

*North Dakota  
Statewide Information Technology Plan  
2013-2015*



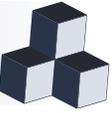
*Partnerships  
Building  
IT  
Together*



# 2013-2015

# North Dakota Statewide IT Plan

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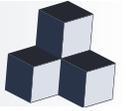
# Partnerships: Building IT Together

“The more things change, the more they stay the same.” It’s an old cliché, and applying it to the fast-paced world of information technology may seem like a reach. But as we look back at the goals and achievements of the 2011-13 biennium and look forward to the challenges and initiatives of 2013-15, we find that our goals remain the same. This is not to say we stood still or that our goals have not been addressed. It is saying that our goals in 2011-13 were on target, but grand enough that they could not be fully reached in two short years. It is also saying that we won’t rest until those goals are fully reached. The 2013-15 biennium will represent the next steps toward achieving our goals and defining new ones.

North Dakota has bucked the odds in recent years, excelling when others have failed, and setting a benchmark that any state would be proud of. But no state can accomplish what we have without partners. Maybe it’s our values, or leadership, or maybe it’s just plain old hard work. It’s hard to nail down exactly what it is that sets our state apart from the rest. But one thing is for sure, we got here by working together. We’ve partnered through tough times, we partnered through good times, and we are partnering today. Whether it is providing the best services possible to our citizens, educating our young students for a bright future, or transitioning students into a workforce with the utmost preparedness, we’ve all played a part because we are all partners.

As we move forward, the need to embrace and extend our partnerships has never been more important. Our future may be bright, but it is not without challenges. Those challenges are best met with friends by our side. We’ve worked hard on projects like the ND Health Information Network and the Statewide Longitudinal Data System, breaking down silos of information and empowering our decision makers and care providers. We have given our citizens access to more information: making it available on the latest devices, making it easier to consume, and making it more current. We have worked diligently to secure our citizens’ and students’ information and instill the trust that they deserve. We’ve provided tools to parents, teachers, and students that build character, knowledge, and drive. We’ve done all those things better than ever because we did it as partners. We are proud of our accomplishments and we are proud of our partners.

Lisa Feldner, North Dakota’s Chief Information Officer, Randall Thursby, Chief Information Officer for the North Dakota University System, and Darin King, Director of the North Dakota Educational Technology Council, present this Information Technology Plan to the citizens and students of North Dakota as partners. Things are changing, and we will continue to work together to adapt to those changes. But one thing will remain the same; our dedication to providing the best information technology services and products possible.

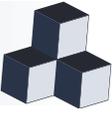


# North Dakota State Government

## *Information Technology (IT) Process*

Every even numbered year, North Dakota state government agencies prepare their Information Technology (IT) Plans for the next biennium. The process for the 2013-2015 biennium began in April 2012 with the Information Technology Department's (ITD) planning analyst publishing a planning briefing. Updates to the planning process, ITD rates, and technology direction were addressed in the brief. The ITD planning analyst met with each agency from May through July to discuss their direction and any concerns the agency had. IT Plans were due on August 16th and were submitted to ITD via an Agency Operations document and Project Worksheets. Each plan was reviewed as to the agency's technology direction, compliance to technology standards, and verified that the operational budget included in the IT Plan was consistent with previous operational budgets. In September, the State Information Technology Advisory Committee (SITAC) prioritized the large projects (over \$250,000) included in the IT plans. This State IT Plan document includes a summary of the agency plans, along with summary information from K-12 and the North Dakota University System.





# SITAC Prioritized Projects

The State Information Technology Advisory Committee (SITAC) ranks projects requesting funds of more than \$250,000 each biennium. SITAC ranks the projects by funding sources including General, Special, and Federal funds. The prioritization of large projects assists legislators during the appropriation process.

## General Funds

- Department of Emergency Services - Base Map Phase III
- Department of Emergency Services - CAD
- Department of Human Services - Behavioral Health IS
- Office of the State Tax Commissioner - TAP
- Information Technology Department - CJIS - Electronic Case Filing
- Department of Human Services - Mainframe Migration Analysis
- Department of Human Services - Time and Attendance

## Federal/Special Funds

- Attorney General's Office - Identification Arrest Prosecution
- Department of Transportation - Motor Vehicle Replacement
- Job Service North Dakota - WyCAN
- Department of Transportation - AVL
- Workforce Safety and Insurance - Policy Replacement
- Department of Transportation - eTransit



# North Dakota State Government





# Overview

*Lisa Feldner, Chief Information Officer  
North Dakota Information Technology Department*

“Partnerships: Building IT Together” is a fitting theme for the 2013-15 biennium. Partnerships have been the cornerstone of the state’s IT programs and services and will always be a major factor in continuing to deliver effective IT solutions.

Delivering information and services to North Dakota’s citizens and students is one of our biggest responsibilities. The STAGEnet network continues to be enhanced for improved capacity and security, and tools like the new Broadband mapping online application show how well our citizens are connected. The 2013-15 initiatives include efforts to deliver more applications to ND citizens, such as on-line tax-filing and business registration. With the help of our partners, we will ensure a well-connected and collaborative environment.

There is no question that North Dakota’s economy is booming. While that is exciting, it is also putting demands on our infrastructure, delivery of services, and education system. Decisions makers need accurate information to ensure we grow productively and sustain our high levels of service. We will continue to empower our decision makers by introducing new data analysis solutions that turn ever increasing amounts of data into clearly defined answers.

As demands for information grow and expectations for delivery are raised, it is critical that technology services are always available and secure. Technology in state government has been enhanced in many ways during 2011-13; a substantial update to the state data center resulted in state of the art disaster recovery and business continuity capabilities. An innovative partnership with neighboring states has laid the ground work for an Unemployment Insurance Benefits system replacement,

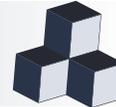
further addressing the state’s efforts to move technology to new platforms that are reliable and more easily managed.

“Driving Efficiency and Effectiveness” was the theme of the 2011-13 statewide IT plan, and the progress we have made is a testament to the importance of partnerships. As we move forward, improved efficiency will continue to be an important goal. This plan includes things like sharing of electronic case information between criminal justice entities and the final phase of a statewide seamless base map.

The following Information Technology plan outlines our initiatives and identifies our partners. Together with those partners, we will provide well-connected, effective, reliable and efficient technology services to the citizens and students of North Dakota.



**Lisa Feldner, Chief Information Officer**  
North Dakota Information Technology Department



# Goal One

*Access: Expand North Dakota's services to reach citizens and businesses anytime, anywhere.*

## Initiatives

### Department of Transportation

ETransit will provide a Web based solution to the Department of Transportation (DOT) and Transit Carriers, allowing requests for reimbursement to be completed any time through a secure web portal. It will eliminate the need to re-enter or scan data received for reporting requirements, and provide a real-time view of the account information. The solution will greatly increase data integrity and accuracy throughout the process, and provide form creation and report generation, including export capabilities directly to the federal reporting system. The ability to monitor expenses and revenues of transit carriers in real time will also provide transparency and identify any potential problems.

### Department of Transportation

The DOT will replace the current Vehicle Title and Registration System (VRTS) with a web based application that will allow for vehicle registration, titling, dealer regulation and advanced financial accountability. The new application will provide speedier turn-around for title work, incorporating dealer processing and access. It will also move the application from outdated development tools and platforms to modern methods and infrastructure. The interface will be more user-friendly and intuitive, allowing for faster and easier processing.

### Office of State Tax Commissioner

Taxpayer Access Point (TAP) module will be added to the existing GenTax system, providing taxpayers with a self-serving web application that will allow them to register their business, file and pay their taxes, and also maintain their accounts online. TAP will be configured

to utilize the North Dakota Login ID system, allowing taxpayers to have a single sign-on user ID across all state agencies. The solution will also allow the department to modify and enhance the product utilizing the same tools currently used to configure GenTax.

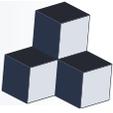
## Accomplishments

### Bank of North Dakota

The Bank of North Dakota's (BND) Student Loan Lender System replaced an aging student loan system and gained significant efficiency, stability and cost savings. The amount of manual intervention for transactions affiliated with the ACH process went from 15 steps to two. Within 12 months of conversion, 40% of previous manual enrollment transactions were automated, and moving from loan level processing to customer level processing decreased the number of accounts to be updated from up to 23 to one or two per customer upon final conversion. The system is off the state mainframe, resulting in hosting and administrative costs being reduced by nearly half. Borrowers are now able to access the application process, make payments, and view and update account information online. Schools are able to view account information, certify loans, and process common charge transaction send (CCTS) records online.

### Information Technology Department

In order to adhere to The Recovery Act, Section 6001(I), the state has developed and maintains a comprehensive, interactive, and searchable statewide inventory map of existing broadband service capability and availability that depicts the geographic extent to which broadband service capability is deployed. This data was submitted to the US Department of



Commerce and a public map is available from the ND GIS infrastructure. Broadband mapping provides significant value for a number of state agencies, and supports the Governor's strategic initiatives such as local economic development and wireless initiatives in public safety. It also provides an additional tool for the Department of Commerce to bring in new businesses to the state.

### **Criminal Justice Information Sharing**

Statewide Automated Victim Information Notification System (SAVIN) is an innovative service providing crime victims and other concerned citizens with free, prompt and confidential notification and information regarding important offender status information, such as release of an inmate, scheduled court event, issuance of protection order or sex offender status. The automated system has helped to reduce human error and allows staff to provide more direct services to victims. With the creation of ND SAVIN, victims are reporting that they feel safer and that they have better access to the information. The system has proven to be very user friendly and is available 24 hours a day.

### **Job Service North Dakota**

The JobsND.com website was significantly enhanced and modernized. The new website provides improved navigation to online services and easy-to-find information that is current and relevant. The new technology also provides JSND the ability to easily change the content, quickly modify site topics, and modernize the visual design. A post-implementation Usability Study concluded that 84% of the users surveyed completed the tasks assigned on the new website compared to 60% on the old website. A large drop in average page views also points to improvements in navigation and overall user experience with the new jobsND.com website. The study indicated that users required an average of 29.4 page views to complete the tasks on the old site compared to 17.6 page views on the new site.

### **Legislative Assembly**

The Legislative Enterprise System North Dakota (LEGEND) project implemented a solution to replace the legislature's core business processes (bill drafting, bill amendments, resolutions, session management, daily calendars and journals, bill status reports, and session laws). The old business processes were based on outdated technologies and were becoming very difficult to support and maintain. The mainframe applications were also expensive to host. The new system now utilizes a document management system, capable of versioning, markup, and access locally or remotely. Users are accessing the documents via a Dashboard and ease of use is high. Hosting costs dropped from \$186,104 in the 2009 session to \$39,913 in the 2011 session. The new system has eliminated nearly 95% of the old mainframe applications, exceeding the goal of eliminating 75%. All of the documents are available to not only legislators, but also the general public, allowing everyone to easily identify and review modifications to legislation.

This project won national recognition as a finalist in the National Association of State CIOs 2012 State IT Recognition Awards.

### **Office of Management and Budget**

North Dakota Legislature requires the State to develop and make publicly available an aggregate and searchable budget database website. Data was extracted from the North Dakota University System and ND State Government PeopleSoft application and made available on a public facing State website. The state was able to leverage existing technology platforms such as MS SQL and Cognos Cubes to develop a user friendly tool that allows end users with no IT knowledge to view and search data. Between March 31, 2011 and June 30, 2011, 3,884 site visitors viewed 12,015 pages of data.



