December 2008. Richard Frovarp was hired as a software engineer and took on the responsibility for Blackboard in January 2009. A sample of system logs from the first two weeks in April 2009 indicates the IT Division typically supports approximately 11,200 unique Blackboard users at any given time and 67,000 learning management sessions per week. The following provide additional metrics on the Blackboard services provided by the EAD team:

- Active courses: 2,042
- Active organizations: 648
- Active users: 13,395
- Average daily logins: 8,061
- Average daily page views: 108,142



The following statistics are for the 184 days between April 12, 2009, and Oct. 13, 2009. Only about 10 million requests were reported for each month in June and July. September reported 77 million requests.

Total transferred: 3.52 terabytes
Distinct hosts: 89,531
Average requests per day: 1.2 million

Traffic coming from outside the North Dakota University System subnet (134.129.x.x) accounted for 47 percent of requests and about 44 percent of the traffic. The largest source of traffic to Blackboard outside of the University System comes from individuals using CableOne as an Internet service provider, which comprises approximately 17 percent of all traffic.

The most common browser version from computers outside of the University System (typically home computers) is Firefox 3.5.3 for Vista/Server 2008. Second is Safari 4.0.3 for OS X 10.5.8. Looking across all browser versions, IE was the most popular, with version 7 being the most popular subtype. IE 6 comprised 9.8 percent of IE traffic. IE accounted for 57 percent of total non-NDUS requests, Firefox for 29.6 percent and Safari for 10.6 percent.

NEW SECURITY PROTOCOL TO BE IMPLEMENTED

ECI has implemented a certificate-based authentication system for wireless connectivity slated for rollout in late 2009. This will become the new preferred method of wireless authentication over the existing method.

Following are the advantages of the new method of wireless authentication:

- All major desktop operating systems support this natively, without the need to install additional software.
- The individual user's password is not stored on the computer or device accessing the network.
- Many mobile operating systems provide support, including Apple's iPod and iPhone.
- Guest credentials can be created for campus visitors and affiliates in minutes instead of hours.

The new method will not replace existing technology. However, once the new method is available, all new users or devices will be directed toward the newer system.

EAD initiated an inventory of accessibility issues related to NDSU Web sites and Web applications in February 2009. A long list of NDSU Web sites was collected and a five-phased testing plan was developed. In each phase, a blind tester used a screen reader to conduct specific tests, while a sighted evaluator ran other tests, and collected then codified the test results.

A scorecard was used to indicate the results of auditory, visual and automated inspections of NDSU Web sites and Web applications. In cases where accessibility could be improved, the scorecard indicated the approximate skill level and approximate effort required to improve the site or application.

EAD inspected Web applications of its own design first in order to fine-tune the inspection process and refine the scorecard. A screen reader was used to test the following: consistent reading order of content on the screen, accessibility of links and images, HTML form fields and controls, and table structures.

In phases one and two of testing, 82 Web sites were tested for accessibility as of May 2009. In phases three and four, 158 NDSU sites were evaluated for their level of accessibility as of September 2009.

The EAD team partners with commercial systems, but also develops custom applications that integrate with commercial systems to minimize complexity and speed up access to data for our customers. The Legislative Bill Tracking System, Emergency Notification Information project, the NDSU Financial Reporting System are all examples of applications that EAD designed and built to better serve our clients by interfacing with existing systems.

The Legislative Bill Tracking System is designed to track multiple bills as they move through the legislative process during the North Dakota Legislative Session. This year we added the ability for LBTS subscribers to pay

the subscription fee with a credit card using NDSU's electronic payment processing system. Subscriptions were activated immediately upon payment, and billing, accounting and reporting were automated.

In supporting implementation of the statewide emergency notification system, EAD generated system identities for individuals on all NDUS campuses, the NDUS Office and NDUS constituent organizations. As part of the identity-collection process, individuals were given the ability to register home and personal cell phones with the system, as well as their messaging preferences.

The NDSU Financial Reporting System enables campus executives and their designated staff to generate budget reports using PeopleSoft budget data without the need for extensive training. Campus decision-makers access the Web application using the same login that they use to authenticate for all NDSU services, and the system shows each individual only the reports that they are authorized to see and use. The software rebuilds itself each month when the budget officer refreshes the data. Staff in the Office of the Vice President for Business and Finance staff also can manage authorized users without assistance from the IT Division.

EAD: REALIZING SUCCESS FOR THE IT DIVISION

EAD values the importance of working toward the future. Some of the projects the team is planning include enhancements to the transaction system, an NDUS software licensing e-commerce site, a new public Web hosting solution to replace the existing Web environment, an agile project management framework and project tracking system, and an NDSU Web properties accessibility inventory. The team also is working on projects to extend the GForge project portal application so NDUS constituents can use it, streamline the system for setting up services for users, enhance NDSU's online news services, and deploy the next version of the TYPO3 Content Management System, which will provide users with more choices for content organization and design.

ENTERPRISE SYSTEMS

The Enterprise Systems team is responsible for operating centralized IT systems for NDSU and the University System. The Enterprise Systems team ensures the efficiency and reliability of multiple server-based systems including e-mail, Blackboard, Web services, Oracle Calendar and GroupWise.

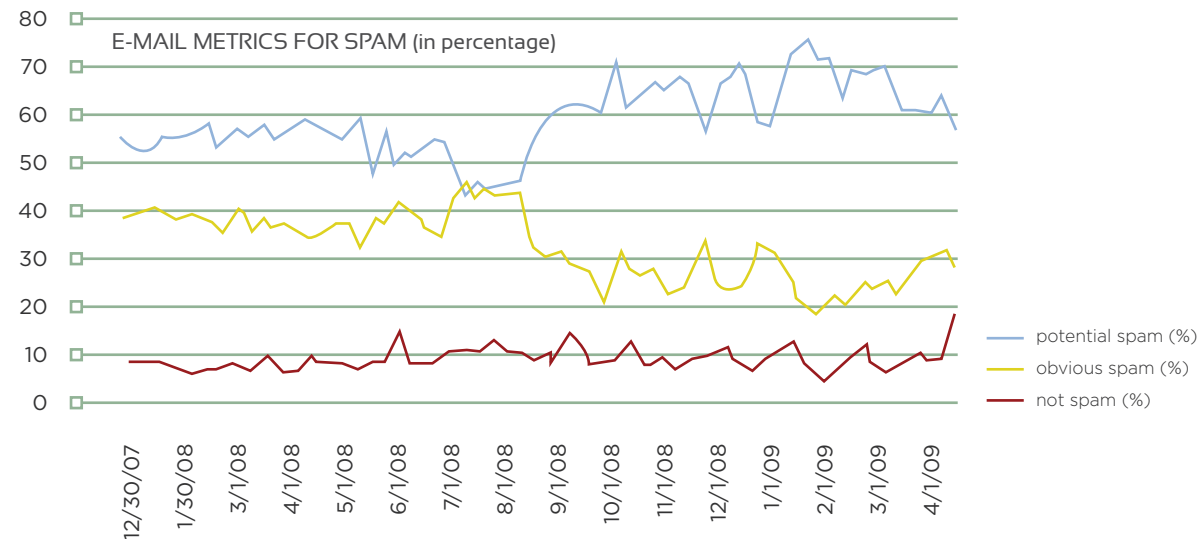
Enterprise Systems is responsible for backups of data for disaster recovery. Currently, the team backs up more than 50 terabytes (50,000,000,000,000 bytes) of data each month. With the growth in technology and the expanded reliance on rich media forms, this amount is likely to increase in the future. The ability to recover from disasters such as floods is essential to university business processes. Our enterprise backup solutions help protect against such contingencies.

