In December 2011, Vice President for Information Technology Bonnie Neas retired after serving North Dakota State University since 1984. I was fortunate to be appointed to her position on an interim basis in February 2012.

Information Technology is an element that touches almost every activity that happens at NDSU, and our division’s initiatives and accomplishments in fiscal year 2011-2012 certainly reflect that. We worked on many projects that helped NDSU fulfill its mission as a student-focused, land-grant, research university.

One initiative with direct benefit to students was a successful pilot of the Tegrity lecture capture system. This system, which records in-class lectures and presentation materials and empowers students to play them back later, provides faculty with another opportunity to engage students in learning. As the technology matures and is adopted by more instructors, it will likely become a mission-critical component of instruction and learning at NDSU.

The outreach NDSU offers as a land-grant university often brings to campus guests from across the state, region, nation and world. To better accommodate guests and their need to stay connected, we improved the process for granting temporary access to our wireless network by implementing NDSU Limited. With NDSU Limited, members of the NDSU community can easily grant wireless access to visitors they are hosting as part of our outreach mission.

NDSU is recognized as one of the nation’s top 108 public and private universities by the Carnegie Commission on Higher Education. In 2012, we initiated an effort to assist our researchers with preparing data management plans that are required by many federal granting agencies. In collaboration with NDSU Libraries, IT staff presented information at a “Gear Up for Grants” seminar in January 2012, provided online resources and consulted one-on-one with researchers on request.

In closing, I would like to thank members of the NDSU community who contribute to the success of our IT Division. Last spring, I met with 23 units on campus, mostly academic departments, to discuss their experiences with IT services and their needs going forward. Concerns that were raised were addressed, as we could, and feedback has helped shape priorities as we seek funding for future services. I also want to thank our formal standing user groups and committees, including IT Technical Professionals, IT Communication Liaisons, the IT Council and the Technology Fee Advisory Committee. Feedback from and consultation with these groups is extremely valuable to us in delivering quality services that support the success of our university.

Sincerely,

Marc Wallman
Interim Vice President for Information Technology
North Dakota State University
INITIATIVES AND ACCOMPLISHMENTS
SCANNING OUR IT ENVIRONMENT

In October 2011, two external consultants – Jim Pepin, chief technology officer at Clemson University, and Walt Magnussen, director of telecommunications at Texas A&M University – were invited to conduct an environmental scan to provide a benchmark comparison of IT at NDSU with IT at other peer institutions.

The process involved on-site visits on Oct. 13 and 14. During these visits, Pepin and Magnussen met with internal and external constituencies, including the vice president for IT, the provost, IT department heads, campus user groups, faculty leadership, student leadership, law enforcement leadership, facilities leadership and researchers.

Major findings of the environmental scan revealed the need to explore new funding sources and models to strengthen relationships between the IT Division and NDSU faculty.

After the environmental scan, interdepartmental meetings between the Office of the Vice President for IT and several academic, administrative and auxiliary departments on campus were initiated. These meetings marked the beginning of an ongoing dialogue between the IT Division and other departments on campus aimed at improving communication and building relationships with students, faculty and staff.

In August 2012, the IT Division hosted two open forum events and reported on feedback collected during these interdepartmental meetings. The discussion focused on common threads that emerged during the meetings regarding campuswide information technology needs.

In the wake of the interdepartmental meetings, IT Division leadership began planning and effecting immediate actions aimed at addressing some issues. Division staff began work to develop a new Web search engine to deliver improved search results for NDSU websites, and began reorganizing the division’s website to better suit user needs.

MOBILE TECHNOLOGIES

NDSU JOINS THE EDUROAM NETWORK

Eduroam (education roaming) is a global Internet access service developed for the research and education community.

NDSU joined the Eduroam network in April 2012, providing students, faculty and staff with immediate access to secure wireless Internet when they visit other participating institutions. Eduroam also grants NDSU wireless network access to guests from other institutions that are participating members of Eduroam.

Shortly after Eduroam was adopted at NDSU, provosts and CIOs at all three Tri-College campuses collaborated on a project to enable Eduroam across Tri-College. Concordia joined the Eduroam network in June, and MSUM anticipates enabling Eduroam on its campus in fall 2012.

After MSUM deploys Eduroam, students, faculty and staff at each of the three institutions will be able to complete a one-time setup of their wireless devices to use secure wireless at any of the three campuses, in addition to many other participating institutions across the country and internationally.

Based on success of this project, the N.D. University System is planning to adopt Eduroam systemwide during the 2012-2013 academic year.

More information about Eduroam and a map of participating locations is available at: www.eduroamUS.org

ENABLING “ANYTIME, ANYWHERE” LEARNING
WITH BLACKBOARD MOBILE

Beginning in October 2011, sponsored guests of NDSU faculty and staff can access the Internet through the NDSU Limited wireless network, which allows them easy access to NDSU’s wireless without assistance from IT staff. Instead, NDSU employees can generate a temporary password at their convenience to grant guests access to the network. The assigned password is effective until midnight of the day requested.

The NDSU Limited wireless network provides access to the Internet using a less secure connection and is intended for use only by authorized guests.

More information on the NDSU Limited wireless network and how to obtain a password for guests is available at: www.ndsu.edu/its/wireless.

NDSU’S WEBSITE GOES MOBILE

IT Division staff collaborated with NDSU University Relations to design and implement a mobile version of NDSU’s website. The new mobile website includes a home page with links to campus alerts, campus phonebook, campus map, news, events and the A-Z site index. A mobile template also was created for NDSU’s content management system, which is widely used across campus for website creation and maintenance.

Students now have a way to check grades, view assignments and post to discussions on Blackboard using their phone or mobile device.

A partnership between the IT Division and Student Government provides the Blackboard Mobile application at no charge to NDSU students, faculty and staff.

The application features a set of text-based menus that students and instructors can use to access class and organization information from anywhere they have smartphone data access.