# Goal Two

*Information: Deliver solutions that empower decision makers.*

## Initiatives

### Department of Human Services

The Field Services Behavioral Health Information System Replacement project will implement an electronic health record information system that is focused on behavioral health. The system will support the services offered by DHS's Field Services Division. This solution will include and support both outpatient and psychiatric inpatient business functions and service delivery needs. It will support the State Hospital's continued Joint Commission on Accreditation of Healthcare Organizations (JCAHO) accreditation by modernizing the IT system architecture and outdated technology, which limits the ability to incorporate changing federal requirements.

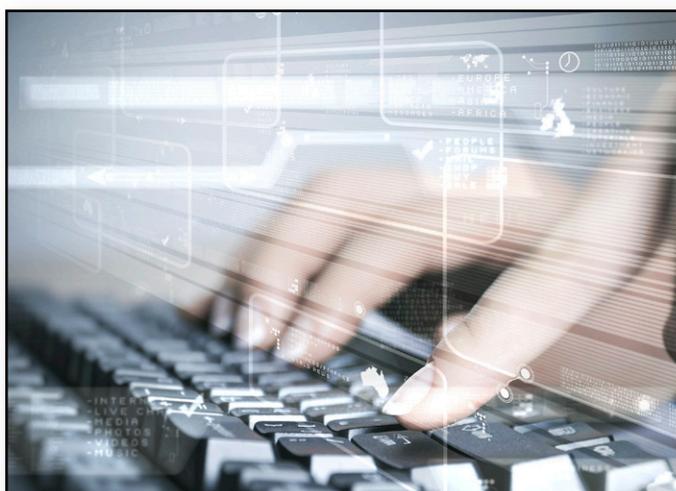
### Department of Human Services

DHS will implement an IT solution to be used across the department to support a standard approach in workflow, processes and practice for time and attendance, and absence management business functions. The implementation will include the functionality to support electronic nurse scheduling needs in the two 24 hour facilities; inpatient psychiatric hospital and residential developmental center. The new solution will eliminate many hours of manual work and duplication each month, ensure that policies are applied consistently for every DHS employee, and will allow the entire staff to use the same HR information technology systems.

### Department of Transportation

The Advance Vehicle Location project will retrofit most, if not all, of DOT's ice and snow removal equipment with modern spreader controllers. This will increase the efficiency

and effectiveness of snow and ice control procedures and address a 2014 Federal mandate for better reporting of travel conditions. Cameras will provide a view of the weather conditions so that recommendations can be verified visually as live information is transmitted.



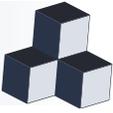
### Workforce Safety and Insurance

The Policy Replacement System implementation will be integrated with the claims management system. This system will primarily support the Employer Services department of Workforce Safety and Insurance (WSI) in providing policy underwriting, policy renewal, premium billing, assessment billing, and limited collection functionality. The solution will provide employers access to online payments and remittance, loss control services and reporting through the web, and time savings with increased electronic processing of policy premiums.

## Accomplishments

### Bank of North Dakota

The objective of The North Dakota College Access Network (NDCAN) project was to reach Native American high school students



with relevant and engaging information/resources on attending and paying for college. The NDCAN was funded by a College Access Challenge Grant from the U.S. Department of Education. After successfully conducting input sessions with 50 Native Americans of various ages and tribal affiliations, a web site was developed and deployed, and touchscreens were deployed in 16 ND Reservation High Schools that directly connect students to NDCAN information. The program also provided daily programming relevant to caregivers in 11 Native American clinics.

### **Department of Public Instruction**

FNP Direct Certification capabilities were added to provide Local Education Agencies with electronic notification of Food Stamps and Temporary Assistance for Needy Families participation data for enrolled students. Direct certification has increased efficiency, lowered costs, and improved program integrity by reducing paperwork and increasing the percentage of eligible students who are certified for free meals. Schools and school districts that use direct certification have fewer applications to process. Overall automated matching for Direct Certification has increased by five-percent.

### **Job Service North Dakota**

The Unemployment Insurance Internet Claim Entry (UIICE) project expanded and enhanced the functionality provided by the JSND claimant internet application to incorporate the delivery of individualized intensive reemployment services, provide automated notification of suitable job openings, expand self-service capabilities, and provide automated task reminders and event notifications. New functionality was added to allow Appeals documents from FileNet to be displayed on-line and allow for additional self-service capabilities, increased user friendly features, and increase internal efficiencies. The enhanced system provides the ability to automatically notify claimants electronically of jobs that match their skills and employment related events in their area. This project

won national recognition as a finalist in the National Association of State CIOs 2011 State IT Recognition Awards.

### **Office of Management and Budget**

The main objective of this project was to implement the PeopleSoft Talent Management (TM) suite of functionality representing state agency requirements. The TM project provides State employees with an online, self-service, and administrative employee Talent Management suite for state agencies which elect to participate. TM utilized the existing Portal, Human Capital Management (HCM) and PeopleSoft production applications. TM allows agencies to designate key positions and identify key position requirements, including minimum qualifications, and to tie organizational objectives with personal goals. Additional benefits include the ability for agencies to provide a universal online performance application, use the system for agency policies, use the system for exit interviews, and to provide a system for managers to review and approve reviews directly with employees to ensure organizational objectives and personal goals are both being met.

### **Office of State Tax Commissioner**

The Taxpayer Access Program/Oil and Gas project provided for the migration of the Oil & Gas tax information into the GenTax integrated tax system and implemented the Business Registration & Webfile (TAP) module. TAP is a module within GenTax which provides secure taxpayer self-service functions via the Internet. The Oil & Gas system was one of the last silo tax systems within the Tax Department, and the resources for maintaining the system were quickly diminishing. By implementing the TAP module and migrating Oil & Gas tax information into GenTax, enhancements to the GenTax system can now be done by Tax Department IT staff and contractors, including e-filings for all tax types.



# Goal Three

*Reliability: Meet changing business needs by delivering secure and effective technology services while safeguarding citizen privacy.*

## Initiatives

### ND Office of Attorney General

The Identification-Arrest-Prosecution Improvement project is designed to improve the efficiency and effectiveness of biometric identification by examining and re-engineering the workflows so that results of biometric identification are available to support the time-critical criminal history and person identification activities of law enforcement and prosecution. This project will also build the processes and software interfaces necessary to consume the electronic court case initiation data and automatically insert it into the Criminal History Repository. It will provide advanced fingerprint-based background check processes in which criminal history records are continually monitored and the appearance of new activity for a background check subject triggers notification to appropriate parties such as the employer requesting the background check or a professional licensing board.

### Department of Emergency Services

The Computer Aided Dispatch (CAD) project is an upgrade to the latest version of software and will replace the associated servers to be able to operate the software. Increased capacity will enable additional law enforcement agencies to utilize the system. It will also update the mobile client software for patrol cars to handle increased workloads of the new system. The mobile client for the law enforcement vehicles has numerous enhancements, improving law enforcement safety.

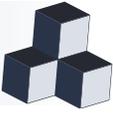
### Job Service North Dakota

WyCAN project is a consortium of States (Wyoming, Colorado, Arizona, and North Dakota) partnering to develop a modern Unemployment Insurance application. The consortium allows the participating states to share knowledge and resources, while utilizing federal dollars to fund the project. A modern UI system will provide increased security, less staff intervention, reduced maintenance times, and greater flexibility for system changes.



### Accomplishments Department of Health

The Department of Health implemented an electronic disease surveillance and outbreak management system that meets the agency's ongoing and evolving business needs and works within federal standards. Since the



new Maven system has been implemented, three silo systems have been eliminated and it is anticipated that three additional systems will be eliminated within the next two years. DoH employees now have the capability of making changes to the question packages, and programming knowledge is not needed in order to make the changes. An outbreak management system is integrated with Maven which allows for case detection of clusters, the input of outbreak data, and the ability to turn outbreak patients into cases when the lab reports are identified.

### **Department of Health**

The Program Reporting System project enhanced the architecture of a grants management application and program reporting system (PRS) for heavier use in the department, including security, records retention features, and code changes for stability and reliability. The enhancements included giving application users the ability to delete application objects, and enhanced security provides program level security as well as read-only, add, edit and delete specific security. The additional security has helped end users streamline the support process, requiring less IT support. The modern development platform will better enable future additions or modifications to the application, allowing the use of the application to expand and be successfully utilized by multiple units in the department.

### **Department of Human Services**

The Minimum Data Set (MDS) was implemented by the Health Care Financing Administration (HCFA) in 1996, and is used to gather clinical information on Nursing Home Facility residents. The project allowed the agency to maintain compliance with Federal Requirements for MDS 3.0 and allow for assignment of a classification for payment of Nursing Facilities services. The agency is receiving and validating MDS 3.0 forms from nursing homes and updating the resident's classification. The online system allows DHS staff to modify any information in an

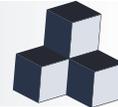
assessment or classification summary. The system is integrated with the MMIS system which automatically calculates the correct payment.

### **Department of Human Services**

The MMIS systems were enhanced to meet Centers for Medicare and Medicaid Services Level I compliancy, allowing successful creation/submission of 5010 HIPAA Health Care Claim Payment/Advice. The system is now able to receive the 837P – Health Care Claim Professional Transaction, the 837I – Health Care Claim Institutional Transaction, the 837D – Health Care Claim Dental Transaction, the 278(I) – Health Care Services Review Request for Review Transaction, and the 278(O) – Health Care Services Review Request for Response Transaction, all in the CMS 5010 format. The state has also come away with a far better understanding of the information that we receive and send and are much better equipped to work with our trading partners and provider community.

### **Job Service North Dakota**

The Arizona, Wyoming, Idaho, North Dakota (AWIN) Consortium project confirmed the feasibility of and created a high-level design and plan for building an integrated Unemployment Insurance (UI) Benefits and Tax systems which can be implemented or hosted for other states by any of the AWIN consortium states. The project was funded 100% by federal Supplemental Budget Request (SBR) funds that were granted by the US Department of Labor (USDOL). Estimated resources, funding, and time required for the build phase were identified in a Special Budget Request (SBR) to the USDOL to obtain funding for the build. A complete set of business and technical requirements for the consortium system were defined, and all of North Dakota's custom coding requirements were identified. The four states involved in the project were able to learn from each other's best practices and compromise where necessary to develop a solid set of requirements. This project has led to the WyCAN project noted earlier.



# Goal Four

*Efficiency: Pursue streamlined business processes and innovative partnerships that improve North Dakota’s government service.*

## Initiatives

### Criminal Justice Information Sharing

The Electronic Case File project will develop a document management and workflow system to support creation and sharing of electronic case file information between law enforcement and prosecution. This will result in improved subject identification across the criminal justice entities, provide consistent charges across agencies, enable information sharing between agencies, reduce paper filing processes, and be easy to use.

