

NORTH DAKOTA STATE UNIVERSITY

IT DIVISION

ANNUAL

2010-2011

REPORT

NDSU

MISSION

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

VALUES

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.

GUIDING PRINCIPLES

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.

VISION

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.

THE THREE DEPARTMENTS WITHIN THE DIVISION ARE:

ENTERPRISE COMPUTING & INFRASTRUCTURE

led by Marc Wallman, assistant vice president



INFORMATION TECHNOLOGY SERVICES

led by Jean Ostrom-Blonigen, assistant vice president



TELECOMMUNICATIONS & EMERGENCY SUPPORT TECHNOLOGIES

led by Joan Chapek, assistant vice president



October 2011

The Information Technology Division staff and the students we employ continued to go the extra mile this past year in providing exceptional services to our campus and to our N.D. University System colleagues. While there are challenges in delivering these services with very limited resources, staff members do their very best to carry out responsibilities in a dedicated and pleasant manner.



The report that follows provides an abbreviated glimpse of some of the major accomplishments of our employees this past year. Many more projects and routine services were provided that go way beyond what is shared in this report.

The university community welcomed President Dean L. Bresciani this past year, and as we approached the end of this fiscal year we prepared to welcome the new provost, Bruce Rafert. With the exceptional credentials of both leaders, the Information Technology Division looks forward to working with them to advance the level of North Dakota State University through innovative and strategic information technology solutions

As the new fiscal year begins, not only will the university have new leadership, but soon the IT Division also will have a new leader. After spending nearly 34 years working in North Dakota's higher education information technology community - the last 27 at North Dakota State University - I will leave the university at the end of the 2011 calendar year. It has been a phenomenal journey of viewing and experiencing rapid changes in how we work and how we live due to exponential information technology developments. One can only imagine what changes will take place during the next few years as technology continues to evolve. The IT Division and greater NDSU community will continue to be an exciting place to work, and I leave knowing that the university is in the very good hands of the talented employees of the IT Division.

My warmest regards to all,

A handwritten signature in black ink that reads "Bonnie Neas". The signature is written in a cursive, flowing style.

Bonnie Neas
Vice President for Information Technology
North Dakota State University

2010-11 IT DIVISION OVERVIEW

How do you stay ahead in a world where nothing stays the same for more than a moment? You charge ahead, shift directions as you go, adapt and persevere. During the 2010-2011 fiscal year, extremely talented staff in the Information Technology Division continued to face numerous challenges and tight deadlines while finding solutions to complex system changes.

These technology initiatives impacted students, faculty and staff. Technical competencies and expertise, innovation, strong customer relationships, collaboration with countless individuals and an integrated communication plan were all key factors leading to the success of numerous projects, including the implementation of NDSU Outlook and NDSU Live. Constant planning meetings and off-work hours were the daily norm as too-few staff on very limited budgets committed to achieving extraordinary outcomes.

COMMUNICATION, CONNECTIVITY, TEAM SPIRIT AND RECOGNITION

In a chaotic world, balancing work with personal needs is certainly a challenge. The IT Division operates with an understanding that providing opportunities to stay connected with colleagues and with happenings across the division is an important part of maintaining a positive organizational atmosphere.

During the 2010-2011 fiscal year, the IT Division improved communication among its employees and those they serve by implementing a process for requesting and tracking projects. Throughout the year more than 130 projects were completed. A list of major projects completed is available on the IT Division website: www.ndsu.edu/vpit/projects.

The monthly *InTouch* newsletter, the monthly all-staff IT Time meetings, and the occasional coffee time with the vice president are mechanisms strategically implemented to assist staff

with building strong working and personal relationships, encouraging camaraderie among colleagues.

Each year, IT staff enthusiastically look forward to organizing and contributing to the United Way Silent Auction. Through the efforts of many, this event raised nearly \$1,500 in its 14th year. The IT Division donated an additional \$11,036 through generous pledges from staff members.

I.C.E. Award Recognition Event

Vice President for IT Bonnie Neas presented the third annual IT Division award for Innovation, Collaboration and Excellence to Tim Mooney, senior system engineer in the Enterprise Computing and Infrastructure Department, on March 31, 2011. Five nominees were recognized for their outstanding contributions to the division, with Mooney being chosen as this year's I.C.E. Award recipient.

Mooney was nominated by Galen Mayfield, executive director of enterprise computing and application development. The following is an excerpt from Mayfield's comments:

"Under extreme time constraints, Tim Mooney demonstrated his technical excellence, professionalism and innovation by designing a process and writing code that allowed the IT Division to schedule and execute the migration of approximately 2,000 NDSU faculty and staff from IMAP email to NDSU Outlook."

Other I.C.E. Award nominees:

- Lincoln Bathie, *desktop support manager*
- Jon Bronken, *assistant manager and system engineer*
- Theresa Semmens, *chief IT security officer*
- Michael Wolf, *computer systems specialist*

IT Team Award

In addition to recognizing individual achievement through the I.C.E. Award, in 2010 the division added an IT Team Award, which recognizes and rewards a group of individuals who have established a well-defined goal or activity and have worked together to achieve results that have significantly impacted the campus community. A focus on achievement and success, communication, commitment and leadership are key components of this award.

Four teams were nominated for the IT Team award. The recognition and selection committee recommended the award go to two teams who had considerable overlap of members and exerted similar effort of teamwork - the NDSU Outlook Migration Team and the NDSU Live Implementation Team. These projects involved many staff who worked on both of these tasks simultaneously. The NDSU Outlook team was recognized for its outstanding planning and technical ability to forge a cross-department answer to the challenge of migrating about 2,000 NDSU employees to NDSU Outlook by the end of 2010. The NDSU Live team, with the goal of transitioning all students to the new email system by fall 2011, also faced many challenges and deadlines. The awarded teams included 17 individual members who were recognized for outstanding team effort.

Other IT Team nominees:

- Student Health Service Medicat Implementation and Support Team
- North Dakota State College of Science, Wahpeton, Partnership of NDSU IT Staff

For more information regarding the IT recognition program, visit www.ndsu.edu/vpit/award.

RETIREMENTS, RESIGNATIONS, NEW STAFF AND CHANGES

The campus honored Jeffery Gerst, associate vice president for Information Technology Services and CIO, for 37 years of dedicated service to NDSU during a retirement celebration Jan. 14, 2011. He served in the NDSU Department of Biological Sciences for 33 years before joining ITS. Jean Ostrom-Blonigen assumed the role of interim assistant vice president for ITS on Jan. 16, 2011.

Cheryl Swanson, infrastructure technician, retired after 36 years with Network Engineering and Operations. Two other staff - Britt McAlister, principal engineer for special projects, and Jaclyn Samuel, business analyst - left the organization to pursue other opportunities.

During this past year, the division welcomed Galen Mayfield, executive director for Enterprise Systems and Application Development; Kelly Summers, network infrastructure technician; and Jayme Pfeifer, telecommunications analyst.

In early 2009, the division also undertook a large project to determine the cost of providing IT services to NDSU and the N.D. University System. In January 2011, Rhonda Nilles was hired for a one-year temporary position as business analyst and project manager. Her role is to continue enhancing ongoing IT costing endeavors by fine tuning the structure of projects in progress.

In March 2011, Vice President Bonnie Neas announced her plan to retire in December 2011. During her 34-year career, Neas held numerous leadership roles, all of which helped advance information technology at the campus, state, regional and national levels. The Information Technology Division was created in August 2007 under her visionary leadership. The campus will begin a national search for a new vice president for information technology beginning late fall 2011.

A current version of the IT Division organizational chart is available on the VP for IT website: www.ndsu.edu/vpit/it_division_staff.

BUSINESS OPERATIONS, POLICY AND STRATEGIC SERVICES

The IT Division Business Operations, Policy and Strategic Services group was established in January 2011 as a way to consolidate common business and policy functions within the division. Responsibilities of the BOPSS group include budget, finance, records management, asset management, project management, software licensing, staff development and communication.

Some tasks related to these functions still reside in the respective departments, but overall coordination throughout the division takes place with this new team. This model is becoming more prominent throughout mid-size and large centralized IT organizations as budgets dwindle and communication becomes paramount. This new group resides in the office of the vice president for information technology under the leadership of Marty Hoag, director of Business Operations, Policy and Strategic Services.

