



**North Dakota University System**  
**Initiative Status Update**  
**Information Technology – Strategic Plan 2015-2017**

**(Report generally covers the period from January 1, 2015 to December 31, 2016)**

Presented By:

Dr. Lisa Feldner

Vice Chancellor for Information Technology and Institutional Research

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## EXECUTIVE SUMMARY

Core Technology Services (CTS) of the North Dakota University System (NDUS) has made significant progress on a number of initiatives and projects during the 2015-17 biennium. Individually and collectively, these collaborative efforts are geared toward improving the overall student experience while maximizing efficiencies and reducing costs across the University System.

Predictive Analytics Reporting or PAR is one such project that will have a tremendous impact on student success. PAR combines student data from a number of sources in order to create insights into student academic progress. In turn, institutions can use the information provided by PAR to make better informed decisions. A number of committees and councils have participated in PAR demonstrations, including the State Board of Higher Education, Academic Affairs Council, joint (K-12/SBHE) boards, CIO Council, Chancellors Cabinet, and Legislative Higher Education Committee. PAR is scheduled to be fully operational across all 11 institutions by mid-January 2017.

Starfish retention software is a direct, follow-on project to PAR. Integrating PAR and Starfish will effectively identify retention gaps while proactively assisting the institutions in taking corrective measures. For example: if a student is having trouble with a class at mid-term and needs the class for graduation or as a pre-requisite for his/her degree, the advisors and faculty can use Starfish to reach out to the student proactively. CTS provides a standard set of data for the 11 institutions which includes currently enrolled students and academic standing. Any changes to the delivered data sets are approved by a user group made up of Starfish Coordinator, Registrar, and technology representatives from each institution.

A data inconsistencies project is an initiative driven by House Bill (HB) 1003. The State Board of Higher Education (SBHE) identified specific data inconsistencies at institutions and developed policies and procedures to correct those inconsistencies. This project developed 24 objectives to be achieved and categorized them into financial, human resources, or student information system (Campus Solutions). Examples of objectives include: standardizing the definition of a distance education student, standardizing the use of purchase cards, and standardizing recording of mandatory fees. With the standardization of definitions and processes, reporting across the University System will be consistent and in compliance with HB 1003.

Functional consolidation is one of several CTS initiatives directed by North Dakota Century Code (N.D.C.C 15-10). The goal of functional consolidation is to provide efficiencies and cost savings across the state while improving overall quality of services. During this biennium, CTS interviewed all of the campus presidents and CIOs in an effort to understand their IT environment and needs. In addition, each institution's IT infrastructure was inventoried to determine how everything will fit into the consolidation plan. The migration phase of the project will continue into the 2017-19 biennium.

Another state law – N.D.C.C 15-10-44 – requires all institutions to migrate all faculty, staff, and student email accounts to the NDUS Office 365 tenant. To date, nine campuses have successfully completed the migration and the remaining two institutions are expected to complete their migration in Fiscal Year 17. Successful completion of this migration to a single Office 365 tenant fulfills the requirements of N.D.C.C 15-10-44 for consolidated electronic mail and two year archiving of non-student electronic mail.

CTS has been working on many internal initiatives during the past two years. Information Technology Security is one such initiative and significant progress has been achieved during the past two years. Threats to NDUS systems and users continues to rise and the emphasis has been on reducing risk across the system. The Information Security Council (ISC), a sub-council to the NDUS CIO Council, has developed a NDUS Information Security Strategic Plan and worked to establish security policies and standards. There are six priority objectives listed in the plan and most have been implemented at CTS and institutions. The enhancements to security include: multifactor authentication integration at institutions and CTS, improved protection for CTS users with elevated privileges, centralized logging at CTS, and endpoint protections for institutions and CTS.

Another CTS improvement is in the area of absence and time tracking, where staff have transitioned from paper forms to electronic forms. The Absent Management/ Time and Labor module, located in the HR system, creates efficiencies by reducing data entry, eliminating paper copies, and allowing staff to submit their information from any location. CTS piloted this functionality and a plan is underway to implement this functionality to all 11 institutions.

The CTS unit of planning, procurement, and project management (P<sup>3</sup>/M), has grown with the addition of an Associate Project Manager and a Business Analyst position. P<sup>3</sup>/M has worked with CTS and the 11 institutions to provide guidance and services in procurement practices, project management, negotiation training, and contract renewals. This allows subject-matter experts to focus on their area of expertise and expedited many projects across the NDUS.

As the NDUS faces a potential budget shortfall for the 2017-19 biennium, institutions have had to prioritize, make difficult decisions, and still encourage growth, efficiency and protections around their IT landscape. Collaboration and consolidation have become familiar components this past biennium. Below are a few examples of institutional initiatives.

The production of a course catalog involves many resources and hours of editing and coordination across an institution. In order to improve accuracy, increase efficiencies, and create a positive student experience, a catalog software called CourseLeaf was adopted by Minot State University, North Dakota State University and the University of North Dakota. Bismarck State College implemented the software in 2016 and Lake Region State College hopes to implement in the 2017-19 biennium. CourseLeaf builds in workflow and eliminates the manual tracking and coordinating of paperwork, greatly simplifying the production of a course catalog. Students also prefer the digital version offered by CourseLeaf, which is available months earlier than previously printed edition.

In 2013, The University of North Dakota purchased iDashboards, a tool to help decision makers effectively manage areas of admission, enrollment, retention, graduation and more. Since UND began using iDashboards to drive decisions for their institution, other NDUS institutions have expressed interest in the tool. CTS collaborated with UND to support the software for Bismarck State College, Lake Region State College, Minot State University, and Valley City State University. A standard set of four dashboards were built for each institution along with one custom dashboard. Due to limited human resources and increased cost for providing the service to all 11 institutions, the other six institutions opted out of this initial phase.

Examples of dashboards included in the onboarding phase include: student demographics, full time and part time numbers, students' geographical residence, declared program/plan, graduation and retention rates, institution and program level (i.e. freshman, sophomore). A user group has been established in an effort to encourage collaboration, communication, and sharing of data among the institutions. They have been able to produce standard reports and results by using real time data.

The implementation of a centralized document imaging system, mandated by the SBHE in 2013, has been completed. Various departments are finding the imaging system to be effective and efficient in their day-to-day operations by use of electronic document storage and workflows. Departments are able to share documents securely in a timely manner, organize documents electronically, and save space by not storing hard copy documents. In addition to streamlining some of the daily processes in admissions, records, and financial aid, CTS has also collaborated with the State's Information Technology Department (ITD) to integrate K-12 transcripts with the imaging system. The Document Imaging Steering Committee was established in early 2015 and has representation from each institution. The key accomplishments of the steering committee include collaboration between institutions to facilitate document sharing by use of workflows, prioritizing the system-wide projects for fiscal year 2017, and in collaboration with the ND State Auditors Office, updating document imaging procedures to reflect the centralized system.

The ongoing work of CTS, in close collaboration with each NDUS institution, has resulted in significant progress towards providing valuable, consistent, and reliable services across the NDUS. CTS continues to strive in providing customer service for faculty, staff, students and stakeholders. CTS appreciates the collaborative relationships with ND state agencies, including the ND Information Technology Department and the ND Department of Public Instruction, as well as Edutech and other K-12 counterparts.

## STATUS UPDATE OF INITIATIVES/PROJECTS BY CAMPUS OR ENTITY

The NDUS Core Technology Services established the following goals and strategy objectives for the 2015-17 IT planning process. Institutions were asked to identify any IT initiatives/projects they were planning that would align with these goals and objectives. The goals and objectives included:

Goal #1	Strategy Objectives
Support North Dakota University System infrastructure needs.	<ol style="list-style-type: none"> <li>1. Offer reliable, cost-effective and appropriate NDUS network services.</li> <li>2. Provide tools and technologies to help people more easily use networked resources and services while ensuring security and privacy of the information.</li> <li>3. Utilize the network infrastructure for the convergence of voice, data, and video along with other collaboration tools.</li> <li>4. Enable libraries to provide easy access to licensed electronic information.</li> <li>5. Provide leadership for IT enterprise architecture, project management, and service management.</li> <li>6. Provide linkage through STAGEnet, Internet2, and other national and international research and development networks.</li> </ol>
Goal #2	Strategy Objectives
Improve North Dakota University System Information Technology-enabled business processes and services while providing and managing resources to align with NDUS Strategic Goals.	<ol style="list-style-type: none"> <li>1. Maintain critical core functions and implement upgrades and enhancements to the student management, financial/human resources management, data warehouse, library, administrative, and academic technology systems.</li> <li>2. Identify and integrate appropriate NDUS CTS systems to create operational effectiveness and efficiencies.</li> <li>3. Provide enterprise project management, enterprise architecture administration, and enterprise IT planning.</li> <li>4. Enhance educational experiences with new or re-purposed resources that expand user services, technologies, and initiatives.</li> <li>5. Maximize IT infrastructure to improve services to students, faculty, staff, and the citizens of the state.</li> <li>6. Hire, train, and retain highly competent professional staff to meet the needs of NDUS services.</li> </ol>

<b>Goal #3</b>	<b>Strategy Objectives</b>
<p>Improve and Enhance North Dakota University System student learning and user's focus.</p>	<ol style="list-style-type: none"> <li>1. Leverage the IT infrastructure to create an environment for enhancing learning.</li> <li>2. Enable collaboration among learners by providing easy, efficient, and reliable access to learning resources anytime and anywhere.</li> <li>3. Evaluate enhancements to the Online Dakota Information Network's (ODIN) library systems and services to improve functionality that supports the evolving needs of users.</li> <li>4. Continually improve standards, policies, procedures, and services that facilitate seamless, integrated learning.</li> <li>5. Identify users' characteristics and respond to their expectations and needs.</li> <li>6. Develop and implement a system-wide customer relationship management system in support of users' needs.</li> <li>7. Continue to gather feedback from the NDUS user community on services provided by NDUS CTS.</li> </ol>
<b>Goal #4</b>	<b>Strategy Objectives</b>

<p>Improve and Enhance North Dakota University System collaborative efforts.</p>	<ol style="list-style-type: none"> <li>1. Optimize helpdesk services within the NDUS community.</li> <li>2. Continually improve communications with all stakeholders.</li> <li>3. Collaborate with NDUS institutions, K-12, state/local governments, and libraries to identify appropriate administrative, learning, research support systems and converged services where appropriate.</li> <li>4. Leverage educational resources and IT systems to minimize barriers between institutions, libraries, and other sources of learning.</li> <li>5. Expand virtual and digital holdings available within the Online Dakota Information Network (ODIN) libraries.</li> <li>6. Promote Internet2 and research-level infrastructure.</li> <li>7. Continue the integration of video, audio, and data collaborations in cross-platform environments.</li> <li>8. Collaborate with business and industry to identify opportunities for innovations that enhance NDUS CTS systems and services.</li> </ol>
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The following pages contain a listing of all the initiatives/projects that campuses and NDUS CTS had submitted for the 2015 – 2017 NDUS IT Plan. A status update is provided for each initiative per the response from the campus or responsible entity.