Novell services allow individuals to collaborate with others by sharing important documentation and information. Enterprise Systems maintains and administers 14 Novell NetWare servers that provide the directories and files shared with each team, department and business unit. These servers also provide the GroupWise calendaring and e-mail system, eDirectory and Identity Manager. The Novell NetWare file servers contain a total of 1.5 terabytes of data, comprising 3.5 million files. There are more than 150 departments and 2,000 users of the system. Novell also manages desktops for faculty, staff and computer clusters affecting more than 15,000 users, and provides the core infrastructure required by GroupWise.

Enterprise Systems also maintains the systems that run DNS, DHCP and WINS. While these systems are invisible for the majority of individuals on campus, they are the core systems that ensure each bit of data on the network is directed to the proper location. Without these essential network technologies, documents could not be sent to printers, e-mails could not be sent, and accessing Web sites would be impossible. Enterprise Systems also is responsible for the repository of updates that ensure anti-virus software and Windows continue to function properly and securely.

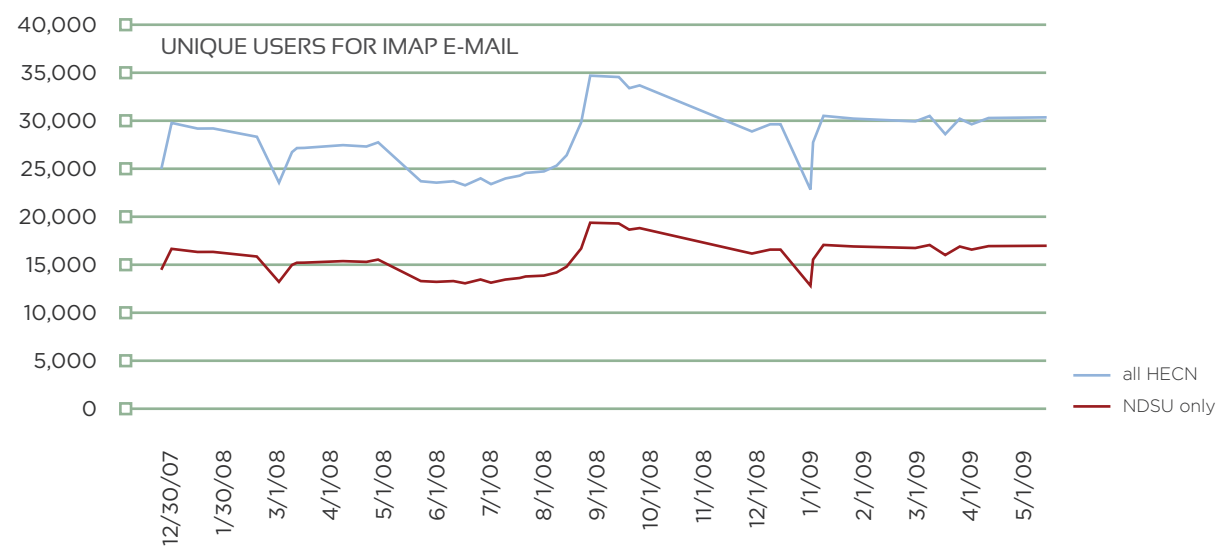
E-MAIL METRICS FOR SPAM

During late 2008 and early 2009, NDSU's e-mail servers experienced a slight increase in legitimate spam and a slight decrease in obvious spam.



IMAP UNIQUE USERS

Overall e-mail trends indicate a slight upward trend of about 20 percent during the year, with year-over-year growth, indicating most people are not choosing to forward their @ndsu.edu e-mail to other mail providers (e.g., Google, Yahoo!, Hotmail).



The Enterprise Systems team understands the importance of having reliable systems and services to depend on. Among the projects for the year was a significant upgrade to the server and database systems that drive the Blackboard learning management system. In addition to these changes, the Blackboard system itself was upgraded.

The Enterprise Systems team successfully completed a significant modification of the network-addressing scheme, to ensure there are adequate Internet addresses in the future. As with many other ECI projects, this project required significant time as well as collaboration and joint team efforts between specifically Enterprise Systems and Network Engineering and Operations.

Server hosting agreements allow departments to utilize the IT Division's enterprise class server administration in order to be creative on their own. When departments or customers enter into a server hosting agreement, they will receive experienced server administrators who monitor, maintain and administer the server around the clock.

Servers are kept current with security updates, configured to limit unauthorized access and equipped with system monitoring. Server hosting agreements also provide customers with backup software; replacement for failed equipment parts; a secure, climate-controlled space for maximum reliability; uninterruptible power supplies with generator backup; data backup and restore; fast network connectivity and data mirrored in multiple physical locations.

Enterprise Systems has 28 server hosting agreements. Following are some of these agreements and the role that Enterprise Systems plays in maintaining and supporting them:

- **Medicat** is an electronic medical records system used by Student Health Services. In addition to management of medical records, Medicat provides practice management for scheduling, ordering lab tests and tracking immunizations. Once fully implemented, patients will be able to login through a Web portal to access a variety of services including scheduling appointments and checking lab results.

- **XOS** is an electronic video system that allows the NDSU football team to capture, edit and view practices and games to analyze team and player performance. The video is stored on ECI's "storage area network" (also known as SAN) infrastructure, which allows for growth and redundancy. Enterprise Systems moved XOS to a new server in summer 2009 and was able to accommodate the team's needs by increasing storage nearly 50 percent.

- **ImageNow** is a document imaging system acquired by Enterprise Systems in January 2007. Originally four departments entered into the server hosting agreement for this application, under the leadership of the Office of Registration and Records. When an increase in storage was needed for ImageNow, the flexibility of SAN provided the additional space while maintaining robust, reliable service. Upgrades to the ImageNow system have been done periodically and planning is under way for the WebNow component, which will allow users to access the system via a secure Web connection.

- **Blackboard Transaction System** is also part of the SLA program. Enterprise Systems currently is involved in an RFP process with the Bison Card Center to find a replacement for the Blackboard Transaction System. The Transaction System and Bison Card have become integral to campus life as the Bison Card allows students/faculty and staff to access services on campus (parking kiosks, GoPrint, the ability for parents to add money to students' Bison cards and many more).

ENTERPRISE SYSTEMS: PLANNING FOR SUCCESS OF THE IT DIVISION

Enterprise Systems recently has placed a strong emphasis on budgeting. With more than 140 servers, careful planning is required to ensure that the appropriate machines are replaced on a four-year cycle. Server hosting agreements add to the complexity of this process, but further underscore the importance of thoughtful, responsible planning to fulfill our obligations to our customers tomorrow and well into the future.

NETWORK ENGINEERING AND OPERATIONS

Network Engineering and Operations is responsible for designing, installing and maintaining all network and telecommunications infrastructure required for a reliable, stable and flexible state-of-the-art communications architecture. NEO also provides enterprise-wide service infrastructure and consulting for data networking, telecommunications, building automation, safety and security, and CATV. Responsibilities also include managing and coordinating all support infrastructures in the server operations area to ensure that area is environmentally conditioned, electrically provisioned and distributed, and secure.