The BOPSS group is involved with other division units in many projects. Within BOPSS there were two major initiatives in progress at the end of the fiscal year. In April, the group commenced on a six-month, seven-goal project to review accounting practices. Many in the group also are working with others in the division to consolidate billing (i.e., general ledger and accounts receivable) functions in conjunction with an upgrade of the BITEK telecommunications management system that has been used by Telecommunications and Emergency Support Services since 1994. This endeavor will consolidate the division's customer billing into one monthly statement.

IT SECURITY

In January 2011, the chief IT security officer position was transferred out of Information Technology Services and into the Office of the Vice President for IT. Theresa Semmens, chief IT security officer, now reports directly to the vice president.

NDSU SSN Project: Review, Secure, Destroy, Comply

NDSU adopted a phased compliance strategy to remove unnecessary Social Security numbers from unsecured computers for all divisions, current administrative systems and campus applications. This strategic plan, developed by a task force led by the chief IT security officer and the NDSU General Counsel's office, included increasing awareness of the confidential nature of SSNs, reducing reliance on SSNs for identification purposes, ensuring consistent and appropriate handling of SSNs throughout the university, and eliminating non-essential use of SSNs. All NDSU colleges, divisions and departments were required to meet compliance by May 31, 2011. More information about this project can be found at www.ndsu.edu/vpfa/ssn.

HEOA Copyright Protection Requirements Met

To meet regulation requirements established in the revised Higher Education Opportunity Act, policy and procedure regarding copyright education and awareness were formally documented and made publicly available. This information can be found at www.ndsu.edu/its/copyright. In addition, the IT security officer collaborated with University Studies and individuals from Information Technology Services to create a video for use in the University Studies 189 course, Skills for Academic Success. This video is available at www.youtube.com/watch?v=Hq_S3u98zQA.

NDSU Policy 710, Computer and Electronic Facilities

Procedures, standards and guidelines were developed and formally documented for NDSU Policy 710, Computer and Electronic

Facilities. As new servers not managed by the IT Division are added to the network, they must be assessed to determine if they meet policy requirements and then subsequently approved by the vice president for information technology. Information related to this initiative can be found at www.ndsu.edu/its/ndsu_server_registration.

NDSU Chief IT Security Officer Consults for Alaska University System

The chief IT security officer was invited to serve as a consultant for the Alaska University System. Alaska requested an assessment to determine if institutions were meeting objectives and recommendations for findings that were reported through a third-party security assessment. This visit fostered a professional relationship and partnership between the Alaska University System and NDSU.

COLLABORATION IS ABOUT NETWORKING

N.D. University System

In FY 2010-2011, the NDSU IT Division continued its long history of providing contract work to the N.D. University System. Projects totaling \$2,368,851 involved 19.87 FTE of the division's 76 staff and included: email and calendar services, network infrastructure and engineering, identity management and service monitoring, web content management system, help desk services, security services, software licensing and training, UNIX computational service, desktop support and administration.

In January 2011, the decision was made to outsource N.D. University System Help Desk support to an external service provider, SunGard. As a result, John Underwood was asked to temporarily assist with the leadership, coordination and project management for the transition of N.D. University System Help Desk Services to a hosted solution beginning Feb. 1, 2011. Underwood will serve as the interface to

constituents involved in managing the conversion, serving as liaison to the N.D. University System Help Desk service provider and ensuring N.D. University System customer service needs are met. This partnership with SunGard will provide a greater level of support to NDSU faculty, staff and students around the clock. The NDSU IT Help Desk will be able to offer more support for those services directly benefiting campus needs under the new leadership of Steve Sobiech, interim NDSU IT Help Desk manager.

North Dakota State College of Science

The IT Division has maintained a collaborative relationship with the North Dakota State College of Science for nearly three years. Early in 2009, Jeff Gerst and Jean Ostrom-Blonigen spent time at NDSCS assessing that campus' IT leadership needs. The result was a service level agreement between NDSCS and the NDSU IT Division for part of Ostrom-Blonigen's time. Her background in IT strategic planning and finance met their primary goal of determining what was needed to pursue a CIO. Ostrom-Blonigen spent weeks visiting with NDSCS faculty and staff, and made recommendations to strengthen their IT environment in a number of specific facets.

Those recommendations resulted in additional service level agreements for a number of IT Division staff to assist with NDSCS's short-term needs, including senior software engineer Carol Tschakert providing ConnectND Query training and application development support, IT communications coordinator Cloy Tobola assisting with website development and personnel support, chief IT security officer Theresa Semmens serving as the NDSCS Live system administrator, senior database administrator Dale Summers verifying NDSCS Live and DNA information for the campus, and IT security support specialist Jeff Gimbel providing NDSCS Live training for IT department staff.

This collaborative model for services was further extended when Cloy Tobola was identified to serve part time as NDSCS' interim CIO through a continued SLA arrangement. Tobola would continue executing work begun by Ostrom-Blonigen who assumed the role of interim assistant vice president for NDSU Information Technology Services when Jeff Gerst retired in January 2011.

The Telecommunications and Emergency Support Technologies department continues to provide enterprise-wide voice system services to NDSCS. Throughout the past year, this partnership has continued to focus on strengthening voice services, cable management and overall business process development. As part of this agreement, Telecommunications also provides training and analyst support.

Related to voice services, Network Engineering and Operations was contracted to conduct an evaluation of NDSCS's data and voice infrastructure to provide estimates for campus wiring inventory documentation.

NORTHERN TIER NETWORK-NORTH DAKOTA

The Northern Tier Network-North Dakota (NTN-ND), a partnership project between North Dakota State University, University of North Dakota and the N.D. Information Technology Department, became fully operational in 2009. With that event, operating dollars made by a one-time allocation of \$2,773,800 by the N.D. Legislature in its 2007 session, were available for at least two more years, along with the desire to complete connections from the NTN-ND to the South

Dakota Research Education Network and the Canadian research and educational network with a point-of-presence in Winnipeg.

Two grant proposals were submitted to the National Science Foundation American Recovery and Reinvestment Act of 2009, and both were awarded in 2010. The first grant was awarded to Bonnie Neas, vice president for Information Technology at NDSU, as primary investigator and Claude Garelik, system IT security officer for the South Dakota Board of Regents, as co-primary investigator on a grant titled "Northern Tier Network - North Dakota and South Dakota Access Improvement." The grant award was for \$751,244. The second award was to Bonnie Neas, primary investigator, and Amy Philipson, executive director for Pacific Northwest Gigapop, as co-primary investigator on a grant titled "Enabling Inclusive Western States NSF Research via Next Generation Networking - The Northern Tier." The grant award was for \$1,157,498.

Both proposals are for two years with the first year dedicated to installation of the equipment purchased with the awards and the second year focusing on tracking and collecting data on the use of applications on the new NTN-ND enhancements.

In fall 2010, a request of \$1,871,399 for on-going NTN-ND operating funding was submitted to the 2011 Legislature through the N.D. University System budget process. The request was approved. At the end of the 2010-2011 fiscal year, NTN-ND continues to watch for opportunities to fund a connection from NTN-ND to Canada's Advanced Research and Innovation Network.





DEPARTMENT REPORT

ENTERPRISE COMPUTING & INFRASTRUCTURE

MARC WALLMAN, ASSISTANT VICE PRESIDENT

The 2010-2011 fiscal year saw a great deal of progress in improving and securing the existing systems and services that Enterprise Computing and Infrastructure provides for its customers on campus and across the state. During the 2011 legislative session, ECI worked closely with the N.D. University System to secure funding for the continuing operations of the North Dakota segment of the Northern Tier Network, which provides high-speed data connectivity for research and educational institutions across the state.

ECI also was responsible for the significant improvements to cyberinfrastructure on campus through a three-year EPSCoR (Experimental Program to Stimulate Competitive Research) project. The project concluded in 2010-2011 and ultimately provided 10-gigabit network connections to 20 academic buildings on NDSU's campus and 1,200 one-gigabit network ports for use by faculty and researchers.

The TYPO3 content management system has been the foundation of NDSU websites since its launch five years ago. In collaboration with University Relations, ECI coordinated a major update to the design and templates available to users, and also updated the underlying application that drives the system.