<b>BSC</b>	<b>INITIATIVES/PROJECT</b>	<p>Facilities Card Access – to be included as part of Campus One-Card System (Mystic Card)</p> <p>The plan is to implement a product called CS Access offered by CBORD. BSC plans to replace the systems currently in place within the five buildings, incorporate the new technology into the four buildings being brought online in August 2015 and extend the technology to the other buildings on campus including our two remote sites in Mandan.</p>
	<b>GOAL – OBJECTIVE(S)</b>	1.2, 1.3, 2.5 and 3.5
	<b>WHO BENEFITS</b>	Students’ benefit by combining their dining card, Library card, ID card, debit card and building access tools all into one card. Housing personnel benefit, as they no longer need to track building keys issued to each student. Security will benefit from open-door notifications and will also have an audit trail of who went through the door(s). Building and Grounds benefits, as they are responsible for assigning keys and access privileges.
	<b>HOW MEASURED</b>	Efficiencies will be gained by eliminating dependency on locksmiths and time saved not waiting for keys to be made. Custodial and maintenance employees can come directly to work without being concerned with unlocking or locking the building. Time will be saved in record keeping of who has what key(s) issued. Time will be saved by not having to walk to a building to lock or unlock doors as this can be done from a central or remote location instead.
	<b><i>STATUS UPDATE</i></b>	<p><i>Received one-time funding from the legislature for enhancements to campus safety and security. Part of the funding package was planned to be used for this project. Based on lessons learned during a campus lockdown, resources for this project were re-prioritized to allow all campus door locks to be changed so they can be locked from the inside with the turn of a knob- as opposed to being key-locked from the outside of the room using a key.</i></p> <p><i>This project will be submitted again for the next strategic plan.</i></p>
	<b><i>ACTUAL MEASUREMENTS</i></b>	<i>No actual measurements at this time.</i>

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<b>BSC</b>	<b>INITIATIVES/PROJECT</b>	Electronic Early Alert System for Student Retention  Investigate and implement a solution that is comprehensive, efficient, effective early alert system to improve student success, retention, and completion. Currently BSC is reviewing two products; Starfish Retention Solutions Early Alert and Connect, and Hobsons Retain Early Alert CRM and Agile Advisor.
	<b>GOAL – OBJECTIVE(S)</b>	1.2, 1.3, 1.4, 1.5, 2.3 and 4.4
	<b>WHO BENEFITS</b>	Students; the Advising, Counseling and Student Success staff; Faculty; the tutoring, Financial Aid, Disability Specialists, and Support offices; administration; and Information Technology staff.
	<b>HOW MEASURED</b>	Enrollment Data – Term-to-Term persistence rates; Year-to-Year retention rates.  Student Outcomes – Course completion rates; grade point averages; graduation rates.  Other Data – Service usage rates (tutoring, advising center, etc.); student with good academic standing; fewer students with financial aid disqualification; number of student contacts; student response to communication; and number of alerts generated and resolved.
	<b>STATUS UPDATE</b>	<i>Early Alert: Cross-functional BSC team constructed the formation of service indicators for Starfish Early Alert spring 2016. Test tenet completed with all roles assigned, exploration of completed tool and implementation occurred late spring 2016.</i>  <i>The Hobsons CRM (Customer Relationship Management) software allows us to manage and analyze student interaction throughout their application process. Communication pieces are sent out to students based on their status at Bismarck State College. This software allows us to effectively and efficiently recruit students to BSC and communicate with them throughout the process.</i>
<b>ACTUAL MEASUREMENTS</b>	<i>Starfish Early Alert: Pilot phase was implemented summer 2016 therefore no data is currently available.</i>  <i>Hobsons CRM: This software has allowed us to create eight communication plans and over 200 emails/letters specific to prospects/applicants status at Bismarck State College.</i>	

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<b>BSC</b>	<b>INITIATIVES/PROJECT</b>	Internet Protocol version 6 (IPv6) Deployment  Deploy IPv6 in the campus network as BSC begins to fully utilize all available IPv4 addresses. This would be a transition as opposed to a complete cutover to IPv6.
	<b>GOAL – OBJECTIVE(S)</b>	1.1, 1.2, 1.3, 2.4, 2.5, 3.1, 3.2, 3.4, 3.5 and 4.4
	<b>WHO BENEFITS</b>	The campus network engineers benefit by making BSC’s network efficient and more secure. Students and other customers benefit by being able to connect to campus networks with their proper credentials during peak times. Faculty will benefit by having a network address available to them when they enter the classroom. Presenters at conferences and events held on campus would benefit by being guaranteed an address (with proper credentials) to utilize their devices to project and by being able to connect to the campus network.
	<b>HOW MEASURED</b>	Increased efficiencies by users being able to connect to the campus network.
	<b>STATUS UPDATE</b>	<i>Resources for personnel training have not been made available for this project.</i>
	<b>ACTUAL MEASUREMENTS</b>	<i>This project will be removed from the BSC project list.</i>
	<b>BSC</b>	<b>INITIATIVES/PROJECT</b>
<b>GOAL – OBJECTIVE(S)</b>		1.2, 1.3, 2.4, 2.5, 3.1, 3.2, 3.4, 3.5, 4.2, 4.3, 4.4 and 4.7
<b>WHO BENEFITS</b>		BSC employees, students, our collaborative partners and NDUS employees on the campus of BSC who receive voice services. Additionally, NDUS campuses that have already implemented a Unified Communications system as well as campuses that plan to implement one.
<b>HOW MEASURED</b>		After the project has been implemented and the campus community has become familiar with the new tools provided to them we could measure benefits by having casual conversations with users,

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		formalized group discussions, conducting campus surveys and by soliciting feedback from our campus community.
	<b>STATUS UPDATE</b>	<i>The campus is having conversations with both CTS and ITD to provide this service for BSC. Having CTS or ITD provide these services will bring our antiquated voice and voice mail systems into current standards. It will also bring the campus into compliance with N.D.C.C. 15-10-44.1 which requires server services be provided by CTS.</i>
	<b>ACTUAL MEASUREMENTS</b>	<i>This project is a work in progress.</i>
<b>BSC</b>	<b>INITIATIVES/PROJECT</b>	Technology Life Cycle Management  Currently BSC has no formalized method for managing the replacement of existing technology accommodating new requests for technology, or effectively determining and removing equipment that has reached an end-of-life designation by the supplying vendor. This initiative focuses on managing the replacement cycle of technology for BSC.
	<b>GOAL – OBJECTIVE(S)</b>	1.1, 1.2, 1.3, 1.5, 2.1, 2.2, 2.4, 2.5, 3.1, 3.2, 3.4, 3.5 and 4.4
	<b>WHO BENEFITS</b>	Students, faculty, and staff benefit by having a reliable and consistent connection to network resources.
	<b>HOW MEASURED</b>	Knowing in advance the funding amount allows us to better prepare for new fiscal year equipment purchases and be able to better prepare for and schedule annual projects.
	<b>STATUS UPDATE</b>	<i>BSC has implemented a replacement for the following technology devices: Employee laptops – three (3) years Desktop computers – five (5) years given they have solid state hard drives Building and edge switches – nine (9) years Wireless Access Points – six (6) years Core networking equipment – nine (9) years</i>
	<b>ACTUAL MEASUREMENTS</b>	<i>Based on current funding levels, we are able to replace technology devices based on the pre-determined life cycle for laptop computers, desktop computers, data switches, wireless access points and core networking equipment.</i>

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<b>BSC</b>	<b>INITIATIVES/PROJECT</b>	Extend Main Campus Network to Lineworker Campus  This project will provide the Lineworker Campus with a high-speed network connection directly to our main campus with equipment needed on the remote end (equipment on the main campus is already in place) via leased fiber.
	<b>GOAL – OBJECTIVE(S)</b>	1.1, 1.2, 1.3, 1.5, 1.6, 2.3, 2.4, 2.5, 3.1, 3.2, 3.4, 3.5, 4.2, 4.4 and 4.7
	<b>WHO BENEFITS</b>	Students and faculty will benefit at this remote campus. Additionally the network services and telecommunications staff will benefit, as they will have better control of network issues.
	<b>HOW MEASURED</b>	N/A
	<b>STATUS UPDATE</b>	<i>Limited funding has prevented the implementation of this project.  This project will be submitted again for the next strategic plan.</i>
	<b>ACTUAL MEASUREMENTS</b>	<i>No actual measurements at this time.</i>
<b>BSC</b>	<b>INITIATIVES/PROJECT</b>	Installation/Replacement of Security Cameras  This project will replace the inadequate storage offered by the DVRs with a high capacity server and storage solution, replace analog cameras with higher resolution IP cameras, allow storage for 30 days to conform with security department’s policy on retention, and have a single management point through a console administered and controlled by security personnel.
	<b>GOAL – OBJECTIVE(S)</b>	1.2, 1.3, 2.5 and 3.5
	<b>WHO BENEFITS</b>	Students, faculty, staff and others including BSC security personnel, housing staff, and those who require the review of incidents on campus. This project is directly related to campus safety.
	<b>HOW MEASURED</b>	Ability to respond to incidents.
	<b>STATUS UPDATE</b>	<i>The final phase, Phase III of this project, has been completed.</i>

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	<b>ACTUAL MEASUREMENTS</b>	<i>Quality video is being recorded and stored based on the security department’s retention policy. The video has been instrumental in resolving issues with traffic, accidents, etc.</i>
<b>BSC</b>	<b>INITIATIVES/PROJECT</b>	HP EVA 4400 with HP 3PAR server and storage solution infrastructure  The project will include purchasing a HP 3PAR storage solution that will replace BSCs aging EVA 4400. The 3PAR solution will work with our existing c3000 blade infrastructure and tape backup solution. Consultants recommended this solution as the simplest upgrade path.
	<b>GOAL – OBJECTIVE(S)</b>	1.2, 1.3, 2.5, 3.5 and 4.7
	<b>WHO BENEFITS</b>	The employees (staff and faculty, full and part time employees) of BSC will benefit. The EVA currently houses and provides access to shared resources and services updated and used daily. Our Intranet, reporting services, fileserver and lab resources are all developed and maintained within this environment. By upgrading/replacing the current design with a new, more robust infrastructure, we will be able to continue providing access to these resources while also building in growth and availability with additional resources included.
	<b>HOW MEASURED</b>	N/A
	<b>STATUS UPDATE</b>	<i>The campus HP EVA has been replaced with an HP 3PAR server and storage solution infrastructure.</i>
	<b>ACTUAL MEASUREMENTS</b>	<i>The storage services have been migrated from the EVA to the 3PAR solution. The end-of-life HP EVA has been decommissioned and is no longer being used.</i>
<b>BSC</b>	<b>INITIATIVES/PROJECT</b>	CourseLeaf Catalog Software  Purchase and implement CourseLeaf Catalog software, a NDUS supported application currently being used by NDSU, UND and MiSU.
	<b>GOAL – OBJECTIVE(S)</b>	1.2, 2.2, 2.4, 2.5, 4.2 and 4.3
	<b>WHO BENEFITS</b>	Faculty, staff and students.
	<b>HOW MEASURED</b>	Software users can increase accuracy by using the software’s automated processes instead of manual entry of changes. They can increase efficiency by using the product’s built-in workflow processes. The software also has the ability to provide an electronic version (with it being more up-to-date) along with

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		a printed version. All these lead to greater student satisfaction by having timely information and in a media that they prefer.
	<b>STATUS UPDATE</b>	<i>Electronic Catalog and the .pdf version of the BSC CourseLeaf Catalog went live around May 2016. Continue working on integrating catalog information with academic program pages on the BSC website. Workflow will not be integrated until the fall of the next calendar year at the earliest.</i>
	<b>ACTUAL MEASUREMENTS</b>	<i>No actual measurements at this time.</i>
<b>BSC</b>	<b>INITIATIVES/PROJECT</b>	Use Microsoft Cloud based services for staff and faculty home drives (OneDrive) and faculty – student project collaboration.  BSC would like to move employee’s home directories to OneDrive (associated with their NDUS Office365 account) and create collaborative (to be used by students) sites in Azure. This initiative would allow for greater flexibility in accessing business data that is stored for individual or collaborative use. Employees can share information with colleagues and students at their discretion.
	<b>GOAL – OBJECTIVE(S)</b>	1.2, 1.2, 1.3, 2.4, 2.5, 3.1, 3.2. 3.5 and 4.7
	<b>WHO BENEFITS</b>	Faculty, staff and students all benefit.
	<b>HOW MEASURED</b>	User satisfaction
	<b>STATUS UPDATE</b>	<i>This project is currently on hold due to ongoing discussions with data storage and shared services as detailed in N.D.C.C. §15-10-44.1</i>
	<b>ACTUAL MEASUREMENTS</b>	<i>No actual measurements at this time.</i>
<b>BSC</b>	<b>INITIATIVES/PROJECT</b>	Student Laptop Initiative  This project and solution would involve purchasing laptop computers and docking stations for each seat in the English and Creative Arts classrooms.