Network Engineering and Operations has played key roles in major and multiple activities and projects during 2008 and continuing into and throughout 2009. Following are some of these activities and projects:

- Provided network/infrastructure design, oversight and final installation for the following major construction projects:
 - Barry Hall
 - Klai Hall
 - Cityscapes
 - Stop-n-Go Center
 - Bison Blocks I and II
 - Ceres Hall
 - Greenhouse - 18th St. (in progress)
 - 12th Ave. Corridor
 - President's House
 - Alba Bales House
 - Bentson/Bunker Fieldhouse
- Initiated migration to the Cisco 37xx switch platform replacing 29xx, which has been announced to be end-of-life by Cisco.
- Upgraded network core to provide additional capacity, enhanced redundancy and a migration path to build additional bandwidth.
- Upgraded the wireless core to add additional capacity, begin exploring the requirements to provide "N" (802.11n) wireless standard and upgrading the management platform.
- Assisted the Telecommunications and Emergency Support Technologies in efforts to migrate the voice platform from "Center Stage" architecture to "IP Connect." This included developing the IP scopes and providing the necessary connectivity.

- Developed RFP and provided project management to reinforce and extend the NDSU fiber optic and copper cable infrastructure to the south side of 12th Ave. North.
- Due to the rapid growth at NDSU, port capacity was increased by 7 percent in 2009.
- Upgraded network core to support the next generation of the Internet Protocol (IPv6).
- Worked with the ITSO and Foundstone in identifying, isolating and correcting deficiencies relating to network and server security.
- Assisted the North Dakota Information Technology Department in upgrading the StageNet backbone and provisioning a Metro Fiber ring within the Fargo metro area.
- Worked with the Telecommunications and Emergency Support Technologies and CableOne in selecting and developing an Emergency Alert System that is delivered over the NDSU's private CATV network.
- Began work in developing a mechanism and process to provide authentication and secure connections to access our wireless network.
- Continued working on rolling out the Northern Tier Network. The network was energized in April 2009 and is providing 10 gigabytes of connectivity to Internet2, which has 100 times the bandwidth of our previous connection. Montana and the local loop in Bismarck are still in progress. A grant has been submitted to provision funding for a Northern Tier connection to South Dakota.
- Designed and initiated activities associated with upgrading the core and edge switches to provide 10 gigabytes up-links and 1 gigabyte desktop connectivity to 22 campus buildings via an award from an EPSCoR Grant.
- Coordinated several inter-building CATV installations in order to deliver Emergency Alert System messaging and notifications.

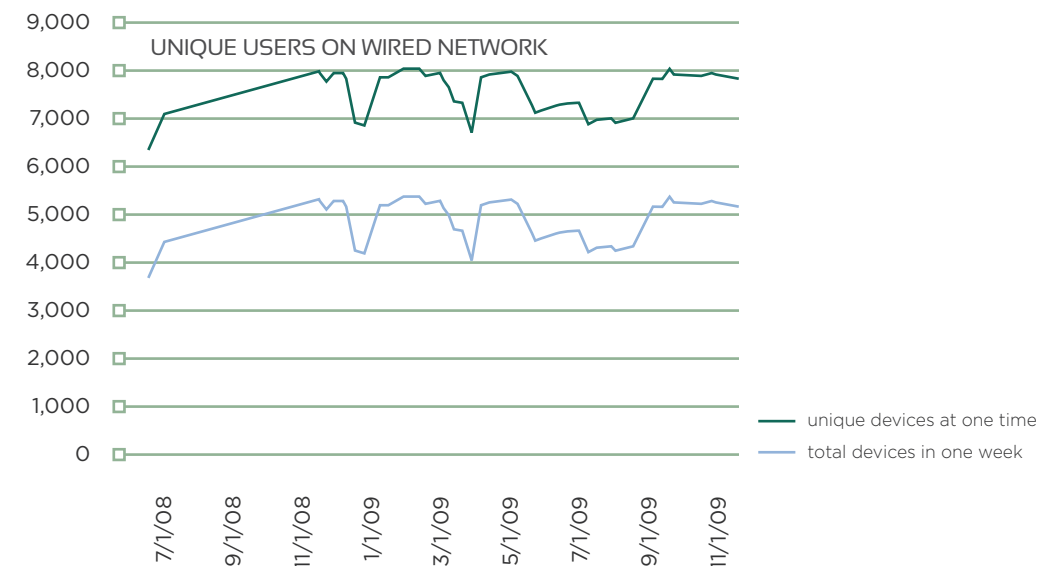
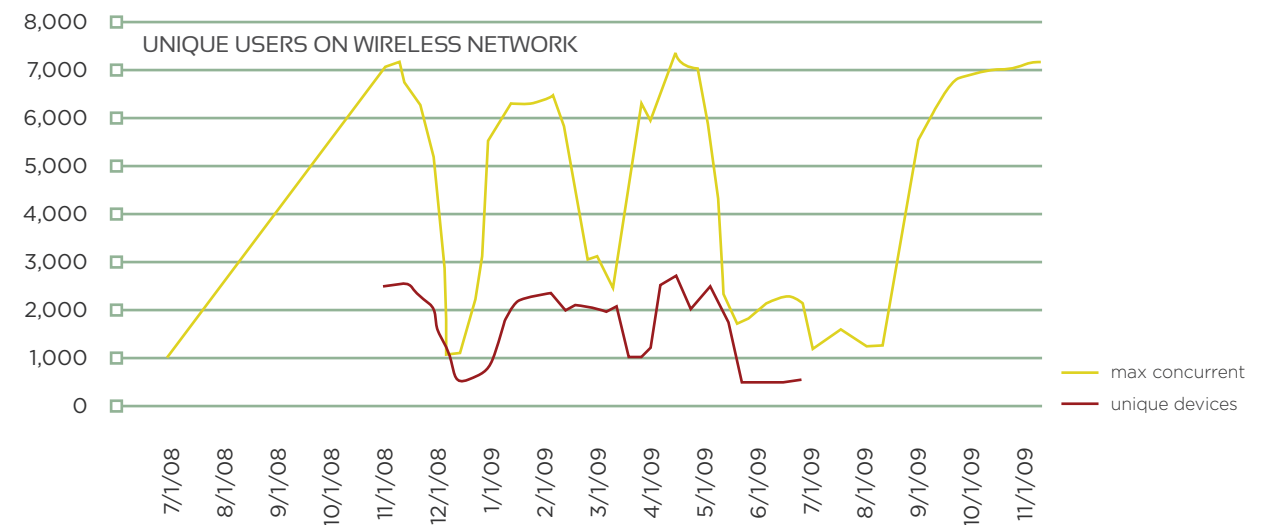
Network Engineering and Operations continues to strive not only for better quality and performance, but also to ensure network continuity is maintained so resources and services can be restored with minimal disruption. Balancing the necessary funding with

the requirements of building a "self-healing" network is not always an easy task. We have taken an incremental approach: first, identifying mission critical applications and systems; second, identifying the necessary resources to provide uninterrupted service. We are making every attempt to satisfy the network core components by providing alternate paths between core switches, redundant power supplies in each switch and redundant supervisory (heart and soul) modules.