Nancy Lilleberg, manager of instructional services, said the app will benefit many students. “We are always looking for ways to help the students succeed, and making Blackboard more accessible fits in well with that goal,” she said.

Blackboard Mobile is available in the app store of most major devices including iPhone, iPad, Android, Blackberry and Palm. More information is available at: www.ndsu.edu/its/blackboard-mobile.
TEGRITY LECTURE CAPTURE PILOT

ITS Instructional Services staff served on a committee to pilot test and select a lecture-capture solution for the N.D. University System. Prior to the committee’s formation, NDSU had tested Tegrity for more than a year, while the University System had tested the Panopto solution. After comparing the two systems, the committee chose Tegrity as the solution to be adopted systemwide.

Lecture capture technology enables instructors to record in an integrated audio-video product everything that is said and viewed in the classroom. Tegrity uses plug-and-play equipment to record lectures and then creates a link to the video in Blackboard. The system allows students to play back lessons, bookmark sections of the lecture using a smartphone application and find specific information using a built-in search engine.

During initial testing of Tegrity at NDSU, adoption was restricted by the limited number of equipped classrooms and by the space required to store recorded lectures. NDSU’s previous license included up to 250 recorded hours and cost approximately $50 per hour of recorded lectures. With the university systemwide adoption of Tegrity, the rate was reduced to approximately $5 per hour, and the storage space has increased to the extent that Instructional Services can now adequately promote the service to faculty.

Requests for Tegrity have increased from 13 in fall 2011 to 86 in 2012. The technology has been well received by both faculty and students. Nearly two-thirds of students surveyed reported an increase in overall satisfaction with courses that used Tegrity compared to courses that did not.

ACTIVATION OF THE NORTHERN WAVE CONNECTION

NDSU and Pacific Northwest Gigapop announced April 17 that Northern Wave, a new optical data connection between Seattle and Chicago, has been activated.

Built using National Science Foundation (NSF) grant funds, Northern Wave will ultimately provide for a shared 10 gigabit per second network for research and education institutions from Seattle to Chicago.

Part of the foundation’s Academic Research Infrastructure program, the grant funds the equipment needed to connect to a wave on the fiber optic Northern Tier Network.

Marc Wallman, principal investigator for the project and interim vice president for IT at NDSU, said activation of the Northern Wave improves cyberinfrastructure for research and education throughout the region and “marks a major milestone in many years of collaboration among Northern Tier states.”

Ultimately, Northern Wave will connect to the Pacific Wave system in Seattle and to the StarLight system in Chicago, where a large number of international networks and universities exchange high-speed data.

Researchers and educators from connecting institutions along the Northern Wave path in Wisconsin, Minnesota, North Dakota, South Dakota, Montana, Idaho and Washington will have access to the high-speed pathway and exchange facility.

The Northern Wave will enhance research and education network capabilities by increasing network efficiency, reducing delays, increasing data flow and reducing costs. Northern Wave also will provide a state-of-the-art national and international facility designed to serve researchers in the region by connecting them to research and education networks throughout the United States, the Pacific Rim and the world.
## FINANCIALS

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*Includes $935,000 of appropriated funds

### FY12 IT EXPENDITURES: $14,294,237

![Pie chart showing distribution of funding sources]

- NDSU-Appropriated: 33%
- Local/Recharge: 29%
- Grants/Northern Tier*: 9%
- NDUS-SLA: 14%
- Student Technology Fee: 13%
- Capital: 2%

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6
PARTNERSHIPS

**IT COUNCIL**
The IT Council serves as the primary advisory body for IT strategic planning, policy development and service review for the university. The council serves in a consultative capacity to the vice president for IT and as a governing body for all formal IT Advisory Groups to help facilitate campuswide communication related to IT.

**TECHNOLOGY FEE ADVISORY COMMITTEE**
The Technology Fee Advisory Committee makes recommendations to the vice president for IT on the uses for which student technology fee dollars are to be expended and evaluates the effectiveness of funded projects. More information is available at: www.ndsu.edu/tfac.

**IT COMMUNICATION LIAISONS**
This program designates representatives from departments across campus to serve as conduits for information and feedback regarding information technology. The program has been remarkably successful in communicating and coordinating technology issues and efforts and in gathering feedback from participating technology users. In fact, we have found that departments with active representation in the Liaisons group feel better prepared to adapt to changes in technology services and successfully utilize available technology resources at NDSU.

**IT TECHNICAL PROFESSIONALS**
The IT Technical Professionals is a special-interest group sponsored by the IT Division’s Enterprise Computing and Infrastructure (ECI) department that provides the opportunity for technical discussions and exchange of information between technical departmental staff, ECI and the IT Division.

Through regular exchange of information and social activities, a more cohesive technical infrastructure is achieved for NDSU. Collaboration between technical staff across campus means better and more seamless IT services, a benefit not only for IT Technical Professionals but also for those we serve.

**SOFTWARE LICENSING CONTACTS**
Software licensing contacts serve as a liaison between departmental faculty, staff, student employees and software licensing personnel regarding software-licensing questions, ordering and re-installing, and miscellaneous information pertaining to software licenses. The software contact for a given department is responsible for the ordering, tracking and compliance of software licensing issues for all department-owned computers.

**TELEPHONE ADMINISTRATORS**
Telephone administrators provide direct services to NDSU departments for all telecommunications needs. They are the first point of contact for any new requests, changes and issues related to telecommunications services.

**STUDENT TECHNOLOGY SERVICES**
Student Technology Services (STS) is a long-standing work-based learning program that provides opportunities for NDSU students to obtain jobs in the IT field. Working side by side with full-time IT staff, students acquire valuable work experience and technical knowledge. Students also exchange their classroom knowledge with full-time staff, sharing new perspectives regarding advanced technologies. The work student employees perform as members of the IT organization is highly valued.