<b>GOAL – OBJECTIVE(S)</b>	1.2, 1.3, 1.4, 2.4, 2.5, 3.1, 3.2, 3.4, 3.5 and 4.4
<b>WHO BENEFITS</b>	Students and faculty will benefit in the Communications and Creative Arts Center. All students taking English classes in the new Communications and Creative Arts Center will be able to use technology during class time to work independently or in groups. Internet access, software programs, eCompanion and Library resources will all be available during their classes.
<b>HOW MEASURED</b>	Satisfaction with results.
<b><i>STATUS UPDATE</i></b>	<p><i>The new Learning English and Arts Hall has seven English classrooms. All classrooms have laptops and docking stations for each student allowing them to work independently or in groups. Internet access, software programs, eCompanion and Library resources are available during their classes. After nearly two semesters with the new computer classroom design, faculty and students are very pleased to have ready access to computer technology without sacrificing a classroom set-up that is flexible enough to meet the needs of each day's learning activities.</i></p> <ul style="list-style-type: none"> <li>• <i>Students have the opportunity for guided experience with computers with the help of classmates or the instructor. This includes internet, online learning platform, library research tools, and MS Office Suite, creating familiarity and confidence that transfers to other academic or professional tasks.</i></li> <li>• <i>Faculty have the flexibility to use computers when it is most effective for learning and not simply when the library computer is available.</i></li> <li>• <i>Compared to a traditional computer lab, faculty and students both benefit from the warmer classroom environment that is possible when the classroom can be configured to the needs of the learning activity and easily changed from all facing forward for a lecture or projection to a circle for class discussion to huddles for small group work and back to a discussion circle. This allows students to get to know classmates, can make them less reluctant to participate in classroom activities, and can contribute to student retention. And for faculty, all those contribute to a more enjoyable learning environment and teaching experience.</i></li> </ul>



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	<b><i>ACTUAL MEASUREMENTS</i></b>	<i>During fall 2016, surveys were administered to students to collect student profile and experience data related to the classroom computers. Separate surveys were used for returning students who were familiar with our English classes without computers and first time students who didn't know what to expect. This data is still being analyzed, but preliminary analysis reveals that access to computers and comfort and confidence with computers is not universal with our students, and having access to laptops in the classrooms helps close the deficit. Anecdotal information abounds about how faculty are making use of the computers to enhance student learning, especially as faculty exchange successes informally between classes or more formally at department meetings.</i>
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<b>DCB</b>	<b>INITIATIVES/PROJECT</b>	Dakota College at Bottineau does not have any formal projects planned for the 2015-17 timeframe to be included in this document; however, they are planning some smaller projects.
	<b>GOAL - OBJECTIVE(S)</b>	
	<b>WHO BENEFITS</b>	
	<b>HOW MEASURED</b>	
	<i><b>STATUS UPDATE</b></i>	<i>Dakota College at Bottineau had no formal projects underway.</i>
	<i><b>ACTUAL MEASUREMENTS</b></i>	

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<b>DSU</b>	<b>INITIATIVES/PROJECT</b>	<p>Academic Infrastructure Goals</p> <p>Every 3-4 years, upgrade designated faculty computers and student accessible computers in 10 primary instructional labs and 50 classroom instructional areas with multimedia workstations. Upgrade software on a schedule that provides latest technology; expand the LAN offering more wireless coverage and faster speed in key areas. Plan and support the current LMS system of Moodle and Tegrity by providing supplemental infrastructure in the classrooms. Provide students with Upgraded Microsoft email accounts.</p>
	<b>GOAL – OBJECTIVE(S)</b>	Goals 1, 2, and 3
	<b>WHO BENEFITS</b>	Ensures consistent and reliability for services offered to students, faculty, staff, and community affiliates.
	<b>HOW MEASURED</b>	Increased speed at which reports and records can be retrieved for view, reduced application and OS startup times, and training being performed “just in time” when an employee is hired.
	<i><b>STATUS UPDATE</b></i>	<i>Hardware and software updated at appropriate locations to meet these needs.</i>
	<i><b>ACTUAL MEASUREMENTS</b></i>	<i>Imaging, processing power, memory and disk access were reduced by 20-50%. Additional wireless access for students increased in two buildings. Key areas from switch to switch were upgraded from 1gig to 10gig. Camera's and microphones added in additional classrooms for LMS support.</i>
	<b>INITIATIVES/PROJECT</b>	<p>Administrative Infrastructure Goals</p> <p>Plan, design and determine cost estimates for unified communication solutions including voice, video and data, ensure accurate and timely access to student and administrative information for use by management. Upgrade designated staff computers on a 3-4 year basis. Continue the process of local ConnectND trainer training new employees and ongoing training for existing employees.</p>
	<b>GOAL – OBJECTIVE(S)</b>	Primarily goals 1 and 2
	<b>WHO BENEFITS</b>	Employees will have better response time to run reports and queries. Communication between employees will be enhanced, all fostering more accurate results.
	<b>HOW MEASURED</b>	Efficiency of reports and queries being run. Efficiency of communications between employees.

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	<b><i>STATUS UPDATE</i></b>	<i>Voice upgrade is on hold. Hardware and software updated at appropriate locations to meet these needs. Local hard drives running out of space with OS and software upgrades.</i>
	<b><i>ACTUAL MEASUREMENTS</i></b>	<i>Imaging, processing power, memory and disk access were reduced by 20-50%. New employees are receiving some training but challenges remain as turnover rates continue.</i>
<b><i>DSU</i></b>	<b>INITIATIVES/PROJECT</b>	Networking Infrastructure Life Cycle Goals  Plan and design secure solutions for PCI requirements. Upgrade switches, controllers, and appliances as required by needs and end of life. Plan a procedure and technology solution for identity management.
	<b>GOAL - OBJECTIVE(S)</b>	Impacts goals 1, 2, 3 and 4
	<b>WHO BENEFITS</b>	While this will impact everyone, the greatest benefit will be to students. They will experience better network response time to the learning management system (LMS) and other content rich academic resources. Students will have more options with PCI compliance for such things as book leasing and locations to pay.
	<b>HOW MEASURED</b>	Satisfaction of students
	<b><i>STATUS UPDATE</i></b>	<i>Updated cc machines. Upgraded targeted switches and hardware, continue to plan. Participate with NDUS groups for IdM.</i>
	<b><i>ACTUAL MEASUREMENTS</i></b>	<i>Audit of PCI was positive, and recommended changes were implemented. LAN backbone speed and response increased and was best observed when imaging.</i>

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<b>LRSC</b>	<b>INITIATIVES/PROJECT</b>	Business Intelligence for Dakota Precision Agriculture Center  This project requires storage and transfer of large data sets. Students will need to access large data sets so the Precision Agriculture Department needs to be able to store and transfer large data files, perhaps up to 20GB of data. Staff shares files with other universities and 30 or more faculty/scientists may read/manipulate these files.
	<b>GOAL - OBJECTIVE(S)</b>	3.1, 3.2, 4.2, 4.4, and 4.6
	<b>WHO BENEFITS</b>	LRSC students benefit from exposure to agribusiness data sets and real-world scenarios. Also Ag producers, crop consultants, field agronomists, analyses laboratories, agriculture engineering and business faculty at land grant universities, Ag business management media and Ag economists in both the public-sector and collegiate arenas.
	<b>HOW MEASURED</b>	Amount of data stored and then used in Ag analysis.
	<b>STATUS UPDATE</b>	<i>Investigated the use of SendFile, however, the Precision Agriculture Department decided external hard drives were the best way to save large files and use them with their class.</i>
	<b>ACTUAL MEASUREMENTS</b>	<i>Students have made use of the data for completing classroom assignments.</i>
<b>LRSC</b>	<b>INITIATIVES/PROJECT</b>	CourseLeaf Software  This project would be to purchase and implement CourseLeaf Catalog Software that is the NDUS supported application currently used by NDSU, UND, and MiSU.
	<b>GOAL - OBJECTIVE(S)</b>	2.2
	<b>WHO BENEFITS</b>	Parents and students will benefit from having the information they need in an easily accessible format. Staff will benefit by eliminating duplicate data entry, by having a workflow approval system, and by knowing the information is more accurate.
	<b>HOW MEASURED</b>	User satisfaction.

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	<b><i>STATUS UPDATE</i></b>	<i>CourseLeaf was investigated but deemed too costly at this time. LRSC uses flip books for presenting catalog information to the public on our website.</i>
	<b><i>ACTUAL MEASUREMENTS</i></b>	<i>No actual measurements at this time.</i>
<b>LRSC</b>	<b>INITIATIVES/PROJECT</b>	<p>Business Intelligence – Dashboards</p> <p>Our objective would be to integrate Campus Solutions data with dashboard software and provide the needed data in graphical format. This would make it quick and easy for us to interpret and understand the data and emerging trends allowing us to make informed and smart strategic business decisions and manage our resources. LRSC would also tie these dashboards to other information, not just Campus Solutions.</p>
	<b>GOAL – OBJECTIVE(S)</b>	2.2, 3.1, 3.4, 3.5 and 3.7
	<b>WHO BENEFITS</b>	Faculty, staff, students and affiliates benefit from having data integrity and timely access to information necessary to make decisions.
	<b>HOW MEASURED</b>	By the additional students we are able to serve.
	<b><i>STATUS UPDATE</i></b>	<i>LRSC is working with the NDUS on dashboards. LRSC will utilize the NDUS instance of iDashboards for further development.</i>
	<b><i>ACTUAL MEASUREMENTS</i></b>	<i>LRSC has attended one training session and will receive five canned dashboards built by the dashboard team.</i>
<b>LRSC</b>	<b>INITIATIVES/PROJECT</b>	<p>ImageNow</p> <p>Lake Region State College would like to use the NDUS implementation of ImageNow for document imaging.</p>
	<b>GOAL – OBJECTIVE(S)</b>	Goals 2 and 3
	<b>WHO BENEFITS</b>	Students and employees

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	<b>HOW MEASURED</b>	Students and staff's satisfaction with ability to have access to files electronically at their desk to help answer student's requests.
	<i>STATUS UPDATE</i>	<i>LRSC began using the NDUS ImageNow for document imaging in the spring of 2015. Currently admissions, registrar, and financial aid departments are using it.</i>
	<i>ACTUAL MEASUREMENTS</i>	<i>Staff are very satisfied with the system and can easily access student records. The Grand Forks Air Force base now has easy access to records as well.</i>
<b>LRSC</b>	<b>INITIATIVES/PROJECT</b>	Password Synchronization  LRSC would like to implement the password synchronization solution that NDUS has as this would allow LRSC students to use their credentials for Campus Solutions to log into the campus computers.
	<b>GOAL – OBJECTIVE(S)</b>	2.2, 2.4, 2.5, 3.1, 3.2, 3.4 and 3.5
	<b>WHO BENEFITS</b>	Students will benefit with ease of access to computer resources. Help desk will benefit from fewer calls from students and faculty regarding password changes.
	<b>HOW MEASURED</b>	Student satisfaction; number of help desk calls requesting password changes.
	<i>STATUS UPDATE</i>	<i>NDUS put a hold on this project, awaiting implementation of a new Identity Access Management system.</i>
	<i>ACTUAL MEASUREMENTS</i>	<i>No actual measurements at this time.</i>

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<b>MaSU</b>	<b>INITIATIVES/PROJECT</b>	Mayville State University does not have any formal projects planned for the 2015-17 timeframe to be included in this document; however, they are planning some smaller projects.
	<b>GOAL – OBJECTIVE(S)</b>	
	<b>WHO BENEFITS</b>	
	<b>HOW MEASURED</b>	
	<i>STATUS UPDATE</i>	<i>Mayville State University had no formal projects underway.</i>
	<i>ACTUAL MEASUREMENTS</i>	