We are working to develop a strategy to provide a power distribution architecture that incorporates sufficient power today and for the future, better power quality and, finally, all associated apparatus to successfully provide backup power. This would include primary and possibly standby generators, associated uninterruptable power supplies, and transfer switches, as well as power management and monitoring.

WIRED AND WIRELESS STATISTICS

2008 and 2009 saw significant variations of wireless technology use, with much lower utilization during academic breaks, indicating that students are likely the primary users of this technology. Similar trends are similar, but not as pronounced for wired network connections.





NETWORK ENGINEERING AND OPERATIONS: LOOKING TO THE FUTURE

NEO leads the way and their technologies are instrumental in continuing to move to the future. By migrating to a certificate-based authentication for wireless access, it would eliminate the need for either WPA2 or VPN secure connections using wireless.

NEO also has built wireless controllers into the Cisco 6500 platform instead of using stand-alone controllers. This has simplified management tasks and eliminated a possible point of failure. Implementation of the Cisco 3750 architecture also has enhanced management and security.

Upgrading the NDSU fiber optic plant to single-mode has allowed NEO to take advantage of newer and faster network switching and technology. Engineering is under way to gather all necessary data to begin the design phase in order to extend our fiber optic infrastructure to University Village. This will provide the necessary transmission capability to deliver voice, data and video services to students living in those buildings. Students living in the residence halls also will directly benefit from the replacement of the seven-year-old ResNet core equipment. The new state-of-the-art system will have built-in redundancy and will allow for future growth.

Installation of this equipment will occur at the end of 2009.

The Northern Tier Network went live in April 2009 providing NDSU and the North Dakota University System with high-speed access to the nation's research and education network. Working in partnership with the University of Washington, University of Wisconsin-Madison, University of Minnesota, University of North Dakota, and North Dakota's Information Technology Department, NDSU has increased the state's connectivity to Internet2 by approximately a factor of 70. NDSU also has made a significant contribution to the footprint of the nation's research and education network. See www.ndsu.edu/vpit/ntn for more information on the Northern Tier Network.

Among other projects that NEO will pursue in the coming year are the following:

- An RFP will be developed to install single-mode fiber (Phase II) after deficient areas and locations that will need to be reinforced are identified. Engineering and design will begin shortly after that.
- Approximately 220 wireless access points will be installed to replace older versions. These replacements will pave the way for upgrading to the faster "N" wireless protocol.
- Operations will continue to complete the Northern Tier Network.
- Some storage services will be moved to Barry Hall.

RESEARCH COMPUTING SERVICES

Research Computing Services provides engineering and operational support for NDSU's Center for High Performance Computing and NDSU's storage area network. The following are among the achievements of RCS:

- Deployed SCST, an Open-Source storage solution,
- Deployment of a 32-node computing cluster with 256 core processors and 1 terabyte of RAM,
- Deployment of a replacement for the ALTIX system,
- Submission of an Integrated Graduated Education and Research Training grant to the National Science Foundation,
- Deployed two additional MDS switches, tripling the size of the university's SAN storage,
- Greg Wettstein, group leader for Research Computing Services, offered a course on high performance computing with Professor William Perrizo fall semester 2009 and will offer it again in spring semester 2010. The course is designed to equip computer science students to use high-performance computing technologies.

DEPARTMENT REPORT INFORMATION TECHNOLOGY SERVICES

A YEAR OF CHALLENGES IN ITS

Although ITS did not introduce major changes to the specific technologies it provides on campus, 2008-09 presented its own unique set of challenges. For example, ITS continued to use Windows XP in computer clusters and classrooms. However, addition of two Bison Block buildings, Klai Hall and Barry Hall extended the location and number of computers ITS supports. ITS also extended its footprint with the addition of a new Help Desk area in Barry Hall. One staff member, who is cross-trained in desktop and classroom support, was transferred from the main Help Desk in order to provide immediate, hands-on support at the Barry Hall location.

While funding for information services continues to be a problem, a new process for allocating Student Technology Fee funds was implemented and will help stabilize the budgets for certain services. The new approach automatically designates a portion of the funds to essential services, including support, infrastructure and learning management systems. Funding from the North Dakota University System also was reviewed, and service level agreements were developed to ensure clear responsibilities and reimbursement for the support the IT Division provides to institutions across the state.

INSTRUCTIONAL SERVICES

During the 2009 Fargo flood, Provost Craig Schnell encouraged faculty to be creative in making up lost class time when classes were cancelled. In response to Schnell's directive, the Instructional Services staff offered multiple "FloodBytes" sessions during the noon hour demonstrating out-of-class learning activities that used technology. Some examples:

- Wimba Live Classroom - This technology allowed instructors to teach classes online in real time, or record the class content using the archive feature for students to view whenever.

- Wimba Podcasting - To provide higher levels of mobility, a number of instructors were assisted in creating audio files of class content students could download to their music players.
- Bb Discussion Board - Some instructors used a text-based setting to allow students during the flood to post comments and participate in discussion as they were able.

During the year, Instructional Services also adopted and provided assistance for a variety of new technologies supporting the educational processes including several new tools allowing instructors to distribute content and collect feedback from students. Team members also put the tools to good use for their own work. One of the tools - Jing - allows anyone to create audio-visual tutorials up to five minutes long using a simple interface. Animoto, creates interesting videos by pulling together pictures and text from a variety of sources. Poll Everywhere lets instructors poll a class or audience using cell phone texting. The service is available at no charge for fewer than 30 responses. As budgets become tight and time even tighter, these simple-to-use, free tools can certainly fill a niche. These tools were particularly relevant as Instructional Services presented them to faculty at the "FloodBytes" sessions and "Dive In" two-day faculty workshop.

Social networking a key focus

Attend any instructional technology conference and you will find social networking is the new hot topic. As research has shown that today's students need to be engaged instead of passive, social networking tools have blossomed as solutions to this need for action and involvement. Wikis and blogs are not new technologies, but they are becoming respected and important as educators find ways to enhance learning through their use. As the use of other tools, such as Twitter, Ning, GoogleDocs and Wordle to name a few, also increases, Instructional Services has included

these in their training initiatives. The next update to Blackboard includes a wiki and a blog built into the system, which NDSU will adopt in summer 2010.

TECHNOLOGY LEARNING AND MEDIA CENTER

The Technology Learning and Media Center continued to support the needs of students and faculty requiring assistance to get the most out of technology. During the year, TLMC staff had 7,911 direct contacts with customers and provided a total of 179 classes. Growth in this area was particularly evident from fall to spring semester. During fall 2008, 2,136 students stopped in for assistance. That number jumped to 3,000 during spring semester. The number of classes requested by instructors dropped from 69 in the fall to 29 in the spring. This change is likely due to the impact of the flood on the availability of class time. In addition, Luke Prather, TLMC media technologies consultant, spent approximately 273 hours working on various multimedia projects and assisting with special events such as the Northern Tier Network conference.

CLUSTER AND CLASSROOM TECHNOLOGIES

The classroom technologies work group reorganized services for computer clusters during this past year. This reorganization has provided more efficient and reliable workstations in the classrooms and a higher level of support, including having classroom technicians proactively regularly checking the audiovisual equipment in order to reduce system downtime. Among the tools assisting in this effort were implementation of technologies allowing remote monitoring of classroom system status and projector lamp usage, and an intercom system allowing instructors to immediately access technicians for assistance.