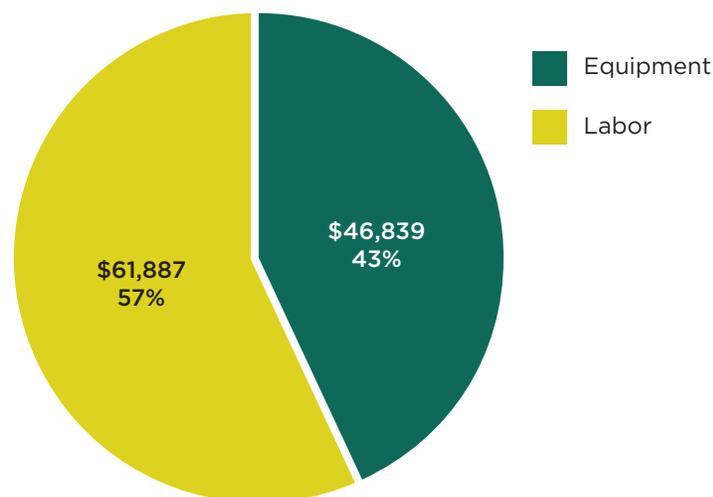
The ECI team was instrumental in moving NDSU students, faculty and staff off of the IMAP email servers and onto Microsoft-hosted systems. During spring semester, students were migrated to the Microsoft Live system providing them with email and an online version of Office. Faculty and staff were migrated to NDSU Outlook (sometimes referred to as BPOS or Business Productivity Online Suite), which includes email and calendaring. ECI not only automated the creation of accounts on these systems, but assisted users in migrating data from their email accounts, calendars and address books. ECI also provided assistance to North Dakota State College of Science in making a similar migration.

Prior to August 2010, wireless Internet access on campus was "open," allowing anyone with a wireless device to connect. The open wireless network also was not encrypted, which potentially allowed data to be intercepted as it traveled to and from the wireless access points. To improve the security of the network, ECI staff developed a system that requires users to download and install a digital certificate to their personal computer or wireless device. The implementation of this new technology - and the retirement of the open wireless system in August 2010 - ensures that only authorized users can securely access the NDSU wireless network.

Other projects that ECI was involved in during 2010-2011 included performing a major upgrade of the Blackboard learning management system from version 8 to 9, and the development of a website for President Dean L. Bresciani's strategic planning initiative, allowing the campus community to contribute and comment.

FY11 Networking Engineering Recharge Revenue

Residence Life Wireless Equipment Excluded

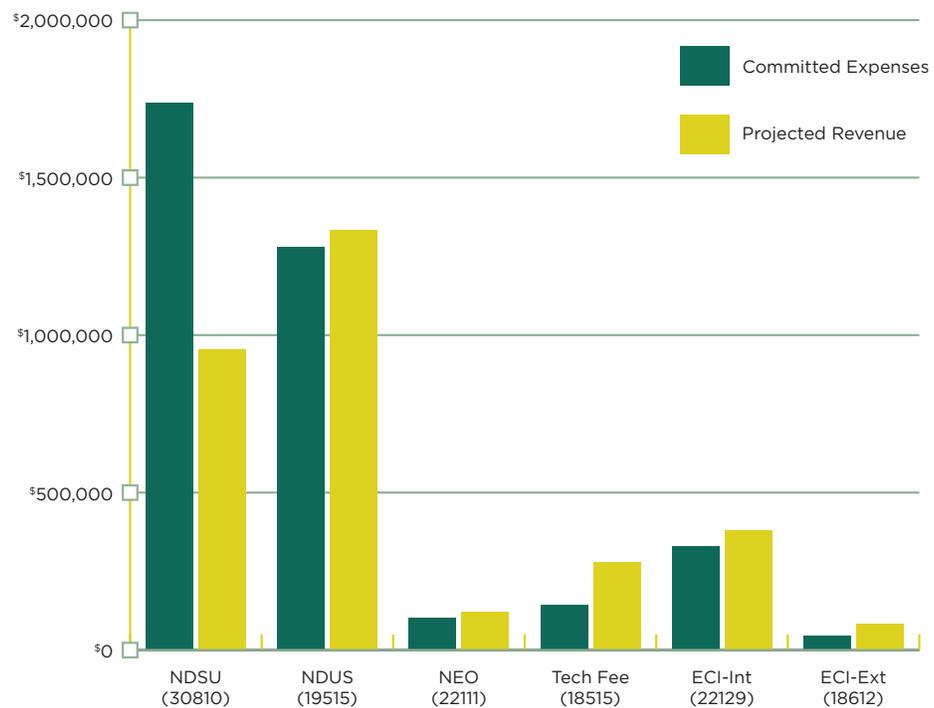


Unique Wireless Users by Week for FY11



ECI FY11 Budget by Fund

Revenue and Expenses





DEPARTMENT REPORT INFORMATION TECHNOLOGY SERVICES

JEAN OSTROM-BLONIGEN, ASSISTANT VICE PRESIDENT

As the public-facing department of the IT Division, Information Technology Services continues to focus on providing NDSU faculty, staff and students with support, training and assistance to promote the success of the university community. The 2010-2011 accomplishments of ITS service groups are described in the following sections.

ADVANCED APPLICATIONS AND OUTREACH

In January 2011, a new service group in ITS emerged: Advanced Applications and Outreach. This new service group comprises two of the specialized services ITS provides to the campus and N.D. University System – Advanced Applications and Statistical Consulting. This team provides consulting and project development assistance in support of teaching, learning and research.

Advanced Applications

Through the advanced application coordinator position, held by Kim Owen, ITS provides resources to identify, support and promote applications of advanced networks and similar advanced technologies for NDSU and the N.D. University System, including Tribal Colleges, EduTech and the K-12 educational community. North Dakota's Internet2 and Sponsored Education Group Participants also are managed through this position.

NDSU continues its membership and leadership roles in national and regional research and education networks such as Internet2 and the Northern Tier Network. Collaboration with partners in the region and nationally are evident in NDSU's consistent leadership role in the implementation of major grant initiatives and member-run research and education networks.

First Virtual North Dakota Cyberinfrastructure Conference

NDSU's IT Division played a leadership role in developing and facilitating the first statewide Cyberinfrastructure Conference, which was delivered virtually on March 3, 2011, to all N.D. University System institutions, Tribal colleges and participating K-12 sites. Under the direction of the North Dakota EPSCoR project directors, NDSU and University of North Dakota collaborated to develop content and the format of this conference that addressed critical topics related to the need for adequate cyberinfrastructure for all research and education institutions in North Dakota. Event proceedings are archived as part of NDSU's permanent institutional repository and managed by the digital library department of the NDSU Library. More information about this event can be found on the ND-EPSCoR website: <http://ci.ndepscor.nodak.edu>.

NDSU Participates in World IPv6 Day

On June 8, 2011, top websites and Internet service providers around the world – including Google, Facebook, Yahoo, Akamai and Limelight Networks – joined more than 1,000 other participating websites in World IPv6 Day for a successful global-scale trial of the new Internet Protocol, IPv6. By providing a coordinated 24-hour “test flight,” the event helped demonstrate that major websites around the world are well positioned for the move to a global IPv6-enabled Internet, enabling its continued exponential growth.

NDSU's network has fully supported IPv6 since 2008 and was a participating site in this event. For more information about this event, visit www.worldipv6day.org.

Managing the Impact of Research and Data Management on Campus Cyberinfrastructure

As NDSU advances its goal of expanding research activity, dedicated cyberinfrastructure resources in the form of hardware, applications, network and support staff capacity become an increasingly critical focus for IT at NDSU. The IT Division and several other departments are working to develop a collection of resources for researchers to use when preparing grant proposals and research activity implementation.

Research Data Working Group Formed

Beginning June 2011, a collaborative project has been in development and sanctioned by the university provost, dean of libraries, vice president for information technology and vice president for research. This multidisciplinary working group is charged with two key areas of focus: 1) to identify the impact of research on campus cyberinfrastructure and 2) to provide assistance to investigators as they develop data management plans which are now required by several federal funding agencies.

Current members of the research data working group include representatives of NDSU Libraries and the Information Technology Division. The scope and size of the group are expected to expand as work continues.

Outreach to ND K-12 Students

Students in rural North Dakota are not always exposed to educational opportunities available to those in urban areas. Through the use of resources accessed through the state network and regional research and education networks, North Dakota classrooms are participating in unique learning experiences available to them outside the classroom walls and, in some cases, outside the state or country.

Inquiry-based learning projects provide students with opportunities to collaborate with experts on various topics such as immigration and human movement, to interact with researchers through the use of the electron microscope, and to share similar experiences that have bridged the distance for North Dakota schools.