STS is managed by two student HR managers who oversee hiring, maintain hiring records and student evaluations, and provide professional development activities. STS managers work closely with full-time IT managers to hire students with job-appropriate skill sets. An internal advisory board provides oversight for the program.
SERVICES AND SYSTEMS
TECHNOLOGY FOR TEACHING AND LEARNING

STUDENT RESPONSE SYSTEM

NDSU has standardized on a single student response system for more than a decade in order to provide a reliable system for students and faculty that can be effectively and efficiently supported by ITS.

In April 2011, Instructional Services decided to explore other response options and identify a suitable replacement product for the previously used e-Instruction Personal Response System (PRS). At the time, PRS was laden with technical problems, had a steep learning curve and was difficult and time-consuming to use. In fact, many universities across the U.S. experienced similar problems with PRS and adopted alternative systems.

A pilot to explore alternative systems was initiated at NDSU in fall 2011. An open invitation to participate in the pilot was extended to all NDSU faculty on a first-come, first-serve basis. Twelve faculty members representing 10 departments were included in this pilot.

After exploring several systems, Instructional Services narrowed the viable options to two, Turning Technologies and iClicker, which were tested in classrooms during the fall 2011 semester. Turning Technologies received the highest approval of pilot participants. The pilot effectively determined the student response technology – Turning Technologies – that will best serve NDSU faculty, students and staff for the foreseeable future.

INSTRUMENTED CLASSROOMS AND CLUSTERS

The remodeling and complete technology overhaul of Steven’s Auditorium was planned and designed. The building will be renamed Gate City Bank Auditorium and is scheduled to be complete before the start of fall 2012 classes.

Three additional lecture capture rooms were installed across campus, bringing the total to eight. Funding has been approved to install lecture capture equipment in the new Gate City Bank Auditorium.

A feasibility study was conducted to determine the most successful plan for refreshing 180 laptops located in Barry Hall. The study revealed that because of technical issues, including the fact that existing infrastructure is inadequate to support the number of laptops, trading in the laptops and using the funds to support other technical initiatives in the building would be the best use of the funds. The 180 three-year-old laptops were traded in to Apple for $87,198.34. The funds were used to support the following Barry Hall technology projects:

- Infrastructure and hardware costs to provide an additional 24-computer teaching cluster
- Purchase and installation of a bigger podium for the Ag Country Auditorium in Barry Hall
- Hardware costs to provide presentation technology in the Eide Bailly Board Room

Planning and design took place with the agribusiness department to support and install a commodities trading room in Barry Hall. The completion date has been set for fall 2012.

Four instrumented classrooms were implemented in the Minard Hall expansion and remodeling project. Implementation of three additional instrumented classrooms is being planned for the upcoming year.

More service level agreements have been formalized with departments who have requested ITS support for their departmental computer labs. These departments were informed that ITS will begin charging for the service beginning in fall 2012.

The Development Foundation awarded a $44,000 Impact Grant to provide interactive technologies on campus. Faculty were surveyed to determine appropriate locations for installation of the interactive whiteboard and display panel technologies. Installation is scheduled to take place in fall 2012.

Classroom Technologies provided equipment and support for the ND EPSCoR conference, the WaterReuse conference and the Megaconference v6.

In cooperation with ECI and computer science department, virtualization research continues.
STATISTICAL CONSULTING

ITS and the statistics department jointly support Statistical Consulting Services at NDSU. These services are available to all faculty, staff and students at N.D. University System institutions, typically at no charge.

The Statistical Consulting unit provided consulting services during the past year through the efforts of one full-time staff member from ITS and several statistics graduate students, who contributed 10-20 hours per week.

Consulting records specific to the full-time staff person indicate more than 240 unique clients from various academic departments, accounting for approximately 1,200 recorded contacts (in person, via phone and via email), were helped, with roughly 40 percent of the contacts directly related to statistical questions. Remaining contacts were primarily calls for appointments and questions related to software usage (e.g., SAS, SPSS) and the use of the Optical Mark Reader for test scoring and student ratings of instruction processing. The bar chart below places the 2011-2012 fiscal year into a historical context and offers a breakdown of these data by question type as either “statistical” or “other.”

The full-time consultant statistician also served as an adjunct faculty member, teaching courses in Statistical SAS Programming, Monte Carlo Simulations using SAS, and the Statistics Consulting/Presentation Practicum.
52.8 terabytes (52,834.9 gigabytes) total storage provided

7.7 terabytes (7,715.5 gigabytes) increase in storage provided during FY 2012

54,847,432 email messages processed by mail servers

166 live websites in NDSU’s content management system

130 live NDSU websites outside CMS in Pubweb

129 servers managed by NDSU IT

10 service level agreements for server hosting

8 service level agreements for storage

6 service level agreements for back-up only

19 application development service level agreements completed
TELECOMMUNICATIONS AND EMERGENCY SUPPORT TECHNOLOGIES

Telecommunications and Emergency Support Technologies serves NDSU students, faculty, staff and various 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 operations is its role in supporting NDSU’s Police and Safety 24-hour Communications Call Center, with the infrastructure and technologies necessary for emergency preparedness.

With a staff of 10 and a FY12 budget of $4 million, as well as strong collaborative partnerships with Network Engineering and Operations (NEO) and Facilities Management, the department provides oversight, strategic planning, coordination and management of the university’s transport facilities infrastructure, voice networks, call management, Voice over Internet Protocol (VoIP) telephony, cellular communications, BISON LINES long distance service, cable television (CATV), centralized and integrated security card access and video surveillance. Unique as a communications utility relating to business aspects, the department operates on a cost recovery basis serving 6,250 students, faculty and staff on the main campus and nine remote sites, including the North Dakota State College of Science (NDSCS).

With the foundation laid of next generation infrastructure, Internet Protocol technologies and services including single mode fiber, Unified Communications and collaborative mobility advanced functionality, during the past year strategic key points were addressed for advanced feature functionality and infrastructure reinforcement and expansion in support of heightened service provision and remote learning. The pursuit of Unified Communications, the fostering of enterprise-wide partnerships, and continuance of leveraging the institution’s investment in technologies and infrastructure provide the basis for accessing next generation IT services.