### Department of Emergency Services

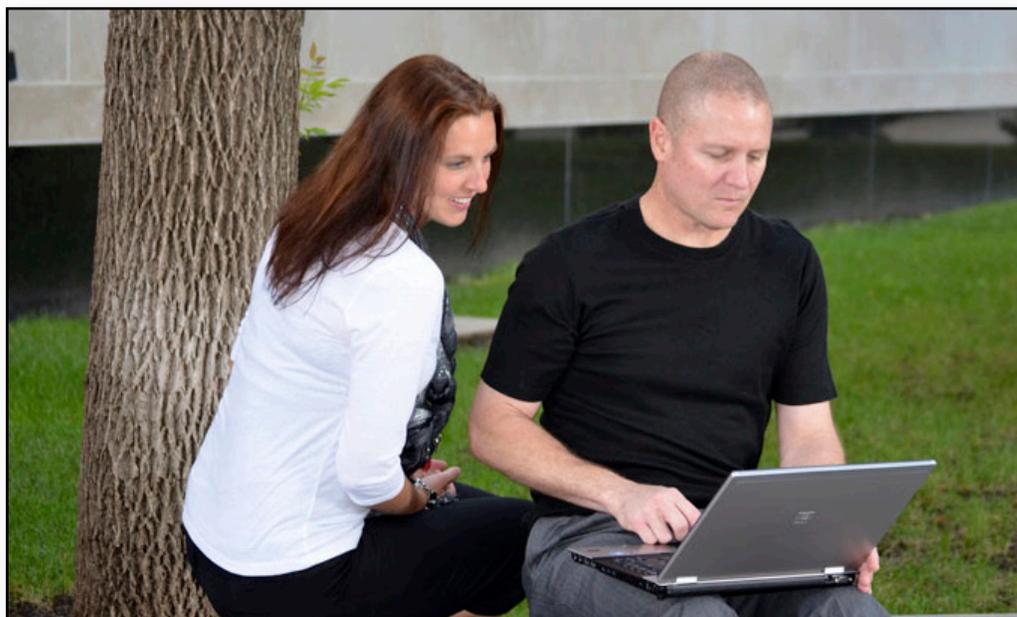
The Statewide Seamless Base Map Phase III will complete the Statewide Base Map. Three processes will be performed simultaneously, the continuance of aerial photography, processing of data with placement of center lines, and applying address points and verification of the data. It will also provide additional address points for all counties beyond the 22 counties that State Radio currently serves resulting in a

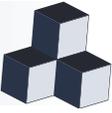
complete statewide map. This finished product will be a significant safety tool that will be utilized by state, federal and local government as well as private entities.

### Department of Human Services

The Mainframe Migration Analysis project will analyze the feasibility of moving the remaining DHS systems that run on the mainframe to a new application and/or a new operating environment. This includes five applications:

1. The Fully Automated Child Support Enforcement System (FACSES).
2. The Comprehensive Child Welfare Information Payment System (CCWIPS).
3. The Children & Family Services system’s database.
4. The Fiscal Administration’s contract management system.
5. The Human Resource’s Personnel Management Information System (PMIS).





## Accomplishments

### North Dakota Attorney General's Office

The Attorney General's Office implemented a Crime Lab Information Management System (LIMS). The system provides case management, evidence tracking and processing, training records, statistical information, and the tests, analysis, and results for disciplines such as arson, drug chemistry, firearms, DNA, toxicology and trace evidence. The agency was able to integrate previously manually created documents and data sources, including 100% of the instrument data. They also automated the tracking and certifying of training for 1,839 law enforcement and other operators with the new 24/7 program. The manual statistical reporting required by external agencies is now automated 100% with the tools available in LIMS. A 34% decrease in turn-around time for the Toxicology Section was realized in just the first three months. The solution is almost paperless and requires no storage of physical files, reducing the possibility of lost or misplaced documents.

### Department of Correction and Rehabilitation

The Department of Correction and Rehabilitation (DOCR) replaced an aging system with a new Inmate Banking, Trust and Commissary System, allowing them to implement better internal controls, customize the system to meet the DOCR's needs, and provide for better computerized accounting practices and functional reports. The new DOCR commissary system also provides training, educational, and employment opportunities for inmates. Greater efficiencies and accuracy have been realized, and there has been no overtime hours paid. Write-ups have decreased by 25% due to enhanced security, and commissary deliveries have been more timely and efficient, with 95% of the orders correctly filled. The custom software is integrated with existing applications and will meet DOCR needs for many years.

### Department of Public Instruction

The Mainframe Rewrite migrated the Education Standards and Practices Board (ESPB) and DPI systems from the mainframe to a modern architecture capable of meeting the data reporting demands that are required by federal and state laws today and in the future. The advantage of this rewrite is the capability of developing online services and reports for DPI and ESPB that were cost prohibitive on the mainframe environment. The new environment allows DPI and ESPB to cost effectively provide online services to districts and reduce their burden of paper reporting, report in a timely fashion, and increase the accuracy of their data. Additionally the ability to use affordable third party products for reporting and statistical analysis against data is paramount for DPI and ESPB to respond to growing needs for information and accountability. Thorough validations have reduced the application errors and improved completeness by 50%, while completed Licensure renewals, endorsements, and credentials are processed within two business days.





## Department of Transportation

Position Information Questionnaire (PIQ)/ Employee Rewrite involved a re-write of the existing DOT PIQ system, removing it from Lotus Notes and replacing it with a web-based application. This eliminated the licensing costs for Lotus Notes, and allowed for the incorporation of electronic workflow with the Office of Management and Budget, as well as the use of electronic signatures. The new web-based application is also more consistent with other DOT applications. Information is accurately and efficiently brought to the system from PeopleSoft, and allows all FTEs to have authenticated access to the system.

## Job Service North Dakota

The main objective of the Interactive Voice Response System Rewrite project was to replace the obsolete Interactive Voice Response system used at JSND with a more standardized, stable, and flexible infrastructure. The results have been an increase to 10-15% of IVR claims going through cleanly, which has helped claim center representatives (CSRs) get other work done. Useful self-service features for Claimants in the new IVR allow them to find out information and do certain tasks without waiting for a CSR, which has decreased call volume. New questions have been added and the caller experience has been streamlined so that callers only need to answer questions that apply to their particular employment situation.

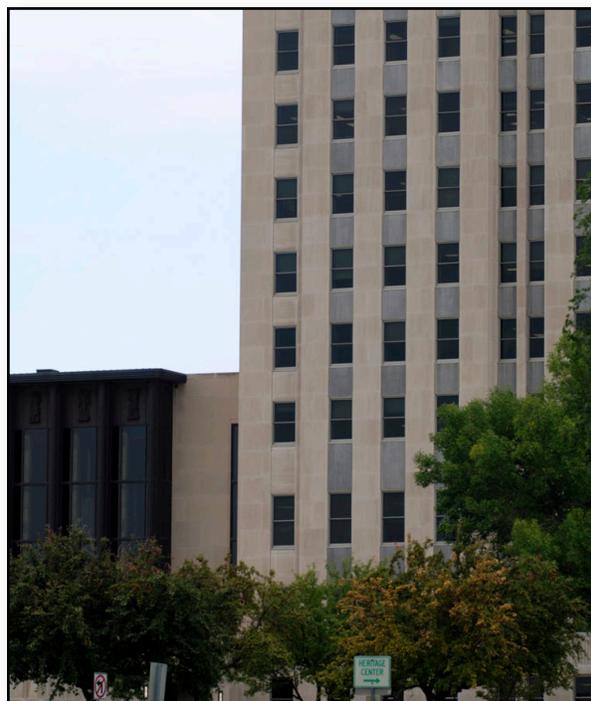
## Judicial Branch

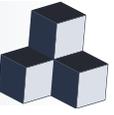
The Unified Court Information System project involved the implementation of the Odyssey Case Management environment from Tyler Technologies which replaced all case management functionality in the previous UCIS system. The new system provides for more effective training of users and more efficient performance of most tasks than was possible in the old UCIS system. It also provides the ability to modify functions and configuration settings, including more finely-tuned user role-based security. There is also integration with financial management tools and much better integration with reporting tools and electronic

records. Analysis has showed that configuration of the system functions took 60-85% less time in Odyssey than UCIS. Non-IT court personnel are able to perform functions and an audit trail is created for all financial transactions. Data exchange interfaces have also been increased from 10 with UCIS to 17 with Odyssey.

## Office of Management and Budget

The PeopleSoft Environment Partitioning Project implemented solutions to better manage and operate the PeopleSoft Human Capital Management (HCM) and Financial Supply Chain Management (FSCM) environments by hosting independent PeopleSoft environments for the ND University System and State Government. This resulted in significant improvements in outage times for toolset upgrades and maintenance. State payroll and financial processing times were reduced by approximately 50%, while NDUS processing cycles were improved by 40 to 66%. The independent hosting environments also eliminated NDUS/State scheduling conflicts and eliminated redundancy. Database sizes are much more manageable, resulting in easier upgrades, backups and maintenance of backend services.





# North Dakota K-12 Education





# Overview

*Darin King, Director  
K-12 Technology*

The concept of “Partnerships: Building IT Together” speaks directly to the mission of the North Dakota Educational Technology Council (ND ETC). The ND ETC has statutory responsibility to coordinate educational technology initiatives that promote efficient, effective and equitable technical services for all elementary and secondary schools in the state. The ND ETC meets that responsibility by providing leadership for several key technology initiatives in the state and by providing policy and performance oversight for the North Dakota Center for Distance Education (ND CDE) and EduTech.

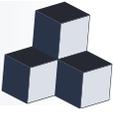
The North Dakota Access for Government and Education Network (STAGEnet) provides a robust, high speed and reliable Internet connection to schools that allows teachers to enhance instructional methods and promote 21st century skills like communication, collaboration, critical thinking and creativity. STAGEnet also provides the necessary infrastructure for extended student learning opportunities through the use of interactive video classrooms and online courses.

The EduTech PowerSchool team successfully implemented PowerSchool as the legislatively-mandated, common student information system in all schools during the 2012-13 school year. EduTech continues to provide services such as e-mail, web hosting, blogging, social networking, network security and Internet filtering in order to provide more value to educators and students in North Dakota K-12 schools. By centrally providing these services, schools have the core tools in place to use technology effectively and efficiency. Face-to-face, online and one-to-one professional development was made available for teachers to develop the skills to effectively integrate technology in their teaching.

The North Dakota Center for Distance Education (ND CDE) continues to enhance the services provided to North Dakota students, teachers, and schools through an extensive reorganization plan implemented over the past three years. The intended results focused on reducing the cost of courses, increasing enrollments from North Dakota students, increasing the available electives and advanced courses for small schools, increasing partnerships with online curriculum providers and increasing the overall performance of the ND students and ND CDE. Recently completed assessment results indicate ND CDE has fulfilled all first round, reorganization expectations. The overall effect is that ND CDE has positioned itself as a high-value, full-service



**Darin King, Director**  
K-12 Technology



distance education provider for all North Dakota schools.

In the next biennium the ND ETC plans to continue support for schools that need to upgrade the video classrooms they use to share high school courses so their transmission equipment is up to current technical specifications. Upgrading the core technology of these classrooms creates efficiencies in the ability of ITD's network staff to maintain and support K-12 use of video. The ND ETC will also continue to provide support for classroom transformation grants that promote instructional innovation by teachers and schools.

In the next biennium the ND CDE will complete its reorganization. To leverage this ongoing reorganization, ND CDE has developed performance improvement plans that will enable it to continue to drive down the cost of online courses, while continuously improving course and teaching quality. Additionally, ND CDE will continue to partner with ND schools to provide extensive curriculum opportunities for students including required academic, elective, advanced placement, dual credit and credit recovery courses. Finally, ND CDE will increase the types of help it provides to ND school teachers, administrators and paraprofessionals.

In the next biennium EduTech will continue to support the schools' use of PowerSchool for daily operations, use of advanced features, and state reporting. EduTech and the PowerSchool team will play a critical role in the continued development and use of the North Dakota Statewide Longitudinal Data System (ND SLDS) to promote effective use of data by schools. EduTech will also improve e-mail, web hosting, and social networking services to ensure students and educators have the most current and useful learning tools to enhance student learning. Professional development will be made more easily available in blended and online formats where educators can get the instruction they need when they need it.