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<b>MiSU</b>	<b>INITIATIVES/PROJECT</b>	<p>Blackboard Managed Hosting</p> <p>In the spring of 2013 MiSU migrated from WebCT to Blackboard’s Learn learning management system (LMS) and recently purchased Community Engagement, Content Management and Mobile Learn modules. With the growing needs of online presence, Minot State University submitted a 1901.3 approval request that was approved and are in the process of migration planning with Blackboard Provisioning Services. A date to go live in the new managed hosting environment is spring 2015.</p>												
	<b>GOAL – OBJECTIVE(S)</b>	1.1, 1.2, 2.3, 2.4, 2.5, 3.1, 3.2 and 3.5												
	<b>WHO BENEFITS</b>	Student and faculty will benefit the most from the move with improved response times and resiliency from 24/7/365 server monitoring by dedicated Blackboard staff.												
	<b>HOW MEASURED</b>	Student and faculty satisfaction.												
	<i><b>STATUS UPDATE</b></i>	<i>Migration was completed in January 2015.</i>												
	<i><b>ACTUAL MEASUREMENTS</b></i>	<p><i>There was zero unplanned downtime in 2015 and we have not received any complaints from faculty or students.</i></p> <table border="1"> <thead> <tr> <th>Environment</th> <th>Period</th> <th>No. of Outages</th> <th>Total Outage Time</th> <th>SLA Percentage</th> </tr> </thead> <tbody> <tr> <td>Production</td> <td>01-01-2015 00:00:00 to 12-31-2015 23:59:59</td> <td>0</td> <td>0</td> <td>100 %</td> </tr> </tbody> </table>				Environment	Period	No. of Outages	Total Outage Time	SLA Percentage	Production	01-01-2015 00:00:00 to 12-31-2015 23:59:59	0	0
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<b>NDSCS</b>	<b>INITIATIVES/PROJECT</b>	<p>NDSCS Online Portal</p> <p>The NDSCS Online Portal will bring information for current students into a single interface that will either provide deep links to existing resources, connectivity via Web services or APIs, or simply via Web links if necessary. Once launched for students, NDSCS will extend the portal for use by employees.</p>
	<b>GOAL - OBJECTIVE(S)</b>	2.4, 2.5, 3.1, 3.2, 3.3, 3.4 and 3.5
	<b>WHO BENEFITS</b>	Primarily students and front-line staff benefit. Having a single source for information to send students and parents to would improve their experiences, and would significantly increase efficiency of staff that is responsible for disseminating this information to students.
	<b>HOW MEASURED</b>	N/A
	<b><i>STATUS UPDATE</i></b>	<i>Due to the current vacancy in NDSCS' developer position, ITS chose to put our portal plans on-hold. In the meantime, we continue to support the NDSCS Intranet as a primary information source for employees. That tool has recently been extended to include repository of all campus policies. The NDSCS CIO has been involved in the RFP process for a new learning management system, and we believe that adopting a more robust learning platform for students will be a step toward improving accessibility of information and our overall student experience.</i>
	<b><i>ACTUAL MEASUREMENTS</i></b>	N/A

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<b>NDSU</b>	<b>INITIATIVES/PROJECT</b>	NDSU Collaborative Information Technology (IT) Efforts with the NDUS  Continue to collaborate with the NDUS, through an SLA, for selected IT services support. These services provide a direct benefit to the NDSU staff, faculty and students that consume these services. This collaboration, and that with other campuses, is consistent with NDSU’s land grant mission.
	<b>GOAL – OBJECTIVE(S)</b>	1.1, 1.2, 1.3, 1.5, 1.6, 1.7, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 3.1, 3.2, 3.4, 3.5, 3.7, 4.1, 4.2, 4.3, 4.4, 4.6, 4.7 and 4.8
	<b>WHO BENEFITS</b>	All NDSU on-campus and off-campus constituents benefit from this collaboration.
	<b>HOW MEASURED</b>	Measured against the requirements of the Service Level Agreement.
	<i>STATUS UPDATE</i>	<i>Ongoing</i>
	<i>ACTUAL MEASUREMENTS</i>	<i>NDSU continues to work with the NDUS by providing NDUS Tier 2 Help Desk support and WAN collaboration. During 2015 NDSU staff worked on approximately 3000 Tier 2 tickets and processed approximately 800 NDUS outage notifications. Direct access to the NDUS Help Desk continues to provide immediate on-site support to NDSU students, faculty and staff.</i>
<b>NDSU</b>	<b>INITIATIVES/PROJECT</b>	NDSU/NDUS ConnectND Financial (FIN) and Human Resource Management System (HRMS) Report Development Collaboration and FIN, HRMS, and Campus Solutions Training Collaboration.  This initiative consists of two major components.  Report Development Collaboration -  Using CTS programming practices and NDUS project management oversight, evaluate, prioritize, and categorize NDSU’s development requests (DRs).  Using CTS programming practices and NDUS project management oversight, develop ConnectND FIN and HRMS queries/reports for NDSU campus with the understanding these reports may be shared with other NDUS campuses, but will need to follow the standard CTS processes to be adopted by CTS.  Using CTS programming practices and NDUS project management oversight, NDSU personnel will develop a ServiceNow template to index the existing ConnectND FIN and HRMS queries/reports already supported by CTS with future queries/reports being indexed by CTS as they are developed.

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		<p>An end-goal the first year of this project- NDSU will work with CTS to develop a system-wide proposal for expanding this project or for other future collaborations that support ConnectND customer needs system-wide.</p> <p>FIN, HRMS, and Campus Solutions Training Collaboration.</p> <p>Using TrainND sites, NDSU personnel will coordinate with CTS and retired NDSU employee, Carol Tschakert, to ensure that training is available for each of the ConnectND FIN, HRMS, and Campus Solutions modules two times each year.</p>
	<b>GOAL – OBJECTIVE(S)</b>	2.5, 3.5, 3.7, 3.8, 4.2, 4.4 and 4.8
	<b>WHO BENEFITS</b>	<p>NDSU benefits because of improved customer service in the form of completed DRs, indexing of existing ConnectND FIN and HRMS queries, and training in FIN, HRMS and Campus Solutions for both its central offices and its individual users. NDSU also plans to target shadow systems/spreadsheets currently in use and reduce their numbers as these new tools are developed by this team and released by CTS.</p> <p>CTS benefits because of improved customer service in the form of completed DRs, indexing of existing ConnectND FIN and HRMS queries, and training for ConnectND users in FIN, HRMS and Campus Solutions. Additionally, as ticketing logs are reduced, CTS staff will be free to work on other projects.</p>
	<b>HOW MEASURED</b>	Successful completion of development requests, indexing of existing queries, completed ServiceNow template used for indexing, and completion of two training sessions in each ConnectND FIN, HRMS and ConnectND module.
	<i>STATUS UPDATE</i>	<i>Progress was made on this initiative. All goals were not met.</i>
	<i>ACTUAL MEASUREMENTS</i>	<p><i>Level 1 training complete. In production and being used.</i></p> <p><i>Training with Carol Tschakert completed.</i></p> <p><i>Materials partially developed for level 2 training.</i></p> <p><i>Some progress made on reporting, but not complete.</i></p>
<b>NDSU</b>	<b>INITIATIVES/PROJECT</b>	<p>Ensuring a Stable Budget for NDSU’s IT Services, Systems and Infrastructure</p> <p>NDSU has identified several systems in this initiative that they will continue to develop, upgrade, expand, and scale to meet the growing needs of NDSU statewide.</p>

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	<b>GOAL – OBJECTIVE(S)</b>	1.2, 1.3, 1.5, 1.6, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 3.1, 3.2, 3.4, 3.5, 4.1, 4.2, 4.3, 4.4, 4.6, 4.7 and 4.8
	<b>WHO BENEFITS</b>	All NDSU on-campus and off-campus constituents, affiliates, other state and federal entities housed on the NDSU campus and other NDUS entities.
	<b>HOW MEASURED</b>	Users satisfaction with the services that have been identified by NDSU as being part of this initiative and outlined in their submitted business case.
	<b>STATUS UPDATE</b>	<i>Multiple initiatives are encompassed in this item. Excellent overall progress. Details below.</i>
	<b>ACTUAL MEASUREMENTS</b>	<i>(1) Virtualized server system: Upgrades performed. System stable and in excellent shape for expansion; (2) Storage System: Performed expansions. All production storage is geographically mirrored between Quentin Burdick Building (QBB-main campus) and Barry Hall (downtown campus); (3) InnerCore Network: Significant upgrades complete. Currently handling all campus network traffic easily with room for expansion; (4) Backup System: Upgrades complete. Current solution working well; (5) CATV System: RFP for new vendor complete. Currently in process of notifying bidders; (6) Enterprise Voice: Redundant call site established; (7) Card Access: Major expansion of service to indoor doors deployed as part of new STEM building; (8) BITEK: Vendor was unexpectedly acquired. Product still supported, but we are looking for a new vendor; (9) Video Surveillance: Major expansion in process; (10) Northern Tier Network of North Dakota (NTN-ND): Little change. Currently working with Pacific Northwest Giga Pop (PNWGP) and Internet2 to assess future direction for fiber between Seattle and Minneapolis; (11) QBB Data Center: Redundant generators installed; (12) Base Funding: Completed a comprehensive budget review in FY16 and discussed with NDSU’s Provost and Vice President of Financial Affairs.</i>
<b>NDSU</b>	<b>INITIATIVES/PROJECT</b>	<p>Extended Learning Environment</p> <p>NDSU will provide all IT services in a seamless manner for the NDSU Nursing program at Sanford Health campus in Bismarck. Services include provision of NDSU network, Internet2, voice/telephone, security and asset management, help desk support, video conferencing, instructional services support, software licensing, Blackboard support, classroom support, desktop management, computer labs, Go-Print services, and Tegrity equipment.</p>
	<b>GOAL – OBJECTIVE(S)</b>	1.2 and 3.2

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	<b>WHO BENEFITS</b>	Students, faculty and staff at the Bismarck NDSU Nursing at Sanford Health campus will benefit from the NDSU IT services and equipment provided and supported.
	<b>HOW MEASURED</b>	Satisfaction of users at this Bismarck campus.
	<i>STATUS UPDATE</i>	<i>Complete</i>
	<i>ACTUAL MEASUREMENTS</i>	<i>NDSU Nursing at Sanford Health is a fully integrated part of NDSU. There is full feature parity for all IT services.</i>
<b>NDUS</b>	<b>INITIATIVES/PROJECT</b>	ND Research & Education Networks/Advanced Applications K20 Liaison Services  Explore, promote, and coordinate the use of applications enabled by advanced networks such as Internet2 and Northern Tier Network (NTN) in research, learning, and outreach for the NDUS institutions, the North Dakota K12 community and North Dakota’s Tribal campuses.
	<b>GOAL – OBJECTIVE(S)</b>	1.6 and 4.6
	<b>WHO BENEFITS</b>	Targeted audiences, including faculty, students, and staff at NDSU and NDUS institutions, North Dakota Tribal Colleges and the North Dakota K12 Community will also benefit.
	<b>HOW MEASURED</b>	Successful outcomes may be measured by/against metrics that include items such as the number of total contacts with faculty and staff; number of events or collaborations coordinated or aided participant evaluation of specific events, and the general service.  Measurable benefits include the improved connection speeds and data transport options indicated by trace routes via the R&E networks, a substantial increase in access to R&E network resources for teaching, learning and research, and the improved capacity to collaborate on shared coursework among institutions in the state and with peers across the country.
	<i>STATUS UPDATE</i>	<i>Ongoing</i>
	<i>ACTUAL MEASUREMENTS</i>	<i>Opportunities to leverage ND’s partnership and connections to regional and national research and education networks continue to increase. Annual reports are provided to NDUS-CTS and include activities and engagement of target audiences. NTN-ND annual reports are compiled separately and address updates specific to that initiative.</i>