Students are collaborating one-on-one with well-known authors through interviews in “Ask Author” processes, and learning about exotic plants, rainforests, insects and cultures through puppetry. National and global collaborations with other students continue to be a part of events like Megaconference Jr. and Read Around the Planet.

In 2010 and 2011, participation in collaborative videoconference and curriculum-based programs by North Dakota K-12 schools directly impacted 160 schools and 2,800 students across the state. All content was aligned to curriculum standards for core areas, including social studies, language arts, science, technology, engineering and mathematics disciplines.

Statistical Consulting

Information Technology Services and the Department of Statistics jointly support the Statistical Consulting Service at NDSU. This service is available to all faculty, staff and students at N.D. University System institutions, typically at no charge.

Consultants guide researchers through several steps to analyze and prepare their data for publication and dissemination. Initially, consultants work with researchers to collect, enter and prepare data for statistical analyses as defined by research goals. Once the appropriate analyses have been completed, Statistical Consulting staff continues to work with the researchers to identify additional methods for data presentation and effective graphical display of research data results.

The Statistical Consulting unit provided consulting services during the past year through the efforts of one full-time staff member from ITS and several graduate students from the Statistics Department, who contributed 10-20 hours per week. Consulting records for the full-time staff person indicate more than 240 unique clients accounting for approximately 1,200 recorded contacts (in person, via phone and email) from a wide variety of academic departments. Roughly half of these contacts were directly related to statistical questions. The remainder consisted primarily of calls for appointments

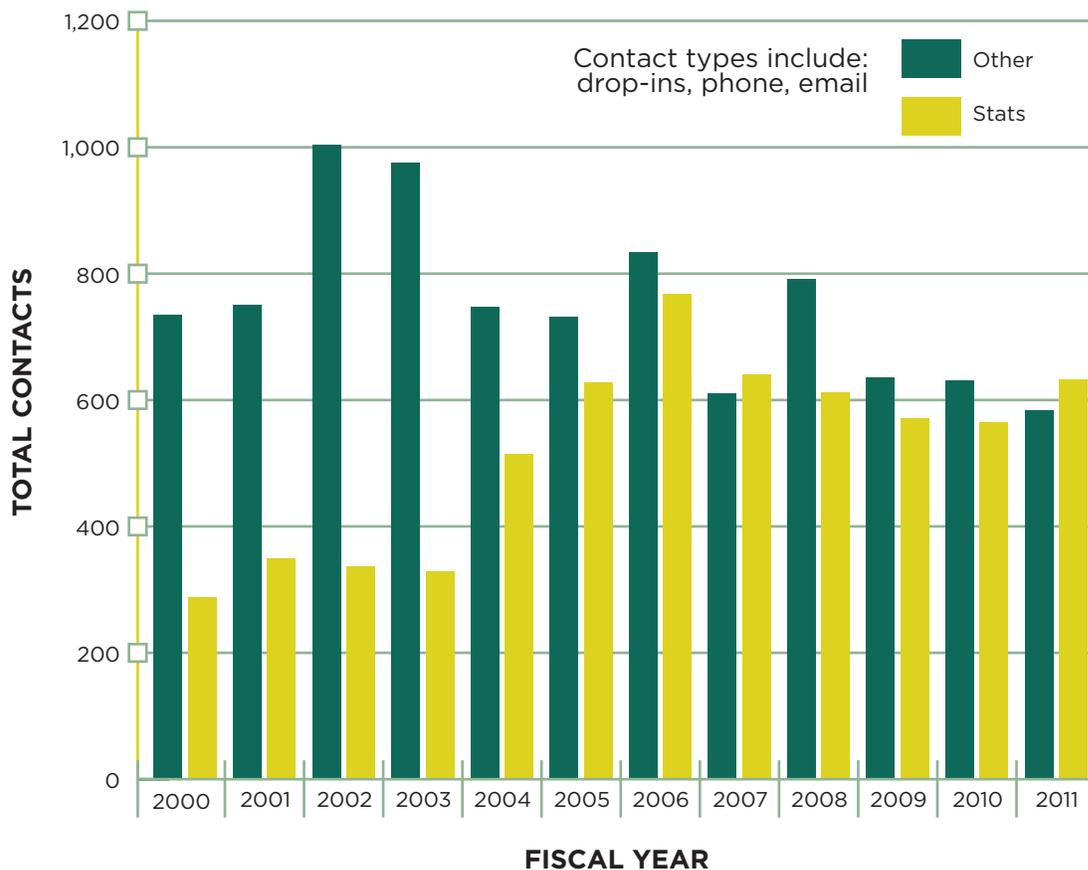
and questions related to software usage (SAS, SPSS) and the use of the Optical Mark Reader for both test scoring and student ratings of instruction processing. The bar chart provided places the 2010-2011 fiscal year into historical context and shows a breakdown of these data by question type as either “statistical” or “other.”

One additional measure of Statistical Consulting efforts is the number of refereed publications that include members of Statistical Consulting among the authors. The Statistical Consulting unit averaged one to three publications per year from 2000-2011. Publication counts for

2006, 2007 and 2008 were five, five and four, respectively, but have dropped to one per year in 2009 and 2010.

Curt Doetkott, consultant statistician, regularly serves as adjunct faculty, teaching a one-credit seminar on Monte Carlo Simulations using SAS software and coordinating the graduate presentation seminars. Doetkott also migrated the test scoring programs used in conjunction with the OMR scanner (written in SAS) from the shared UNIX host to a desktop PC running Windows in spring 2010.

Consulting Statistician Client Contacts



CLASSROOM TECHNOLOGIES

In a joint effort between Classroom Technologies and Instructional Services, lecture capture technology has been implemented in five classrooms across campus. Funding has been approved for an additional three to be installed in the 2011-2012 fiscal year.

Due to high demand for additional computers, 12 cluster computers were added in three locations in Barry Hall. Funding for new machines and repurposing of existing systems are being pursued to add more computers to Barry Hall next year.

A feasibility study is in progress to determine the best plan for supporting and encouraging classroom use of the laptop carts in Barry Hall. Currently 180 laptops are available in Barry Hall, but are not being used due to network and other technical issues.

Seven additional instrumented classrooms in the Minard Hall expansion and remodeling building project are in the planning and design stages.

A comprehensive cost study was completed for Classroom Technologies services. Through this cost study, an accurate charging rate was determined for services outside those the Classroom Technologies group provides.

A consistent service level agreement template was created and has been signed by all departments who have requested ITS support for their departmental computer labs. These agreements run on an annual basis; the plan is to begin charging departments for this service in the 2011-2012 fiscal year.

A request initiated by NDSU Student Government to provide more print stations across campus resulted in the installation of four additional print stations: three in the Memorial Union and one in the Barry Hall library.

Funding was provided by the Department of Biological Sciences for Classroom Technologies to assist with design, purchase and installation of equipment to transform a standard instrumented classroom into a SCALE-UP classroom in Dunbar 152. SCALE-UP – student-centered active learning environment for undergraduate programs – classrooms are geared toward team cooperation during problem-solving tasks.

Classroom Technologies provided equipment and support for the statewide North Dakota Cyberinfrastructure Conference, which was hosted at NDSU in March 2011. Equipment and support also were provided for a videoconference meeting to discuss collaborations with the University of Nigeria, and the North Dakota and South Dakota joint EPSCoR conference.

In cooperation with Enterprise Computing and Infrastructure and the Department of Computer Science, a pilot project has begun to research and initiate a test virtualization environment at NDSU by spring semester 2012.

Initial planning is in progress with the Department of Agribusiness and Economics to support and install a commodities trading room in Barry Hall. The completion date has been set for fall 2012.

DESKTOP SUPPORT

Desktop Support continues to offer support to departments across campus, assisting staff and faculty with technical issues. Desktop Support services are offered both on campus and throughout North Dakota's Extension offices and research centers. While not all departments require assistance from Desktop Support, the team supports an estimated 60 percent of all NDSU staff and faculty. Basic services include new computer setup, software installation, printer setup and assistance, and other peripheral support. Security patching, virus prevention and general maintenance also are provided on a daily basis.

The Desktop Support team is leading the campus migration from McAfee antivirus to the new Microsoft Forefront anti-malware application. Forefront is provided by the N.D. University System and will be implemented on Windows computers across campus before the McAfee license expires in March 2012.

During 2010-2011, Desktop Support worked with the NDSU Bookstore to negotiate fixed pricing on standard Dell computers, which reduced the cost by more than 25 percent and provided faster delivery and setup times.