Another important step was the purchase of Global Viewer Enterprise, an audiovisual resource management software. Once the system is completely implemented, the team will gain the ability to track and analyze usage trends and inventory reports.

To properly manage these new technologies, two classroom technology specialists are in the process of becoming certified to program Crestron control systems, which are being installed in Barry Hall. Not only will these systems be programmed to control audiovisual equipment, they also will control window shades, lights and motorized projection screens.

Video conference/IVN services

Between 2008 and 2009, efforts were made to improve quality of the video services provided through ITS. Much of the video conferencing equipment was upgraded, resulting in better picture quality and easier to use services. The process for requesting services in this area was updated and improved, resulting in better customer service, as well as a better record of videoconferencing and IVN trends and usage. Feedback on equipment reliability, functionality and technician support are now being collected electronically, which will increase efficiency in the process and allow quicker responses to customer requests.

A focus on extending the availability of videoconferencing services also was apparent during the year. Funds were allocated for a mobile video conference cart, which will provide a backup for existing systems plus the ability to fulfill requests for video conference needs in rooms that do not have equipment installed.

Moving forward, the Cluster and Classroom Technology team is testing various desktop video solutions that are likely to become widely utilized on campus, and lecture capture solutions, which are currently being requested and are likely to be requested more often in the future.

Cluster and printing services

The Classroom Technologies work group reorganized computer clusters and GoPrint services during the year. This reorganization has provided a larger student support group for clusters and GoPrint stations allowing for quicker troubleshooting and system replacement resulting in less downtime. The installation of USB card swipes and touch screens for the GoPrint stations also has provided an improved system with less down time.

In an effort to ensure we have adequate support for cluster computers, one computer support specialist was certified to order Dell warranty parts, allowing for quicker on-site repairs. To better support Apple computers, a support specialist also attended a Macintosh certification course, and Apple Remote Desktop software was purchased allowing for remote image deployment for the Mac systems in clusters.

Going forward, the team will be working closely within ITS and across the division to explore the applicability of desktop virtualization to cut costs and improve support efficiency in the clusters.

IT SECURITY

NDSU network penetration assessment

NDSU maintains a diverse network with a variety of systems allowing NDSU's students, faculty, staff and associates to interact on the Internet. Recognizing risks that the NDSU network, systems and applications face each day, the IT Division requested a security assessment of its external, internal and wireless networks. This security assessment was conducted in October 2008 to evaluate NDSU's exposure to known security vulnerabilities and to determine the extent the targeted systems were vulnerable to attack and penetration from inside and outside the university. The North Dakota University System selected Foundstone to perform the assessment.

Foundstone reviewed NDSU's security posture in regard to external, internal, wireless and identified security practices that are strengths as well as vulnerabilities that create risks. The combination of asset criticality, threat likelihood and vulnerability severity were combined to assign a grade for each area assessed and an overall grade.

Strengths included a highly motivated IT staff, recognition of weaknesses in existing systems by IT staff, well secured intrusion detection systems, active host firewalls, and a "tarpit" that identifies potential junk e-mail is used for surveillance and as an early-warning detection tool. Weaknesses were phrased in the form of strategic recommendations that included

people, processes and technology. Those recommendations included evaluating the effectiveness of current policies and procedures; establishing guidelines for updating servers; initiating or continuing to raise the awareness level of the user; and initiating or continuing administrator training on software and network security fundamentals.

The assessment concluded and recommended that NDSU build a plan implementing the strategic recommendations and addressing high-risk findings and recommendations with remediation.

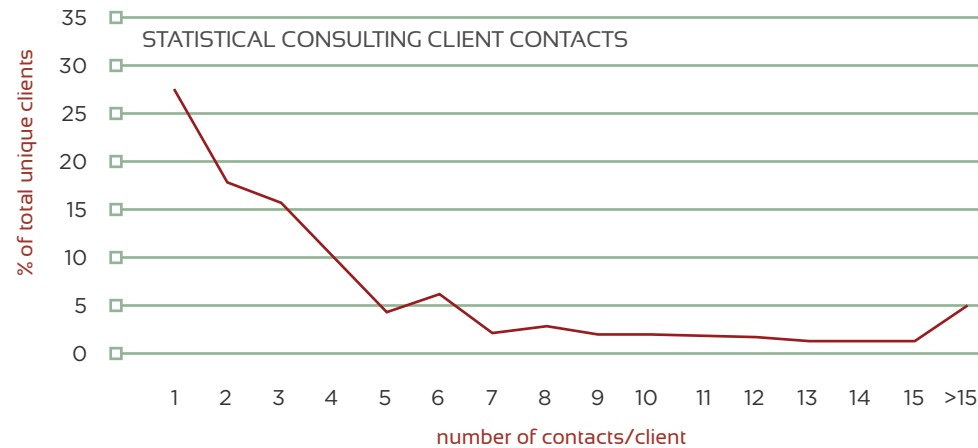
Staff members in each IT area have been provided with a copy of the findings relative to their department or college, and are responsible for remediation of those findings. Remediation has been completed with the majority of the departments and colleges.

POLICY AND STRATEGIC SERVICES

Statistical Consulting - Reliable Service for Researchers

The Statistical Consulting unit within Information Technology Services provided consulting services to the NDUS during the past year through efforts of one full-time ITS staff member, Curt Doetkott, and three graduate students from the Department of Statistics. Consulting records for the full-time staff person only indicate that more than 250 unique clients accounting for more than 1,200 recorded contacts (in person, phone or e-mail) were helped from a variety of academic departments. Roughly half of these contacts were directly related to statistical questions. The remainder were primarily calls for appointments and questions related to use of statistical programs such as SAS and SPSS, and use of the optical mark reader for test scoring and processing student ratings of instruction.

Another measure of the success of our statistical consulting efforts is the number of refereed publications that include members of statistical consulting among the authors. We averaged one to three publications per year from 2000-2005. Publication counts for 2006, 2007 and 2008 were five, five and four, respectively.



Advanced Applications

Through the advanced application coordinator position, ITS provides the resources to identify, support and promote applications of advanced networks and similar advanced technologies for NDSU, the K-20 community and other partners. During the 2008-2009 school year these included promotion of opportunities for outreach and collaboration with peers at other institutions, research facilities around the world and in the K-12 community.

NDSU continues its membership and leadership roles in national and regional research and education networks such as Internet2 and the Northern Tier Network. NDSU has been instrumental in coordinating programs available to our sponsored members through these networks. NDSU also provides consultation, as well as technical support and facilitation for grant application and award activities.

Focusing on Application Value

Information Technology Services at NDSU provides leadership in the state in identifying applications that use the technology and the high-bandwidth capacity of research and education networks to expand the frontiers in teaching, learning and research.

Efforts that have expanded teaching and learning in K-12 classrooms have focused on collaboration, coordinating the efforts of content providers and leveraging advanced

applications. During the past school year, approximately 1,200 North Dakota K-12 students participated in collaborative events and content programs from local and national providers. Teachers and their students also worked with research labs at NDSU using remote instrumentation technology to access costly resources like the scanning electron microscope.

Realizing success for the IT Division

Within NDSU, ITS is working to develop relationships with campus and system advisory councils to strengthen lines of communication and identify opportunities for collaboration and outreach.