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<b>UND</b>	<b>INITIATIVES/PROJECT</b>	<p>UND Campus Network Upgrade</p> <p>This initiative seeks to completely redesign the UND core network from the ground up by provisioning a high speed, survivable and redundant network that will provide 1 Gb/s speed to end users and transport traffic on a 40Gb/s core that can easily grow over time to provide a 100Gb/s core when needed. This will include replacement/enhancement to the physical, data link, network, transport, and session layers. Included is provisioning new/expanded cabling infrastructure using additional fiber optics/category 6 cabling and new network equipment such as routers, switches and controllers.</p>
	<b>GOAL - OBJECTIVE(S)</b>	1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.4, 2.5, 3.1, 3.2, 3.3, 3.5, 4.2, 4.4, 4.6, 4.7 and 4.8
	<b>WHO BENEFITS</b>	All stakeholders of the University of North Dakota will benefit from this initiative, including students, faculty, staff, and administrators.
	<b>HOW MEASURED</b>	Improved satisfaction with networking capabilities.
	<b><i>STATUS UPDATE</i></b>	<i>Campus network upgrade planning continues and based on available funds, some core network equipment will be replaced and the project will continue into the next biennium.</i>
	<b><i>ACTUAL MEASUREMENTS</i></b>	<i>None at this time.</i>

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<b>VCSU</b>	<b>INITIATIVES/PROJECT</b>	VCSU is looking into a number of initiatives/projects, but typically commit to projects within a 12-month time frame. There are no commitments to big projects for the 2015-17 timeframe, other than replacement of laptops, and that is an operational item. VCSU will handle commitments through the submission of a Procedure 1901.3 approval request.
	<b>GOAL - OBJECTIVE(S)</b>	
	<b>WHO BENEFITS</b>	
	<b>HOW MEASURED</b>	
	<i>STATUS UPDATE</i>	<i>Valley City State University had no formal projects underway.</i>
	<i>ACTUAL MEASUREMENTS</i>	



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<b>WSC</b>	<b>INITIATIVES/PROJECT</b>	NDUS Active Directory Migration - As part of consolidated services the WSC file share and active directory will be moved to the NDUS Data Center in Grand Forks.
	<b>GOAL - OBJECTIVE(S)</b>	1.1, 1.2, 1.3, 1.4, 2.1, 2.3, 2.4 and 2.5
	<b>WHO BENEFITS</b>	Staff and Students
	<b>HOW MEASURED</b>	Staff and Students will be required to remember one less password for logging into campus PC's.  Phase 1: Student PC's accessible in Labs, classrooms and hallways.  Phase 2: Staff and Faculty – Voluntary sign ups until before the start of fall 2016  Phase 3: Demotion of local WSC AD server
	<b>STATUS UPDATE</b>	<i>Almost half of Staff and Faculty have volunteered to migrate over to the NDUS domain.  -problem arose with RoboCopy purging files on the NDUS Share after copying from the WSC share  -Network Manager has since modified Robocopy to stop purging old files  -issue was brought to our attention after departments that collaborate on a single document were losing data.  -issue may be resolved, still need to do testing until we are satisfied with resolution.</i>
	<b>ACTUAL MEASUREMENTS</b>	
<b>WSC</b>	<b>INITIATIVES/PROJECT</b>	Security Camera upgrade – With this project we will be installing 69 camera in addition to the 101 on campus for a total of 175 cameras. File Storage will be increased from 13 terabytes to 108, which will increase video retention. The cameras will also be statically configured and documented to enable easier support of the system.
	<b>GOAL - OBJECTIVE(S)</b>	1.2, 1.3, 2.5 and 3.5

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	<b>WHO BENEFITS</b>	The campus community as a whole and by extension guests of WSC that may require footage gathered by the security camera system.
	<b>HOW MEASURED</b>	By incident resolution in areas previously uncovered by cameras
	<i>STATUS UPDATE</i>	<i>90% complete. Final camera installation to be completed by end of 2016.  -Vendor is experiencing some configuration issues with our switches but is working with campus to resolve.</i>
	<i>ACTUAL MEASUREMENTS</i>	
<b>WSC</b>	<b>INITIATIVES/PROJECT</b>	ImageNow / Perceptive Content  Williston State College is installing scanners for ImageNow to follow CTS recommendation.
	<b>GOAL – OBJECTIVE(S)</b>	2.1, 2.2, 2.4, 2.5, 2.6, 3.6, 3.7 and 4.1
	<b>WHO BENEFITS</b>	Students and employees
	<b>HOW MEASURED</b>	Support for ImageNow will benefit CTS and WSC by using scanners that are approved for use with ImageNow/Perceptive Content
	<i>STATUS UPDATE</i>	<i>Initial installation of scanners began on 4/11/16, software installation / IE 11 workaround conference call began on 4/12/16.</i>
	<i>ACTUAL MEASUREMENTS</i>	

<b>CTS</b>	<b>INITIATIVES/PROJECT</b>	<p>Work Management System (WMS)</p> <p>This project seeks to procure and implement an enterprise work management system that will provide a single solution for all business units in CTS.</p>
	<b>GOAL - OBJECTIVE(S)</b>	1.1, 1.3, 1.5, 2.1, 2.2 and 2.3
	<b>WHO BENEFITS</b>	The entire CTS organization and the people we serve.
	<b>HOW MEASURED</b>	100% of the staff will use the system. WMS will handle all requests for work done by CTS staff. CTS will manage all projects through the WMS and will be able to generate the true cost of managing and maintaining systems using data from the WMS.
	<b><i>STATUS UPDATE</i></b>	<i>TeamDynamix was the successful vendor awarded the contract for CTS' work management system. Implementation has been completed and all staff are using it for time tracking. Projects are being managed using it, and in many cases resources are being allocated to projects. Helpdesk tickets are being routed through the TeamDynamix system and the CTS Service Catalog is being created within this system. Some units are using the Service Catalog and workflow functionality to automate processes and additional units will become operational as personnel become more familiar with this toolset, and processes are identified.</i>
	<b><i>ACTUAL MEASUREMENTS</i></b>	<p><i>All CTS staff are using the system for time and project tracking and many of the other capabilities it offers. Between July 1, 2015 (Go live) and December 31, 2015, the following information has been captured in TeamDynamix:</i></p> <ul style="list-style-type: none"> <li><i>107,610 hours of CTS Team Member work</i></li> <li><i>11% Project Work</i></li> <li><i>69% Operational Work</i></li> <li><i>20% Overhead Time</i></li> <li><i>329 Projects</i></li> <li><i>47 Completed</i></li> <li><i>17 Cancelled</i></li> <li><i>125 In Process</i></li> <li><i>122 New (upcoming)</i></li> <li><i>18 Backlogged</i></li> </ul>

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<b>CTS</b>	<b>INITIATIVES/PROJECT</b>	Office365 Tenant Consolidation  This project’s scope is to migrate seven of the campus student email tenants into the central NDUS staff/faculty tenant. Once completed, review with remaining NDUS institutions will take place.
	<b>GOAL – OBJECTIVE(S)</b>	2.4, 2.5, 3.1, 3.2, 3.4 and 4.4
	<b>WHO BENEFITS</b>	Students, faculty and staff benefit by being on the same email system.
	<b>HOW MEASURED</b>	Number of campuses migrated to the NDUS faculty/staff tenant.
	<b>STATUS UPDATE</b>	<i>This project completed in December 2015 with the migration of UND. All students from the 7 campuses are now on the NDUS tenant and have passwords synchronized to their NDUS account.</i>
	<b>ACTUAL MEASUREMENTS</b>	<i>All seven campuses that were in-scope were moved to the NDUS tenant.</i>
<b>CTS</b>	<b>INITIATIVES/PROJECT</b>	Data Center Outsource  The NDUS is migrating two smaller data centers into a single Tier 3 facility and desire to have a vendor provide management services for the physical plant and monitoring of the IT hardware infrastructure. Our goal is to merge existing practices with industry standard methodology employed by professional data centers and to ensure we are operating the new data center as efficiently and effectively as possible.
	<b>GOAL – OBJECTIVE(S)</b>	2.5 and 2.6
	<b>WHO BENEFITS</b>	All of the NDUS benefits by merging existing practices with industry standard methodology and by having data center staff working directly with a vendor who operates a Tier 3 level data center as a primary business function. This will afford NDUS data center staff the ability to learn best practices in the operations, management and monitoring of the center through knowledge transfer while working with the vendor that is awarded the contract.
	<b>HOW MEASURED</b>	Measured through the updating of standard operating procedures; identifying and fixing gaps in physical plant setup and maintenance; and the introduction of a single enterprise class data center

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		management, monitoring and reporting tool that allows “global to granular” visibility into all of the systems within the data center.
	<b>STATUS UPDATE</b>	<i>Beginning in May, 2015, CTS entered into a contract with Vision Technologies, Inc. for data center management services. A manager was on-site and collaborated with CTS personnel on day-to-day operations, conducting a core facility review, documenting a data center run book and ensuring adherence to industry best standards. This contract terminated on April 30, 2016 at which time CTS personnel have sole responsibility for data center management.</i>
	<b>ACTUAL MEASUREMENTS</b>	<i>The consultant provided weekly status reports which indicated no significant gaps in comparison to industry standards nor did they identify any previously unknown major issues. The consultant also conducted a core facility review (gap analysis). While this endeavor did not discover any major gaps, some issues were outlined and will be remediated by CTS personnel in 2016.</i>
<b>CTS</b>	<b>INITIATIVES/PROJECT</b>	Information Technology Security (InfoSec)  This initiative seeks to investigate and implement solutions that meet the organizational, training, data, infrastructure and end point security needs of the NDUS. The objectives would include: the creation of a NDUS Information Technology Security team that would report directly to the CIO/Deputy CIO; the implementation of consistent and appropriate training programs to inform administration, faculty, staff and students about the importance of information security and their role in assuring security; the implementation of intrusion detection and prevention systems on the higher education network to provide proactive response to security threats; the implementation of multi-factor authentication on systems that contain sensitive or private information as a means to limit the threat of stolen credentials; and, the implementation of end point security tools that will help NDUS better protect data and infrastructure from cyber attack and data exposure.
	<b>GOAL - OBJECTIVE(S)</b>	1.1, 1.2, 1.3, 1.5, 1.6, 2.1, 2.2, 2.3, 2.4, 2.5, 3.1 and 3.3
	<b>WHO BENEFITS</b>	All users of NDUS systems and resources will benefit from the implementation of these security initiatives. NDUS systems obtain, use and store sensitive and private information on all stakeholders and enhanced security will better protect them in the event of a security incident.

<p><b>HOW MEASURED</b></p>	<p>By the ability to proactively address security issues from a systemic perspective by organizational and operational enhancements, and by a reduction in the attack surface presented by NDUS systems and services.</p>
<p><b>STATUS UPDATE</b></p>	<p><i>The NDUS Information Security Council (ISC), a sub-council to the NDUS CIO Council, developed the 2015-2017 NDUS Information Security Strategic Plan. The following progress has been made on the objectives identified in the Strategic Plan:</i></p> <ol style="list-style-type: none"> <li><i>1. <b>Security Policy and Standards Development</b> – a policy and standard framework was developed and multiple security policies and standards have been developed including 1202.1 Acceptable Use of Information Technology Resources Policy, 1202.2 Data Classification and IT Security Policy, and 1203.1 Network Security Standard.</i></li> <li><i>2. <b>Multi-Factor Authentication (MFA)</b> – an MFA solution has been deployed within the NDUS that is currently protecting more than 10 services. An ERP firewall is being implemented for Campus Solutions (PeopleSoft) to provide MFA as well as other security benefits.</i></li> <li><i>3. <b>Endpoint Protection (Malware Defense)</b> – An RFP for a System-wide Endpoint Protection product was initiated in 2016. This product will protect endpoint systems, servers, and data from known, advanced, and targeted malware and attacks. An intent to award and procurement all occurred in mid-2016.</i></li> <li><i>4. <b>End User Security Awareness and Training</b> – SANS Securing the Human (STH), a security awareness training solution, has been implemented within CTS and has been rolled out to multiple NDUS campuses. Also, a System-wide phishing assessment was conducted to provide data on our current state of security awareness and any training needs.</i></li> <li><i>5. <b>Vulnerability Management and Asset Discovery</b> – a vulnerability management platform was deployed across the NDUS to allow for IT staff to quickly remediate vulnerabilities on critical systems, network devices, and applications.</i></li> <li><i>6. <b>Centralized Logging and Security Information and Event Management</b> – a centralized logging system was procured and is being deployed within CTS to collect critical system logs so that they are available for analysis to prevent, detect, and respond to security incidents.</i></li> </ol> <p><i>Additional security initiatives were completed in addition to the strategic objectives including the</i></p>

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		<i>formation and expansion of an NDUS Information Technology Security team and the implementation of intrusion detection and prevention systems to protect the NDUS campuses.</i>
	<b>ACTUAL MEASUREMENTS</b>	<i>The security policy and standards development process has led to a more standards-based foundation to create a clear security baseline and help to measure compliance and results. The MFA implementation has reduced the risk of compromised NDUS credentials that could be used to gain unauthorized access to critical systems and data. The end user security awareness program has provided individuals with the knowledge to defend against security threats and protect systems and data. The vulnerability management system has reduced the number of vulnerable and unpatched systems across the NDUS.</i>
<b>CTS</b>	<b>INITIATIVES/PROJECT</b>	Unified Communications – Lync  This project will expand the Lync proof of concept to a fully functional telephony capability for CTS, the System Office, and for other interested NDUS institutions. Unified Communications is one of the identified initiatives that had been included in the State Board of Higher Education’s “Maximizing Results Through Efficiencies” plan approved at their January 19, 2012 meeting.
	<b>GOAL – OBJECTIVE(S)</b>	1.1, 1.3 and 1.5
	<b>WHO BENEFITS</b>	All NDUS users who have been migrated to Lync with enterprise telephony will have full unified communications capability and able to communicate in multiple formats with anyone whether within the NDUS or anywhere across the globe.
	<b>HOW MEASURED</b>	Initial user community will be the CTS staff so as to build a user community to extensively test Lync Unified Communications and allow time to build the staff support expertise. CTS will measure success for this project by how many users are migrated to Lync as a replacement to legacy telephone services.

