INITIATIVES AND ACCOMPLISHMENTS

Student-centered Facility Designed for Innovative Learning .... 4
Preferred Name Option Reflects Diversity Commitment .... 4
YouTube Added to Google Apps at NDSU ................. 4

FINANCIALS

FY16 - Sources of IT Salary and Operating Budgets .... 5

TECHNOLOGY FOR TEACHING AND LEARNING

Tegrity Lecture Capture .......... 6
Student Response Clickers ........ 6
Blackboard Learning Management .... 6
Multimedia Classrooms and Computer Labs .......... 7
Video Conferencing ................. 7
Classroom and Computer Lab Summary .......... 7
Statistical Consulting ............... 8

ENTERPRISE SYSTEMS AND APPLICATION DEVELOPMENT

Network Engineering and Operations .......... 10

TELECOMMUNICATIONS

AND EMERGENCY TECHNOLOGIES

Safety and Security .......... 13
Cable TV (CATV) System ......... 13
Enterprise Voice System ........ 14
Campus Underground Transport Infrastructure .......... 14
Telecommunications Technologies .......... 15

HELP, SUPPORT AND TRAINING

IT Help Desk .......... 16
Desktop Support .......... 16
Information Security .......... 16
Technology Training .......... 18

ADVANCED APPLICATIONS AND OUTREACH

Helping Students, Faculty and Staff Connect .......... 19
Partnerships and Networking Across the Region .......... 19
Supporting Research .......... 20

PARTNERSHIPS

ABOUT OUR ORGANIZATION

Delivering Core Solutions and Propelling Innovation .......... 23
NDSU Staff Recognition .......... 23
Three staff inducted into NDSU’s Quarter Century Club .... 23
Organization and Staff Changes .......... 23
Employee List .......... 25
Colleagues,

The Information Technology Division delivers core solutions and propels innovation at North Dakota State University.

As a higher education information technology team, we face the ongoing challenge of creating technology-rich environments to meet the evolving academic, research and outreach needs of the university. In collaboration with partners across campus and beyond, we rose to that challenge in unprecedented ways during the 2015-2016 fiscal year.

NDSU completed construction of the state-of-the-art A. Glenn Hill Center in December 2015. IT staff played a central role in enhancing this entirely academic space with technology. From core network infrastructure, to centralized building security and access, to dynamic learning environments in the form of classrooms, labs and study spaces – evidence of technology excellence exists at every layer of the facility.

In January, we added YouTube to Google Apps for Education at NDSU, recognizing the valuable role it plays in teaching and learning, along with the role it can play in sharing NDSU's story with the world. Many students, faculty and staff use YouTube to watch and share videos related to their research, academic work and creative pursuits. Now they can do so with the Google account tied to their NDSU identity.

For the second consecutive year, we hosted the North Dakota Cyber Security Conference. The conference serves as the region's gathering space to share strategies, best practices and innovative solutions to address today's challenges in cyber security. The March 2016 event was sold out, with more than 300 professionals and students in attendance. We anticipate the same enthusiasm in 2017.

We continue to innovatively leverage existing resources in support of new opportunities. To attract and support the opening of a National Agricultural Genotyping Center in North Dakota, NDSU IT staff extended high-performance network resources to the new facility’s location at the Red River Valley Agricultural Research Center on campus. With 10-gigabit connections in place between the center and national research networks, researchers can connect to the Internet at speeds more than 200 times faster than previously possible. The center facilitates timely testing of crops and other agricultural samples to aid North Dakota farmers in planning and disease prevention. NDSU truly serves its citizens.

Looking forward to the coming year, we are reimagining our model for delivering services, support and information to the campus community. This means renewing our commitment to understanding campus needs and focusing on services, with technology as a means to that end. It also means identifying new synergies that traverse organizational boundaries.

Sincerely,

Marc Wallman
Vice President for Information Technology
North Dakota State University
INITIATIVES AND ACCOMPLISHMENTS
STUDENT-CENTERED FACILITY DESIGNED FOR INNOVATIVE LEARNING

The A. Glenn Hill Center (formally the STEM Building) was open for classes beginning spring 2016. More than $860,000 of technology was installed in 30 classrooms, a 48-seat computer lab, a 10-seat open access computer lab and six student huddle rooms where students can work on collaboration projects. Included are two SCALE-UP classrooms; SCALE-UP stands for Student-Centered Active Learning Environment with Upside-down Pedagogies. The rooms use complex technology and allow for the display of group work for three groups of three students per table as well as classroom sharing from each student seat.

Remaining work includes installation of three student microphones at each student table in the two SCALE-UP classrooms (total of 78 microphones), and installation and configuration of the technology for the six student huddle rooms.

PREFERRED NAME OPTION REFLECTS DIVERSITY COMMITMENT

As a reflection of NDSU’s commitment to diversity and cultivating an inclusive environment, preferred names set by students, faculty and staff now appear in widely-used online services. These include the university’s email system, Blackboard learning management system and the online directory.

A preferred name is the name by which someone wishes to be known, particularly if the name differs from the individual’s legal name. Students, faculty and staff have the self-service option to set preferred first and last names using the student and employee information management systems.

People set preferred names for multiple reasons. These range from a nickname of one’s legal name, to a chosen name that best matches a person’s gender identity, to a name that uses letters not included in the English alphabet. Individuals who are in the process of changing their legal names to reflect gender or marital status changes also can use the preferred name option in the interim. This new option in the university’s identity management service facilitates authentic self-identification and information accuracy.

YOUTUBE ADDED TO GOOGLE APPS AT NDSU

In addition to entertainment, streaming video has become part of teaching, learning, personal and professional communication, and often helps to shape our perceptions of the world. To help facilitate the increasing presence of video, NDSU has added YouTube to the collection of tools and resources available through Google Apps for Education.

YouTube channels associated with an NDSU Google account provide students, faculty and staff an environment to create, share and curate video content with added control over privacy and sharing. A means for providing departmental channels also is being piloted now.
## FINANCIALS

### FY16 - SOURCES OF IT SALARY AND OPERATING BUDGETS

<table>
<thead>
<tr>
<th>FUNDING SOURCE</th>
<th>AMOUNT</th>
<th>% OF TOTAL</th>
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</thead>
<tbody>
<tr>
<td>North Dakota University System – Service Level Agreement</td>
<td>$305,857</td>
<td>2.4%</td>
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<tr>
<td>NDSU-Base Appropriated</td>
<td>$5,009,381</td>
<td>39.3%</td>
</tr>
<tr>
<td>Student Technology Fee</td>
<td>$3,413,685</td>
<td>26.8%</td>
</tr>
<tr>
<td>Local/Recharge</td>
<td>$3,485,560</td>
<td>27.4%</td>
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<tr>
<td>Capital</td>
<td>$524,486</td>
<td>4.1%</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$12,738,969</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

### Chart: FY16 - $12,738,969

- **NDSU-Base Appropriated**: 39.3%<br>- **Local/Recharge**: 27.4%<br>- **Student Technology Fee**: 26.8%<br>- **Capital**: 4.1%<br>- **NDUS-SLA**: 2.4%
TECHNOLOGY FOR TEACHING AND LEARNING
TEGRITY LECTURE CAPTURE

Tegrity enables instructors to record everything that is said and viewed in the classroom to produce an integrated audio-video product. Tegrity uses plug-and-play equipment to record lectures and then creates a link to the video in the Blackboard learning management system, enabling students to play back lessons, bookmark sections of the lecture using a smartphone application and find specific information using a built-in search engine. This year NDSU implemented a two-year storage retention policy to reduce overall costs resulting in a 14 percent reduction from the previous year.