The Desktop Support team continues to make improvements in the Ag Extension cost-share program and manage the disposal of obsolete electronic hardware in an environmentally friendly manner.

Desktop Support facilitates communication among other decentralized technical support groups on campus. The team also determines and encourages adherence to hardware and software standards to better serve the campus community.

THE IT HELP DESK

The IT Help Desk is the first point of contact for campus IT services. The Help Desk recorded approximately 52,000 contacts during the 2010-2011 fiscal year. Support is provided by walkup, phone, email, Web submittal and online chat.

Until April 2011, the IT Help Desk provided support for both NDSU and the N.D. University System. During this time, calls to the Help Desk increased 22 percent to 33,450 calls compared to 27,337 during the same time period of the previous academic year. Of the 33,450 calls received, 26,913 calls were answered with an abandoned call rate of 19 percent. During this period of time, two major email migrations and a number of changes to the ConnectND system contributed to a significant increase in calls to the IT Help Desk. Additional staffing was not available to accommodate the increase in calls, which resulted in a higher than normal abandoned call rate.

For NDSU IT Help Desk support only, calls increased 45 percent to 30,116 calls compared to 20,810 calls in the previous year. Of the 30,116 calls received, 23,007 calls were answered with an abandoned call rate of 23 percent. The higher than normal abandoned call rate is a result of the same conditions previously mentioned.

Walk-up support at the IT Help Desk increased by approximately 5 percent and the first full year of providing chat support resulted in approximately 600 chat support sessions. IT Help Desk equipment checkout service, which is funded by the Student Technology Fee, continues to be used frequently. Equipment reservations increased by 8 percent for a total of 4,321 individual equipment reservations.

	NDSU and N.D. University System support calls*	NDSU Help Desk support calls	Equipment reservations
2009-2010	27,337	20,810	-4,000
2010-2011	33,450	30,116	4,321
DIFFERENCE	+22%	+45%	+8%

* July through April for both years

INSTRUCTIONAL SERVICES

Prior to fall semester 2010, Blackboard was upgraded from version 8 to version 9.1. This major upgrade required extra training and support to help faculty, staff and students smoothly transition to the new platform. Version 9.1 offered a new interface that was more intuitive and user-friendly and included the addition of social tools such as wikis, blogs and journals. Examples of improvements in the new interface included easy access to menu alterations and the ability to drag and drop items interactively to reorder screens. This major change to Blackboard prompted an overhaul of Instructional Services' Web presence. A submenu was added to the Instructional Services website under documentation and online tutorials that offered useful links organized by topic.

When Microsoft Outlook became the statewide system for email and calendaring, the training team went into high gear. For three months, a variety of Outlook training sessions were offered weekly along with presentations as requested by departments and individuals. Many faculty and staff on campus also moved to Microsoft Office 2010 which required additional training and support.

Because of these major software changes, Instructional Services had a busy year for training. "123" sessions were offered with a total of 1,090 participants in hands-on training sessions. Demonstrations also were offered throughout the year with the LunchBytes initiative and two special iPad sessions.

For statewide Extension purposes, seven sessions were offered on Outlook via Live Meeting/Wimba/WebEx and four face-to-face Outlook sessions, as well as multiple sessions at two Extension service conferences.

NDSU moved ahead with lecture capture technology during the year. Lecture capture allows an instructor to teach a class face-to-face with students while capturing everything

electronically, including screen content, audio and video. The data captured are uploaded to the Web so that students can use the content for review and clarification.

After much research, planning and piloting of lecture capture solutions, Distance and Continuing Education and Instructional Services moved forward with the purchase and implementation of the Tegrity product. Through funding from the Student Technology Fee, Distance and Continuing Education, Department of Architecture, College of Pharmacy, and the College of Arts, Humanities and Social Sciences, Instructional Services was able to purchase a license and instrument four classrooms - Sudro 27, Civil and Industrial Engineering 104, Minard 135 and Renaissance 114 - and a studio space on the fourth floor of Renaissance Hall.

Interest in lecture capture grew during the year, but due to licensing specifics, access to this technology was limited. As more licensing and instrumentation are afforded, growth of this technology can occur.

During the last half of the year, Instructional Services staff worked on a new initiative called Faculty Free Fall. Deans, chairs and faculty were contacted and offered 15- to 20-minute sessions on a variety of instructional technology topics. The emphasis of these sessions was on practical use of technology, making them ideal for departmental meetings. Topics covered included "Blackboard on steroids," content delivery options, student engagement, faculty time boosters and student feedback. For more specific information about Faculty Free Fall, visit www.ndsu.edu/pubweb/freefall.

In addition to the tasks of supporting and training faculty and staff, Instructional Services researched and presented other new technologies, such as mobile devices (e.g., tablets, smart phones), Microsoft Live Meeting and a replacement personal response system for the elnstruction clickers. Instructional Services also partnered with NDSU Student Government

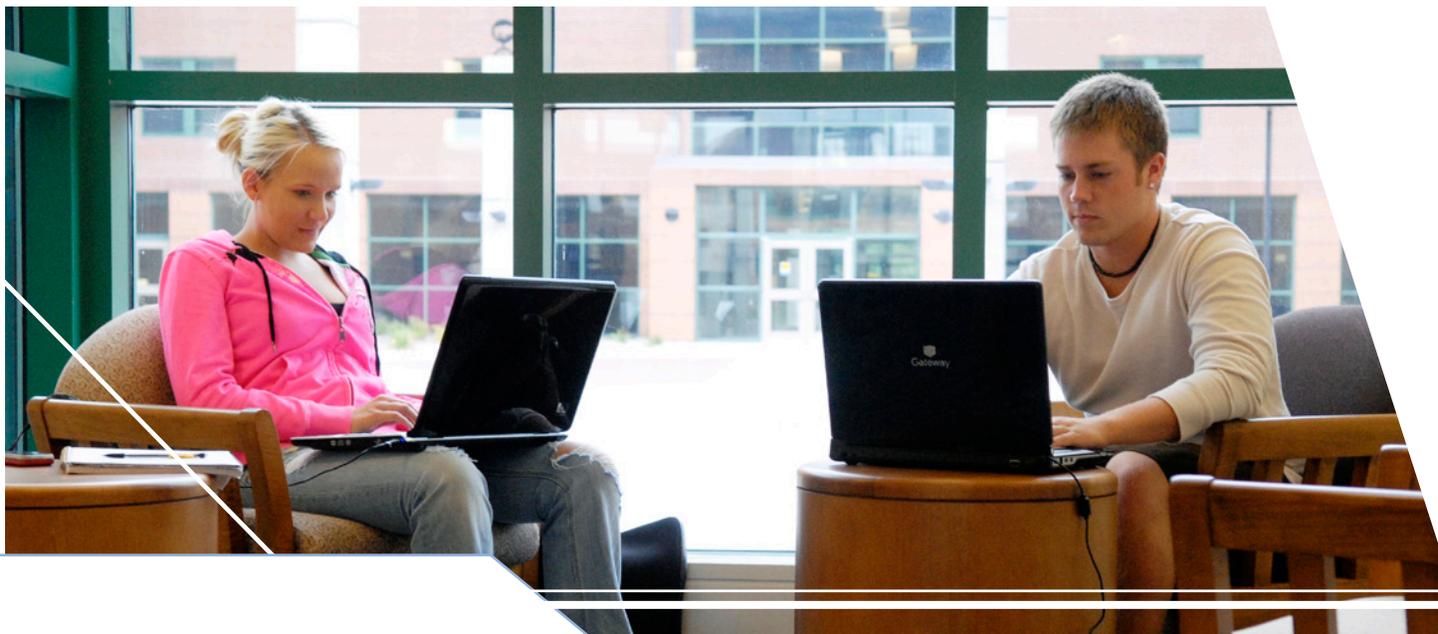
to successfully obtain student technology fee funding for Blackboard Mobile. Cj Johnson, instructional services consultant, presented iPad training at the Educause regional conference in Chicago, and Instructional Services hosted the online offerings of the annual Educause conference, inviting the campus to participate. Finally, Instructional Services offered its annual “Dig In” two-day faculty development workshop in the spring.