Emergency Support Technologies is a critical service component in providing ongoing vigilance and timely response when life safety, property preservation and security are threatened. The Telecommunications and Emergency Support Technologies department continues to experience tremendous expansion and growth, continuing to work toward developing an emergency support standard of securing the exterior envelope of all campus facilities, and to implement new advanced technologies designed to enhance the security and safety of the campus. Emergency Support Technologies is now 52 percent of our business. We are the provider of tools and technical expertise for the life safety needs of NDSU, serving the philosophical and pragmatic needs of University Police and Safety Office (UPSO), Facilities Management and Student Life. In cultivating these relationships, we are committed to working at the highest level of trust and collaboration with our partners.

The department’s advanced technologies are recognized as leaders within their respective industries, are centralized and enterprise in caliber, and include as many disaster recovery and business continuity capabilities as possible.

MAJOR INITIATIVES

- Completion of Phase IV and the design and engineering of Phase V single mode fiber nearly completes the overall five-phase endeavor of $650,000. This major infrastructure upgrade supplements existing aged infrastructure and provides greater bandwidth and higher connection speeds to campus buildings in support of future academic and research requirements, extending campus infrastructure to its north and east parts.

- Continued expansion of the campus CATV infrastructure to provide the Emergency Alert System. This system now provides an emergency TV broadcast to 1994 residence hall and apartment units and 155 administrative and academic locations in 48 campus buildings. Routine testing of all systems continues on the first Wednesday of each month.

- Using the state data network, transparent VoIP communications, including five-digit dialing, expansion, continues to N.D. University System campuses, with the addition of Valley City State University and Lake Region Community College. The connections with these two institutions are significant in that the Avaya telephone systems at the first four IP-connected campuses now interoperate seamlessly with the Cisco telephone systems at VCSU and LRSC.

- Completed Avaya voice messaging upgrade to leverage NDSU’s existing voice technology investment and functionality, building on the existing platform to provide next-generation voice messaging and Unified Communications. This major upgrade provides scalability for future growth and opportunities for centralized enterprise telephony solutions through partnership with the N.D. University System institutions and the State of North Dakota.

- Completed Avaya enhanced message networking/speech-to-text upgrade. Geared to mobile device users, this feature translates voice messages to text, sending both the translation and audio file to the user’s email.

- Continued partnership with NDSCS in the development of Telecommunications business operations. A voice and infrastructure audit to provide campus wiring inventory documentation was completed.

- Completion of the expansion of the IT Division business processes utilizing the Telecommunications department's existing accounting and billing management system, Bitek, to consolidate the division’s billing and accounts receivable processes. IT Division customers now receive one consolidated electronic bill. Implementation work continues on the cable management piece, and design work continues for the future implementation of asset management and inventory and the work management modules.

- The partnership between Residence Life and Telecommunications and Emergency Support Technologies grew this year by providing the former with functionality to administer security card access doors for its buildings. This was a collaborative project including Residence Life, UPSO and Telecommunications and Emergency Support Technologies. Through the implementation of new Web tools, Residence Life now has the ability to administer residence hall building access to better meet student needs.
• Provided leadership in improving responsiveness and technological gaps from CBORD, NDSU’s “one-card” system vendor. These efforts resulted in a number of outstanding issues being resolved by CBORD, a more consistent means of escalation and follow-through, and continued growth in the relationship between CBORD, Dining Services, Bison Card Center, Facilities Management, UPSO and Telecommunications and Emergency Support Technologies.

• As a result of a recent engineering study conducted in the IACC, overviewing a $4M tier 3.5 design to voice and data equipment rooms with redundancy and adequate power, $730,000 in funding has been identified, and the State Board of Higher Education approved Phase 1 of the project. This phase, to be completed fall 2012, will provide increased electrical capacity and duplicated UPS for redundancy.

• Security card access continues to incur growth and expansion campuswide, both in new construction and in existing facilities. Major construction projects were completed at the Plant Science Greenhouse Phase II, the Athletic Track Facility, and NDSCS’s Skills Technology and Training Center, with design and engineering provided for the AES Greenhouse Phase III, Minard Hall and the Research 1 addition.

• As a part of this initiative, student technology fee dollars were used to secure the exterior envelope of the IACC building, securing access and enhancing safety for students, faculty and staff using the clusters and classrooms while maintaining 24/7 access, by using the Bison Card after 10 p.m.

• To leverage existing expertise within Facilities Management and Telecommunications and Emergency Support Technologies, a partnership “card access shop” was formed providing improved installations, trouble resolution and preventive maintenance. All installations of security card access, including major construction, are now done in-house. This “card access shop” philosophy has led to improved focus on quality, consistency and enhanced alarm accuracy to the 24/7 Police Communications Call Center.

• The university’s centralized and integrated video surveillance system continues to support full feature interoperability with the centralized card access system, with infrastructure and alarming back to the 24/7 Police Communications Call Center. A major upgrade of the centralized system was completed, allowing new features, such as full redundancy of IP and digital recording, and the installation of high definition and pan/tilt/zoom cameras to provide the highest level of resolution. As planned, additional phases will bring existing independent campus video surveillance locations onto the “system” with policy development and a costing structure, to include a scalable model, to enable expansion as dollars are made available. Our partnership with NEO continues for video surveillance.

• A new partnership was established with the Bison Information Network (BIN), resulting in the sponsorship of the cable television information/channel cards supplied to residence halls, apartments and administrative campus CATV locations. The card features NDSU student channels and highlights SU TV84.

• Recent N.D. University System IT Service Assessment discussions identified several major initiatives, to include Unified Communications. An external feasibility study was conducted as the first phase of the “Telecommunications Enterprise System Collaborative Initiative.” NDSU led collaborative discussions with the University of North Dakota (UND). Subsequently, University System Unified Communications work group discussions identified current resources, investments, costs, funding and issues systemwide, and led to NDSU, UND and the University System exploration of a possible Lync integration.