STATISTICS
Faculty, staff and students creating Tegrity recordings 475
Classes using Tegrity 586
Unique recordings created 8,878
Hours of content recorded 5,222
Hours of content viewed 44,465
Content views 142,993

STUDENT RESPONSE CLICKERS

NDSU’s centrally supported clicker option transitioned from Turningpoint5 to Turningpoint Cloud at the beginning of fall 2015. The reporting mechanisms changed, as well as other details about how faculty and students interact with the system. These are highlighted items from the transition:

The NXT device was discontinued from sales, and NDSU adopted the QT clicker model as the new device standard. The NXT devices continue to be supported while students use them.

The student registration process now requires a Turning Account, Turning License and device ID. The device ID is not required if the student is using the ResponseWare mobile app.

The Turning License is effectively the former standalone ResponseWare license. Because of this change, all students using a clicker can also use ResponseWare at no additional cost.

STATISTICS
179 instructors with a Turning Account
9,579 students with a Turning Account
7,443 students with a Turning Device

BLACKBOARD LEARNING MANAGEMENT

Blackboard Learn is an online learning management system used by faculty, students and various organizations on campus. It is a critical system used by more than 80 percent of NDSU faculty, affecting students on a regular basis. Faculty use Blackboard to interact with students, post grades, share information, and collect assignments. Blackboard allows faculty to share course resources and information with students without creating a separate web presence, and it gives students a centralized location to go for their courses. Blackboard also is used for course-related discussion and collaboration activities among various organizations on campus.

New to the 2015-2016 academic year, NDSU faculty can create/activate Blackboard courses easily and instantly by using the Bb Manager Utility. Instructors log into Bb Manager to create and activate courses, copy previous course content, and merge multiple sections of a course. Since the implementation of this tool, requests for class assistance at the beginning of the semester have decreased markedly. This has empowered faculty towards self-service and allowed Instructional Services’ staff to spend more time on consultation services with qualitative benefits to faculty.

BLACKBOARD PAGE VIEWS ON MOST ACTIVE DAY
Fall 2015 588,846
Spring 2016 473,037

AVERAGE BLACKBOARD PAGE VIEWS PER DAY
Fall 2015 346,779
Spring 2016 294,579

NUMBER OF BLACKBOARD USERS
Students 23,258
Instructors 2,230

NUMBER OF ACTIVE BLACKBOARD COURSES
Fall 2015 2,733
Spring 2016 2,620
MULTIMEDIA CLASSROOMS AND COMPUTER LABS

Application virtualization was assessed as a means to reduce computer lab hardware requirements, reduce application maintenance and upgrade time, reduce the time it takes to make an application available in the computer labs, run incompatible applications side-by-side, provide better system security, and allow students the ability to access applications remotely from their own device. During the spring semester, application virtualization was briefly offered as a pilot for a class using MatLab. The pilot included about 100 students. The results indicated a need for further testing during fall 2016.

The Math Emporium opened fall 2015. To prepare for the opening, 82 computers with state-of-the-art mathematics software designed to assist students taking college algebra, trigonometry and pre-calculus courses were installed and configured.

The Technical Support Services Team received an Impact Grant to fund the installation of a wireless presentation systems in all classrooms. A wireless presentation system (AppleTV) allows instructors, students and presenters the ability to walk into a classroom and wirelessly present on the classroom display from their mobile device or laptop. Installation is approximately 85 percent complete and research for a cost-effective unit capable of supporting Windows systems will commence.

Through the annual refresh of technology in the classrooms, the control environments continue to be upgraded to Crestron control systems, and converted from analog to high definition digital. These upgrades are approximately 80 percent complete.

Technical Support Services entered into 24 service level agreements with departments for technical support.

VIDEO CONFERENCING

During the past year, the Technical Support Services Team supported videoconference connections to locations across the United States, as well as international connections to Canada and India. These links were established to support collaborative agreements with other universities, establish research connections and support classroom instruction.

CLASSROOM AND COMPUTER LAB SUMMARY

| **1,127** supported classroom computers (up over 18 percent from last year) | **166** smart classrooms supported (general and departmental) |
| **38** public computer labs on campus, located in 22 buildings | **11** smart and video conference-enabled classrooms (IVN) supported (general and departmental) |
| **578** Windows computers in labs | **4** departmental video conference rooms supported (IVN) supported |
| **67** Mac computers in labs | **8** departmental conference rooms supported (no video conference capabilities) |
| **38** titles of ITS-provided software installed on windows lab computers | **8** departmental public venue spaces supported (no video conference capabilities) |
| **23** titles of ITS-provided software installed on lab Mac computers | **17** group study rooms supported |
| **88** titles of lab software installed per instructor requests | **31** video conference agriculture extension sites supported |
| **316,928** total lab computer logins during fall 2015 | **33** IVN classes sent or received during fall 2015 |
| **19,291** lab computer logins per week in fall 2015 | **439** students who participated in IVN classes during fall 2015 |
| **196,413** total hours spent logged into computers during fall 2015 | **34** IVN classes sent or received during spring 2016 |
| **11,954** hours spent logged into computers per week in fall 2015 | **496** students who participated in IVN classes during spring 2016 |
| **301,472** total lab computer logins during spring 2016 | **14** IVN classes sent or received during summer 2016 |
| **17,018** lab computer logins per week in spring 2016 | **156** students who participated in IVN classes during summer 2016 |
| **203,659** total hours spent logged into computers during spring 2016 | **59** student printers supported (general and departmental) |
| **11,497** hours spent logged into computers per week in spring 2016 | **4,631,883** sheets of paper used through the Go-Print printers compared to 4,646,800 sheets last year |
STATISTICAL CONSULTING

NUMBER OF CONTACTS

CONTENT AREAS

- Other
- Stats

YEAR

00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16

0 200 400 600 800 1000 1200
ENTERPRISE SYSTEMS AND APPLICATION DEVELOPMENT

- **598TB**: Total amount of disk space used to provide redundant SAN services.
- **1,147,446,209**: Files backed up by our backup system.
- **523,708**: Files requested for recovery.
- **93,750,072**: Email messages processed.
- **158**: Live NDSU websites outside CMS in Pubweb.
- **162**: Servers managed (101 Physical, 61 Virtual).
- **56,522GB**: Amount of disk space available for departmental shared and user home directories.
- **246**: Live websites in NDSU’s content management system “Live but not hidden” sites (actually available to visitors) 245 in 2014–2015.
- **156,106**: Average page views per day 139,105 in 2014–2015.

To efficiently manage IT services at NDSU, our Identity and Access Management System automates the onboarding, maintenance and off-boarding of IT services for all students, faculty and staff at NDSU.

- **63,065**: Number of accounts managed.
- **218**: Number of managed services.
- **39,082**: Number of managed email accounts.

The following is data related to track training participation (the last two fiscal years for comparison). More titles than last year, a bit better compliance, more accounts activated for bike share and for student organizations.

