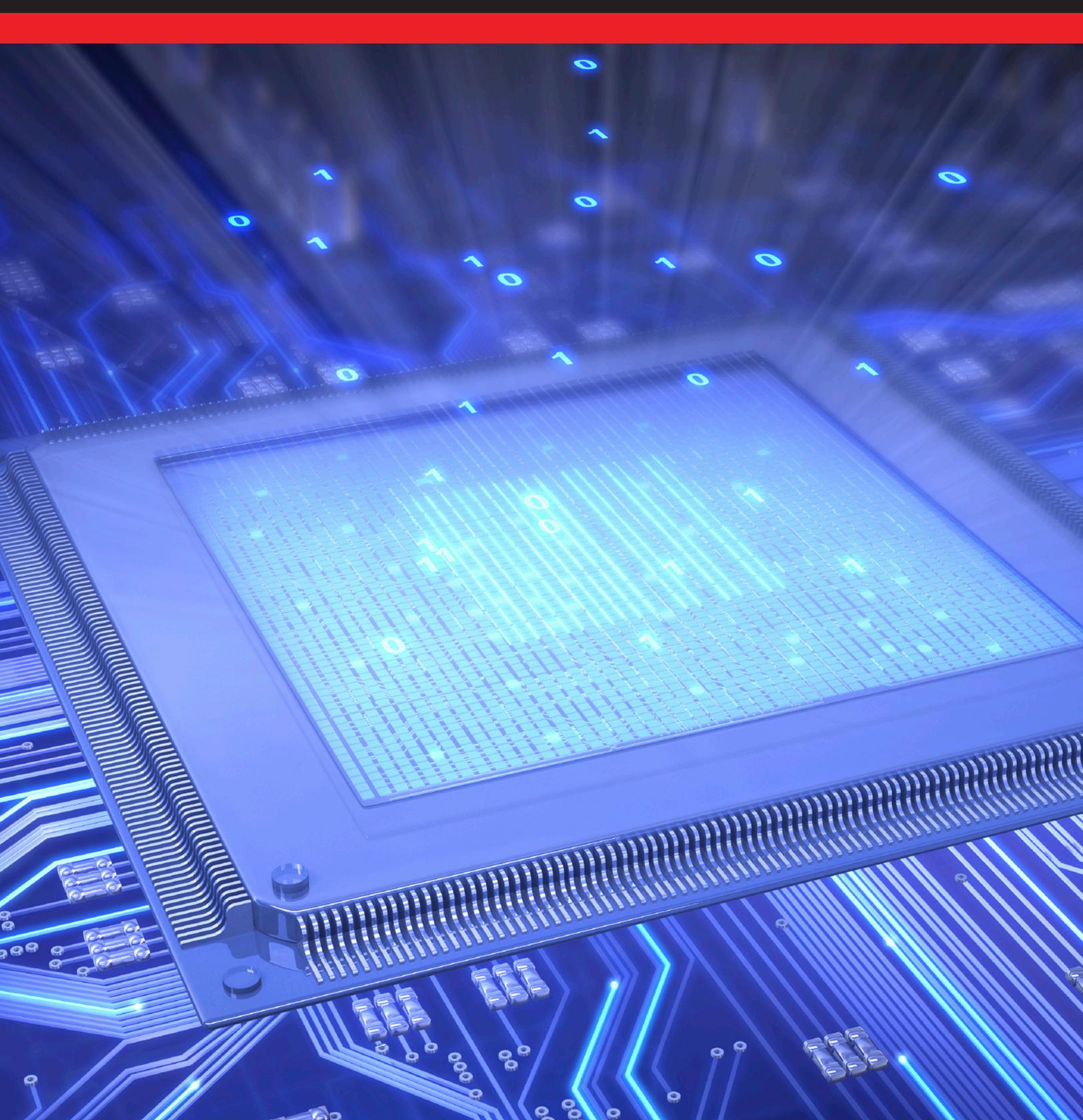


40 Years | Technology, People & Processes

Annual Report | 2008-2009



MILESTONES | IN STATE IT HISTORY

1969

Agency established as Central Data Processing within Accounts and Purchasing

1983

First statewide network roll-out

1992

First statewide email system implemented

1995

State's first homepage launched on the internet

1997

Legislative IT Committee created

1998

First statewide IT Plan produced

1999

First CIO hired to oversee the new cabinet-level Information Technology Department

IT Committee begins reviewing projects greater than \$250,000

2000

Statewide Technology Access for Government and Education Network (STAGEnet) roll-out

2001

Educational Technology Council (ETC) moved to ITD for coordination of all K-12 education initiatives

2002

Enterprise Architecture initiated to determine technology direction and set IT standards for state government

Criminal Justice Information Sharing Plan developed for sharing information among all state criminal justice related agencies

Geospatial Information Systems implemented to share GEO spatial information held in all state agencies

ConnectND launched by the State and North Dakota University System to replace financial, human resource, and student information

2003

Server consolidation launched, resulting in maintenance efficiencies and cost savings

State Information Advisory Committee given responsibility for the prioritization of state government strategic initiatives

2006

Second data center brought online in North Dakota to increase the speed of bringing up critical systems in the event of a disaster



OUR MISSION: We provide leadership and knowledge to assist our customers in achieving their mission through the innovative use of information technology.