• Following the October 2011 environmental scan of the campus by external consultants Jim Pepin, chief technology officer at Clemson University, and Walt Magnussen, director of telecommunications at Texas A&M University, Dr. Magnussen was engaged for a second visit to Telecommunications and Emergency Support Technologies for strategic discussions, matching regulatory, legislative and operational knowledge in Enterprise telecommunication systems, unified communications and emergency support technologies.
CAMPUS NETWORK TECHNOLOGIES

 infrastructure

Inside cable  
1,810,000 feet [343 miles]

Outside copper network  
28,000,000 conductor feet [5.303 miles]

Outside fiber-optic network  
112,200 strand feet [21.3 miles]

Outside CATV network  
18,000 feet [3.4 miles]

Inside cable TV network  
299,100 feet [56.7 miles]

Leased fiber-optic  
48,100 feet [9.1 miles]

Underground conduit  
91,000 feet [17.2 miles]

Fiber-optic cables  
2,250 strands

network access  
2011-2012 ACADEMIC YEAR AVERAGES

12,346 unique devices on the campus wireless network per week

12,122 unique devices on the campus wired network per week

Cellular Phones

500 total users

300 smartphones

1,126,500 cellular minutes annually

Voice and Emergency Communications

6,129 dial tone lines (includes nine remote locations)

850,600 long distance minutes annually

400+ custom phone features/buttons

97 users of phone-to-cellular bridge

25 blue light emergency phones

81 emergency alert “panic buttons”

Cable TV

Cable television distribution to 48 main and remote campus buildings

155 administrative and academic locations

1,994 residence halls and apartment units

Card Access

425 doors equipped for card access

18,000 users with access privileges

300 - 1,500 access and door schedule changes per week

25,000 door access swipes on a typical day
HELP, SUPPORT AND TRAINING

IT HELP DESK

The IT Help Desk is the first point of contact for all campus IT services and support. The Help Desk provides support for all NDSU faculty, staff and students through online support documentation, a Web-based ticketing system, email, telephone and chat. Other services include large format printing for posters or presentation materials, optical scoring for exams, and checkout equipment, which includes digital still and video cameras, laptops and podcast recording units.

SUPPORT AND SERVICES

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DESKTOP SUPPORT

Desktop Support continues to offer support to departments across campus, assisting staff and faculty with technical issues. Services are offered both on campus and throughout the state’s Extension offices and research centers. While some departments choose to provide their own technical support, an estimated 60 percent of NDSU staff and faculty are supported by ITS Desktop Support.

Information gathered from the new ticketing system reveals the following statistics regarding provided support:

Desktop Support worked with the NDSU Bookstore to negotiate lower prices for standard desktops and laptops, resulting in a cost saving to departments of approximately $250 per computer. Through this project, the ordering process was revised: now ITS initiates the computer order, assigns an inventory tag and starts the software requests and the Bookstore delivers certain customer computers directly to ITS, so the setup process can begin immediately. This new process offers a faster response at a lower cost to departments.

The Desktop Support team currently is assisting with migration from Novell File Services to Windows File Services. This migration will significantly reduce licensing costs and has the potential to enable easier access to files from off campus. This project requires Desktop Support to visit each of its 2,500 supported computers and has an estimated end date of spring 2013.

IT SECURITY

University wide information security strategy – including policies, procedures, risk management, assessment and awareness – are top priorities of the division’s IT Security team. Major security projects completed in FY12 include:

- Developed the new NDSU Policy 158.1, “Email as an official communication method for NDSU employees.” This policy designates email sent to and received from @ndsu.edu as the official means by which the university communicates with employees.

- Updated NDSU Procedure 509, “Electronic Transactions.” Mobile transactions and use of mobile devices for processing transactions were added to the procedure.

- Assessed shared and email alias accounts to determine if they were still being used, and if those who had access still needed it. With owners’ permission, the IT Security team removed 40 accounts that were no longer being used.

- Completed the second annual formal compliance audit for the electronic document system, ImageNow.

- Completed vulnerability scans for network and Web vulnerabilities to determine the security posture for these NDSU systems. Notices were provided to the owners of websites and network systems regarding critical issues and how those issues could be remediated.

- In collaboration with Network Engineering and Operations, researched and presented a resolution for notification to owners of blocked machines in a timely manner. Funding shortages prevented implementation of this project during FY 12.

- Developed and implemented an easier account and service activation process for international visitors who need access to NDSU IT resources.

SECURITY CONFERENCE PRESENTATIONS


Semanns also presented a white paper, “iPads and iPhones and Squares. Oh My!” at the Treasury Institute for Higher Education PCI Conference, April 23-25, 2012. The paper outlined NDSU’s strategy for handling requests to use mobile technology for credit/debit card processing in light of PCI DSS requirements and addressed resulting policy and procedures.

During the 2012 Educause Security Professionals Conference, Semmens presented on “Ensuring Electronic Data Records Integrity Through a Simple Audit Process.” The presentation, given April 5, explained NDSU’s methodology for compliance testing of electronic document integrity.
SUPPORT IN NUMBERS

- 77 copyright notifications sent: IT Security assisted with adjudication processes
- 147 compromised computers infected with malware detected: IT Security provided remediation assistance
- 50 servers registered and approved
- 16 alias and shared email accounts created and approved

TECHNOLOGY TRAINING

Instructional Services and the Technology Learning and Media Center (TLMC) provide support, technology training and media services for NDSU faculty, staff and students. More information about technology training and resources is available at: www.ndsu.edu/its/training

INSTRUCTIONAL SERVICES TRAINING IN NUMBERS

- 527 NDSU faculty and staff members participated in 61 regular training sessions, which included 179 training hours
- 24 NDSU faculty members attended the 2-day, 12-hour “Dig In” Workshop
- 3 sessions of the 50-minute Technology LunchBytes training were offered

TECHNOLOGY LEARNING AND MEDIA CENTER

The TLMC provides various technology learning and media services for the campus community, including multimedia services, classroom project support, plotting services, course work assistance and technology workshops. Multimedia services include video and audio recording studios, special software and equipment, and consulting services.