### TRACK TRAINING COMPLIANCE HISTORY, FY 2015–’16

<table>
<thead>
<tr>
<th>TYPE</th>
<th>REQUIRED</th>
<th>COMPLETED OBLIGATIONS</th>
<th>TRAINING TITLE COUNT</th>
<th>INCOMPLETE OBLIGATIONS</th>
<th>COMBINED PARTICIPANTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMPLOYEES</td>
<td>YES</td>
<td>6.783</td>
<td>18</td>
<td>6.271</td>
<td></td>
</tr>
<tr>
<td>STUDENTS*</td>
<td>NO</td>
<td>2</td>
<td>2</td>
<td></td>
<td>11,247</td>
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### TRACK TRAINING COMPLIANCE HISTORY, FY 2014–’15

<table>
<thead>
<tr>
<th>TYPE</th>
<th>REQUIRED</th>
<th>COMPLETED OBLIGATIONS</th>
<th>TRAINING TITLE COUNT</th>
<th>INCOMPLETE OBLIGATIONS</th>
<th>COMBINED PARTICIPANTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMPLOYEES</td>
<td>YES</td>
<td>5.790</td>
<td>12</td>
<td>4.439</td>
<td>10.755</td>
</tr>
<tr>
<td>STUDENTS*</td>
<td>NO</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes* Account activation for Bike Share and Student Organizations
Future innovations and advances in networking technologies will enhance NDSU’s position in an expanding global digital environment. Network Engineering and Operations (NEO) strive to anticipate the needs of the university and provide leadership in designing and implementing advanced solutions. NDSU will continue to rely heavily on NEO’s ability to successfully identify leading-edge technological advances and, with available resources, make them accessible now and in the future as NDSU continues to build upon and advance its stature as a nationally-ranked research university.

This past year, NEO made significant and notable improvements with regards to network infrastructure at both the core and the edge.

As part of a multi-year strategic plan to systematically upgrade switch technologies and bandwidth to all campus buildings, network engineers amplified bandwidth 10-fold – from existing 1 Gbps to 10 Gbps and extending 1 Gbps to the desktop.

Secondary to upgrading switching platforms was initiating an improvement project of further expanding electrical redundancy in all building wire-closets. This encompassed the installation of a second UPS, upgraded electrical infrastructure as well as secondary/backup power supplies in all building switch gear.

The network core in the Quentin Burdick Building is a key asset that enables the university to deliver a multitude of technology-based services, such as email, internet access, security systems, environmental controls, card access, VoIP, data transfer, storage and video services. Keeping the network core secure, healthy and performing at a high level requires a perpetual cycle of network upgrades. Therefore, focus returned to the core infrastructure this past year with many enhancements introduced to provide additional security, redundancy and resilience to the platform.

Plans are underway to put a 100 Gbps channel between the primary data center in the Quentin Burdick Building to the downtown data center in Barry Hall to provide more flexibility and supplemental operations.

Major upgrades also were made to the network management platform that gives network engineers greater visibility into the network and allows effective management of the network infrastructure to ensure maximum reliability and stability. In support of this management platform is a comprehensive database of both indoor and underground infrastructure spanning more than 80 buildings and 258 acres.

Securing the Wi-Fi network continues to be an urgency as NEO and Enterprise Systems assess the risks associated with this technology to proactively mitigate and protect against unforeseen threats and breaches. This past year, Wi-Fi management was upgraded to include enhanced tools to assist in guarding against these threats as well as provide performance measurements, RF optimization and administrative management.

After two years of construction, the A. Glenn Hill Center was completed this past year. NEO Project Manager Matt Reimer along with several NEO colleagues oversaw the entire telecommunications construction process.

A. GLENN HILL CENTER
NETWORK INFRASTRUCTURE:
- Cable Infrastructure (intra-building – wired and wireless)
  - 190,500 ft. Cat.6 Augmented (Cat.6a) 1/10 Gigabit
    - 36 miles
    - 2.1 tons
  - 1,270 wired data circuits
  - 10,800 “strand feet” fiber optic data backbone
  - 22,500 “conductor feet” voice backbone
  - 600 ft. CATV backbone

CABLE INFRASTRUCTURE
(UNDERGROUND FEEDS)
- 50,000 “conductor feet” voice feed
- 6,000 “strand feet” fiber optic data feed
- 250 feet CATV

DATA DISTRIBUTION (WIRED/WIRELESS)
- 10 Gigabit building backbone – 1 Gigabit distribution
- $275,000 investment in network switch gear
- 1,152 switched 1 Gigabit Ethernet ports
- 100 Wireless Access Points

With network technology advancing at a rapid pace, the division is challenged continuously to stay alert to emerging technologies. NEO makes every effort to align the technological needs and priorities of the campus with available technology that has been industry ratified. This ongoing process requires integrated and continuous planning.

We continue to make every attempt to meet the demands placed on our cyber infrastructure. Several consortia with both regional and national networks as well as state government provide access to other research institutions via our cyberinfrastructure. NDSU IT leadership and network engineering actively participates in ongoing regional and Internet2 governance, planning and advisory councils.

One element not reflected in this portion of the IT annual report is the commitment, resilience and enthusiasm of a dedicated NEO staff. These individuals are at the heart of a healthy progressive network.

AVERAGE UNIQUE WIRELESS DEVICES (MACS)/WEEK 2015/16 ACADEMIC YEAR

- MAIN CAMPUS: 11,664 (48%)
- RESIDENT HALLS: 12,637 (52%)
UNIQUE MAC ADDRESSES, WIRED VS. WIRELESS (MONTHLY AVERAGES)

IPv4 VS IPv6 TRAFFIC
AVERAGE MONTHLY TRAFFIC (BY SSID)

EDUROAM: 70%
NDSU SECURE: 16%
NDSU INSTRUCTIONS: 8%
NDSU LIMITED: 4%
NDUS SYSTEMWIDE: 2%
TELECOMMUNICATIONS AND EMERGENCY TECHNOLOGIES

The Telecommunications and Emergency Technologies department continues to experience tremendous expansion and growth. The department’s staff of 10 and a FY16 budget of $4.7 million serves NDSU students, faculty, staff and a variety of NDSU partners by providing leadership and expertise in enterprise voice, emergency technologies and the university’s underground communications infrastructure. Unique as a communications utility relating to business aspects, the department operates on a cost recovery basis serving nearly 7,100 students, faculty and staff on the main campus and 12 remote sites, including the North Dakota State College of Science, Dickinson Research Extension Center and the NDSU School of Nursing at Sanford in Bismarck.

SAFETY AND SECURITY

Ensuring the safety and security of NDSU’s faculty, staff and students is of the highest priority. E911, emergency communications, government mandates, personal-safety initiatives, personal connected devices, as well as emergency alarm monitoring with redundant and survivable emergency access to critical systems are real-life tools and information instantly available to university police staff to enhance campus safety. The Telecommunications and Emergency Technologies department continues to provide these advanced emergency enterprise systems, operations and technical expertise to enhance these critical safety and security philosophies.