TECHNOLOGY LEARNING & MEDIA CENTER

The Technology Learning & Media Center provides a variety of technology learning and media services for the campus community, including walk-in and by-appointment multimedia services, classroom project support, plotting services, coursework assistance and technology workshops. In summer 2010, the TLMC lab was remodeled to create an area with connectivity for students with laptops to work with tutors and two group workspaces, each equipped with a switchbox for connecting four laptops to a large monitor and four pairs of headphones.

During FY 2010-2011, TLMC recorded more than 7,200 customer contacts. In addition to these contacts, many students used the TLMC lab and media studio to work on group and individual multimedia projects. Technology workshops continue to be popular with students. During 2010-2011, TLMC staff members provided 74 workshops for the general student population and 51 workshops were delivered to specific classes in response to instructor requests.

With a full-time media technologies consultant and student media assistants, the TLMC provides limited video production services. During fall 2010 and spring 2011, TLMC media consultant Steve Beckermann and student staff spent approximately 513 hours working on media projects for NDSU departments. Fall and spring reservations for the media studio totaled 415 hours. With a focus on multimedia services and student project support and workshops, the TLMC is a valuable component of the ITS Instructional Services team.





DEPARTMENT REPORT TELECOMMUNICATIONS & EMERGENCY SUPPORT TECHNOLOGIES

JOAN CHAPEK, ASSISTANT VICE PRESIDENT

The Telecommunications & Emergency Support Technologies Department serves NDSU students, faculty and staff and a variety of NDSU partners by providing leadership and expertise in enterprise voice, emergency support technologies and the university's underground communications infrastructure. Vital to the department's overall operation is its role in supporting NDSU's Police and Safety 24-hour Communications Call Center, as well as emergency response teams and processes. In addition to the main campus, NDSU delivers voice, security card access and video surveillance services to eight remote NDSU locations. We also have a partnership with North Dakota State College of Science to deliver voice services through the state network. The department provides leadership regarding statewide telephony integration and collaboration within the N.D. University System.

As a result of several campuswide directives and initiatives, the Telecommunications and Emergency Support Technologies department has experienced tremendous expansion and growth. The department has implemented new advanced technologies designed to enhance the security and safety of the campus, engaged in enterprise-wide partnerships, reflected on and enhanced the fusion of voice and data on one platform, and have continued to leverage the institution's investment in providing technology and infrastructure necessary to support the growth and expansion of NDSU on the main campus and its remote sites.

MAJOR INITIATIVES

■ Phases II and III of single mode fiber installation projects were completed by Master Construction in FY2011. Completion of phases II and III, funded by multiple sources totaling \$170,366, nearly completes the overall four-phase endeavor of approximately \$600,000. This major infrastructure upgrade supplements existing aged infrastructure, provides greater

bandwidth and higher connection speeds to campus buildings in support of future academic and research requirements, and extends the university's infrastructure to the north and east parts of campus (including the Niskanen expansion project). These efforts also provide greater bandwidth capacity to NDSU's 14 residence halls. In addition, the student technology fee funded \$50,000 of the infrastructure cost for the 12th Avenue expansion to the Bison Information Network within this overall project.

■ Redundant diverse path telecommunications carrier facilities were installed to the Enterprise Survivable Server at the Research Park to protect the campus from telecommunications failure and to facilitate emergency telephone services via the survivable server in the event communications services in IACC ceased to operate. The recently completed \$1.25 million upgrade to the Internet Protocol on the AVAYA telecommunications platform and the Enterprise Survivable Server at the Research Park allow for continued telecommunications service to eight remote NDSU campus locations and to the North Dakota State College of Science in Wahpeton. With funding of institutional IT a top priority among colleges and universities, the department has the advanced technologies and redundant communications carrier facilities to centrally share systems across campuses, leveraging the state network to optimize systems for ongoing and future unified communications solutions.

■ Expansion of the campus CATV infrastructure continued, providing the Emergency Alert System. This system now provides an emergency TV broadcast to 1,909 residence hall and apartment units and 152 administrative and academic locations in 48 campus buildings. Routine testing of all systems continues on the first Wednesday of each month.

■ Investment in campus underground infrastructure repair and replacement continued, totaling \$68,000.

■ The AVAYA Telecommunications Communication Manager and Call Management Software was upgraded to the 6.0 release of software at a cost of \$193,534.

■ Equipment providing data, voice, CATV and security card access to the remote location CityScapes Plaza was removed in fall 2010. The building infrastructure component (\$116,700) was reimbursed due to severing of the university's residence hall agreement with the developer. Transparent communication systems and infrastructure still sustain the NDSU Bookstore area and the Department of University Police and Safety as current occupants in the facility.

■ Development of business processes continued in partnership with North Dakota State College of Science. Telecommunications initiated a voice audit by Network Engineering and Operations to provide campus wiring inventory documentation. A data infrastructure audit also was added to the scope of work by NDSCS.

■ Telecommunications was authorized to proceed with the AVAYA voice messaging upgrade at an estimated cost of \$400,000. With anticipated project completion date in early 2012, this upgrade will leverage NDSU's existing voice technology investment and functionality, building on the existing platform to provide for next generation voice messaging and unified communications.

■ The IT Division has expanded its business processes for the purpose of utilizing BITEK, the Telecommunications department's existing accounting and billing management system, in order to consolidate the division's billing system. In addition to the Web-based software upgrade, plans also include implementing modules for a cost totaling \$178,926 to provide asset management and inventory, project management, infrastructure and cable management.

■ Telecommunications entered into a successful partnership with the NDSU Office of Student Life to share the existing CBORD system (Student Life's investment of \$270,000 added to telecommunication's existing CBORD system) adding privilege control and dining services applications. This partnership has emphasized NDSU's one-card philosophy of using a single ID card for multiple business processes and technology applications, as well as allowing the IT Division another opportunity to serve the campus in collaborative partnership. Re-carding of the campus to all proximity cards was completed in spring 2011.

■ Security card access continued to incur growth and expansion campuswide.

■ Previous installation of a centralized and integrated video surveillance system continues to support full feature interoperability with the centralized card access system. Infrastructure and associated equipment alarms back to the University Police Communications Call Center 24/7 for central monitoring to better manage the building envelope in crisis situations. There has been minimal growth in FY2011; however, additional phases will bring existing independent campus video surveillance locations onto the "system" with policy development and a pricing structure to include a scalable model to enable expansion to additional buildings as dollars are made available.

■ As a part of the Crisis Response Management Team 2011 flood planning, the division's respective departmental essential services were documented and a continuum of operations plan was written. A divisional incident and service outage reporting structure also has been formalized.

■ A major transition from Alltel to AT&T Communications for cellular service was completed, with approximately 450 devices exchanged with new AT&T equipment.

■ During recent N.D. University System IT service assessment discussions between the N.D. University System, University of North Dakota and NDSU, several major initiatives were identified to include unified communications. As part of the discussion and planning process,

a matrix was laid out identifying current resources, investments, costs, funding and current issues and problems. From this discussion, N.D. University System CIO Randall Thursby identified the planning options critical to discussions going forward, including his recommendation to engage JTM Associates, Inc., NDSU's telecommunications engineering and design consultant, to provide an initial feasibility study for "Telecommunications Enterprise System Collaborative Initiatives."

QUICK STATS ON CAMPUS NETWORK TECHNOLOGIES

Infrastructure

- Inside cable - 1,800,000 feet (341 miles)
- Outside copper network - 28,000,000 conductor feet (5,303 miles)
- Outside fiber-optic network - 108,000 strand feet (20.4 miles)
- Outside CATV network - 18,000 feet (3.4 miles)
- Inside cable TV network - 297,000 feet (56.2 miles)
- Leased fiber-optic - 48,100 feet (9.1 miles)
- Underground conduit - 91,000 feet (17.2 miles)
- Fiber-optic cables - 2,250 strands

Voice and Emergency Communications

- 6,129 dial tone lines (includes nine remote locations)
- 850,600 long distance minutes annually
- 400+ custom phone features/buttons
- 90 users of phone to cellular bridge
- 24 blue light emergency phones
- 77 emergency alert "panic buttons"