The directors of ND ETC, ND CDE, and EduTech will continue to work with a number of state-level partners and local school districts to create efficiencies, avoid duplication and ensure that North Dakota's K-12 technology systems serve K-12 students and educators. These partners include the North Dakota Information Technology Department (ND ITD) North Dakota Department of Public Instruction (ND DPI), the North Dakota Department of Career and Technical Education (ND CTE), Regional Education Agencies (ND REA), Interactive Video Consortiums and Career/Technical Education Consortiums.

All of the initiatives undertaken by the ND ETC, ND CDE and EduTech are in line with ETC's five Results Policies. As a result of our efforts:

- 1.** North Dakota educational technology systems will continuously improve educational opportunities for students.
- 2.** Technology systems to enhance educational opportunities will be more efficient, effective, and coordinated on a statewide basis.
- 3.** Distance education systems will be in place to deliver a comprehensive curriculum to North Dakota students.
- 4.** Professional development related to the use of educational technology will be available to school administrators and teachers to meet changing education needs.
- 5.** Policies and practices to sustain the integrity, stability, and security of the educational technology systems will be maintained and promoted.



# Goal One

*North Dakota educational technology systems will continuously improve educational opportunities for students.*

## Goal Description

Statewide K-12 educational technology initiatives are focused on improving the learning opportunities for and achievement of students. New classroom technologies make teaching and learning more engaging and effective. School-based information systems save time and provide important student information to teachers and administrators. Online delivery of courses and other digital curriculum content make more learning opportunities available to all students.

technology-rich teaching and learning environments.

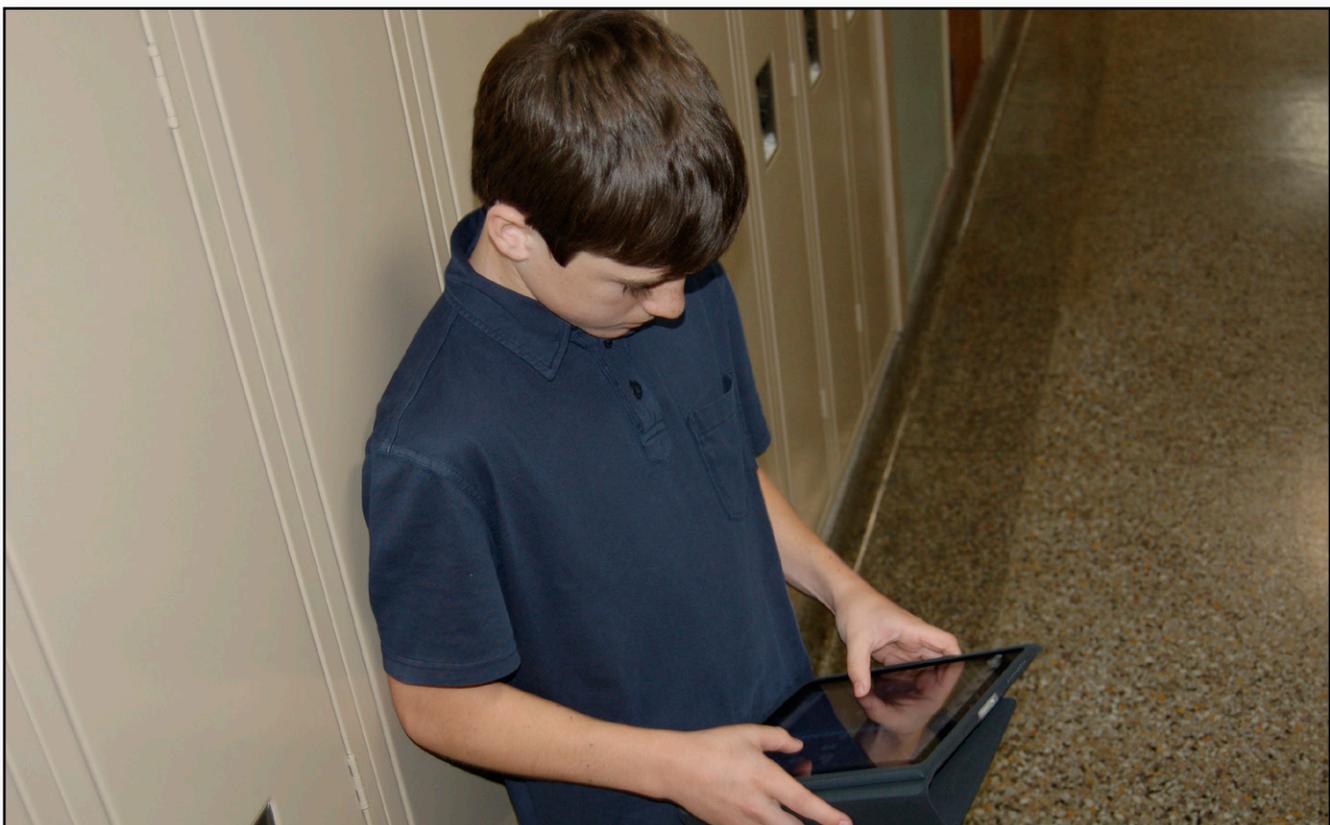
2. Provide PowerSchool training and support to ensure every school is successful in using PowerSchool for daily operations, state reporting, and use of the Statewide Longitudinal Data System.
3. Continue to develop and enhance the capabilities of the ND CDE to ensure equitable access by North Dakota students to high-quality, low-cost online courses.

## Objectives

1. Make funding available to schools, enabling them to move toward using more

## Initiatives

North Dakota ETC will request funding in its 2013-15 budget to provide more schools with opportunities to receive Classroom





Transformation Grants for start-up projects that bring new, cutting-edge educational technologies to their classrooms.

All North Dakota schools will be using PowerSchool by the spring of 2013 and the EduTech PowerSchool Team will focus on providing timely and effective PowerSchool training and support for all schools. Additionally, the PowerSchool Team will be directly supporting the Statewide Longitudinal Data System by providing schools with the necessary training and support to ensure quality data.



The ND CDE will request funding in its 2013-15 budget to continue to reduce the cost of courses and provide the necessary funding to provide quality, customized solutions for North Dakota schools and personalized learning opportunities for all ND students. The additional funding will provide increased and extensive curriculum opportunities for all North Dakota students. The opportunities will be made possible through enhanced curriculum partnerships, expanded cloud computing, and ND CDE's increased attention to, and presence in, ND schools. Particular attention will be focused on very small schools and on schools

dramatically impacted by the growth in the western half of the state.

## Accomplishments

The ND ETC awarded Classroom Transformation and Teachers and Technology grants to 11 schools for projects that were focused on developing regular student access to digital curriculum and devices. These projects focused on redesigning instruction to be more inquiry based, collaborative and differentiated. Each project included extensive professional development for teachers, student learning devices (iPads, laptops, netbooks) and related peripherals.

EduTech's social networking platform EduSocial continues to provide a private and safe area for students to communicate and collaborate using modern social networking techniques, including blogging and podcasting. Students and staff on the system have created over 5,000 blogs and continue to use the system for a variety of educational purposes. EduSites, a collection of schools blogs that serve as a school website, give schools an easy to use, yet extremely powerful, way to maintain their Website. Separate blogs are tied together with a common domain name, menu system and look & feel, and can be controlled by the tech coordinator or delegated as they wish.

EduTech received several grants to provide community education outreach. Teacher teams received professional development from EduTech and in turn provided community education on Internet safety, social networking and other current technology topics.

The ND CDE executed a complete systems redesign that developed a highly efficient and integrated system that includes a student information system, learning management system, online store and enrollment/business management system. These changes resulted in a 70% increase in enrollment processing efficiency and the elimination of one FTE. The net result is lower course pricing without reducing the quality of the services provided.



# Goal Two

*Technology systems to enhance educational opportunities will be more efficient, effective, and coordinated on a statewide basis.*

## Goal description

In order to maximize local, state and federal investments in school technology systems, statewide coordination and leadership are required. Purchasing and supporting key applications and infrastructure at the state level creates efficiencies statewide.

## Objectives

1. Create a North Dakota global K-12 directory to more efficiently deliver IT services across the state by offering students and educators a single user name and password to access services provided by EduTech, DPI and other online service providers.
2. Develop customer-centric service systems and procedures that will help North Dakota administrators, teachers and students efficiently access inclusive support services.
3. Continue the development of the Statewide Longitudinal Data System by working collaboratively with the Department of Public Instruction (DPI), other state agencies, North Dakota University System, and schools districts.
4. Promote a broad vision of online distance education to K-12 and other stakeholders using existing and emerging technologies. Collaborate with existing K-12 educational consortiums to fulfill the distance education needs of all students.
5. Continue the growth and development of the K12 state network (STAGEnet) to ensure adequate bandwidth for schools.

## Initiatives

The ND ETC will lead a study to examine current practices in reporting, resolving and documenting technical and instructional support services delivered to North Dakota schools. This study group will include representatives from EduTech, ITD, the North Dakota Association of Technology Leaders (NDATL) and the North Dakota Council of Educational Leaders (NDCEL).

The ND ETC and EduTech PowerSchool Team, in partnership with DPI, will continue to be heavily involved in the development and deployment of the Statewide Longitudinal Data System. The development will focus on the delivery of quality data to schools that can be used to improve student achievement.

The ND CDE will continue to collaborate with schools to provide high quality online classes using North Dakota teachers and best-in-class curriculum from established partners. Contact time between ND CDE teachers and their ND students will be increased by the application of cutting edge technology and improved online





teaching capability. Opportunities for school collaboration will be increased by ND CDE's increased use of on-site school visits. A special emphasis will be placed on helping small schools and schools impacted by rapid growth in western North Dakota.

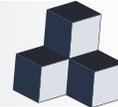
## Accomplishments

The ND ETC, EduTech and ITD recently completed a comprehensive visioning for the development of a statewide K12 directory to support existing and future systems. This new directory will be the cornerstone for the SLDS and new email/collaboration services provided by EduTech to all schools.

The ND ETC will again approve school technology plans for 2013-2015 that directly support the existing State Educational Technology Plan. Resources will be made available to provide technical assistance to schools during the development process.

The ND ETC and ITD continue to monitor and upgrade available bandwidth for North Dakota schools. Schools with high bandwidth usage were upgraded during the 2012 school year to ensure adequate connectivity to support increased educational usage.





# Goal Three

*Distance education systems will be in place to deliver a comprehensive curriculum to North Dakota students.*

## Goal Description:

Distance learning is an important option for providing North Dakota students with a comprehensive curriculum, including specialized high school courses as well as advanced placement and dual-credit courses. The use of web-based and video delivery is increasing in K-12 schools, and the online high school courses available through the ND Center for Distance Education are an important asset to K-12 education in the state.

## Objectives:

1. Support the upgrade and standardization of video classrooms in K-12 schools that need video to share courses.
2. Implement strategies to connect K-12 schools to high-value digital education resources outside the state.
3. Expand the partnership between ND CDE and ND schools to better align all ND CDE programs and services with district needs.
4. Develop value-added services to ensure commercially produced online curriculum meets the needs of K-12 learners in the state.

## Initiatives:

ND ETC will budget general funds to support schools that need improved video classrooms to meet their curriculum needs. Many video classrooms in ND K-12 schools that are used for offering high school courses have been in service for many years and need to be upgraded so they can be effectively supported by ITD.

The core video components in these classrooms need to be upgraded as they reach end-of-life.

Educators, with support from EduTech, will engage students in educational outreach opportunities to impact their learning by exploring and building partnerships with state and regional education networks such as colleges and universities, schools, libraries, museums and other educational agencies. Content provider programs such as Live Surgical Suites, The Evolution of American Ideas and programs from the National Park Service will offer students experiences to learn in a “live” environment using video-



conferencing technology. Classrooms will participate in global collaborations such as Read Around the Planet and be connected to global experts via EduTech’s guidance.