An emergency standard of securing the exterior envelope of all campus facilities continues. This includes the latest generation of advanced and fully integrated security card access and video surveillance alarming, monitoring and recording technologies designed to enhance the security and safety of the campus, back to the 24/7 Police Communications Call Center. This direction provides a mechanism to comply with the intent of state and federal acts and regulations, including the Clery Act and Higher Education Opportunity Act. It also provides a means to comply with other auditing requirements to reasonably mitigate potential liability.

Significant university system pool safety and security dollars were made available to expand anticipated critical priorities for NDSU buildings and core areas of the campus. The project began with the first of this phased approach beginning with 10 student-focused, 24/7 occupied buildings. Completion is scheduled for late fall 2016.

Residence Life provided funding for immediate completion of the final phase of video surveillance and security card access encompassing the exterior building envelope of remaining campus residence halls and university apartments. Completion is scheduled for late fall of 2016.

As more dollars are made available, additional phases will continue to monitor and secure the exterior building entrances and core campus areas. Secondly, interior safety and security in select building locations will be considered. As well, migration of 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 funds are made available.

“NDSU Safety and Security Assist” – Pathlight

To enhance the safety of students, faculty and staff, a fully integrated virtual safety escort smartphone application, CBORD Pathlight, was implemented after a successful pilot project. Using this location based application, the university’s 24/7 Police Communications Call Center can remotely monitor a user’s travel to ensure they arrive at their destination safely. With real-time location tracking, ID photo and personally identifying data at their fingertips, police can respond quickly if the user doesn’t arrive within the allotted time or in the event of an emergency. The app integrates with current NDSU technologies; e.g., ID card (one-card philosophy), centralized card access and video surveillance, as well as real-time alarming, monitoring and reporting. As development of this app continues, new features will be rolled out as they become available.

CABLE TV (CATV) SYSTEM

With a recently awarded RFP for entertainment video (CATV), a project is underway to transition analog signal to an expanded digital and High Definition (HD) channel lineup. An upgrade of the campus Emergency Alert System to the latest generation technology is also underway. As an added benefit, an approximate 30 percent price reduction was realized on the contract cost of the signal.

Expansion and upgrades of CATV infrastructure and systems continues to provide signal to increased campus locations of residence hall and apartment units, as well as administrative and academic locations in campus buildings, allowing for broader coverage of NDSU’s centralized and integrated Emergency Alert System. Routine testing of all systems continues the first Wednesday of each month.
ENTERPRISE VOICE SYSTEM

The Enterprise Voice System continue development, upgrades, expansion and scalability of Telecommunications, building on NDSU’s established enterprise Voice over Internet Protocol (VoIP) Unified Communications platform. Plans continue for the roll-out of multiple voice, video and conferencing mobility solutions, extending NDSU’s centralized functionality with business continuity and flexibility across multiple platforms on multiple devices to users in all locations, enhancing the ability to broadly collaborate. Redundant voice carrier facilities with diverse path and geographically remote Enterprise Survivable systems have been deployed to protect the campus from failure.

Continued partnership with North Dakota State College of Science (Wahpeton and Fargo locations), now in its eighth year, with fully integrated enterprise voice services with advanced features and mobile solutions, as well as the provisioning of administrative and technical support.

Documentation of RPF requirements were completed for an emergency replacement solution for the IT Division’s Call Accounting and Information Technology Billing System. The BITEK software has been sold; therefore, NDSU is currently operating under a temporary software agreement with the new owner for the licensed use of the software, but no support is provided. The requirements include call accounting, billing, cable management, telephone station management, E-911 data, work management and inventory. Preparation and design also includes the improvement and automation of the service request business processes to include electronic forms. The enhancement will continue to provide further accountability of cost allocation and automation of business process to operate more efficiently and cost effectively to best serve campus and external constituents. Vendor award is expected late fall 2016, with implementation to begin January 2017.

CAMPUS UNDERGROUND TRANSPORT INFRASTRUCTURE

Efforts to provide telecommunications path diversity to critical campus locations continues. Phase I was completed to the University Police and Safety 24/7 Communications Center to supplement existing telecommunications infrastructure in a diverse path for campus emergency resiliency/failover services in the campus Emergency Operations Center.

Began preparing for the provision of voice, data, DATV and card access and video surveillance infrastructure to the new Veterinary Diagnostic Laboratory west of Interstate 29.

*Enhanced centralized and integrated enterprise systems alarming and recording to the 24/7 Police Communications Call Center.

<table>
<thead>
<tr>
<th>TELECOMMUNICATIONS AND EMERGENCY TECHNOLOGIES</th>
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<tbody>
<tr>
<td>BUDGET EXPENSE ALLOCATION FY2016</td>
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<tr>
<td>Appropriation</td>
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<tr>
<td>Local/Recharge</td>
</tr>
<tr>
<td><strong>TOTAL BUDGET</strong></td>
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<tr>
<td>Capital (includes repair and replacement)</td>
</tr>
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<td><strong>Total Budget</strong></td>
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* Includes repair and replacement.

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<tr>
<th>PUBLIC NETWORKS</th>
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<tr>
<td>NDSU TRANSPORT INFRASTRUCTURE</td>
</tr>
<tr>
<td>MOBILE AND CELLULAR TECHNOLOGIES</td>
</tr>
<tr>
<td>CATV TECHNOLOGIES</td>
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<tr>
<td>CARD ACCESS TECHNOLOGIES ENCHANCED SECURITY*</td>
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<td>VIDEO SURVEILLANCE TECHNOLOGIES*</td>
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<td>STATEWIDE TELEPHONY INTEGRATION*</td>
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<td>EMERGENCY PREPAREDNESS COMMUNICATIONS TECHNOLOGIES*</td>
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<td>DISASTER AVOIDANCE AND RECOVERY</td>
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<td><strong>TOTAL BUDGET</strong></td>
</tr>
<tr>
<td>Capital (includes repair and replacement)</td>
</tr>
<tr>
<td><strong>Total Budget</strong></td>
</tr>
</tbody>
</table>
TELECOMMUNICATIONS TECHNOLOGIES

INFRASTRUCTURE

Inside cable
1,922,000 feet [364 miles]

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

Outside fiber-optic network
130,200 strand feet [24.66 miles]

Outside cable TV network
19,200 feet [3.64 miles]

Inside cable TV network
301,100 feet [57.03 miles]

Leased fiber-optic
80,100 feet [15.17 miles]

Underground conduit
92,200 feet [17.46 miles]

Fiber-optic cables
2,250 strands

VOICE AND EMERGENCY COMMUNICATIONS

7,107 dial tone lines (includes 12 remote locations)
477,073 long distance minutes annually
400+ custom phone features/buttons
231 users of phone-to-cellular bridge
31 blue light emergency phones

CELLULAR PHONES

539 total users
371 smartphones
1,995,714 cellular minutes annually

CABLE TV

Cable TV distribution to 61 main and remote campus buildings
192 administrative and academic locations
1,992 residence hall and apartment unit locations

CARD ACCESS

621 doors equipped for card access
18,439 users with access privileges
300 – 2,400 access and door schedule changes per week
25,000 door access card reads on a typical day
HELP, SUPPORT AND TRAINING

IT HELP DESK

The Information Technology Help Desk is the initial point of contact for all campus IT services and support. It aids NDSU students, faculty, staff and a variety of campus partners through a variety of support options: face-to-face in Quentin Burdick Building ISO, registration and move-in weekend training activities, online documentation, a web-based ticketing system, email, telephone support and chat. The team delivers essential communication to the campus on technology matters, provides first level fault-isolation for problems and coordinates with all the IT Division to help resolve technology issues. The IT Help Desk also offers large-format printing for posters or presentation materials, Optical Mark Reader scoring for exams and equipment checkout (including digital still and video cameras, laptops and podcast recording units).