During FY12, TLMC recorded more than 6,700 customer contacts. Many students also used the TLMC lab and media studio to work on group and individual multimedia projects, and the TLMC provided drop-off services for media conversion projects. Technology workshops continue to be popular with students. TLMC staff provided 59 workshops to the general student population and delivered 79 workshops to specific classes, in response to instructor requests.

TLMC’s full-time media technologies consultant and student media assistants provide limited video production services. These staff spent approximately 363 hours working on media projects for NDSU departments during fall 2011 and spring 2012. Fall and spring reservations for the media studio totaled 354 hours.

INSTRUCTIONAL SERVICES

Instructional Services supports effective and innovative uses of technology in face-to-face and online learning environments.

Instructional Services training and support are available for a number of technologies, including Blackboard, interactive Smart Boards and Smart Display Panels, multimedia tools, video and Web conferencing, student response systems and social computing.

During FY12, training was offered through 61 regular training sessions, three Technology LunchBytes sessions and one faculty training workshop.

The 5th annual faculty training workshop, “Dig In,” provided 24 attendees with hands-on experience incorporating technology with instruction. Topics included digital literacy, using Prezi for dynamic presentations, using Blackboard Collaborate for online virtual classrooms and conferencing, creating online content with Camtasia and SnagIT, and creating a “flipped classroom.”

Instructional Services also offered training at other N.D. University System institutions and at two NDSU Extension conferences. Training sessions on Microsoft OneNote were offered to University System office staff, and training on Outlook was offered to individuals from NDSCS. At the fall 2011 and spring 2012 Extension conferences, NDSU Instructional Services staff offered training at 10 breakout sessions.

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TLMC TRAINING IN NUMBERS

- 6,709 student contacts (including training workshops and walk-in support requests)
- 5,059 total hours of support provided to contacts
- 138 total training workshops offered
- 79 training workshops offered to classes by instructor request
- 59 short classes offered to students
- 176 total hours of training offered

MEDIA STUDIO AND VIDEO PROJECT ASSISTANCE

- 184 reservations processed for the media studios
- 354 hours reserved in the media studios
- 182 total full-time staff hours of video project assistance provided, including consulting services and video recording and editing
- 181 total student-staff hours of video project assistance provided, including consulting services and video recording and editing
Beginning in June 2011, the Research Data Working Group (RDWG) convened to develop processes and tools to support NDSU faculty and researchers in addressing the following:

- Requirements for data management plans to be included in all NSF and NIH grant proposals
- An accepted campus method used to identify the impact of research initiatives on campus IT and cyberinfrastructure

RDWG represents a single point of contact for IT assistance with grant proposal and data management planning.

In September 2011, RDWG was notified its work going forward would be sponsored by the Office of the Provost for the purpose of increasing NDSU’s competitiveness in the national higher education research community and bringing NDSU into compliance with federal funding agency grant requirements.

During its first year of work, RDWG presented and/or provided outreach materials to 10 groups across campus, including new faculty, IT technical professionals, Sponsored Programs Administration, Faculty Senate, IRB Committee, IT communication liaisons, deans and chairs, and attendees of the Library Open House and the VPRCATT-sponsored “Gear Up For Grants” seminar.

As a result of RDWG’s outreach campaign, campus researchers have become more aware of the tools and resources provided by this group and by the represented departments of Libraries and IT. During RDWG’s first year of work, 11 individual researchers contacted RDWG directly to learn more about resources or to request specific assistance in developing a data management plan for grant proposals.

For more information about RDWG, go to www.ndsu.edu/research_data.
ADVANCED APPLICATIONS AND OUTREACH

Through connections to high-capacity global networks, NDSU researchers and educators are able to collaborate with more than 300 member institutions in the U.S. alone. These peers include leading U.S. universities, corporations, government research agencies, and not-for-profit networking organizations with current membership in Internet2 and regional networks.

Advanced networking and technology applications possess capabilities for supporting innovation in education and research. At the same time, the increasing needs of research and education for these high-performance computing and advanced network resources continue to stimulate development of new media and technologies, along with the infrastructure needed to support them.

NORTH DAKOTA TRIBAL COLLEGES: IMPROVED NETWORK CONNECTIVITY AND INTERNET2 SEGP INVITATION

In September 2011, the N.D. Experimental Program to Stimulate Competitive Research (ND EPSCoR) announced a $1 million, two-year National Science Foundation award, titled “N.D. Tribal College Cyber Connectivity (C-2) Investments to Enhance Integrated Education, Research and Workforce Opportunities.” The ND-C2 Consortium, comprised of four of the five Tribal colleges in North Dakota, UND and NDSU, will invest in hardware, software and personnel to improve network connectivity, benefitting both research and education.

The project will help improve Tribal colleges’ networking with various organizations in the state, nation and throughout the world; serve faculty, students and surrounding community; and elevate opportunities across a wide spectrum of economic, intellectual and workforce development activities.

NDSU’s advanced applications and outreach activities highlighted potential research and education resources that will be available to the Tribal colleges once the network upgrade is complete. In collaboration with ND EPSCoR, NDSU’s advanced applications and outreach coordinator met with presidents from all five Tribal colleges to present detailed information about the grant award and resulting opportunities; invited the Tribal colleges to become Internet2 Sponsored Education Group Participants (SEGP) program members under NDSU and UND’s Internet2 membership; and met with each college’s IT leaders to review steps to complete the SEGP process and support faculty and students in their use of research and education resources when connection is complete.

NATIONAL PARK SERVICE REMOTE WIRELESS DEMONSTRATION

NDSU facilitated a presentation at the fall 2012 Internet2 member meeting that showcased the use of wireless backpacks developed by a group of National Park Service (NPS) sites across the country to expand their outreach and education resources to include remote areas of the NPS system. The backpacks were initially developed utilizing technical resources and support staff currently available. Internet2 and its K20 Initiative are working with SEGP member states to assist in the development of new models built on research and education resources that provide better connectivity and improved content quality.