	<b><i>STATUS UPDATE</i></b>	<i>Microsoft has changed Lync to Skype for Business and they have been making steady progress in becoming a viable telephone system to replace an on-premises PBX. Because of some issues that came up with needing Active Directory Federation Services/ Directory Synchronization (ADFS/DirSync) to communicate information between Office365 operating in a Cloud environment and the Lync server located on-premises, this project was placed on hold. Since NDUS Core Technology Services is also in the process of replacing the Identity Access Management (IAM) system it was decided that going further with the Lync project would be placed on hold until after the IAM system was implemented. Additionally, capabilities and functionality of Microsoft's Skype for Business are changing and we may have opportunities to take advantage of how we connect between Office365 and Skype for Business as these become available within the near future.</i>
	<b><i>ACTUAL MEASUREMENTS</i></b>	<i>At the present time we have the ability to make use of unified communications functionality using Office365 except for the ability to place an off-network voice call to anyone that isn't part of our data network.</i>
<b>CTS</b>	<b>INITIATIVES/PROJECT</b>	<p>System-wide Implementation of Document Imaging System</p> <p>This is a continuation of the initiative that NDUS implemented last year, 2013. NDUS selected ImageNow as the software to implement centrally because it was currently in use by five of the NDUS institutions. Using the same software allows CTS to streamline the migration process more efficiently.</p>
	<b>GOAL – OBJECTIVE(S)</b>	1.2, 1.5, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 4.2, 4.3, 4.7 and 4.8
	<b>WHO BENEFITS</b>	All stakeholders (students, staff and faculty) of the NDUS system will benefit by the increased efficiency of daily workflow processes. The NDUS benefits by centralizing the enterprise solution instead of having separate instances for each institution thereby reducing the cost of managing and maintaining such a large critical system.
	<b>HOW MEASURED</b>	Successful migration to or implementation of ImageNow at each of the NDUS institutions.
	<b><i>STATUS UPDATE</i></b>	<i>The overall status of this project is Green. The project is on budget and is running on schedule. Nine (9) institutions have been either migrated or on-boarded and are housed in the NDUS central document imaging system. Work is in progress to migrate NDSU to the centralized system. Work has begun to onboard DCB. Both institutions began using the centralized document imaging system as of June 2016.</i>



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	<b>ACTUAL MEASUREMENTS</b>	<i>All 11 institutions on the centralized system. Individual institutional contracts discontinued.</i>
<b>CTS</b>	<b>INITIATIVES/PROJECT</b>	<p>Identity Management System (IdM)</p> <p>This initiative seeks to develop a deep understanding of the IdM needs of the system by developing comprehensive documentation of current practices and a detailed vision of the intended future state of IdM in the NDUS. This will ultimately lead to the development of an RFP that defines specific requirements that will lead to the procurement and implementation of a new IdM solution. A fully implemented identity management solution would help reduce complexity, increase productivity and ultimately make the end user experience more consistent and reliable.</p>
	<b>GOAL – OBJECTIVE(S)</b>	1.1, 1.2, 1.3, 1.5, 2.1, 2.2, 2.4 and 2.5
	<b>WHO BENEFITS</b>	All users of the NDUS systems and resources will benefit from the IdM system. IdM is the center of accessing and using all NDUS resources.
	<b>HOW MEASURED</b>	All employees and students will use the credentials created to access Campus Solutions, Financials, and HRMS services.
	<b>STATUS UPDATE</b>	<i>Identity Management Systems (IAM) Replacement Project has kicked off and is closing up the planning phase. To this point the overall status of the project is Green. The project tracked slightly ahead in both Schedule and Cost. As Design wrapped up, the project team adjusted the proposed project execution / delivery schedule based off of Requirements and Design. Product implementation wrapped up in mid-November.</i>
	<b>ACTUAL MEASUREMENTS</b>	<i>Successful implementation and deployment of new identity management tool and processes in accordance to the project charter.</i>
<b>CTS</b>	<b>INITIATIVES/PROJECT</b>	<p>Bomgar for University System Use</p> <p>The University of North Dakota has Bomgar deployed and is very enthusiastic and supportive of its functionality/flexibility. This would expand the usage of Bomgar to the remaining ten NDUS institutions that want to use the product. Bomgar is an application that allows user support staff the ability to take control of a user’s computer and see what the user sees on their computer screen.</p>

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	<b>GOAL – OBJECTIVE(S)</b>	2.2, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6 and 3.7
	<b>WHO BENEFITS</b>	We as a University System, across all offices and NDUS institutions, the support staff and more importantly the students attending our institutions.
	<b>HOW MEASURED</b>	Current statistical usage and ratios can be provided from UND as can detailed testimony of increased efficiencies from Functional users at the UND help desk.
	<i>STATUS UPDATE</i>	<i>Only a handful of institutions have taken advantage of this process.</i>
	<i>ACTUAL MEASUREMENTS</i>	<i>Mixed reviews at this time, functionality expectations are being met, though some are communicating that the process is cumbersome.</i>
<b>CTS</b>	<b>INITIATIVES/PROJECT</b>	<p>Migration from FAMIS xi2 to FAMIS Cloud (V4)</p> <p>The vendor, Accruent, will be devoting all their resources towards the version of FAMIS called “V4”. Vendor will continue to support older products we have for some time; however, their intent is clear in moving their support structures and development to the “cloud”. FAMIS is the facilities management system NDUS has implemented with the following institutions: BSC, NDSCS, NDSU, UND, and VCSU. Other NDUS institutions could utilize the software if they wanted. Additionally to support legislature reporting all institutions have migrated data sets to the FAMIS Space module.</p>
	<b>GOAL – OBJECTIVE(S)</b>	2.2
	<b>WHO BENEFITS</b>	All users of the FAMIS software at all campuses will benefit.
	<b>HOW MEASURED</b>	The software is currently not ready for distribution and continues to develop functional requirement. Investing in this initiative is needed to support awareness of this change. Expectations at this time are possible implementation if funded and supported by July 2017.
	<i>STATUS UPDATE</i>	<i>Discussion, project plan, funding, and initial discovery are in progress.</i>
	<i>ACTUAL MEASUREMENTS</i>	
<b>CTS</b>	<b>INITIATIVES/PROJECT</b>	PeopleSoft Absence Management/Time and Labor Module Implementation

	<p>Absence Management: This project is to implement the Absence Management module in PeopleSoft as an automated solution for obtaining management approval to take employee leave, providing an automated process for documenting when leave is actually taken and provide that information to PeopleSoft’s payroll module.</p> <p>Time and Labor: This project also implements the Time &amp; Labor module in PeopleSoft as an automated solution for obtaining hours worked by employees, an automated process approving hours worked, an automated process to feed that information into Payroll for North America in PeopleSoft in a timely manner, and an automated solution to replace Kronos time keeping application.</p>
<b>GOAL - OBJECTIVE(S)</b>	2.1
<b>WHO BENEFITS</b>	Absence Management will benefit all leave-earning employees and their supervisors (approximately 6,000 employees), and central HR/Payroll offices. Time and Labor will benefit all hourly and salaried non-exempt employees and their supervisors (approximately 14,000 employees). Both modules will benefit NDUS employees by standardizing the absence request and time tracking processes. In addition, both modules will save administrative time and reduce the potential for error as these systems eliminate the need to manually enter absence and time worked from various worksheets. Both absence and time tracked will be directly entered into the NDUS system of record, PeopleSoft.
<b>HOW MEASURED</b>	<p>Absence Management: The outcome is having leave balances adjusted prior to payroll confirmation. This puts more control of the timing of post-payroll business processes back in campus hands because campuses will no longer need to wait for the payroll for <i>every</i> campus to be confirmed. This module is expected to pay for itself in terms of saved employee time within the first year of deployment.</p> <p>Time and Labor: NDUS will measure this by the time savings required by the current manual process vs the automated process. CTS expects that the project would pay for itself within two years of implementation.</p>
<b><i>STATUS UPDATE</i></b>	<i>Initial configuration concluded in November 2015. The project team is now in the midst of ongoing testing and pilot deployment. CTS and VCSU are the two pilot institutions for this implementation. The pilot began in February 2016 and ran into April 2016. Upon pilot completion, the project team implemented the remaining ten NDUS institutions with a system go-live date of July 1, 2016.</i>

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	<b>ACTUAL MEASUREMENTS</b>	<p><i>Upon deployment, the following measurements will determine the success of the implementation:</i></p> <p><i>Module deployment and use across the NDUS (compliance measured through PeopleSoft exception reporting)</i></p> <p><i>FLSA Compliance</i></p> <p><i>ACA Compliance</i></p> <p><i>Reduction in total number of manual payroll adjustments</i></p> <p><i>Reduction in total number of absence and time tracking processes</i></p> <p><i>Elimination of paper records for both absence and time tracking.</i></p>
<b>CTS</b>	<b>INITIATIVES/PROJECT</b>	<p>Financials 9.0 to 9.2 Upgrade</p> <p>Provide a supported Financials system by upgrading to Version 9.2.</p>
	<b>GOAL – OBJECTIVE(S)</b>	2.1 and 2.5
	<b>WHO BENEFITS</b>	This project will benefit all campuses because this critical business application will remain supported by the vendor.
	<b>HOW MEASURED</b>	Compliance with Oracle/PeopleSoft’s level of considered “current” software they will support.
	<b>STATUS UPDATE</b>	<i>Project was successfully completed May 18, 2015. This was the most successful Financial or HRMS upgrade to date.</i>
	<b>ACTUAL MEASUREMENTS</b>	<i>At go live, there were the following open issues: Critical – 0; Non-critical issues known pre go-live – 9; non-critical issues identified post go-live – 4.</i>
<b>CTS</b>	<b>INITIATIVES/PROJECT</b>	<p>Campus Solutions Upgrade 9.0 to Cloud or Version 9.2 Evaluation</p> <p>This project will provide a vendor supported upgrade path for Campus Solutions. This is an evaluation initiative to determine whether or not, when, and which Campus Solutions upgrade path to take: Version 9.2 or the Cloud.</p>