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DESKTOP SUPPORT

Desktop Support offers advanced field services to departments across campus, assisting faculty and staff to meet a vast array of their computing support needs. Services are offered for both Windows and Mac operating systems, on Apple, Dell, HP and Microsoft hardware. Windows 10 is fully supported and Sierra for Mac will be in late fall 2016. The four-member team manages more than 1,800 computers and uses Active Directory, System Center and Casper Suite for continued efficiencies and quicker response times. This year, the team will focus on assisting with the migration of Office 365 services to the University System’s tenant and leveraging workflow technology for better campus productivity.

COMPUTERS MANAGED BY DESKTOP SUPPORT:

- **1,726** Windows computers
- **1,251** Windows desktops
- **475** Windows laptops or tablets
- **112** Macintosh computers
- **1,838** total managed computers

DESKTOP SUPPORT AVERAGES:

- **200** new installs per year
- **1,000** general field support calls, upgrades and repairs per year

INFORMATION SECURITY

There are three components to the Information Security unit: Information Security, Software and IT Asset Management, and Records Management. All three work in tandem to ensure the security and privacy of NDSU data and IT asset resources.

INFORMATION SECURITY

The Information Security unit is responsible for developing and managing a university wide information security strategy and vision, which includes security policies, procedures, risk management and assessment, and the coordination of efforts across the university. During the 2014-2015 fiscal year, the IT Security unit:

- Continued regular assessment of systems connected to NDSU’s network for vulnerabilities and threats. When vulnerabilities were discovered, the unit worked with individuals and departments to mitigate the threat and bring those systems into compliance with policy. Diligence in this area has contributed to a 30 percent drop in electronic devices on campus that are vulnerable to threats.
- Rewrote and updated the NDSU Privacy statement for the NDSU website.
- NDSU hosted the 2016 North Dakota Cyber Security Conference on March 17. The chief information security officer served as one of four advisers for the conference, providing oversight for development of the conference speaker lineup and program. Nineteen experts were invited to present on three topics: technical and operations, governance and policy and education, training and awareness. Throughout the daylong conference, more than 350 participants heard a variety of topics related to technical security, governance and policy and education and training.
- Developed and implemented the Jump System, a virtual desktop environment controlled and managed by the Enterprise Computing Infrastructure that provides secure and valid access for vendors who need to remotely manage systems on the campus Internet.
- Dining Services and Parking are now PCI compliant.
- Developed the PEATS (Phishing, Education, Awareness, Training and Simulation) program. The program is designed to empower all students, faculty and staff to protect themselves against phishing scams. The program will include educational and learning resources along with a simulated phishing campaign designed to further enhance the user’s knowledge about phishing scams. This program is expected to extend into 2017.

- During the 2015-2016 year, Information Security:
  - Responded to 29 open records requests;
  - Assessed and approved 39 servers or systems to meet compliance with NDSU Policy 710;
  - Received and responded to 123 copyright infringement take down notices;
  - Responded and remediated 421 compromised accounts or systems;
  - Conducted eight presentations on security concerns to the campus and the outside community including a keynote presentation at the SAINTcon, Ogden, Utah.

- The chief information security officer:

SOFTWARE AND IT ASSET MANAGEMENT

Software and IT Asset Management is responsible for assisting with, supporting and coordinating policies and procedures to build a comprehensive software and IT asset management and license optimization process that includes oversight of costs and maximizes returns on software investments.

During the 2015-2016 fiscal year, Software and IT Asset Management:
- Processed 1,072 software orders and requests.
- Assisted with processing and creating 357 student licenses and 144 staff MatLab licenses.
- Provided administration for more than 200 ESRI student licenses.
- Serves as the administrator for the Microsoft Imagine account.
- Provided the requested licenses and media for installation for software requested to be installed in the computer clusters.
- Processed all items from the IT Division that are sent for surplus.
- Completed and submitted the Fire/Tornado report for the 4500, 4510 and 4530 departments. The Division of IT has over 6,500 itemized and inventoried items.
- Provided software quotes and ordered, as requested, Microsoft products, Adobe standalone and Creative Cloud, Endnote, Malwarebytes, AMOS and AutoCAD licenses. The chief information officer reviewed 249 software and online service licenses and contracts for compliance with state law, North Dakota University System policy and NDSU policy.

RECORDS MANAGEMENT

The focus of NDSU Records Management is to support and improve business processes, ensure records are retained for the correct period of time, manage records in a manner that assures their accuracy and evidential value, and standardize to provide cohesive best practices for records management and oversight. The Records Management program is directed and coordinated by staff in the Office of the Vice President for Information Technology. It includes Records Management, chaired by the chief information security officer, and unit records coordinators who facilitate and coordinate records management within their departments and units.

During 2015-2016 fiscal year, NDSU Records Management:
- Updated NDSU Policy and Procedure 713, Records Management and NDSU Policy 713.1, Litigation Hold.
- Rewrote NDSU Policy 718,
- Updated and modified the face-to-face training and started to formulate and develop online training for Records Management.
- Revised and updated the records disposal form to be more efficient and easier to understand.
- Continued to update the:
  - NDSU records retention schedule through addition of new records series, modification of current record series and deletion of record series no longer used on campus.
  - Unit records coordinators list and worked with the coordinators to bring NDSU into compliance with records-related policies and procedures.
- Facilitated the 2015-2016 records disposal process. A total of 21,006.62 inches of paper records were disposed.
TECHNOLOGY TRAINING

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

DIVE-IN FACULTY TRAINING WORKSHOP

The ninth annual “Dive-In” faculty workshop was offered in May. In conjunction with NDSU introducing Google Apps during this time frame, this year’s session focused on:

- Google Docs – group collaboration in one document synchronously or asynchronously
- Google Drawings – create visuals with an easy-to-use drawing app
- Google Forms – collect feedback in online forms and store the results in Google Sheets
- Google Drive – one of many options for online storage available to faculty and students
- Hands-on exercise - adding voiceovers to a PowerPoint presentation, uploading the video file to YouTube and adding captioning. Strong emphasis on accessibility

MICROSOFT OFFICE SPECIALIST CERTIFICATION

Instructional Services and TLMC staff provided emporium-style training in support of NDSU’s Microsoft Office Specialist certification program. The certifications are the official credential backed by Microsoft that confirm an individual has met Microsoft’s standardized set of objectives for Office applications. Emporium-style training is flexible to meet the learning needs of all participants, whether they are new to the latest version of MS Office or are advanced users with years of experience.

This program has been jointly funded through the NDSU Student Technology Fee and by a contribution from NDSU Staff Senate with significant administrative support provided by NDSU’s Division of Finance and Administration, NDSU Instructional Services and the Technology Learning and Media Center (TLMC) as well as the NDSU Counseling Center. More information is available at www.ndsu.edu/softwarecertification.