The ND CDE will seek additional general funds to complete its reorganization and continue the progress on reducing the cost of courses, bringing its technological capabilities up to standard, increasing online opportunities for North Dakota students, increasing the availability of advanced and elective online



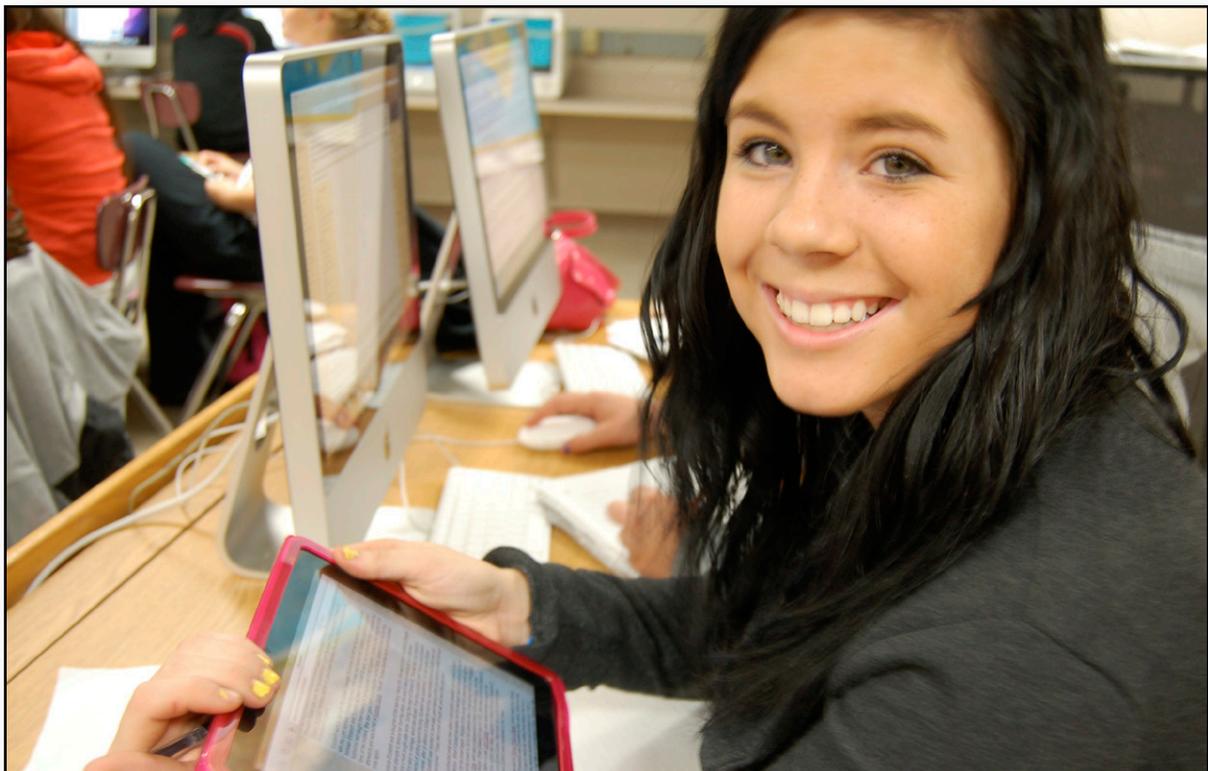
courses, establishing partnerships with content providers and increasing performance. In addition, the ND CDE will play a key role in college and workforce readiness by increasing the number and quality of credits attained by ND high school students and decreasing the number of students requiring college remediation. They will provide a high quality online experience to ND students in academic, technical, career and advanced learning courses that may not currently be available in small rural schools. The increased opportunities provided by the ND CDE for personalized student learning will enable all ND students to achieve the necessary knowledge and skills required of a 21st century high school graduate.

## Accomplishments

The ND ETC and ITD collaborated to successfully execute a Rural Utilities Services grant that replaced obsolete video codecs and monitors in 48 video classrooms from five different video consortiums. These improved video classrooms are used every day to deliver classes to student across the state.

Students from across the state participated in many different global-learning activities using video conferencing technology. These activities included observing live surgical procedures and interacting with Humanities Scholar Clay Jenkinson presenting in the persona of Theodore Roosevelt.

As part of the successful reorganization of ND CDE, they were able to significantly reduce the cost of courses, increased North Dakota enrollments by over 50% and increased the student completion rate to 93%. They continue to develop partnerships with best-of-class content providers to ensure ND CDE teachers have the best curriculum and the time to focus on student learning. A series of technology upgrades, and the implementation of new technologies, has increased the number, length and quality of student to teacher, parent to teacher, and paraprofessional to teacher interactions. A key result is higher quality relationships between ND CDE's teachers and staff and ND CDE's stakeholders, including students. Research has clearly established that a quality relationship is the primary building block for all types of learning.





# Goal Four

*Professional development related to the use of educational technology will be available to school administrators and teachers to meet changing education needs.*

## Goal Description:

Professional development for teachers and administrators is critical to ensuring the technology systems in place effectively serve student needs. Developing, coordinating, and offering professional development at the state level is both cost-effective and provides consistency across all districts without regard to size or location.

## Objectives:

1. Produce and deliver additional on-line professional development workshops for educators on the use of the new EduTech email and collaboration system.
2. Provide professional development for teachers that model the use of interactive and collaborative teaching/learning methods made available with online resources.

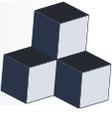
3. ND CDE will offer a course for online teaching techniques and strategies for ND teachers.

## Initiatives:

New courses will be developed and offered by EduTech to provide convenient and timely professional development opportunities for educators. These courses will include traditional, blended and online course delivery and be focused on emerging instructional uses of technology to promote student learning.

Instructional Technology Partners (INSTEP), a professional development program delivered by EduTech that is designed to support teachers as they move along on the continuum of technology integration, will be delivered to more educators and administrators. EduTech assists classroom teachers one-on-one through the process of developing and implementing curriculum-focused, technology-rich activities in their classroom. This instructional coaching model is more effective than traditional

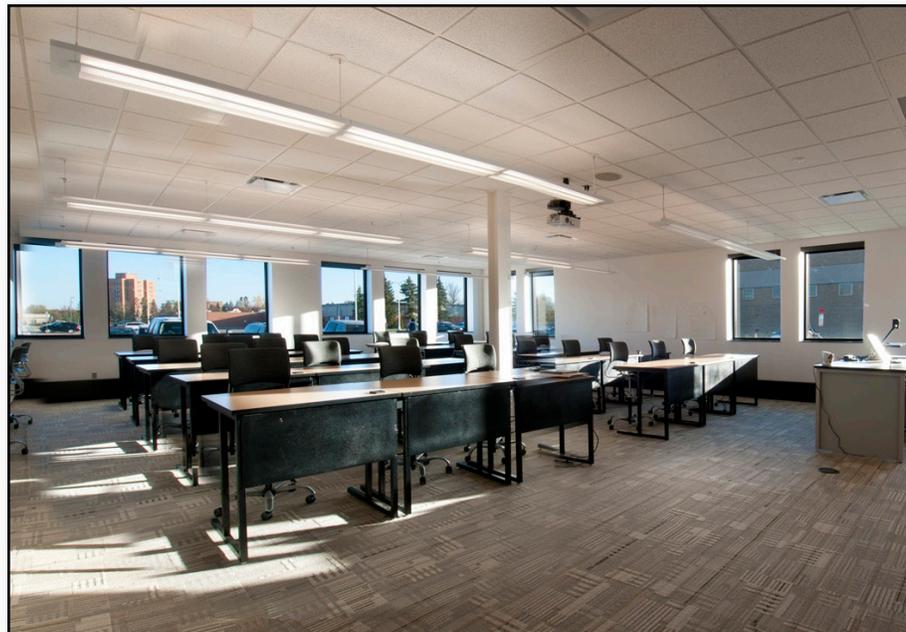




professional development activities and uses technology resources currently available in the school to build local capacity that can sustain effective instructional technology use by teachers.

ND CDE teachers, certified to national and international online teaching standards, will provide training to North Dakota educators who facilitate distance education courses in their local districts or are seeking to improve their online teaching capability. An increasingly significant part of the ND CDE's role in North Dakota's K-12 education system is to ensure the quality of online instruction statewide. To do so requires ND CDE to evaluate numerous providers of online education, find ways to increase the consumer awareness of ND schools to online products and services, and to marginalize the providers of inferior online education services and products by ND CDE's providing superior service and products.

Over 500 workshops were delivered to K-12 educators by EduTech staff. Classroom teachers received instruction on how to use and integrate software, hardware and Internet resources into their teaching and learning processes. With ND's adoption of the Common Core State Standards, EduTech delivered workshops to meet educator's needs from understanding learning expectations to tracking standards in PowerSchool. Administrative and education staff participated in PowerSchool workshops ranging from basic use to reporting and data-mining. Many of the



## Accomplishments

The ND ETC presented on a variety of informational and technical topics to REA leaders, school administrator groups, ND ETC members, ND School Boards Association members and other education leaders.

Leadership and consulting services were made available to assist districts in applying for and receiving federal E-rate funds. These seminars are very popular with schools and help ensure they maximize federal E-rate funding and fully understand the current regulations and requirements of the program.

EduTech workshops were available for graduate credit, which allows educators to maintain their teacher licensing.

The ND CDE provided informational sessions related to emerging issues in distance education for REA leaders, school administrator groups, ND ETC members, ND School Boards Association members and other education leaders. The ND CDE, in cooperation with the University of North Dakota and North Dakota State University, developed two college-level, graduate credit courses for ND teachers that are delivered online by the ND CDE.



# Goal Five

*Policies and practices to sustain the integrity, stability, and security of the educational technology systems will be maintained and promoted.*

## Goal description:

School technology systems are becoming mission-critical in schools. Uninterrupted network service and reliable local technology systems are crucial to teaching, learning and administrative processes in schools. State-level security and support systems provide an efficient and cost-effective way for schools to use high-performance systems on a daily basis with a high degree of confidence and success.

## Objectives:

1. The North Dakota K-12 Identity Management Services project will be developed using existing, stable data sources for provisioning/de-provisioning and maintenance of identity information used by the directory.

2. EduTech email and collaboration will be updated to scalable, stable systems delivered through cloud-based services.
3. Network-based desktop security and Internet filtering will be provided in every K-12 school connected to STAGEnet to ensure the stability of the shared infrastructure.

## Initiatives:

The North Dakota K-12 directory project will provide consistent provisioning of statewide accounts for all K-12 administrators, teachers and students using existing data from PowerSchool. These accounts will provide access to state data systems including EduTech services (email, web hosting, blogging, etc.),





the Statewide Longitudinal Data System and other systems from DPI.

EduTech email and collaboration systems will be updated to leverage the North Dakota K-12 directory and will also utilize scalable systems delivered through cloud-based services. The new system will provide all K-12 administrators, teachers and students with email, calendaring, online document creation, online storage and collaborative capabilities.

To better respond to the changing threats of the Internet, EduTech will upgrade existing anti-virus/malware protection to a network-based solution that will provide more robust and consistent protection to all devices connected to the K-12 state network.