In North Dakota, the Knife River Historic Indian Villages NPS site completed an upgrade to its local wireless network, enabling outreach programs to originate from more remote areas of the park.

The Theodore Roosevelt (TR) Center located at Dickinson State University is among several Presidential Libraries across the U.S. that are collaborating with NPS, the Institute of Museum and Library Services, and the Library of Congress to develop a year-long K12 collaborative project involving content programs from each of the libraries and project-based learning activities for participating classrooms. North Dakota’s K12 technology services group, EduTech and NDSU are collaborating to facilitate the TR Center’s participation in this project.

ND K12 AND HIGHER EDUCATION COLLABORATIONS IN STEM AND DIGITAL HUMANITIES

NDSU and UND collaborated to facilitate a seminar targeted at K12 educators and technology coordinators in North Dakota schools. The seminar took the format of concurrent sessions during the semiannual N.D. Association of Technology Leaders face-to-face meeting April 13, 2012, in Bismarck.

The goal of the ND EPSCoR-based presentation was to introduce new resources aligned to the science, math and social sciences curricula that can be easily integrated into teaching and learning activities. The seminar highlighted several new technology-based resources embedded in the STEM and Digital Humanities disciplines.

Presentations were provided by guest representatives from DSU’s Theodore Roosevelt Center (www.theodorerooseveltcenter.org), iLabCentral (http://ilabcentral.org) and ND@Home (http://volunteer.cs.und.edu/wildlife). More than 130 technology coordinators, educators and administrators from K12 schools across North Dakota attended the event.

WORLD IPV6 LAUNCH AND MEGACONFERENCE KICK-OFF

NDSU hosted an IPv6 Launch and Megaconference Kick-off event for faculty and staff. Attendees viewed Megaconference presentations and learned more about how the transition to IPv6 will impact research and education on campus. Approximately 50 participating sites from around the world joined the event throughout the day, with about half successfully connecting with IPv6.

World IPv6 Launch, organized by the Internet Society, represented a major milestone in the global deployment of IPv6. As the successor to the current Internet Protocol, IPv4, IPv6 is critical to the Internet’s continued growth as a platform for innovation and economic deployment (www.worldipv6launch.org). IPv6 has been enabled on the NDSU campus since 2008. Until summer 2012, this was only available through NDSU’s connection to Internet2, which is now over the Northern Tier Network. IPv6 is enabled on the new N.D. STAGEnet backbone, which will go live July 28, 2012.

The Megaconference program included presentations from around the world, with a special presentation by Megaconference founders and virtual colleagues Bob Dixon, Ohio State University, and Sandy Srafska, retired from NDSU’s IT Division. Initiated originally by member universities including NDSU and Ohio State University, the Megaconference event has now been resurrected by Internet2 with a commitment to continue to host it annually.
ABOUT OUR ORGANIZATION

IT AWARDS RECOGNIZE MAJOR ACCOMPLISHMENTS

Interim Vice President Marc Wallman presented the individual Innovation, Collaboration and Excellence (I.C.E.) award and the IT Team award at the IT Awards Recognition event March 29, 2012. The event recognizes nominated IT staff members for their outstanding contributions to the IT Division and NDSU.

INNOVATION, COLLABORATION AND EXCELLENCE

Luke Prather, instructional services consultant, was selected as the recipient for the 2012 I.C.E. award. Adnan Akyuz, Angela Hodgson and Nancy Lilleberg nominated Prather for his leadership and collaboration with NDSU faculty and staff to implement a new student response system on campus. Prather also was nominated for his innovative implementation of a “flipped” classroom, which included captured lecture for use outside the classroom and student clickers for increased interaction in the classroom.

Other I.C.E. Award nominees:
- Lincoln Bathie, desktop support manager
- Nancy Lilleberg, instructional services manager
- Jill Peterson, application developer

IT TEAM AWARD

The IT Team Award recognizes the efforts of teamwork in achieving a noteworthy goal and rewards a group of individuals who collaborated to achieve results that have significant impact on the campus community.

The NDSU Central Authentication Service team, including leader Eric Christeson and members Richard Frovarp, Jill Peterson, Nathan Huff and Nate Olson, was selected to receive the 2012 award. The CAS team was nominated by James Ross for its work on a project to simplify the user sign-on experience. Centralizing authentication minimizes customer confusion about which credentials to use when accessing various applications.

Other IT Team Award nominees:
- Blackboard Support Group
- Media Support Staff
- Student Response System Team
ORGANIZATION CHANGES

The IT Division experienced several organizational changes in FY 2012.

In an effort to meet the challenges of strengthening campus IT security, Jeff Gimbel was reassigned to report 100 percent to the chief IT security officer, effective Oct. 3, 2011. Gimbel previously reported to both the Help Desk and IT Security.

The search to replace Bonnie Neas, vice president for IT, began in September 2011. The search was unsuccessful, and Marc Wallman was named interim vice president for IT effective Feb. 1, 2012. The search resumed in January 2012 and, due to fiscal reasons, was suspended in April.

Wallman assigned Galen Mayfield to serve as acting assistant vice president for Enterprise Computing and Infrastructure. Following an internal search, Mayfield selected Nate Olson to assume additional responsibilities as acting manager for Enterprise Systems.

John Underwood’s position permanently moved to the N.D. University System, effective March 1, 2012. Steve Sobiech, serving at the time as interim help desk manager, was officially named NDSU help desk manager.

When Marty Hoag retired in June 2012, the Business Operations, Policy and Strategic Services (BOPSS) unit was restructured and placed under the dual leadership of Jean Ostrom-Blonigen and Joan Chapek, assistant vice presidents. During the 2012-13 fiscal year, the group will focus on completing the Bitek implementation and consolidating business processes across ECI, ITS and Telecommunications. With the restructuring, HR and the communications functions were moved to the VPIT office. At the end of FY13, this model will be reassessed to determine how we should be best organized for FY14 and beyond.