TECHNOLOGY LEARNING AND MEDIA CENTER

The TLMC provides a variety of support, consulting and multimedia services for the campus, including video and audio recording studios, multimedia software and specialized equipment, editing and consulting services, classroom project support, large format printing (plotting) services, multimedia coursework assistance and technology workshops. Workshop topics included MS Office and Adobe software, audio, video, photography, Google Apps and SketchUp.

In addition to daily walk-in services, the TLMC offers Lynda online training access, and provided 206 workshops for the general student population and for specific classes or groups as requested by instructors, departments or organizations.

“I’m always impressed by the variety of workshops available. Free!” – NDSU staff member

“I’m looking forward to putting into practice what I have learned. Thanks for the session!” – NDSU student

TLMC STATISTICS

- 542 media studios reservations – for NDSU’s advanced video production studio
- 949 hours reserved in media studios
- 31 media recording projects completed
- 112 dissertation video produced
- 206 workshops:
  - 106 class project support workshops provided upon instructor request
  - 100 general workshops offered broadly to all NDSU students, staff and faculty
- 3,200+ walk-in support and consultation contacts
- 943 uses of Lynda online training repository
ADVANCED APPLICATIONS AND OUTREACH
HELPING STUDENTS, FACULTY AND STAFF CONNECT

Engagement with U.S. based R&E networks and others around the world enables NDSU to support research and academics through dedicated and secure physical links ensuring uninterrupted high-capacity bandwidth and network peering.

INTERNET2
www.internet2.edu

NDSU is a founding member of Internet2, a member-owned consortium of leaders in higher education focusing on research, academia, industry and government collaborating to develop and deploy innovative advanced networking technologies.

NORTHERN TIER NETWORK
www.ntnc.org

The Northern Tier Network Consortium is a regional network initiative that provides a robust research network connection for educational institutions in the upper-northwestern states by creating a national backbone route across the northern United States.

EDUROAM
www.eduroam.org

Eduroam is the secure, worldwide roaming access service developed for the international research and education community. Eduroam allows faculty, staff and students secure, authenticated and wireless access at participating institutions around the globe.

INCOMMON
www.incommon.org

The InCommon Federation is the U.S. education and research identity federation, providing a common framework for trusted shared management of access to online resources.

PARTNERSHIPS AND NETWORKING ACROSS THE REGION

PARTNERING WITH NORTH DAKOTA
The Northern Tier Network–North Dakota connects North Dakota to the nation’s research and education high-speed backbone network. All state higher education institutions, including tribal colleges and K-12 schools, connect to NTN-ND via the state network.

PARTNERING WITH THE REGION
NTN–ND is part of a larger, regional effort to provide high-speed network connectivity to the Northern Tier Network Consortium (www.ntnc.org) and, ultimately, to Internet2.

PARTNERING WITH THE K12 COMMUNITY
Current projects integrating technology resources into teaching, learning and research across North Dakota’s K-12 and higher education communities include a variety of curriculum-based projects that utilize R&E network resources.

- Internet2’s national remote instrumentation and virtual labs videoconference event.
- Internet2 K2O Initiative’s “Presidential Powers and the Constitution” featuring the Theodore Roosevelt Center at Dickinson State University.
- North Dakota Teacher Resource Coalition (NDTRC) annual summer workshop
- Maker Day workshops presented by EduTech

North Dakota’s EduTech partners with NDSU and other campuses to provide professional development for educators and facilitate curriculum-based content programs and international classroom collaborative projects involving resources available through global research and education networks. The 2015-2016 fiscal year witnessed an 18 percent increase from the previous year in overall numbers of classrooms participating in curriculum-based projects.
SUPPORTING RESEARCH

NDSU’s Advanced Applications supports research by providing leadership in project development and management for initiatives and committees including the Research Data Working Group, research project planning, library faculty senate, open education resources, researcher’s coffee events, Internet2 K2O Executive and Advisory committees, Northern Tier Network Consortium Executive and Steering Committees and the advisory council for the Pacific Northwest Gigapop (PNWGP).

NATIONAL AGRICULTURAL GENOTYPING CENTER BENEFITS FROM NDSU NETWORK

NDSU recently completed an extension of NDSU’s existing network infrastructure to the Red River Valley Agricultural Research Center and the National Agricultural Genotyping Center. The location of these national centers in Fargo allows timely testing of crops and other agricultural samples to aid farmers in planning and disease prevention.

“We are excited for future collaboration with NDSU students, faculty and staff,” said Megan Palmer, NAGC director. “We are offering an internship for students and look forward to providing meaningful experience for students to prepare them for full-time positions in their science-related fields.”

PRESENTATIONS AND PUBLICATIONS

North Dakota’s Internet2 liaison is responsible for project development and management of initiatives supporting teaching, learning and research through a variety of ongoing activities, strengthening collaboration across the state and region. During the last year, North Dakota had the opportunity to highlight its work in efforts to advance engagement in the global research and education community through several invitations to present and publish:

- August 2015: Invited to present to the state of Montana’s K-20 leadership conference on the history, process and activities of North Dakota’s K-20 community and its membership in Internet2.
- October 2015: Invited to present to the state of Arizona’s K-20 leadership confluence on the history, process and activities of North Dakota’s K-20 community and its membership in Internet2.
PARTNERSHIPS

NDSU benefits from a large network of groups and individuals who collaborate to provide innovative technology solutions for teaching, learning and research.

CMS USERS GROUP

The CMS Users Group is a community of Web authors using NDSU’s content management system. Group members exchange information and meet to discuss major upgrades.

More information is available at www.ndsu.edu/cms/t3ug.

FACULTY SENATE TECHNOLOGY AND INSTRUCTIONAL SERVICES COMMITTEE

Technology and Instructional Services is a standing committee on NDSU’s Faculty Senate, serving as a liaison between the Faculty Senate and administration in the Information Technology Division.

More information is available at www.ndsu.edu/facultysenate/committees.

INFORMATION TECHNOLOGY COMMUNICATION LIAISONS

The IT Communication Liaisons members are appointed by their home departments to serve as conduits for information and feedback regarding campus information technology. The group meets monthly to learn about and discuss a variety of technology plans, projects and issues.

More information is available at www.ndsu.edu/vpit/partnerships/it_communication_liasons.

INFORMATION TECHNOLOGY COUNCIL

The IT Council serves in a consultative capacity to the Vice President of IT regarding IT strategic planning, policy development and service review for the university.

More information is available at https://www.ndsu.edu/vpit/itc.

INFORMATION TECHNOLOGY TECHNICAL PROFESSIONALS

The IT Technical Professionals is a special-interest group that provides the opportunity for technical discussions and exchange of information between distributed technical staff and the IT Division.

More information is available at www.ndsu.edu/vpit/partnerships/it_technical_professionals.

INSTRUCTIONAL DESIGNERS

Instructional Designers play a key role in supporting pedagogical use of technology on campus. The Instructional Designers group meets periodically with staff in the Information Technology Division to discuss plans, changes and issues related to classroom technology and instructional services.

LEARNING SPACES EXECUTIVE COMMITTEE

The Learning Spaces Executive Committee provides advice to the provost concerning the scheduling, use, renovation and creation of learning spaces on campus. Learning spaces include classrooms, laboratories, study areas, computer labs and other rooms where students learn and study. The committee is chaired by the vice provost for academic affairs, and members include representatives from the Office of the Registrar, Facilities Management, Information Technology, the Office of Teaching and Learning and the Libraries.