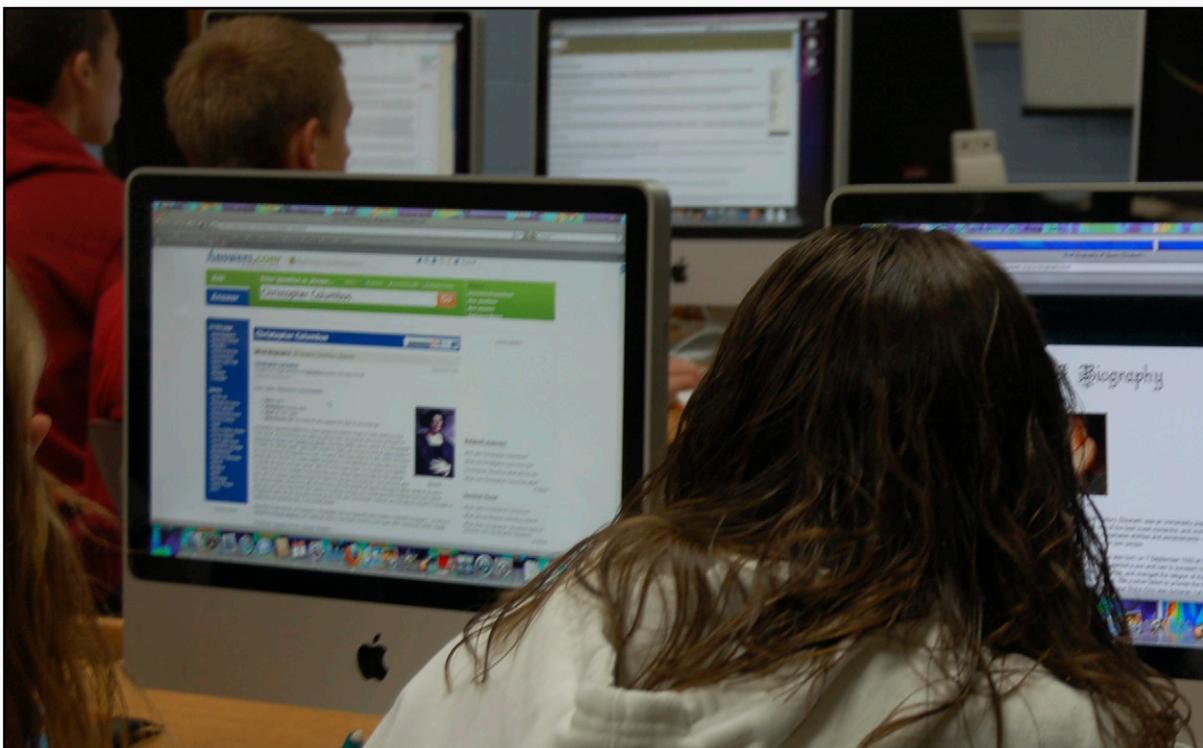
## Accomplishments

The technology team at EduTech worked to improve K-12 computer security from the desktop to the Internet. Every public school computer has had access to managed security software at no cost for many years. Although the strategy for protecting desktops is changing to a network delivered service, the past practices have been effective.

Each school district is provided with network-based Internet filtering at no cost and has the opportunity to have an individual Internet Filtering Self Management profile set up for them by EduTech. The individual profile allows them to configure their own Internet filtering preferences, such as categories of sites or individual sites to block or allow. School districts can also set their own Internet filter password that works exclusively within their district. EduTech provided training and continues to offer support to schools that choose to use this flexible option for Internet filtering.

EduTech actively blocks millions of virus and spam messages each year in the 60,000 email accounts it maintains for K-12 teachers and students.

The ETC, ND CDE and EduTech maintain ADA compliant websites for their clients. EduTech services continued to be reliable and stable, frequently reporting no unplanned downtime during a quarter, and never exceeding the acceptable downtime limit of 0.5%.





# North Dakota University System





# Overview Higher Education

by Randall Thursby, Chief Information Officer

“Partnerships: Building IT Together” will continue to be a driving force in the shaping of information technology services for the North Dakota University System (NDUS). Used strategically, partnerships provide enhanced leverage to achieve efficiency and effectiveness while stretching dollars further to maximize resources.

Partnerships are not new. NDUS has a long history of partnering with organizations and agencies to realize mutual goals. In the information technology arena, NDUS partners with the state’s Information Technology Department (ITD) to deliver core network services via the STAGEnet statewide network; it partners with the 11 institutions of NDUS to deliver system-wide technologies; it partners with the State Library, K-12, and state agencies to deliver statewide library services; and it maintains a variety of partnerships with vendors for IT products and services.

It is through these strategic partnerships that we have been able to reduce costs and overhead, leverage buying power, outsource “commodity” services, and stretch available dollars and human capital to provide cost-effective new services to students, faculty, staff, and citizens. One example is the partnership with Microsoft and NDUS institutions to outsource the “commodity” type functionality of e-mail and calendaring. Using Microsoft’s Office 365 product, we provided new and enhanced services to students, faculty, and staff in a cost-effective manner.

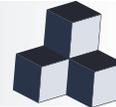
While a select number of the many initiatives of the 2013-15 biennium are highlighted in this document, three primary initiatives deserve special attention as they will have a major influence on the delivery of NDUS IT services well into the future.

The theme of “Partnership” runs throughout all three initiatives. They include: the new IT facilities under construction on the University of North Dakota campus; the IT initiatives that were identified by the State Board of Higher Education (SBHE) in a document titled, “Maximizing Results Through Efficiencies;” and the merger of the UND Chief Information Officer staff and functions with that of the NDUS System Information Technology Services (SITS) organization.



**Randall Thursby, Chief Information Officer**  
North Dakota University System

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## The New IT Facilities

The SBHE approved a funding plan and the construction of the new NDUS IT Office building and the renovation of space for the NDUS Data Center. Preliminary costs were estimated at \$17.5 million. The 62nd (2011) legislative assembly appropriated \$12.5 million and authorized the Board to spend up to an additional \$5 million for the facilities, using one-time savings or efficiencies found in the University of North Dakota, North Dakota State University, and North Dakota University System information technology budgets. In July 2012, Chancellor Hamid A. Shirvani gave interim approval for an authorized construction budget of \$16,848,523 and this was ratified by the Board at their November 2012 meeting. Construction/renovation of both facilities is moving forward with an expected completion date of September 2013. The new data center will house all NDUS infrastructure and servers. It will also have the capacity to host data systems for any of the 11 NDUS institutions or provide them with a location for their disaster recovery data systems.

The IT office building will bring together most members of the NDUS SITS and UND CIO's

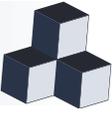
staff. Currently, staff is spread throughout several buildings on or near the UND campus, making it difficult to communicate and work together on a daily basis. Considerable time and effort is spent on overcoming this geographic limitation.

## Maximizing Results Through Efficiencies

The SBHE identified six IT initiatives in its “Maximizing Results Through Efficiencies” document (January 2012). The Board wrote, “Working in consultation with the campuses, the chancellor will pursue a strategy to implement system wide services that are cost-effective, easily integrated and constantly improving.” The six IT initiatives are as follows:

- Learning management system including: a consistent software approach; shared curriculum content, when appropriate; content repository; and, consistent mobile device interfaces. A recommendation for a plan of action with a delivered target date of May 31, 2012, was scheduled. That date was extended to November to give faculty time for input after their return for the Fall semester.





- A lecture capture system including: common software; hosting; and content delivery, when appropriate. March 31, 2012, was the target date for a plan of action. Tegrity was chosen as the system-supported solution, and it was implemented at all 11 institutions during the summer of 2012.
- Document imaging scanning system including: common software and hosting. A May 31, 2012, completion date was set for this initiative's recommended action plan. ImageNow was the selected product and it is currently being implemented as an enterprise-hosted service through the NDUS data center.
- Expand and enhance human resource electronic workflow, including centralized payroll processing from one or more sites. This initiative is in the planning phase.
- Unified communication system to deliver a consistent set of services and integrated voice mail, e-mail, instant messaging, phone, mobile devices and personal computers. This initiative is on hold pending review by the Chancellor.
- Integrated approach to delivering IT services. A December 31, 2012, deadline is set for the delivery of a recommended action plan for this initiative.

## Staff Merger

The plan for an integrated approach to delivering IT services includes the merger of UND's CIO information technology department with the NDUS System Information Technology Services department. The combined staff and operations will aid in providing IT services to all 11 NDUS institutions and the NDUS System Office. An organizational assessment is under way to determine resource shaping and areas of overlap to better support the needs of the NDUS.

The merging of IT services and staff combined with the pending completion of the new IT facilities and the continued focus on "Maximizing Results Through Efficiencies" will redefine "Partnerships: Building IT Together." The net result: a higher level of strategic synergy will be achieved while maximizing efficiencies, providing direct benefits across the entire North Dakota University System.

The following is an overview of goals, strategy objectives, and initiatives for the upcoming biennium, and completed accomplishments during the past biennium.





# Goal One

*To support North Dakota University System infrastructure needs.*

## Purpose

This goal is the foundation for information technology (IT) in support of NDUS business processes. Infrastructure holds information technology systems together and allows systems to communicate with each other over a network. It includes such things as security and access control for which guidelines must be developed and updated as needed. Enterprise Architecture provides a blueprint for establishing information technology policies, procedures, and guidelines to promote effective use of information technology.

## Strategy Objectives

1. Offer reliable, cost-effective and appropriate NDUS network services.
2. Provide middleware tools and technologies to help people more easily use networked resources and services while ensuring security and privacy of the information.
3. Prepare the data network internet protocol (IP) infrastructure for the convergence of voice, data, and video along with other collaboration tools on a single network.
4. Enable libraries to provide easy access to licensed electronic information.
5. Provide IT enterprise architecture and project management leadership.
6. Provide linkage through STAGEnet, Internet2, and the Northern Tier Network to national and international research and development networks.

## Proposed Initiatives

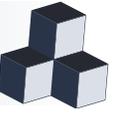
Continue planning and, where feasible, implement Internet Protocol version 6 (IPv6) to succeed the current IPv4 version. IPv6 is the Internet Protocol used to route network traffic to the correct user or system. It supports vastly more IP addresses and provides security enhancements not available in the IPv4 protocol. The migration to IPv6 will take several years. In some cases, network equipment will need to be upgraded along with applications to support IPv6.

Complete the integration of all NDUS institutions into the NDUS Active Directory Service. This is a centralized directory service used to authenticate users and authorize access to multiple systems, including managed networked computers and centralized file-storage resources.

Fully deploy and implement an NDUS Identity Management Service (IdM) for user accounts and password synchronization across multiple systems. IdM creates efficiency by automating authorization for users to access multiple systems with one user ID and password.

Complete the server infrastructure upgrade for ConnectND.

Implement and deploy web services in the ConnectND environments. The student administration integration pack makes it possible to more efficiently integrate and manage ConnectND with other systems, like Learning Management Systems. This offering will allow ConnectND to continue as an authoritative source of personnel, financial, and student data. It will also streamline efforts to utilize data from ConnectND.



## Accomplishments

The NDUS created an enterprise Active Directory (AD) that can provide information to other NDUS institutions and allows for students, faculty, and staff to access connected applications using one set of credentials.

Several NDUS institutions have upgraded their core Local Area Network (LAN) equipment and made other campus network upgrades to enhance performance, take advantage of new functionality, and to position their campus for future functionality.

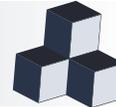
Minot State University (MiSU) has a project underway to replace its 18+ year-old multimode fiber optic cable plant with single-mode fiber and extend the build-out to support expanding capital projects.

MiSU had its final review of its new campus data center in June 2012. The data center equipment that had been moved to different locations on campus during the flood was returned to this new data center.

A number of institutions and the NDUS data center have moved to virtual servers. This reduced the number of physical servers required and improves efficiency of data centers.

UND purchased an IBM Storage Area Network in 2011. This system provides storage to mission-critical applications. Also in 2012, a 140 terabyte storage system was purchased in order to provide centralized disk storage for faculty, staff, and students. This provides individuals with a private folder, as well as storage that can be used during collaborative efforts.