NEW HIRES

- Amber Rasche was hired in a temporary one-year position as communications specialist Aug. 29, 2011.
- Rhonda Nilles was hired as cost accounting and control analyst in the Business Operations, Policy and Strategic Services unit Jan. 3, 2012.
- Kim Carlson was hired as an administrative secretary May 21, 2012.

RESIGNATIONS AND RETIREMENTS

- Bonnie Neas, vice president for information technology, retired Dec. 15, 2011, after 27 years at NDSU.
- Nathan Huff, system administrator, resigned Feb. 29, 2012, to take a position at the University of Minnesota’s Academic Health Center.
- Carol Tschakert, application developer, retired April 3, 2012. She began her 39-year career at NDSU in 1973, when she worked in the university’s computer center supporting the data processing needs of the Extension Service.
- Char Mass, account technician, retired May 3, 2012. She served IT for 16 years.
- Cloy Tobola, who served as NDSU IT communications coordinator and, through a service level agreement, as Interim CIO for NDSCS, was formally hired by NDSCS as full-time CIO May 16, 2012.
- Marty Hoag, director of BOPSS, retired June 8, 2012, after a 42-year career at NDSU.

IT STAFF IN NUMBERS

| IT staff members | 74 |
| Student staff members | 85 |
| IT staff hours worked in FY12 | 120,000+ |
| Student hours worked in FY12 | 36,000+ |
EMPLOYEE LIST
Following is a list of employees in each IT Division department as of June 30, 2012.

OFFICE OF THE VICE PRESIDENT
FOR INFORMATION TECHNOLOGY
Marc Wallman  INTERIM VICE PRESIDENT FOR INFORMATION TECHNOLOGY AND CIO
Kimberly Carlson  ADMINISTRATIVE SECRETARY
Jeff Gimbel  SENIOR SECURITY ANALYST
Cathy Hanson  STAFF DEVELOPMENT COORDINATOR
Amber Rasche  COMMUNICATIONS SPECIALIST
CeCe Rohwedder  ASSISTANT TO THE VICE PRESIDENT
Theresa Semmens  CHIEF SECURITY OFFICER

BUSINESS OPERATIONS, POLICY AND STRATEGIC SERVICES
Sharon Brinker  RECORDS SPECIALIST
Kim Lammers  IT BUSINESS MANAGER
Cynthia Lura  ACCOUNT TECHNICIAN
Pam Nielsen  SOFTWARE LICENSING COORDINATOR
Rhonda Nilles  COST ACCOUNTING AND CONTROL ANALYST
Janet Stringer  IT BUDGET COORDINATOR

ENTERPRISE COMPUTING AND INFRASTRUCTURE
Galen Mayfield  ACTING ASSISTANT VICE PRESIDENT FOR ENTERPRISE COMPUTING AND INFRASTRUCTURE
Jon Bronken  ASSISTANT MANAGER AND SYSTEM 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
Brian Kennedy  SYSTEM ADMINISTRATOR
Bryan Mesich  SYSTEM ADMINISTRATOR
Tim Mooney  SYSTEM ADMINISTRATOR
Val Nordsletten  NETWORK ENGINEER
Nathan Olson  ACTING MANAGER FOR ENTERPRISE SYSTEMS
Jill Peterson  APPLICATION DEVELOPER
Matt Reimet  NETWORK INFRASTRUCTURE TECHNICIAN
Jim Ross  LEAD APPLICATION DEVELOPMENT SPECIALIST
Dale Summers  DATABASE ADMINISTRATOR
Kelly Summers  NETWORK INFRASTRUCTURE TECHNICIAN
Bob Viog  NETWORK ENGINEER
Carla Wells  NETWORK INFRASTRUCTURE TECHNICIAN
Greg Wettstein  IT PRINCIPAL ENGINEER
Gary Whaley  SYSTEM ADMINISTRATOR
Terry Wieland  DIRECTOR OF NETWORK ENGINEERING AND OPERATIONS

INFORMATION TECHNOLOGY SERVICES
Jean Ostrom-Blonigen  INTERIM ASSISTANT VICE PRESIDENT FOR IT SERVICES
Michael Aho  HELP DESK CONSULTANT
Vincent 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 Doerkott  CONSULTANT STATISTICIAN
Daniel Erichsen  INTERACTIVE MEDIA SPECIALIST
Jon Fry  DESKTOP SUPPORT SPECIALIST (AG EXTENSION SERVICES)
Enrique Garcia  COMPUTER SYSTEMS ANALYST
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 AND MEDIA CENTER MANAGER
Nancy Lilleberg  INSTRUCTIONAL SERVICES MANAGER
Micah McGowen  CLASSROOM TECHNOLOGIES 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 Stottz  CLASSROOM TECHNOLOGY MANAGER
Michael Wolf  COMPUTER SYSTEMS SPECIALIST

TELECOMMUNICATIONS AND EMERGENCY SUPPORT TECHNOLOGIES
Joan Chapek  ASSISTANT VICE PRESIDENT FOR TELECOMMUNICATIONS AND EMERGENCY SUPPORT TECHNOLOGIES
Jason Blosser  TECHNOLOGY SYSTEMS COORDINATOR
Gail Bjornstad  TELECOMMUNICATIONS ANALYST
Vance Gerchak  DIRECTOR FOR TELECOMMUNICATIONS AND EMERGENCY SUPPORT TECHNOLOGIES
Cindy Kozojed  TELECOMMUNICATIONS ANALYST
Linda Krogen-Brandt  TELECOMMUNICATIONS ANALYST
Brian Miller  TELECOMMUNICATIONS ANALYST
Jayme Pfeifer  TELECOMMUNICATIONS ANALYST
Nathan Robideau  TELECOMMUNICATIONS ANALYST
Kathy Silkey  TELECOMMUNICATIONS ANALYST
Susan Jenstead  TELECOMMUNICATIONS ANALYST