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	<b>GOAL - OBJECTIVE(S)</b>	2.1 and 2.5
	<b>WHO BENEFITS</b>	All campuses will benefit from maintaining the Campus Solutions system at the vendor's "current" level of supported software.
	<b>HOW MEASURED</b>	Compliance with Oracle/PeopleSoft's level of considered current software they will support.
	<i>STATUS UPDATE</i>	<i>Evaluation continues as other projects have taken priority: Data Inconsistencies, Standard Application along with preceptors (e.g. Bio Demo Sync), and People Tools Upgrade.</i>
	<i>ACTUAL MEASUREMENTS</i>	
<b>CTS</b>	<b>INITIATIVES/PROJECT</b>	SharePoint – inside.NDUS  This initiative consists of the NDUS configuring and implementing a SharePoint-based intranet environment for the NDUS System Office and Core Technology Services (CTS) while establishing an infrastructure to be robust enough to accommodate all 11 NDUS institutions.
	<b>GOAL - OBJECTIVE(S)</b>	2.2, and 4.2
	<b>WHO BENEFITS</b>	NDUS employees, by having consolidated document sharing, calendar, forms, documents, policy, project management, etc. enabling employees with access to internal resources and tools to do their work. It will also enhance workflow efficiencies with standardized online technology.
	<b>HOW MEASURED</b>	Configuring inside.NDUS to provide 100% access to System Office and CTS personnel to internal resources and tools.
	<i>STATUS UPDATE</i>	<i>The inside.ndus.edu SharePoint site has been online since the fall of 2014, and is used to provide collaboration spaces and file storage for NDUS System Office staff and numerous NDUS councils, task forces and committees.</i>
	<i>ACTUAL MEASUREMENTS</i>	<i>System online and available. New sites being created regularly, and usage continues to increase.</i>
<b>CTS</b>	<b>INITIATIVES/PROJECT</b>	Electronic Research Grant Administration and Compliance

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		This initiative’s goal is to reduce the amount of manual processing and management of grants and turn this into an electronic process, where appropriate. The initiative contains a number of solutions within the grant administration process. This includes expanding the application Visual Compliance to all of the NDUS, and would allow universities to perform required background checks for staff and visitors involved in the research. NDSU and UND currently have limited licensing and one project in this initiative would include an enterprise/System license. Programs that automate pre and post award processes will also be included.
	<b>GOAL - OBJECTIVE(S)</b>	2.2 and 4.3
	<b>WHO BENEFITS</b>	Grants administration/management staff and research grantees. For the research grantees, more efficient processing and quicker response for changes and updates.
	<b>HOW MEASURED</b>	This will be measured by the number of processes that can be automated based upon completion of current process analysis. As processes are identified and automated, additional benefits and how they will be measured will be updated.
	<i><b>STATUS UPDATE</b></i>	<i>Working together, the NDUS research institutions developed an RFP for an electronic research grant administration and compliance system. An award was made to Novelution Corp for their product and implementation of this system is noted further below as a separate initiative/project.</i>
	<i><b>ACTUAL MEASUREMENTS</b></i>	<i>RFP created and award made to vendor Novelution Corp.</i>
<b>CTS</b>	<b>INITIATIVES/PROJECT</b>	ALEPH 500 Library Management System Version 22 Upgrade  This project will upgrade the existing Aleph 500 Library Management System software from version 20 to version 22. The vendor supports the last two versions of the software. It is typical for ODIN to maintain a current version of the software to benefit from new module enhancements and to assure continued support of the product from the vendor.
	<b>GOAL - OBJECTIVE(S)</b>	2.1, 3.1, 3.2, 3.3 and 4.3
	<b>WHO BENEFITS</b>	The functional improvements will apply to all campuses using the system. There are improvements in all areas of system functionality. These functional areas include Cataloging, Circulation, Inter Library

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		Loan, Serials Control, Acquisitions, Public Access and other background functionality. There are improvements for all library system users.
	<b>HOW MEASURED</b>	This initiative is more of a maintaining vendor support on the Aleph 500 Library Management system rather than a measurement of user satisfaction.
	<i>STATUS UPDATE</i>	<i>ODIN implemented the upgrade from version 20 to version 22 on November 28, 2014.</i>
	<i>ACTUAL MEASUREMENTS</i>	<i>Extensive enhancements to all library system components as well as other general enhancements to system utilities were implemented.</i>
<b>CTS</b>	<b>INITIATIVES/PROJECT</b>	<p>System-wide Implementation of Dashboard Software</p> <p>In June 2013, UND purchased iDashboard dashboard software for their institutional needs and produced many dashboards related to Key Performance Indicators such as applicants, enrollment, retention, graduation and finance. For this project CTS will leverage the use of standard queries and integrate with other CTS supported software such as PeopleSoft. This would be more efficient and consistent. Once standard queries are created, they can be shared by other institutions and filtered for their needs. Having a single software also allows to build the expertise and share the knowledge among institutional user base. Because of increased usage, two instances of iDashboard software are recommended to be purchased with one for two-year colleges and the other for the remaining institutions.</p>
	<b>GOAL - OBJECTIVE(S)</b>	1.2, 1.5, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 3.5, 4.2, 4.3, 4.7 and 4.8
	<b>WHO BENEFITS</b>	Depending on the purpose of the dashboard, some dashboards may be shared with the public and others with only the decision makers of the institutions and/or legislature, State Board of Higher Education, and System Office. Dashboards can be customized to the specific needs of other decision makers at the department level as well.
	<b>HOW MEASURED</b>	Satisfaction with the information that is being presented.
	<i>STATUS UPDATE</i>	<i>Due to cost, several institutions declined the use of dashboards. Since only 4 institutions; VCSU, MiSU, LRSC, and BSC, showed interest in using dashboards software, the cost was recalculated to include the 4 institutions in the UND's instance. As part of onboarding, CTS/UND has demonstrated dashboards for the executive leadership and institutional research at the institutions. CTS/UND has volunteered to create 4</i>

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		<p><i>standard dashboards; pre-enrollment, enrollment, retention/persistence, and graduation rates on behalf of the institutions. A training session was conducted to train institutional research and information technology staff to build dashboards. As advanced training, CTS/UND trained institutional dashboard builders to create a custom dashboard specific to their institutional needs.</i></p> <p><i>Dashboards was very much a collaborative effort with UND. Now that training is complete institutional dashboard builders are empowered to build their own dashboards, all builders are expected to collaborate and support each other on future dashboard projects.</i></p>
	<b>ACTUAL MEASUREMENTS</b>	<p><i>Pre-enrollment, enrollment, retention/persistence, and graduation rates dashboards deployed by each institution</i></p> <p><i>Institutional builders trained to build their own dashboards</i></p> <p><i>Collaboration between institutions to support and share knowledge</i></p>
<b>CTS</b>	<b>INITIATIVES/PROJECT</b>	<p>SLDS Post-Secondary Initiative</p> <p>The purpose of this initiative is to define a central location using grant money to incorporate Post-secondary data into the Statewide Longitudinal Data System.</p>
	<b>GOAL – OBJECTIVE(S)</b>	2.2, 2.5, 3.5, 4.2, 4.3 and 4.8
	<b>WHO BENEFITS</b>	Every area of the Student lifecycle will be positively impacted with this initiative.
	<b>HOW MEASURED</b>	<p>Numerous measurements have been identified and include:</p> <ul style="list-style-type: none"> <li>- Define and operationalize the collection of data for the postsecondary domain aligned with CEDS</li> <li>- Employment patterns of postsecondary students through certificate or degree obtainment</li> <li>- Postsecondary graduate follow up on industry employment, and retention of graduates in state</li> <li>- Average wages of postsecondary graduates by occupational degrees</li> <li>- Reports for secondary and postsecondary on preparation and outcomes of their students</li> <li>- Reliable and repeatable exchange of information between postsecondary education and workforce</li> <li>- What percentage of 9th graders enters college four years later?</li> <li>- What percentage of high school graduates take remediation in postsecondary education?</li> <li>- In what content areas do students require remediation?</li> </ul>



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		<ul style="list-style-type: none"> <li>- What are the retention and degree completion rates of students who are placed in remedial course work?</li> <li>- What high school achievement level indicates a student is college-ready?</li> <li>- What course taking patterns indicate college readiness?</li> <li>- What high schools have successful course-taking patterns?</li> <li>- What students were academically prepared to enter college and complete their program or degree in a timely manner?</li> <li>- Were the degrees of the students who were academically prepared to enter college and complete their program or degree in a timely manner in demand in ND?</li> <li>- What is the relationship of a student’s performance on the NDSA, postsecondary performance, and graduation?</li> <li>- How do dual-enrollment and advanced placement programs in high school affect college student’s success?</li> <li>- How much do ND high school and college graduates earn in the workforce over time?</li> <li>- How much do ND high school and college dropouts earn in the workforce over time?</li> <li>- What percentage of ND college graduate continue to work and live in ND?</li> <li>- Which industries employ the majority of ND high school and college graduates?</li> <li>- How many of ND high school and college students are employed while they are in school and what kind of an impact does it have on their academic success?</li> </ul>
	<p><b><i>STATUS UPDATE</i></b></p>	<p><i>Project is on track and green. Data and reports are currently under development in the Data Warehouse environment with interactions and evaluations of all 4 Campus Solutions modules: Admissions, Student Records, Financial Aid, and Student Financials. Preliminary strategies and core group training of CTS members is underway.</i></p>
	<p><b><i>ACTUAL MEASUREMENTS</i></b></p>	

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<b>CTS</b>	<b>INITIATIVES/PROJECT</b>	<p>NDUS IT Service Catalog</p> <p>One of the recommendations from the Vantage consultants was that the NDUS should “Identify the services provided by NDUS, to whom, and how successfully.” The end goal of this initiative is to develop an IT Service Catalog that will identify the services provided by CTS, include level of expected service, current consumers of the services, and metrics to evaluate success. The Service Catalog will be developed using the ServiceNow IT Service management tool, which will contain a Service Catalog module after it is upgraded in late December 2014 (current timeline provided by vendor).</p> <p>Additionally, NDUS Procedure 1901.3 Information Technology Approval Process, Subsection 7 states; “Annually, all CIO Council representatives and Core Technology Services should review and update the list of IT products and solutions used by their institution, to be shared with the CIO Council to help promote IT support and licensing efficiencies system-wide.” The Service Catalog could be the tool used in meeting this requirement.</p>
	<b>GOAL - OBJECTIVE(S)</b>	1.5, 2.5, 3.5, 3.7, 4.1 and 4.2
	<b>WHO BENEFITS</b>	NDUS students, faculty, staff, IT service providers, researchers, and citizens will all benefit from the implementation of the service catalog.
	<b>HOW MEASURED</b>	Time savings and satisfaction levels achieved by students, faculty, staff and other IT service providers in querying and requesting services, and tracking/processing service requests. An IT Service Catalog will increase the overall visibility and business value of CTS services.
	<b>STATUS UPDATE</b>	<i>Upon implementation of the TeamDynamix work management system a decision was made that it would be used to create the CTS IT Service Catalog. This service catalog is in operation and continues to be expanded so that services can be requested directly from the catalog whether the request is from internal CTS staff or from other NDUS staff.</i>
	<b>ACTUAL MEASUREMENTS</b>	<i>The service catalog is in operation and continues to be expanded for use by all NDUS to request CTS services.</i>

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<b>CTS</b>	<b>INITIATIVES/PROJECT</b>	<p>Predictive Analytics Reporting (PAR) Implementation</p> <p>The purpose of the PAR implementation project is to deployment across the NDUS. Initially implemented at UND in 2013, PAR is designed to give institutions the ability to quickly analyze existing de-identified student record data sets using analytics to identify factors related to student progress and success and to drive institutional decisions and direction.</p>
	<b>GOAL - OBJECTIVE(S)</b>	2.2, 2.4, 2.5, 3.1 and 3.5
	<b>WHO BENEFITS</b>	<p>Each institution across the NDUS, particularly individuals responsible for student success, will benefit by having ready access to the following PAR tools:</p> <p>Benchmarks: Provide system specific benchmarking capabilities unique to the Institutional Member Requirements.</p> <p>Predictives: Provides the ability to measure progress against the following goals:</p> <p>Learning anytime anywhere</p> <p>Improving retention and graduation rates</p> <p>Supporting system-wide goals and initiatives</p> <p>Course Explorer: Provides insight into the impact specific courses have on student success.</p> <p>Student Success Matrix (SSMx): Provides institutions with a tool to inventory interventions by category and the ability to systematically track and measure the success of each intervention.</p>
	<b>HOW MEASURED</b>	<p>Module deployment to all 11 NDUS institutions.</p> <p>Ability to track and measure (pre and post deployment) institution’s interventions.</p> <p>Validation of data accuracy that is provided to populate the four PAR tools through QA process developed during project planning and put into place during execution.</p> <p>Ability to use PAR tools to measure the success of programs relating to graduation rates, retention rates and to identify student risk factors (e.g. obstacle courses).</p>