Cellular

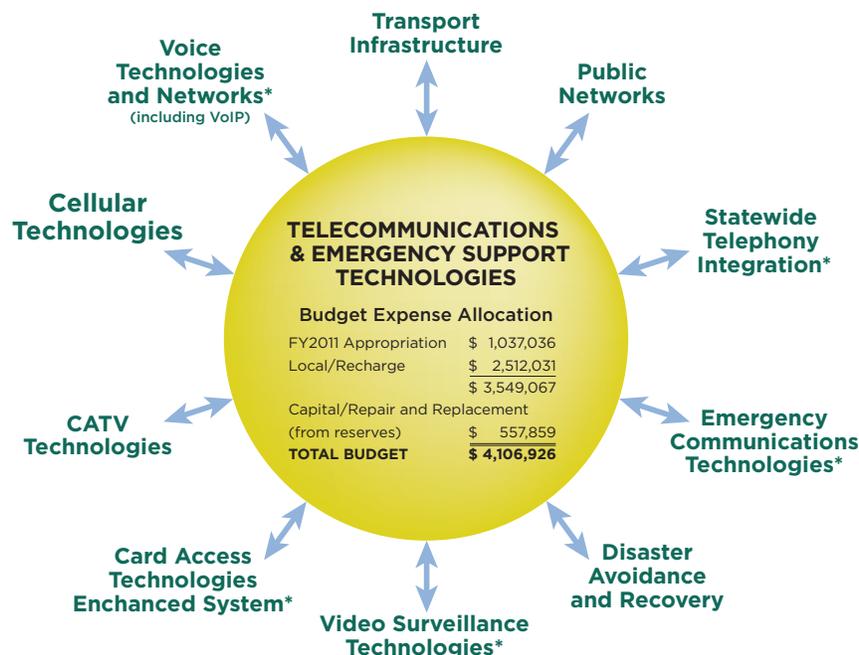
- 485 total users
- 200 smartphones
- 1,126,500 cellular minutes annually

Cable TV

- Cable television distribution to 48 main and remote campus buildings
- 152 administrative and academic locations
- 1909 residence halls and apartment units

Card Access

- 425 doors equipped for card access
- 10,460 users with access privileges
- 300 to 1,500 access and door schedule changes per week
- 52,000 door access swipes on a typical day

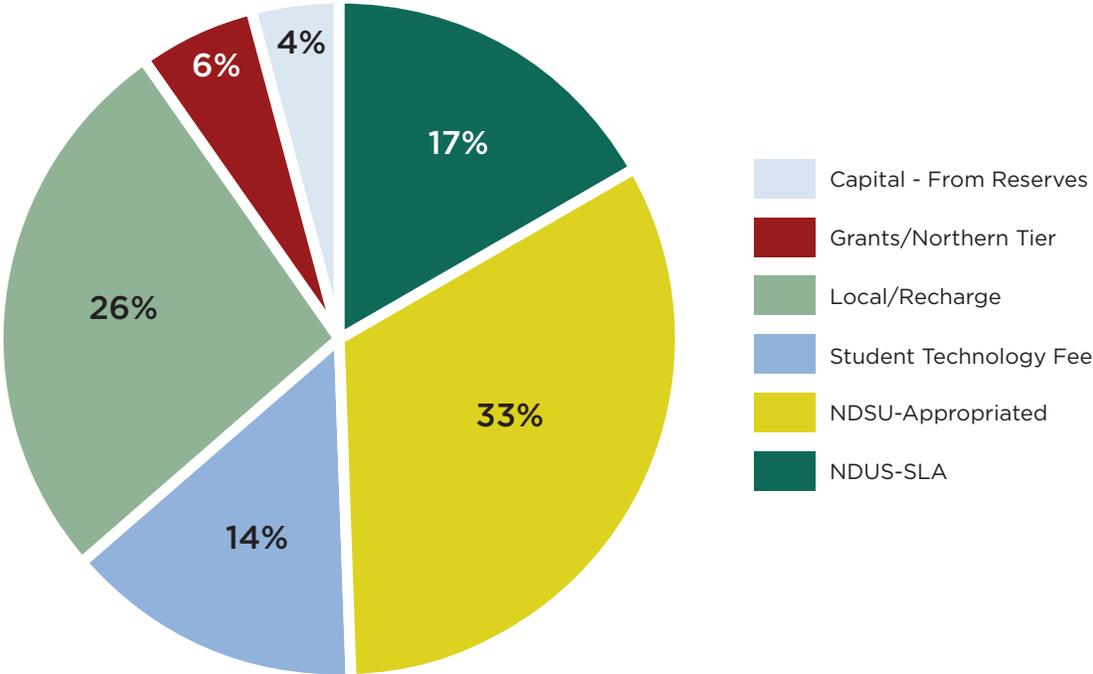


*New, enhanced areas of telecommunication responsibilities.

FINANCIALS

FY11 IT Expenditures

SOURCE OF FUNDING	VPIT	ECI	ITS	TELECOMM	TOTAL
N.D. University System - SLA		\$ 1,330,133	\$ 1,038,718		\$ 2,368,851
NDSU - Appropriated	\$ 509,330	\$ 1,168,686	\$ 1,958,099	\$ 1,037,036	\$ 4,673,151
Student Technology Fee		\$ 822,529	\$ 1,167,341		\$ 1,989,870
Local/Recharge	\$ 15,000	\$ 967,494	\$ 284,540	\$ 2,512,031	\$ 3,779,065
Grants/Northern Tier	\$ 807,566				\$ 807,566
Capital - From Reserves				\$ 557,859	\$ 557,859
TOTAL	\$ 1,331,896	\$ 4,288,842	\$ 4,448,698	\$ 4,106,926	\$ 14,176,362



IT DIVISION EMPLOYEES

Following is a list of employees in each Information Technology Division department as of June 30, 2011:

Office of the Vice President for Information Technology

Bonnie Neas *Vice President for Information Technology*
CeCe Rohwedder *Assistant to the Vice President for IT*
Char Maas *Account Technician*
Theresa Semmens *Chief IT Security Officer*
Marty Hoag
Director of Business Operations, Policy and Strategic Services
Sharon Brinker *Administrative Secretary*
Cathy Hanson *IT Staff Development Coordinator*
Kim Lammers *IT Business Manager*
Cynthia Lura *Account Technician*
Rhonda Nilles *Business Analyst/Project Manager*
Pam Nielsen *Software Liscensing Coordinator*
Janet Stringer *IT Budget Coordinator*
Cloy Tobola *IT Communications Coordinator*
Amber Rasche *IT Communications Specialist*

Enterprise Computing & Infrastructure

Marc Wallman
Assistant Vice President for Enterprise Computing and Infrastructure
Jill Peterson *Application Developer*
Jon Bronken *Assistant Manager and Systems Engineer*
Eric Christeson *Application Developer*
Diane Clark *Network Infrastructure Technician*
Bruce Curtis *Senior Network Engineer*
David Dahl *Senior Network Infrastructure Specialist*
Chad Foster *Network Infrastructure Technician*
Richard Frovarp *Senior Software Engineer*
Nathan Huff *System Administrator*
Brian Kennedy *System Administrator*
Galen Mayfield
Executive Director of Enterprise Systems and Application Development
Bryan Mesich *Systems Administrator*
Tim Mooney *UNIX Administrator*
Val Nordsletten *Network Engineer*
Nathan Olson *System Administrator*
Matt Reimer *Network Infrastructure Technician*
Jim Ross *Lead Application Development Specialist*
Dale Summers *Database Administrator*
Kelly Summers *Network Infrastructure Technician*
Carol Tschakert *Application Developer*
Bob Viou *Network Engineer*
Carla Wells *Network Infrastructure Technician*
Greg Wettstein *IT Principal Engineer*
Gary Whaley *Systems Administrator*
Terry Wieland *Director of Network Engineering and Operations*