# Goal Two

*To improve North Dakota University System information technology-enabled business processes and services while providing and managing resources.*

## Purpose

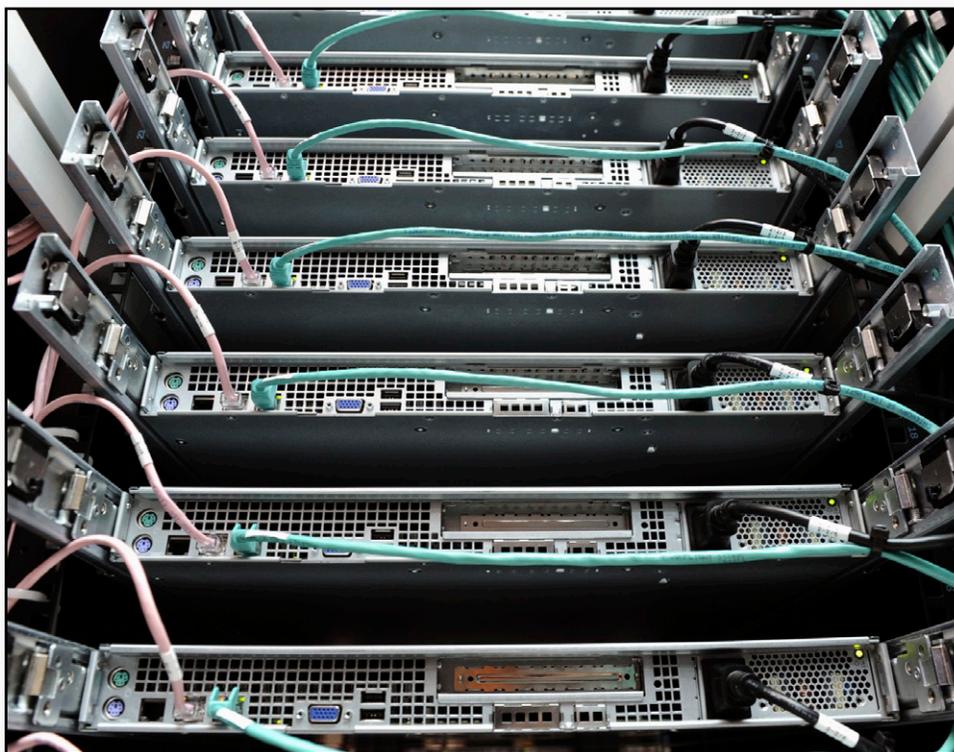
This goal is the core that supports business processes of the institutions and the North Dakota University System (NDUS). In order for institutions to remain competitive and offer information technology support for students, faculty, and staff, including research and public service, the NDUS must provide and manage information technology resources alignment with NDUS strategic goals.

## Strategy Objectives

1. Work with state government to maintain critical core ConnectND functions and implement upgrades and enhancements to the financial/human resources management and data warehouse systems.
2. Maintain critical core ConnectND functions and implement upgrades and enhancements to the student management, data warehouse, library, and academic technology systems.
3. Enhance the enterprise project management office, including enterprise architecture, to provide project management oversight, enterprise architecture administration, and

IT planning in conjunction with the NDUS Chief Information Officer (CIO).

4. Enhance educational experiences with new or re-purposed resources that expand user services, technologies, and initiatives.
5. Use the enhanced communications capabilities made available with STAGEnet to improve services to students, faculty, staff and the citizens of the state.
6. Implement a converged environment that supports voice, data, video, and collaboration systems.
7. Hire/train professional staff to meet the needs of NDUS services.





# Proposed Initiatives

Implement the planned merger of the UND CIO's staff and functions with the NDUS System Information Technology Services organization.

Complete construction of the new IT office building and remodeled warehouse space to be used as the NDUS data center.

Complete the implementation of a common document imaging/scanning system hosted by the NDUS System Information Technology Services.

Implement unified communications using Microsoft's installed Office 365 and integrate with UND's telephone system as the communications tool for staff to be located in the new IT facilities under construction. Unified communications includes Instant Messaging, e-mail, presence detection, voice communications, and collaboration tools in one

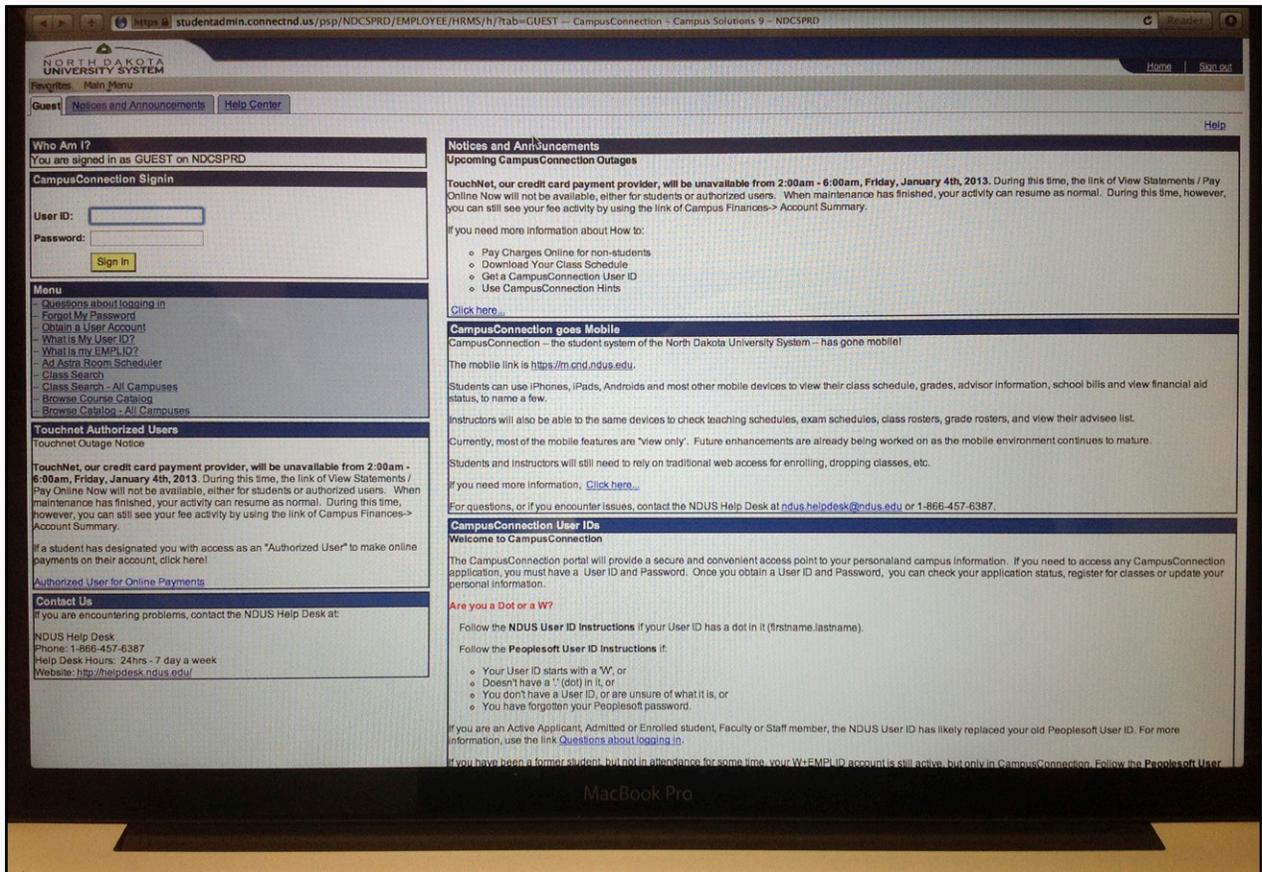
application that allows you to change between these functions with just one "button" click.

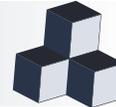
# Accomplishments

Developed a funding plan for construction of a new NDUS IT office building and renovation of space for the NDUS Data Center.

Gained approval by the State Board of Higher Education to implement NDUS enterprise hosted ImageNow document imaging/scanning system to meet one of the Board's "Maximizing Results through Efficiencies" IT initiatives.

Completed the PeopleSoft Environments Partitioning Project to physically separate state government data from NDUS human resources and financial data. This technically complex project reduced the size of the respective databases, allowing upgrades, patches, and fixes to be applied within acceptable outage windows.





# Goal Three

*To improve and enhance North Dakota University System student learning and customer focus.*

## Purpose

Empower student learning and development through the use of technology by providing a near seamless environment for learning through boundless access to information, educational, and research resources both inside and outside the classroom for all types of students from undergraduates to life-long learners.

NDUS encourages and supports an operational environment in which characteristics of its customers – student, faculty, staff, North Dakota residents, and affiliates worldwide – are identified, their needs are understood, relationships and expectations are effectively managed, and quality assurance is fostered for high-quality services and support.



and anyplace and for learning experiences that enable collaboration among learners.

- 3. Evaluate enhancements to the Online Dakota Information Network's (ODIN)

library systems and services to improve functionality that supports the evolving needs of students.

- 4. Continually improve standards, policies, procedures, and services that facilitate seamless, integrated learning.
- 5. Identify customer characteristics and respond to their expectations and needs.
- 6. Develop and implement a system-wide customer relationship management system in support of customer needs.
- 7. Establish a mechanism that leverages the resources of NDUS to facilitate education decision making by customers regarding instruction, research, information access, and service offerings.
- 8. Continue to gather feedback from the NDUS user community on services provided by NDUS SITS.

## Strategy Objectives:

- 1. Create an environment for enhancing learning where opportunities and resources are explored, best practices collected, and deploying strategies are developed, implemented, and evaluated. Examples include distributed education, effective use of technology in the classroom, and library linkages.
- 2. Create the means for easy, efficient, and reliable access to learning resources anytime



## Proposed Initiatives

One of the State Board of Higher Education's, "Maximizing Results Through Efficiencies" IT initiatives is to implement an enterprise learning management system with a consistent software approach; shared curriculum content, when appropriate; content repository; and consistent mobile device interfaces. This initiative has been delayed to give time for faculty to provide input. At this juncture, steps are being taken to improve both the experience for students and faculty and the integration of existing learning management systems with other NDUS applications. Among these are authentications consistent with the NDUS Active Directory standards, better real-time integration with the student administration system, and a single, robust hosting and production site for each of the three primary learning management systems currently in use.

Implement additional functionality/features to the mobile application for ConnectND that allows students, faculty, and staff access to specific data within the ConnectND PeopleSoft system using their smartphones or other mobile devices. Initial implementation allowed for "view" access to this information; however, the ability to change data through mobile device interaction is feasible.

Develop a comprehensive strategy that integrates legacy video technologies with Unified Communications, providing interoperable desktop and room-based videoconferencing.

## Accomplishments

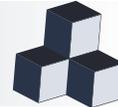
Implemented an enterprise lecture capture system during the summer of 2012.

In December 2011, the Blackboard Learning Management System at UND was upgraded to its latest version providing improvements in grading tools, rubrics, assessments, sharable content object reference model integration, and building blocks. Building blocks allow institutions to customize their instance of the software to meet their needs. These "blocks" are built into the software by Blackboard developers making it easier for customizations to be made.

Online Dakota Information Network (ODIN) worked in partnership with the North Dakota State Library to implement a new service, TutorND, funded by the State Library. Live tutors are available to help in subject areas such as math, science, English, and more, Sunday through Thursday, 6 pm — 10 pm Central Time. TutorND also has a SkillsCenter™ Resource Library that connects users to thousands of homework, test prep, and career resources that is available 24 hours a day, 7 days a week. The services are available through any library in the state.