Kim Owen, advanced applications coordinator, represents NDSU nationally by participating in multi-state collaborations, presenting at local and national conferences, and serving on working groups and committees. She currently represents NDSU by serving on the Internet2 national conference program committee and the executive committee of the K20 Initiative. Collaborative projects with neighboring states in the Midwest have resulted in live videoconference events on featured topics.

North Dakota students joined their peers across the Midwest in February 2009 to participate in a live multipoint videoconference featuring interviews with the original plaintiffs of the Brown v. Board Supreme Court case from 1954. Students asked questions and interacted with the plaintiffs, and an

undergraduate sociology class on campus viewed the archived event recording as part of their course work.

NDSU continues to enjoy a strong working relationship with EduTech, the technology services and professional development organization serving K-12 schools in North Dakota. Through an annual memorandum of understanding, NDSU and EduTech work to facilitate standards-based education outreach activities that bring content to the K-12 classroom regardless of their location. All activities use regional and global research and education networks, as well as the advanced technology applications that allow students to work with peers and access content that otherwise would be unavailable because of distance.

This collaboration also resulted in development of new programs to further expand authentic education resources available to our students. In May 2009, NDSU and EduTech collaborated with peers in South Dakota to develop the first Dakotas Content Providers virtual conference. K-12 classrooms from both North Dakota and South Dakota were invited to participate in this full-day event featuring standards-based videoconference programs presented by content providers from across the two states.

Software Licensing

The Software Licensing program at NDSU currently serves customers at the university as well as NDUS constituents. Software packages available for discounted purchase or shared licenses by institution departments include: Adobe products, AutoDesk AutoCAD, Oracle Calendar software for individual users, ESRI ArcGIS products, McAfee anti-virus and anti-spyware software, Microsoft Campus Select and Campus Agreement, SAS statistical software, SPSS, and Wolfram Mathematica.

Some products, such as the Microsoft Campus Agreement, provide for faculty or staff home use and other options. Charges for some licenses help defray the cost to the system but provide greatly discounted prices over normal academic or commercial prices. Software is distributed through software contacts at each

institution in the North Dakota University System and each department at NDSU.

ITS facilitated signing of a new three-year NDUS agreement with Wolfram for Mathematica in 2008-2009. The ITS software licensing group also began planning for a shared-cost, multi-user license for NDSU for the Minitab basic statistical software. This agreement took effect in August 2009.

The Software Licensing program also has supported the success of the IT Division by providing opportunities for enhanced clarity and identification of new funding opportunities for software through a new service-level agreement between NDSU and the North Dakota University System.

EDUTECH

During the 2008-09 fiscal year, EduTech implemented EduMail Advanced, an improved webmail tool for EduTech customers. The new, feature-rich Web application provides enhanced features including a more robust address book, message rules and filtering, shared calendar and tasks lists, and dynamic drag-and-drop interface options.

EduTech also received legislative funding to expand PowerSchool, a K-12 student information system, to all schools in North Dakota. The expansion is expected to be completed in 2013. EduTech also expanded its services with Blogs@EduTech, which is used by classrooms, librarians, administrators and technology departments to improve learning and communication. To make the best use of the blogging service, a series of four workshops is available for teacher professional development.

On July 1, 2009, EduTech's 29 employees were transferred from the IT Division to the North Dakota Information Technology Department. The transfer followed legislative approval of Senate Bill 2021. Although the oversight of EduTech now lies with the state, EduTech offices will continue to be housed at NDSU.



DEPARTMENT REPORT TELECOMMUNICATIONS AND EMERGENCY SUPPORT TECHNOLOGIES

This past year has been a time of significant opportunity and continual growth for our department as we sought to provide enhanced telecommunications services and emergency support technologies.

As the campus has expanded, our team has been called on to extend our services in infrastructure, public networks, voice technologies and emergency support. Our successes and activities in these areas include:

SINGLE-MODE FIBER

Successful completion of Phase I of the single-mode fiber optic cable plant (\$230,000) has provided greater bandwidth and higher transport speeds supporting high performance computing, engineering, research, business applications and advanced networks on the campus.

The first phase of this deployment has supplemented existing aged infrastructure to enhance network performance and life cycle, allowed a growth path for future academic and research requirements, and provided a faster and more reliable data service to the ever-growing needs of the campus.

Phase II of this project, which is just beginning, was provided by \$300,000 in general fund dollars. Ultimately, the goal is to strengthen the infrastructure in areas where NDSU leadership projects there will be substantial growth and anticipates a greater need for bandwidth and capacity. These areas are in the design/engineering phase.

LONG-DISTANCE AND TOLL-FREE SERVICES

In partnership with the State of North Dakota's Information Technology Division, Telecommunications is in the negotiation phase of awarding a new long-distance and toll-free contract for North Dakota.

Upgrade includes partnership with NDSCS. The State Board of Higher Education approved a \$1.25 million telecommunications upgrade at both NDSU and the North Dakota State College of Science in 2008. This joint project, which began in January 2009, will enhance the existing Avaya telecommunications systems installed in 1994 at both NDSU and NDSCS. The upgrade includes improved Internet Protocol connectivity, which began in 2003-04. As part of the project, the communication hardware at both institutions will go through the final conversion to complete the connectivity process, with NDSU serving as the host site. Using the North Dakota State data network, NDSU and NDSCS will have transparent communications, including 5-digit dialing and centralized rollout of new features and upgrades.

NDSU has helped facilitate student and staff long-distance services for NDSCS since 1994. With increased service demands and rapid technological change, this increased partnership will give both campuses the ability to leverage their existing technology investment and expertise. Under this agreement, the campuses also will combine resources (both financial and personnel) to sustain, refresh and enhance their telecommunications equipment and systems in converged environment, as they move together toward the next level of supported technologies, licensing and maintenance. Sharing of these real-time systems will allow both NDSU and NDSCS to continue to provide competitive and cost effective services by taking lead roles in this conversion to a single voice platform (Enterprise Server).

The project also incorporates a "survivable" server at a remote location to provide redundancy, which will ensure efficiency and reliability of the system. The goal of this project is to prepare NDSU for enhanced communications technologies and to accommodate future growth.

EXTENDING THE CAMPUS INFRASTRUCTURE

Data, voice, video and security card access have been successfully deployed during the past year to the new campus locations of the Stop-N-Go Center and Klai Hall. Substantial completion of Barry Hall and the Cityscapes Plaza occurred Aug. 1, 2009, to provide transparent communications. Leased public networking provides connectivity via NDSU's data network.

Infrastructure also has been installed across the 12th Ave. North corridor, expanding NDSU services to new classrooms, office space and Bison Information Network Bison Block I and II. This project also provides expansion capability for the new Center for Transportation building as well as future needs south of 12th Ave. North.

ENHANCING CAMPUS WIDE SECURITY

Representatives of Student Affairs, University Police and Safety, Facilities Management and the IT Division have been discussing overall scope and philosophy of developing systems to support an enhanced security network. CBORD, the card access vendor for the campus, with its integrated video surveillance partner, Nice Systems, presented a centralized/integrated surveillance system. This system would be connected to the University Police Communications Call Center for 24/7 monitoring to better manage crisis situations, proactively improve security, and increase awareness and responsiveness of the campus.