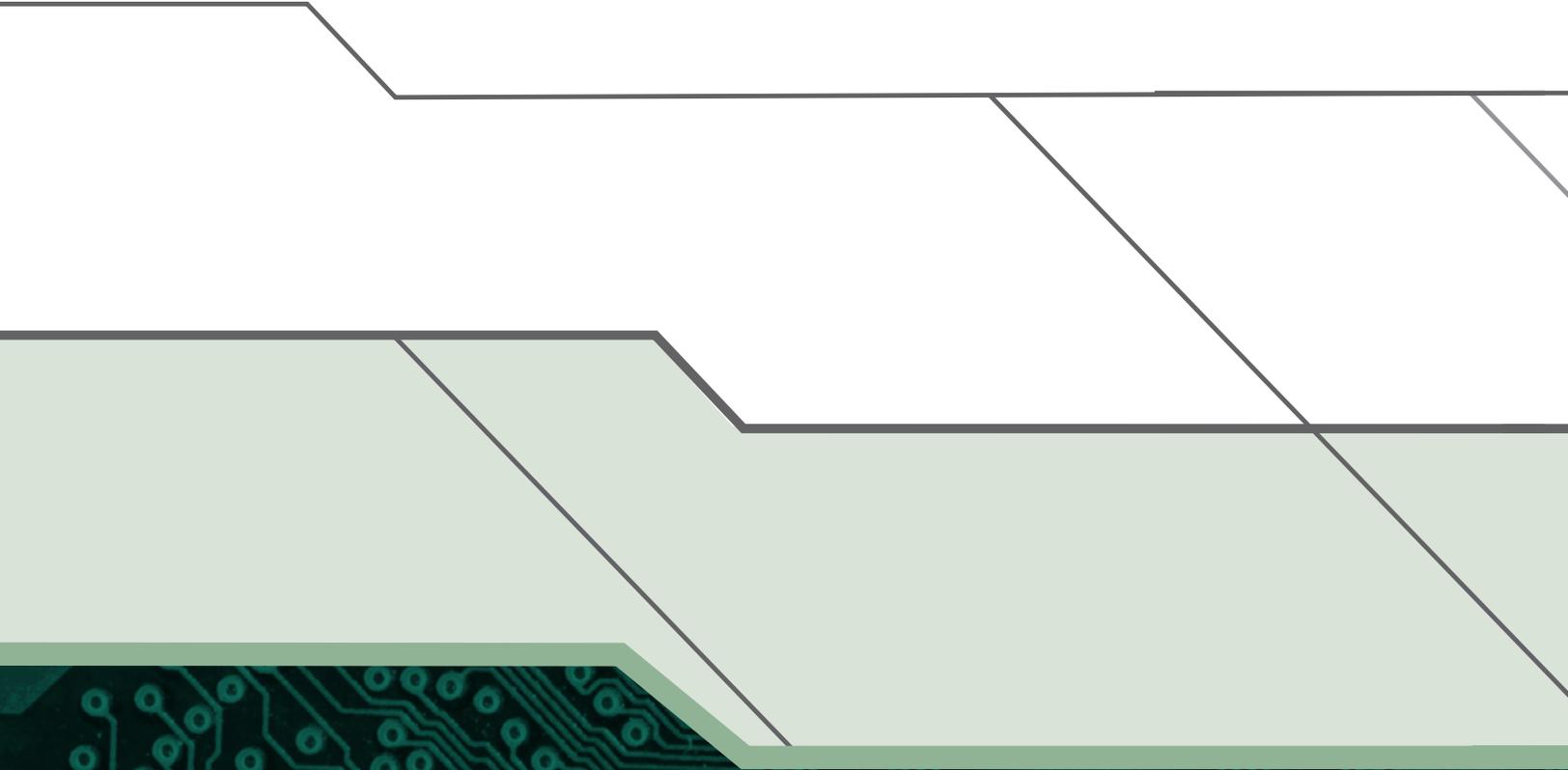
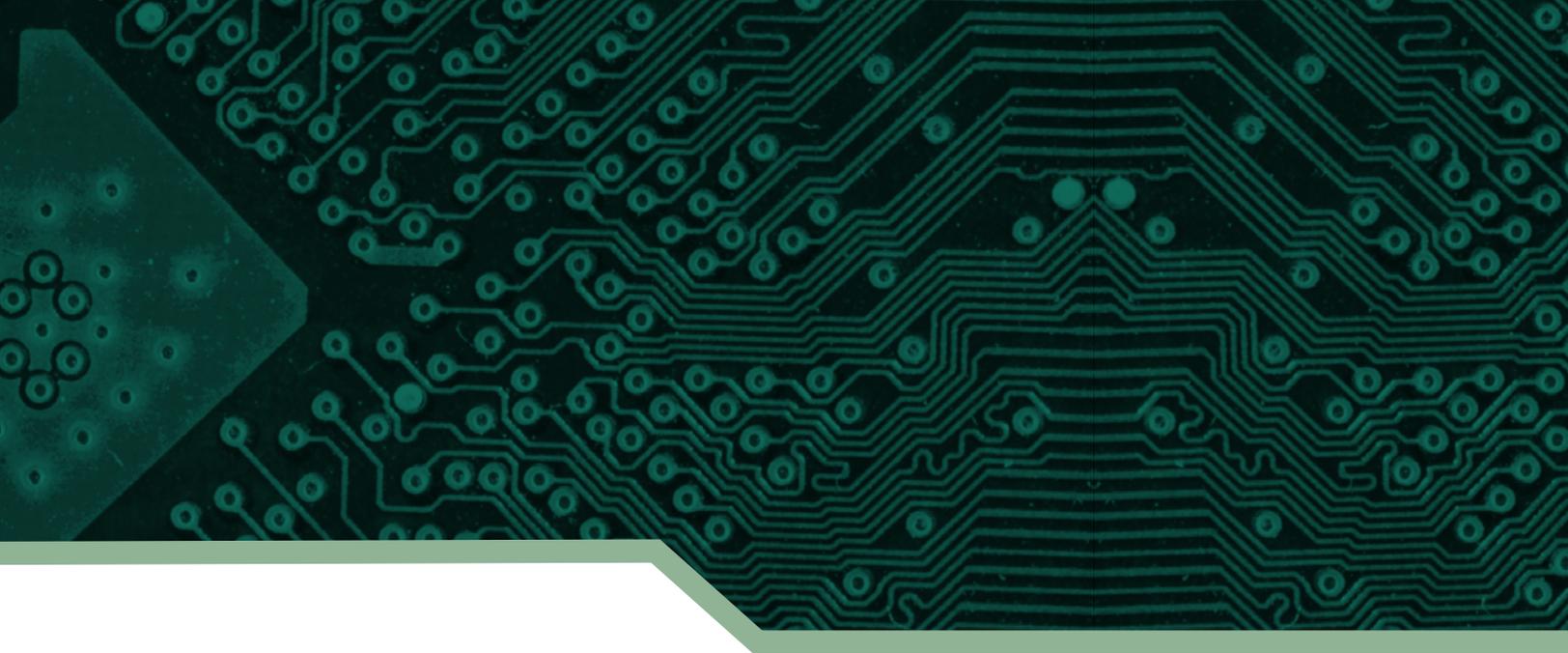
Information Technology Services

Jean Ostrom-Blonigen
Assistant Vice President for Information Technology Services
Michael Aho *Help Desk Consultant*
Vince Anderson *Desktop Support Specialist*
Lincoln Bathie *Desktop Support Manager*
Steve Beckermann *Media Technologies Consultant*
Chad Coleman *Computer Systems Specialist*
Tammy Cummings *Instructional Services Consultant*
Curt Doetkott *Consulting Statistician*
Daniel Erichsen *Interactive Media Specialist*
Jon Fry *Desktop Support Specialist (Ag Extension Services)*
Enrique Garcia *Computer Systems Analyst*
Jeff Gimbel *Help Desk Consultant*
Nathan Gonser *Help Desk Consultant*
David Hamiga *Desktop Support Specialist*
Blair Johnson *Desktop Support Specialist (Ag Extension Services)*
Cj Johnson *Instructional Services Consultant*
Sheree Kornkven *Technology Learning & Media Center Manager*
Nancy Lilleberg *Instructional Services Manager*
Micah McGowen *Classroom Technology Specialist*
Lorna Olsen *Instructional Services Consultant*
Kim Owen *Advanced Applications Outreach Coordinator*
Luke Prather *Instructional Services Consultant*
Jerry Ranum *Desktop Support Specialist (Ag Extension Services)*
Jim Sellner *Desktop Support Specialist*
Jim Senechal *Computer Systems Specialist*
Steve Sobiech *Help Desk Manager*
Melissa Stotz *Classroom Technology Manager*
Michael Wolf *Computer Systems Specialist*

Telecommunications & Emergency Support Technologies

Joan Chapek *Assistant Vice President for Telecommunications & Emergency Support Technologies*
Jason Blosser *Technology Systems Coordinator*
Gail Bjornstad *Telecom Analyst*
Vance Gerchak
Director for Telecommunications & Emergency Support Technologies
Cindy Kozojed *Telecom Analyst*
Linda Krogen-Brandt *Telecom Analyst*
Brian Miller *Card Access Analyst Technician*
Jayme Pfeifer *Telecom Analyst*
Kathie Silkey *Telecom Analyst*
Susan Strutz-Jenstead *Telecom Analyst*





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