RECORDS MANAGEMENT ADVISORY COMMITTEE

The Records Management Advisory Committee serves as the overarching governance of NDSU’s Records Management program, providing oversight, guidance and direction.

More information is available at www.ndsu.edu/recordsmanagement/contacts/task_force_members.

RESEARCH DATA WORKING GROUP

The Research Data Working Group includes representatives from Research and Creative Activity, the NDSU Libraries and the Information Technology Division who provide assistance with grant proposal development in the areas of data management planning and IT needs.

More information is available at www.ndsu.edu/research_data/about_us.

RESIDENCE HALL ASSOCIATION CAMPUS SERVICES REPRESENTATIVES

Student members of the Residence Hall Association meet monthly with Information Technology Division staff to learn about trends and upcoming changes to campus technologies and to share feedback from their peers regarding students’ experiences with campus technology services and resources.

SOFTWARE CONTACTS

Software Contacts are appointed to serve as liaisons between their respective departments and the IT Software Licensing Coordinator regarding software licensing questions, software orders and other software assets and licensing issues.

More information is available at www.ndsu.edu/its/software/licensing_program/ndsu_department_software_contacts.

STAFF SENATE INFORMATION TECHNOLOGY COMMITTEE

The Staff Senate Information Technology Committee disseminates information and updates regarding information technology to Staff Senate and carries concerns from Staff Senate to the Information Technology Division.

More information is available at www.ndsu.edu/staff_senate/committees.
The Student Government Office of Technology represents the technology needs of NDSU students and works with the Information Technology Division to ensure proper usage of the student technology fee.

More information is available at www.ndsu.edu/sg/tech.

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. A student manager oversees the student hiring process, maintains records, assists full-time staff with summer orientation and encourages other IT students to be part of this activity. The IT Division relies on student employees to help communicate and provide an overview of IT services to incoming students during campus visits. We value the work students do and appreciate their willingness to share knowledge and expertise as part of our organization’s outreach activities.

More information is available at www.ndsu.edu/its/sts.

The Technology Fee Advisory Committee formulates recommendations to the vice president for information technology about supporting projects that improve the information technology capabilities on campus by the appropriate use of the technology fee.

More information is available at www.ndsu.edu/tfac.

Technology in Education and Research Committee

The Human Development and Education Department’s Technology in Education and Research (TIER) Committee conducts an annual review of HDE technology support services, shares experiences with pedagogical application of technologies and formulates recommendations on the unmet technology needs of the HDE faculty. The committee also facilitates and enhances HDE research efforts through use of technology.

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

More information is available at www.ndsu.edu/telecommunications/telephone_admin_list.

Unit Records Coordinators serve as liaisons between their respective units and the Records Management Coordinator, contributing to NDSU’s Records Management Program.

More information is available at www.ndsu.edu/recordsmanagement/contacts/records_COORDINATORS.
ABOUT OUR ORGANIZATION
DELIVERING CORE SOLUTIONS AND PROPPELLING INNOVATION

The Information Technology Division is committed to delivering core solutions and propelling innovation by sustaining reliable infrastructure systems designed to maintain a robust and dynamic core network foundation. The organization’s culture and strength are also expressed by its passionate desire to serve the needs of the campus community through relationships and partner collaboration. In tandem with our campus partners and colleagues, we engage in discussions of discovery, evaluation and implementation regarding new technology tools or state-of-the-art innovations envisioned to enrich teaching, learning or research outcomes.

NDSU STAFF RECOGNITION

At the 28th annual NDSU Staff Recognition Social, held April 12, 2016, IT staff were acknowledged for specific outstanding performance.

• Greg Wettstein, Enterprise Computing and Infrastructure, was one of several staff members nominated for an individual professional award.
• The “Classroom Technology Heroes” – Zach Anderson, Micah McGowen and Trevor McNeil – were nominated for the team award.
• The “Smooth Move” team – Chad Foster, Network Engineering and Operations, and Lisa Benz and Nate Robideau, Telecommunications and Emergency Technologies – were nominated for the team award.

THREE STAFF INDUCTED INTO NDSU’S QUARTER CENTURY CLUB

In spring 2016, three IT staff were recognized for 25 years of service to NDSU.

• Cj Johnson, instructional services consultant
• Val Nordsletten, network engineer
• James Ross, team lead, enterprise application development

ORGANIZATION AND STAFF CHANGES

TWO STAFF MOVE TO TOP LEADERSHIP ROLES

Two leadership positions within the Information Technology Division were filled during fiscal year 2015-2016.

Steve Sobiech was named assistant vice president for Enterprise Computing and Infrastructure. Sobiech’s history at NDSU spans more than 16 years. He joined the organization as an IT Help Desk student in 2001 and advanced to a full-time position in 2006. A year later, he was promoted to assistant manager of the Help Desk. His leadership earned him the Help Desk manager position in 2011. In 2013, he assumed the additional responsibility of acting executive director of Enterprise Computing and Infrastructure. While holding dual roles, Steve further expanded his administrative leadership skills with budgeting, managing key initiatives and providing direction to staff. His broad background, both from technical and collaborative perspectives, will support the strategic and operational direction of Enterprise Computing and Infrastructure department.

Steve’s history at NDSU spans more than 16 years. He joined the organization as an IT Help Desk student in 2001 and advanced to a full-time position in 2006. A year later, he was promoted to assistant manager of the Help Desk. His leadership earned him the Help Desk manager position in 2011. In 2013, he assumed the additional responsibility of acting executive director of Enterprise Computing and Infrastructure. While holding dual roles, Steve further expanded his administrative leadership skills with budgeting, managing key initiatives and providing direction to staff. His broad background, both from technical and collaborative perspectives, will support the strategic and operational direction of Enterprise Computing and Infrastructure department.

Jason Blosser was hired as assistant vice president for Information Technology Services. Blosser has 20 years of experience in higher education. He began his career at NDSU in 2010 when he was named a technology systems coordinator in the Telecommunications and Emergency Technologies department. Prior to coming to NDSU, he worked as director of information technology at Manchester Community College in Connecticut from 1999-2010 and as director of systems and networks at Northland Pioneer College in Holbrook, Arizona, during 1994-1999. His leadership philosophy embraces diplomacy and understanding – essential values as he continues building strong relationships with his staff and the campus community.

NEW IT DIVISION OFFICER COORDINATOR

Tran Brunsberg joined the IT Division August 31 as the office coordinator, replacing Kim Carlson. She served in the Alaska Air National Guard and civil service for the U.S. Air Force at Eielson AFB for 24 years, holding many high level administrative support roles for military personnel. Her experience in providing customer service, financial management and office administration are essential in performing administrative support for the Office of the Vice President.
HELP DESK STAFF CHANGES
As a result of several vacancies, a series of staff changes took place within the Help Desk team. The following staff transitioned into new roles because of several internal search processes:

Nate Gonser assumed the IT Help Desk manager position on April 11, 2016. Gonser began his career at NDSU as a Help Desk consultant in 2007, and took on the role of acting Help Desk manager in March 2013. Under his continued leadership, the Help Desk remains committed to providing excellent customer service to support student, faculty and staff needs.