Telecommunications will complete transition of existing buildings with security card access from the original Synergistics system to the CBORD card access system. Within the project, all existing magnetic strip door hardware will be replaced with proximity readers. The new system will allow NDSU's card-related services to be better integrated and will provide enhanced security and access, as well as handicapped accessibility.

Throughout this past year, the Bison Card Center has been replacing existing cards with a new version that includes both a magnetic strip and proximity element. This upgrade will allow for enhanced security services.

Emergency support technologies are critical to ongoing efforts to provide safety and security transparently to those we serve on the main and remote campus locations. A high priority was placed on providing additional resources for increased security during the 2009-11 legislative session; however, no one-time funds were appropriated for building and infrastructure improvements in this area. Therefore, NDSU will request authorization in multiple phases of its original \$5.2 million request in one-time costs for emergency preparedness and security.

Design and engineering has begun for a centralized and integrated video surveillance system (software, servers and network), which will be integrated with the existing CBORD card access system. Additional phases will link existing independent video surveillance installations onto the "system" and provide a pricing structure enabling further new construction design and expansion as dollars are made available. With the implementation of this network and allocated funding for one full-time position, this project will be fully supported as it moves forward.

CAMPUS EMERGENCY NOTIFICATION SYSTEM EXTENDED

Expansion of the campus cable television (CATV) infrastructure included Minard Hall, Morrill Hall, Heating Plant, Sudro Hall, Stop-N-Go Center and Klai Hall. These additions increase the total number of campus buildings served by CATV to 38. To augment the successful recent implementation of the Emergency Alert System installed on the university cable television network, more than 110 televisions have been installed on the campus. Design and engineering is under way with CableOne to provide NDSU's CATV signal at all remote campus locations.

The Campus Emergency Notification Systems (NotiFind, Audix broadcast, CATV Emergency Alert System) also continue to be expanded. Routine testing of all systems occurs the first Wednesday of each month.

ADDITIONAL SERVICES AND ACCOMPLISHMENTS

In addition to the technologies previously mentioned, progress continues in the following areas:

- Telecommunications and Emergency Support Technologies staff members continue to follow the congressional discussions related to current IRS policy governing employees' use of cellular devices.
- A division wide committee was formed to investigate strengths and weaknesses of "smart phone" devices. The committee will provide a recommendation on the technologies and services that will best meet the needs of the NDSU community.
- In partnership with University Police and Safety, Telecommunications has implemented a Wireless Priority Service, that is registered on cellular telephones of the NDSU Crisis Management Response Team. This service allocates a Government Emergency Telecommunications Service pin code ensuring telephone connectivity is available to key staff members during an emergency when "all circuits are busy."

- A comprehensive cost analysis for IT Division's "lines of business" is being conducted to determine an appropriate communications charge, which will be implemented in FY 2010-11.
- Continued business process development in partnership with NDSCS.
- Ongoing discussions continue between NDSU and UND regarding the total cost of enterprise wide communications services. A white paper is being written to develop a potential "utility" funding model for the 2011-13 biennium.

IT DIVISION EMPLOYEES

Following is a list of employees in each Information Technology Division business unit as of June 30, 2009.

Office of the Vice President for Information Technology

Bonnie Neas, *Vice President for Information Technology*
Jeff Gerst, *Associate Vice President for Information Technology Services and Chief Information Officer*
Joan Chapek, *Assistant Vice President for Telecommunications*
Marc Wallman, *Assistant Vice President for Enterprise Computing and Infrastructure*
Jean Ostrom-Blonigen, *Chief IT Planning Officer*
Cathy Hanson, *IT Staff Development Coordinator*
Janet Stringer, *IT Budget Coordinator*
CeCe Rohwedder, *Assistant to Vice President for Information Technology*

EduTech

Jonathan Albers, *Web Developer*
Lynne Anderson, *IT Specialist*
Gerry Berg, *Call Center Customer Relations Representative*
Melissa Bitz, *IT Specialist*
Clark Coffman, *EduTech Network Specialist*
Jody French, *EduTech Director*
John Gieser, *Manager, EduTech Help Desk*
Jane Hovda, *IT Specialist*
Tabitha Lang, *IT Specialist*
Bill Leith, *IT Specialist*
Sarah McFadden, *IT Specialist*
Charity Nix, *IT Specialist*
Janet O'Hara, *IT Specialist*
Kari Sauer, *Administrative Assistant*
Marcy Schmidt, *IT Specialist*
Jeff Schoenack, *Help Desk Consultant*
Don Simon, *EduTech Powerschool Director*
David Skogen, *E-Rate Coordinator*
Carissa Swenson, *IT Specialist*

Enterprise Computing and Infrastructure

Jill Anderson, *Application Developer*
Jon Bronken, *System Administrator*
Eric Christeson, *Application Developer*
Diane Clark, *Network Infrastructure Technician*
Bruce Curtis, *Senior Network Engineer*
David Dahl, *Network Infrastructure Specialist*
Chad Foster, *Network Infrastructure Technician*
Richard Frovarp, *Software Engineer*
Nathan Huff, *System Administrator*
Jim Hughes, *Network Infrastructure Technician*
Brian Kennedy, *System Administrator*
Britt McAlister, *Application Development Services Manager*
Bryan Mesich, *Systems Administrator*
Tim Mooney, *UNIX Administrator*
Val Nordsletten, *Network Engineer*
Nathan Olson, *System Administrator*

Jim Ross, *Application Development Specialist*
Jaclyn Samuel, *IT Business Analyst*
Dale Summers, *Database Administrator*
Cheryl Swanson, *Network Infrastructure Technician*
Carol Tschakert, *Application Developer*
Bob Viou, *Network Engineer*
Carla Wells, *Network Infrastructure Technician*
Greg Wettstein, *Research Comp. Group Leader*
Gary Whaley, *Systems Administrator*
Terry Wieland, *Network Engr. and Operations Manager*

Information Technology Services

Vince Anderson, *Desktop Support Specialist*
Lincoln Bathie, *Desktop Support Manager*
Steve Beckermann, *Media Technologies Specialist*
Sharon Brinker, *Administrative Secretary*
Chad Coleman, *Computer Systems Specialist*
Tammy Cummings, *Instructional Services Consultant*
Curt Doetkott, *Consulting Statistician*
Jon Fry, *Desktop Support Specialist*
Enrique Garcia, *Computer Systems Analyst*
Jeff Gimbel, *Help Desk Consultant*
Nathan Gonsler, *Help Desk Consultant*
Marty Hoag, *Director of Policy/Strategic Services*
Blair Johnson, *Desktop Support Specialist*
Cj Johnson, *Instructional Services Consultant*
Sheree Kornkven, *Tech Learning and Media Center Manager*
Kim Lammers, *ITS Business Manager*
Nancy Lilleberg, *Instructional Services Manager*
Cynthia Lura, *Account Technician*
Char Maas, *Account Technician*
Micah McGowen, *Classroom Technology Specialist*
Pam Nielsen, *ITS Asset Management Coordinator*
Lorna Olsen, *Instructional Services Consultant*
Kim Owen, *Advanced Applications Coordinator*
Luke Prather, *Media Technologies Consultant*
Jerry Ranum, *Desktop Support Specialist*
Jim Sellner, *Desktop Support Specialist*
Theresa Semmens, *NDSU IT Security Officer*
Jim Senechal, *Computer Systems Specialist*
Steve Sobiech, *Assistant Help Desk Manager*
Melissa Stotz, *Classroom Technology Manager*
Cloy Tobola, *ITS Communications Coordinator*
John Underwood, *Help Desk Manager*
Randy Wald, *Instructional Services Consultant*
Michael Wolf, *Computer Systems Specialist*