A project to implement mobile access to ODIN library services is under way. When completed, this ODIN library service will make library resources available on the go.





# Goal Four

*To improve and enhance North Dakota University System collaborative efforts.*

## Purpose

By working together with the State, K-12, and other constituents, the NDUS is able to bring new technologies to North Dakota and support existing ones. Communicating with stakeholders is an important factor and everyone must work together in making necessary information available to every administrator, faculty, staff, and student across the North Dakota University System institutions.

## Strategy Objectives

1. Monitor NDUS help services so they are optimized within the NDUS community.
2. Implement mechanisms to improve communications with all stakeholders of the NDUS System Information Technology Services (SITS).
3. Collaborate with NDUS institutions, K-12, state and local governments, and libraries to identify appropriate learning and research support systems and converged services.
4. Develop a common architecture that encompasses available educational resources and systems and breaks down barriers between institutions, libraries, and other sources of learning.
5. Work with the Online Dakota Information Network (ODIN) libraries to expand virtual and digital holdings.
6. Promote Internet2 and research-level infrastructure.
7. Foster efforts that lead to the integration and streamlining of video, audio, and data collaborations in cross-platform environments.

8. Provide information to enhance accountability to stakeholders.
9. Collaborate with business and industry to identify the need for IT workers, promote career opportunities, and provide needed education and training.

## Proposed Initiatives

Complete the migration of all NDUS institutions to Microsoft's Office 365 environment. This will expand the collaboration tools available to students, faculty, and staff.

Provide for continued operation costs for the Northern Tier Network in support of the research missions of UND and NDSU. The Northern Tier Network is the high-speed data network connecting research institutions along the northern US border between Chicago and Seattle to other research networks.

Expand NDUS Help Desk tools and best practices to local campus IT support.

## Accomplishments

Eight of the 11 NDUS institutions completed migrating their faculty/staff's e-mail, calendaring, and web conferencing to the Microsoft Business Productivity Online Services (BPOS) suite by the fall of 2011. These institutions were migrated to Microsoft Office 365 in 2012 with the intent that all NDUS institutions will be on the same system during the next biennium.

Nine of the 11 NDUS institutions migrated their student e-mail, calendaring and document storage to Microsoft's hosted Live@edu system with the intent that students would be migrated to a common Microsoft Office



365 environment. Planning for the Office 365 student migration is under way.

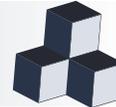
With the assistance of NDUS personnel guiding the efforts, a Customer Relationship Management (CRM) pilot project for industry partners was undertaken at the North Dakota State College of Science. This project has been launched, is currently in use, and is being evaluated. UND is also using this same vendor's software for CRM.

Work started and continues with the North Dakota Office of Experimental Program to Stimulate Competitive Research (EPSCoR), under a two-year National Science Foundation award, and four ND Tribal Colleges to improve network connectivity and provide access to the North Dakota Internetz Sponsored Education Group Participants (SEGP). The grant award is titled: "ND Tribal College Cyber Connectivity (C-2) Investments to Enhance

Integrated Education, Research and Workforce Opportunities." (Although the C-2 grant involved four of the five tribal colleges, all five Tribal Colleges continue to participate in discussions regarding the SEGP process).

NDUS negotiated a contract with Augusoft that allows NDUS institutions to purchase Lumens software at discounted pricing. Lumens is a web-based, non-credit enrollment management system for NDUS continuing education and extended learning programs. This unique solution provides continuing education programs the ability to manage both open enrollment and contract training all in one system, while complementing the ConnectND PeopleSoft system. This is vital as we continue to support individuals with a wide range of lifelong learning opportunities, while also fulfilling the training needs of the growing business community across our state.





# State IT Projects

## Completed Projects

July 1, 2010 - June 30, 2012

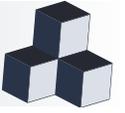
Agency	Project	Description	Project Budget	Budget Status	Schedule Status
Attorney General	Crime Lab Information Management System	A new Crime Lab Information Management System was purchased and replaced the existing management systems and added additional functionality.	\$700,000	\$10,459 Under	
Bank of North Dakota	Student Loan Lender System	A new student loan lender system was purchased and implemented to replace the existing student loan servicing system.	\$2,202,342	\$317,230 Under	
Bank of North Dakota	North Dakota College Access Network	This project is to reach, connect and engage Native American youth and their caregivers with relative and engaging information/resources on attending and paying for college by using GoodHealthTV®, NDCAN website, on-site touchscreens, and print.	\$306,500	\$7,578 Under	
Department of Corrections and Rehabilitation (DOCR)	Inmate Trust and Commissary Software	The DOCR purchased and implemented an automated inmate banking trust and commissary accounting software.	\$568,500	\$198,439 Under	
Department of Health	Electronic Disease Surveillance and Management System	The project implemented a COTS electronic disease surveillance and outbreak management system that meets both the NDDoH's ongoing and evolving business needs and works within federal standards. The COTS solution replaced the existing software.	\$550,000	\$0	
Department of Health	Program Reporting System	This project "industrialized" the Program Reporting System for heavier use in the department; including security, records retention features, and code changes for stability and reliability.	\$297,100	\$3,733 Under	
Department of Human Services	Minimum Data Set 3.0	This project allowed DHS to submit the data required for MDS 3.0.	\$857,452	\$208,479 Under	
Department of Human Services	5010	The Medicaid Management Information System was unable to successfully create/submit a 5010 HIPAA Health Care Claim Payment/Advice. The systems were enhanced to meet Centers for Medicare and Medicaid Services Level I compliancy.	\$909,410	\$86,613 Over	
Department of Public Instruction	FNP Direct Certification	Direct certification capabilities were added to provide Local Education Agencies with electronic notification of Food Stamps and Temporary Assistance for Needy Families participation data for enrolled students.	\$655,787	\$105,974 Under	
Department of Public Instruction	Mainframe Rewrite	This project involved the rewrite of the Education Standards and Practices Board and DPI systems from the mainframe to a modern architecture.	\$867,000	\$338,474 Over	
Department of Transportation	Position Information Questionnaire/Employee Information Rewrite	This project involved a re-write of the existing DOT PIQ system; removing it from Lotus Notes and replacing it with a web-based application.	\$301,575	\$15,592 Under	
Information Technology Department	Broadband Mapping	A map of broadband coverage across the state was developed. This data was submitted to the US Dept of Commerce and a public map is available from the ND GIS infrastructure.	\$796,151	\$16,885 Under	



Agency	Project	Description	Project Budget	Budget Status	Schedule Status
Information Technology Department	Statewide Automated Victim Information Notification System	The SAVIN system was implemented in order to allow victim information and notification events to be transmitted and shared among state and local agencies, courts, and victims in a consistent, accurate and timely manner.	\$1,091,780	\$181,531 Under	
Job Service North Dakota	Arizona, Wyoming, Idaho, North Dakota (AWIN) Consortium	This project created a high-level design/plan for building integrated Unemployment Insurance (UI) Benefits and Tax systems which can be implemented or hosted for other states by any of the AWIN (Arizona, Wyoming, Idaho, North Dakota)	\$345,006	\$2,790 Over	
Job Service North Dakota	JobsND.com Rewrite	This project involved a rewrite of Job Service North Dakota's JobsND.com website.	\$290,000	\$34,943 Under	
Job Service North Dakota	Unemployment Insurance Internet Claims Entry Reemployment Enhancements	New functionality was added to allow Appeals documents from FileNet to be displayed on-line and allow for additional self-service capabilities, increased user friendly features, and increase internal efficiencies.	\$615,025	\$257,449 Under	
Job Service North Dakota	Interactive Voice Response System Rewrite	This project replaced the JSND Interactive Voice Response (IVR) application. The infrastructure of the existing IVR system was phased out by the Information Technology Department.	\$1,369,541	\$120,724 Under	
Judicial Branch	Unified Court Information System	This project involved the implementation of the Odyssey Case Management environment from Tyler Technologies which replaced all case management functionality in the current UCIS system.	\$8,310,000	\$456,275 Under	
Legislative Assembly	Legislative Enterprise System North Dakota	This project implemented a solution to replace the legislature's core business processes (bill drafting, bill amendments, resolutions, session management, daily calendars and journals, bill status reports, and session laws).	\$5,752,497	\$278,000 Under	
Office of Management and Budget	PeopleSoft Environment Partitioning Project	This project has implemented a solution to better manage and operate the PeopleSoft Human Capital Management and Financial Supply Chain Management environments. This project partitioned the PeopleSoft environments.	\$500,000	\$59,317 Under	
Office of Management and Budget	PeopleSoft Talent Management	With the upgrade of PeopleSoft Human Capital Management, PeopleSoft HR now includes enhanced functionality. The project implemented the Talent Management suite including eDevelopment and eSuccession Planning.	\$745,336	\$84,601 Under	
Office of Management and Budget	North Dakota Public Reporting Website	This project, requested by the North Dakota State Legislature, made an aggregate and searchable budget database website publicly available. The project encompassed data from ND University System and ND State Government.	\$315,911	\$85,467 Under	
Tax Commissioner	Taxpayer Access Program / Oil and Gas	This project included the migration of the Oil & Gastax into the GenTax integrated system along with the implementation of the Taxpayer Access Program (TAP) module.	\$1,500,000	\$0	

## Terminated Projects

Project / Agency	Description	Actual Cost
Data Processing System Secretary Of State	The intent of this project was to develop and implement software systems to replace the mainframe Central Indexing System and the AS400, used to administer Secretary of State's business services, licensing, and administration processes.	\$613,010.00



# Websites and Additional Information

North Dakota Portal . . . . .	<a href="http://www.nd.gov">www.nd.gov</a>
Information Technology Department (ITD) . . . . .	<a href="http://www.nd.gov/itd">www.nd.gov/itd</a>
North Dakota University System (NDUS) . . . . .	<a href="http://www.ndus.edu">www.ndus.edu</a>
Statewide Longitudinal Data System . . . . .	<a href="http://www.slds.project.nd.gov">www.slds.project.nd.gov</a>
Advanced Learning Technologies . . . . .	<a href="http://alt.ndus.edu">alt.ndus.edu</a>
Online Dakota Information Network (ODIN) . . . . .	<a href="http://www.odin.nodak.edu">www.odin.nodak.edu</a>
Education Technology Council (ETC) . . . . .	<a href="http://www.ndetc.k12.nd.us">www.ndetc.k12.nd.us</a>
EduTech. . . . .	<a href="http://www.edutech.nodak.edu">www.edutech.nodak.edu</a>
North Dakota Center for Distance Learning . . . . .	<a href="http://www.ndcde.org">www.ndcde.org</a>
STAGEnet . . . . .	<a href="http://www.stagenet.nd.gov">www.stagenet.nd.gov</a>
North Dakota Geographic Information Hub (GIS) . . . . .	<a href="http://www.nd.gov/gis">www.nd.gov/gis</a>
North Dakota Criminal Justice Information Sharing Portal (CJIS) . . . . .	<a href="http://www.nd.gov/cjis">www.nd.gov/cjis</a>
Enterprise Architecture . . . . .	<a href="http://www.nd.gov/itd/services/enterprise-architecture">www.nd.gov/itd/services/enterprise-architecture</a>
Statewide Information Technology Plan . . . . .	<a href="http://www.nd.gov/itd/service-info/statewide-it-plans">www.nd.gov/itd/service-info/statewide-it-plans</a>
Broadband Mapping. . . . .	<a href="http://broadband.nd.gov">broadband.nd.gov</a>



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