		Reduction of time it takes to query and analyze student success questions.
	<b><i>STATUS UPDATE</i></b>	<p><i>The overall status of this project is Green. The project is on budget and is running ahead of schedule. The base end date for the project was initially 3/27/17; however, after completing the data upload for over a third of the institutions, the revised end date for the project is 2/7/17.</i></p> <p><i>-As of the draft of this report the data upload was complete for the following institutions: VCSU, MiSU, MaSU, and DSU. Data uploads continued through fall 2016 with a completion of November 2016 for all NDUS institutions.</i></p> <p><i>-The Predictives and Course Explorer tools have been rolled out to the following institutions at the draft of this report: UND, VCSU, MiSU, MaSU, and DSU. PAR Predictives and Course Explorer rollouts and training will continue through the next year with a completion date of January 2017 for all NDUS institutions.</i></p> <p><i>-Benchmarks are rolled out on a biannual basis by PAR (each April and November). Benchmarks have been rolled out to UND, VCSU, MiSU, and MaSU. All NDUS institutions will receive benchmarks by the end of 2016 calendar year.</i></p> <p><i>-Lastly, implementation of the Student Success Matrix (SSMx) rolled out with additional training held in March 2016 to UND, VCSU, MaSU and BSC. All remaining NDUS institutions will be implemented by November 2016.</i></p>
	<b><i>ACTUAL MEASUREMENTS</i></b>	<p><i>-As of December 31, 2016 PAR modules (Predictives, Benchmarks, and Course Explorer) will be deployed at 10 of 11 NDUS institutions for active use.</i></p> <p><i>-The Student Success Matrix has been deployed to all 11 NDUS institutions as of December 2016. All institutions are tracking interventions and their measurements via the Student Success Matrix with the capability of sharing interventions across the NDUS.</i></p> <p><i>-PAR had completed a System level view for all four PAR modules (Predictives, Benchmarks, Course Explorer, and Student Success Matrix) allowing NDUS to measure System-wide and not just institutional success and opportunity. This provides readily accessible (ad hoc) student data analysis.</i></p>

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		<i>-PAR functionality provides institutions and the System Office with the ability to readily identify factors contributing to retention and velocity success and challenges. This information can be used to generate interventions and prioritize initiatives.</i>
<b>CTS</b>	<b>INITIATIVES/PROJECT</b>	<p>NDUS Office 365 Migration</p> <p>The purpose of NDUS O365 Migration project is to DirSync and migrate email accounts for faculty, staff and students for MaSU, MiSU, NDSU and VCSU currently not on the NDUS tenant and therefore preventing compliance with N.D.C.C 15-10-44.</p>
	<b>GOAL – OBJECTIVE(S)</b>	2.2, 2.4 and 2.6
	<b>WHO BENEFITS</b>	NDUS Students, Staff and Faculty and IT service providers will all benefit in having these four campuses on the NDUS tenant. Students, Faculty and Staff will have access to emails and contact information for accounts from other institutions. NDUS will also be compliant with NDCC 15-10-44
	<b>HOW MEASURED</b>	All Faculty, Staff and Student accounts will be on the NDUS tenant Faculty, Staff and Student accounts at these four campuses will be DirSync with NDUS's Active Directory Faculty, Staff and Students will have access to email, calendars and contact information for all accounts at other institutions
	<b>STATUS UPDATE</b>	<i>An RFP was initiated and then later closed; proposals that were submitted were over budget. We worked with Microsoft to determine the best approach to migrate MaSU by June 2016. We also purchased a new voicemail system for MiSU that was needed before we could migrate their email content over to the NDUS tenant. Their current Exchange VM system did not work with Office 365 and therefore a new system was required. Once MiSU's voicemail system was in place, we began working on migrating MiSU's email with a completion date of July 2016. Now that MaSU and MiSU's email content has been migrated, we will begin working with NDSU and VCSU to migrate their email content from Office 365 to the NDUS Office 365. These two campuses have additional integrated services that will require the purchase of a migration tool to assist with the workload. We tentatively are scheduled to have this completed sometime in 2017.</i>
	<b>ACTUAL MEASUREMENTS</b>	<p><i>MiSU VM system has been purchased and installed.</i></p> <p><i>All email, calendars and contacts for faculty and staff have been migrated for MaSU and MiSU.</i></p> <p><i>Email content has been migrated for students at MaSU and MiSU.</i></p> <p><i>One Drive content has been migrated for students at MiSU</i></p>

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<b>CTS</b>	<b>INITIATIVES/PROJECT</b>	<p>Novelution ERA Implementation</p> <p>The purpose of this project is to deploy the Novelution Electronic Research Administration and Compliance software solution at both NDSU and UND.</p> <p>Implementation of Novelution modules will provide a central repository for researchers to track their projects and help foster consistency, accuracy, completeness, and compliance through the use of the software’s forms, workflows and accessibility.</p>
	<b>GOAL - OBJECTIVE(S)</b>	2.5, 2.8, 3.4 and 4.4
	<b>WHO BENEFITS</b>	<p>Campus researchers, research administrators, compliance officers, auditors, and other research stakeholders are among the individuals who will benefit by this system and the transparency and organization it provides.</p> <p>The modules implemented at each institution will allow research stakeholders to better understand the current state of a research project and whether the appropriate levels of approval have been granted for compliance purposes.</p>
	<b>HOW MEASURED</b>	<p>Measurements for determining the successful implementation of the Novelution Modules (six at NDSU and three at UND) will be determined during the planning phase for the implementation at each institution.</p> <p>As a minimum, six Novelution modules will be deployed at NDSU and three modules will be deployed at UND across the project lifecycle.</p>
	<b>STATUS UPDATE</b>	<p><i>As of March, 2016 the project is in the initiation phase. Contract negotiations were underway with Novelution. The contract will be maintained at the NDUS level while two separate statements of work will be developed; one for the deployment of the six modules at NDSU, and one for the deployment of three modules at UND.</i></p> <p><i>Upon contract execution, a project charter will be developed for each campus deployment.</i></p>
	<b>ACTUAL MEASUREMENTS</b>	<i>There are no active measurements at this stage in the project.</i>

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<b>CTS</b>	<b>INITIATIVES/PROJECT</b>	<p>ODIN Library Reporting Process</p> <p>Create a reporting process to provide normalized library report data to be used by ODIN libraries for reporting to the state library.</p> <p>The goal is to create reports and establish a process to use those that will guide ODIN libraries in the reporting of uniform statistics required by the North Dakota State Library.</p>
	<b>GOAL - OBJECTIVE(S)</b>	2.1, 3.2 and 4.3
	<b>WHO BENEFITS</b>	<p>All libraries who are required to do reporting of their collections and services.</p> <p>The North Dakota State Library who collects the reports to satisfy federal reporting requirements.</p>
	<b>HOW MEASURED</b>	Usage of reports by libraries.
	<b>STATUS UPDATE</b>	<i>The reports were created, tested and made available to libraries. They are in use.</i>
	<b>ACTUAL MEASUREMENTS</b>	<i>All libraries have used the reports. The process has improved the uniformity of reporting across the libraries and reduced the work expended to do the reporting.</i>
<b>CTS</b>	<b>INITIATIVES/PROJECT</b>	<p>Data Inconsistencies</p> <p>This initiative seeks to correct the data inconsistencies identified and detailed in House Bill 1003 Section 42. The types of inconsistencies that this project is focused on: personal and demographic information, lack of standardized chart of accounts, absence of standard financial business processes, inconsistent methods of recording/tracking student data, inconsistencies in tuition related expenses, fees, etc., inconsistent account coding and naming, improper use of 'shadow account' systems, and varied 'student' definitions.</p>
	<b>GOAL - OBJECTIVE(S)</b>	1.5, 2.1, 2.2, 2.3, 2.5, 3.4 and 4.3,
	<b>WHO BENEFITS</b>	All stakeholders (students, staff and faculty) of the NDUS system will benefit by the increased data consistencies across the NDUS system. Consistent data will provide accurate and comparable data across all institutions and entities in the University System.
	<b>HOW MEASURED</b>	Successful completion of Business Need Measurements identified in the Project Charter.

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	<b><i>STATUS UPDATE</i></b>	<i>Overall project status is Yellow. Project team has been re-formatted to include better Subject Matter Expertise to help drive project goals. Project team has currently re-planned a new baseline with expected completion by December 2016, with some final project close activities and reports that may fall into January, 2017.</i>
	<b><i>ACTUAL MEASUREMENTS</i></b>	<i>All of the data inconsistencies listed in each of the objective were addressed, corrections made and a plan recommended for future practice audits and review.</i>
<b>CTS</b>	<b>INITIATIVES/PROJECT</b>	<p>Functional Consolidation</p> <p>The 64th Legislative Assembly passed HB 1003 during the 2015 session. Section 8 of that bill creates a new section to chapter 15-10 of the North Dakota Century Code:</p> <p>Each institution and entity under the control of the state board of higher education shall obtain electronic mail, file server administration, database administration, research computing, storage, application server, and hosting services through a delivery system established by the board. The board shall establish policies and guidelines for the delivery of services, including the transition from existing systems to functional consolidation, with consideration given to the creation of efficiencies, cost-savings, and improved quality of service.</p> <p>This is a multi-biennia project.</p>
	<b>GOAL – OBJECTIVE(S)</b>	1.1, 1.2, 2.1, 2.2, 4.3, 4.4 and 4.6
	<b>WHO BENEFITS</b>	All stakeholders (students, staff and faculty) of the NDUS system will benefit by receiving cost effective and efficient IT services. Collaborative students will see an improved consistency of service between campuses.
	<b>HOW MEASURED</b>	<p>There are three key measurements for the initial phase of this effort.</p> <p>Develop policy and procedure for this new Century Code  Identify and document all IT services being offered by each campus  Develop consolidation plan including what can be completed in the short-term with existing funding and developing business cases for those items that will require additional funding to complete.</p>
	<b><i>STATUS UPDATE</i></b>	<i>SBHE Policy and NDUS Procedures approved by September</i>



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		<p><i>All campuses have provided data based on campus IT department. We do not have data for some departments/schools that do not use the central campus IT.</i></p> <p><i>Initial consolidation plan and business cases will be completed by Dec</i></p> <p><i>Some consolidation will be completed by Dec</i></p>
	<b>ACTUAL MEASUREMENTS</b>	
<b>CTS</b>	<b>INITIATIVES/PROJECT</b>	<p>Asset Management</p> <p>Core Technology Services has been looking for a better way to manage software licensing and technical asset inventory for several years. Currently we track things using spreadsheets and Microsoft SCCM. There are no ties between datacenter equipment and software licensing. In order to ensure CTS remains in compliance with our licensing agreements we need to manage this process better. In addition, with functional consolidation of core IT services, the need to better manage asset inventory and software licensing becomes even greater. This project is designed to address those needs.</p>
	<b>GOAL - OBJECTIVE(S)</b>	1.1, 2.1, 2.2 and 2.5
	<b>WHO BENEFITS</b>	It is the responsibility of CTS to safeguard the assets of the state. We are also contractually obligated to ensure proper licensing of software is in place. By deploying a tool that helps track and maintain CTS assets, we are reducing the risk of failure to deliver services.
	<b>HOW MEASURED</b>	<p>System must allow for entry of all software licensing details</p> <p>System must have the ability to report on the inventory</p> <p>System has the ability to assign licensing and track by system</p> <p>Product has functionality to track non-IT assets</p>
	<b>STATUS UPDATE</b>	<i>An informal RFP was completed end of May and installed in July.</i>
	<b>ACTUAL MEASUREMENTS</b>	