Telecommunications and Emergency Support Technologies

Gail Bjornstad, *Telecom Analyst*
Vance Gerchak, *Technology Coordinator*
Cindy Kozojed, *Telecom Analyst*
Linda Krogen-Brandt, *Telecom Analyst*
Brian Miller, *Card Access Analyst Technician*
Kathie Silkey, *Telecom Analyst*
Susan Strutz, *Telecom Specialist*

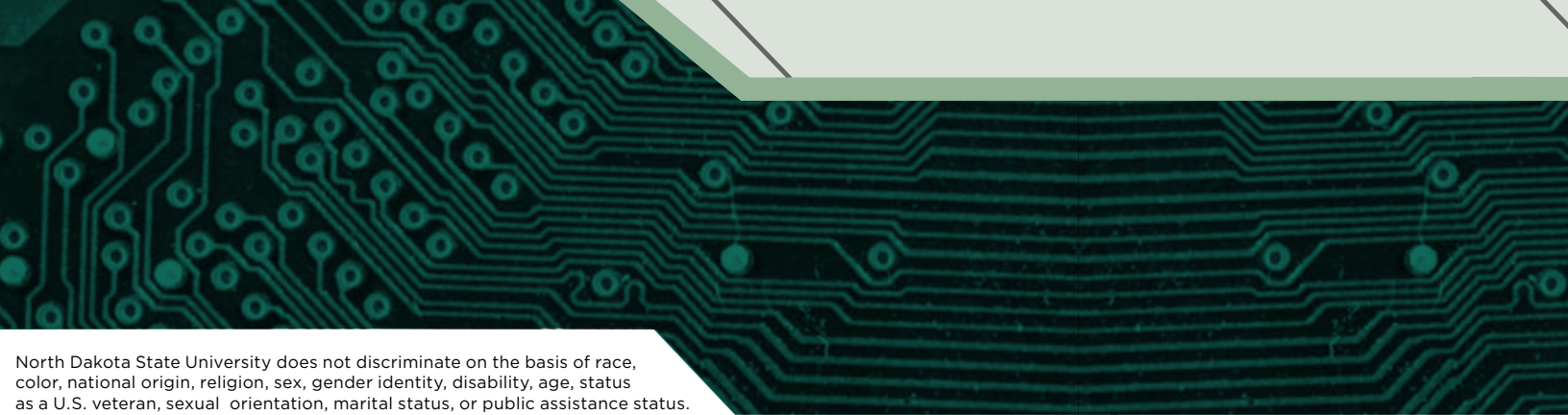
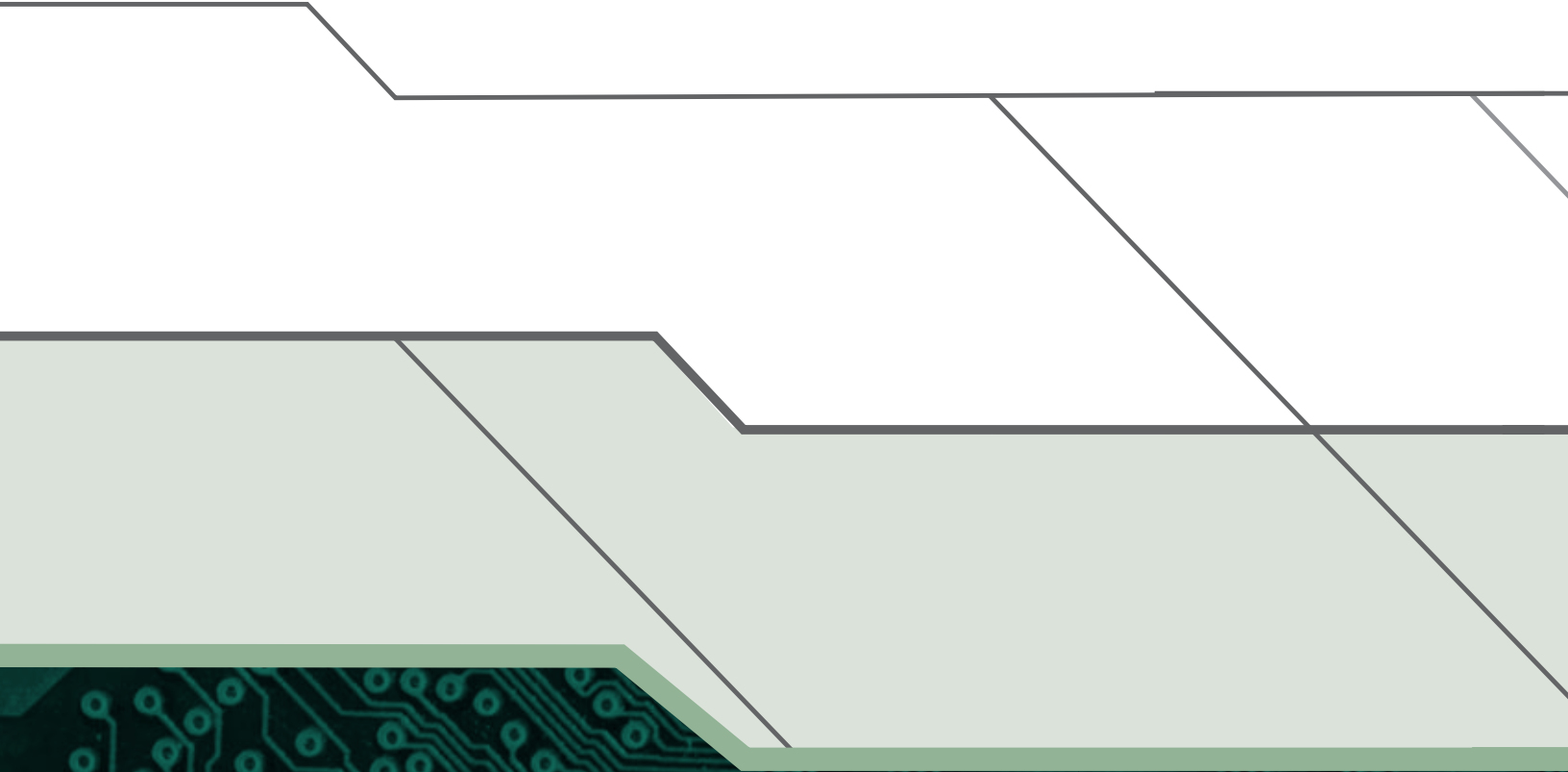


FINANCIALS

FY09 - SOURCES OF IT SALARY AND OPERATING BUDGETS

Funding source	Amount	% of total
NDUS - appropriated - SLA	\$2,344,938.00	19.0
NDSU - appropriated	\$3,416,292.76	27.7
Student technology fee*	\$1,605,186.94	13.0
Local/recharge	\$2,841,359.23	23.0
Capital-telephone upgrade	\$2,130,012.00	17.3
TOTAL	\$12,337,788.93	100.0
*Total technology fee receipts for FY09	\$2,006,483.67	





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