Josh Teegarden was promoted to a senior level Help Desk consultant role and on Oct. 19, transitioning his Help Desk responsibilities toward specifically supporting the Barry Hall downtown campus. He is responsible for facilitating strong communication channels and working relationships with staff from the main IT Help Desk and other IT Division units to help to ensure students, faculty and staff are satisfactorily supported in their academic and work endeavors. Josh replaces Enrique Garcia, who took a faculty teaching position within NDSU.

Daniel Koiner transitioned to a Help Desk consultant position on Jan. 25, 2016. He began his career at NDSU in September 2013 as a member of the Desktop Support team. In September 2014, his position description was modified to reflect a shift in job responsibilities beyond the core entry level support for which he was hired initially. His technical skills and exceptional customer service skills, both of which are highly valued in the Help Desk environment, will be further developed in his new position.

DESKTOP SUPPORT SERVICES STAFF CHANGES
Cole Jackson, was hired as a desktop support technician on Oct. 5, 2015, to assist the team with classroom and computer lab setups, upgrades and lab images. He did similar work for two years as a student employee at North Dakota State School of Science, Wahpeton, while earning his associate’s degree in IT support / information systems and receiving an IT forensics certificate. Cole replaced Cody Greff, who resigned July 31, 2015.

TWO STAFF ADDDED TO ENTERPRISE SYSTEMS
Two system administrators were added to the Enterprise Systems unit during the 2015-16 academic year.

Verlyn Sandhurst joined the team on Aug. 17, 2015. Sandhurst has 20 years of experience in IT, providing networking and system administration for several companies based in Omaha, Nebraska. In his previous job at Oriental Trading Co., he served as a system engineer supporting 400 servers in a virtual and physical environment. He also supported the company’s storage area network and enterprise applications. Sandhurst earned a networking certificate from Metropolitan Community College in Omaha.

Suhan Vethanayagam started as a system administrator on Feb. 4, 2016. He had previous experience as a student employee at the IT Help Desk. He acquired much of his technical expertise from his professional work experiences as member of the UNIX team for TIAA-CREFF and Wells Fargo, both in Charlotte, North Carolina. Vethanayagam earned a bachelor’s degree in electrical engineering from NDSU and is enrolled as a graduate student in NDSU’s computer science master’s program.

Both individuals have excellent technical expertise and communication skills essential to creating a strong team within Enterprise Systems.

NEW STAFF HIRES:
Verlyn Sandhurst, system administrator ....Aug. 17, 2015
Tran Brunsberg, office coordinator ........Aug. 31, 2015
Cole Jackson, desktop support technician ....Oct. 5, 2015
Suhan Vethanayagam, system administrator ....Feb. 4, 2016

STAFF RESIGNATIONS AND RETIREMENTS:
Kim Carlson, office coordinator ...........July 2, 2015
Cody Greff, desktop support technician ........July 15, 2015
Enrique Garcia, computer systems analyst, co-assistant Help Desk manager ...........Aug. 17, 2015
Diane Clark,
Network Infrastructure Technician ...April 1, 2016 (retired)
(Clark returned May 5, 2016 on part-time basis)

Zach Anderson,
classroom technologies specialist ..........April 27, 2016
### EMPLOYEE LIST

Following is a list of employees in each IT Division department as of June 30, 2016

#### OFFICE OF THE VICE PRESIDENT FOR INFORMATION TECHNOLOGY
- **Marc Wallman** - Vice President for Information Technology
- **Tran Brunsberg** - Office Coordinator
- **Curt Doetkott** - ConsultantStatistician
- **Jeff Gimbel** - Senior IT Security Analyst
- **Cathy Hanson** - IT Workforce Analyst
- **Kim Owen** - Advanced Applications Outreach Coordinator
- **Amber Rasche** - IT Communications Coordinator
- **CeCe Rohwedder** - Assistant to the Vice President for IT
- **Theresa Semmens** - Chief IT Security Officer

#### BUSINESS UNIT
- **Sharon Brinker** - Senior Account Technician
- **Kim Lammers** - IT Business Manager
- **Rhonda Nilles** - IT Budget and Cost Accounting Manager

#### ENTERPRISE COMPUTING & INFRASTRUCTURE
- **Steve Sobiech** - Assistant Vice President for Enterprise Computing & Infrastructure
- **Jon Bronken** - Assistant Manager and System Engineer
- **Eric Christeson** - Application Developer
- **Bruce Curtis** - Senior Network Engineer
- **David Dahl** - Senior Network Infrastructure Specialist
- **Jason Eide** - Manager System Administrator
- **Chad Foster** - Network Infrastructure Technician
- **Richard Frovarp** - Senior Software Engineer
- **Brian Kennedy** - System Administrator
- **Tim Mooney** - System Administrator
- **Val Nordsletten** - Network Engineer
- **Jill Peterson** - Application Developer
- **Matt Reimer** - Network Infrastructure Technician
- **Jim Ross** - Lead Application Development Specialist
- **Verlyn Sandhurst** - System Administrator
- **Dale Summers** - Database Administrator
- **Kelly Summers** - Network Infrastructure Technician
- **Suhan Vethanayagam** - System Administrator
- **Bob Yiou** - Network Engineer
- **Carla Wells** - Network Infrastructure Technician
- **Greg Wettstein** - IT Principal Engineer
- **Gary Whaley** - System Administrator
- **Terry Wieland** - Director of Network Engineering and Operations
- **Diane Clark** - Network Infrastructure Technician (Part-Time)

#### INFORMATION TECHNOLOGY SERVICES
- **Jason Blosser** - 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
- **Neil Brock** - Help Desk Consultant
- **Chad Coleman** - Desktop Engineer
- **Tammy Cummings** - Instructional Services Consultant
- **Daniel Erichsen** - Interactive Media Specialist
- **Nathan Gonser** - Help Desk Manager
- **David Hamiga** - IT/AV Systems Specialist
- **Cj Johnson** - Instructional Services Consultant
- **Daniel Koiner** - Help Desk Consultant
- **Sheree Kornkven** - Technology Learning and Media Center Manager
- **Nancy Lilleberg** - Instructional Services Manager
- **Micah McGowen** - Classroom Technologies Manager
- **Trevor McNeil** - Classroom Technologies Specialist
- **Lorna Olsen** - Instructional Services Consultant
- **Luke Prather** - Instructional Services Consultant
- **Jim Sellner** - Desktop Support Specialist
- **Jim Senechal** - Computer Systems Specialist
- **Melissa Stotz** - Technical Support Services Manager
- **Josh Teegarden** - Sr. Help Desk Consultant
- **Michael Wolf** - Desktop Engineer

#### TELECOMMUNICATIONS AND EMERGENCY TECHNOLOGIES
- **Joan Chapek** - Assistant Vice President for Telecommunications and Emergency Technologies
- **Lisa Benz** - Telecommunications Analyst
- **Vance Gerchak** - Director for Telecommunications & Emergency Technologies
- **Susan Jenstead** - Telecommunications Analyst
- **Cindy Kozojed** - Telecommunications Analyst
- **Linda Krogen-Brandt** - Telecommunications Analyst
- **Brian Miller** - Card Access Analyst Technician
- **Jayme Pfeifer** - Telecommunications Analyst
- **Nathan Robideau** - Telecommunications Analyst