OUR VISION: We see ITD as the trusted business partner and preferred IT provider for strategic services within government and education.



John Hoeven
Governor, North Dakota



Lisa Feldner
Chief Information Officer, ITD

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The 2008-2009 Annual Report *40 Years of Technology, People & Processes* was produced by the North Dakota Information Technology Department (ITD).

It is a response to requirements outlined in Chapters 54-59-Section 19 of the North Dakota Century Code. The report provides an update on the information technology oversight process and major information technology investments.

ITD's Mission is to provide leadership and knowledge to assist our customers in achieving their mission through the innovative use of information technology. Our annual customer survey gives our customers an opportunity to tell us how well we deliver services and meet their expectations.

91.9%

agree ITD is aligned with its mission



90.3%

view ITD as a trusted business partner



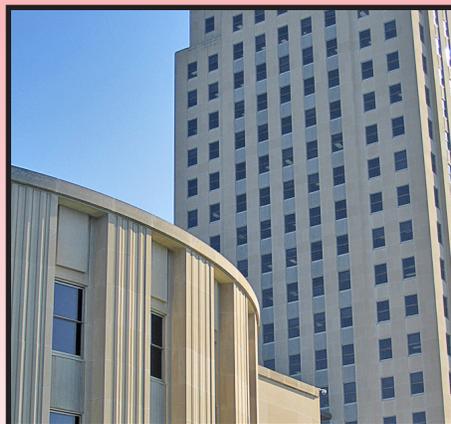
93.4%

find that ITD's services meets their business needs



88.1%

say ITD is their preferred IT provider



86.7%

believe ITD provides technology direction

Executive Summary



Lisa Feldner
Chief Information Officer

Welcome to the future! No doubt technology has immensely transformed the workplace during the last forty years. Today's reality is that most workers rely on personal computers and networks to help them do their jobs. And better yet, mobile technology has arrived on the scene. Workers and citizens are using their mobile phones to do more than just talk – they are emailing, texting, making business transactions, and surfing the web.

Forty years ago, our Department began putting technology, people, and processes in place to guide state government through the world of technology. While the basic nature of what we do today has not changed all that much, we have refined what we do and have implemented modern day technology. Today, we ask, "How can technology enable business" rather than "How does it work?" In the early days, our focus was on mainframe hosting and software development. Through the decades, we have evolved into a department with eight divisions consisting of Enterprise Coordination, Customer Service, Administration, Software Development, Computer Systems, Telecommunications, Human Resources, and most recently, EduTech. EduTech joined ITD following the 2009 Legislative Session and provides IT services, training, and support to North Dakota K-12 schools.

The 2009 Legislative Session also brought the creation of a Health Information Technology (HIT) Office within ITD. The objective of HIT is to develop a network that allows the administrative systems in hospitals and other health care facilities to electronically communicate with each other to track and transfer patient information from one facility to another. ITD will work closely on this initiative with the Department of Health, the Department of Human Services, and all health care providers throughout the state of North Dakota. In addition, ITD has worked with several state agencies to develop a plan in the coming years to enhance broadband for services related to the Statewide Technology Access for Government and Education Network (STAGEnet).

ITD's employees average 11 years of service within North Dakota state government. The Department's turnover rate continues to remain low. Our employees welcome the challenges the IT industry brings combined with the meaningful work they do. ITD strives to balance work and life and promotes employee recognition.

The Balanced Scorecard is an integral part of ITD's internal strategic planning and helps us gauge our performance. Our annual customer survey tells us how we are doing based on customer feedback. Generally speaking, more than 90 percent of our customers agree ITD's services meet their business needs, are aligned with our mission, and provide a positive customer experience. We believe these scores are a reflection of our staff's close interaction with customers. Our analysts and architects continually monitor IT trends and deploy enterprise solutions to maximize the efficiency and effectiveness of state government.

Information technology is an investment in the State of North Dakota and it requires regular maintenance and upgrades to keep up with current advancements. Can you imagine going back 40 years ago – life without PCs, networks, the worldwide web, and smart phones? In the following pages of this report, you will get a glimpse at how ITD has evolved through the years. We have seen a lot of progress in the world of IT, and it has created many efficiencies in state government. ITD is your partner in IT and we will continue to deliver services that meet our stakeholders' expectations.

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

Chief Information Officer

Enterprise Coordination

Maintaining consistency through the enterprise

The Information Technology Department's (ITD) Policy and Planning Division strives to create a collaborative environment among state agencies in an effort to maximize and improve information technology (IT) efficiency across the enterprise. State agencies are credited for making this a successful venture. Policy and Planning oversees IT planning, project management, enterprise architecture, procurement, and enterprise initiatives such as Criminal Justice Information Sharing, Geographic Information Systems, ConnectND, and Business Intelligence.

IT Planning

The Policy and Planning Division is responsible for developing the Statewide IT Plan and assists agencies in developing their individual IT plans. The 2009 Legislature passed requested modifications to the planning process which the division is preparing to deploy for the 2011-13 IT planning cycle.

Enterprise Architecture

Through the Enterprise Architecture (EA) process, state agencies collaborate to set the future direction of IT in the State of North Dakota. This collaborative process, which involved 145 people from 27 agencies, completed the following activities:

Study Initiatives

- Data at Rest/Encryption – in progress
- Collaboration – in progress
- Resource Finder – report pending
- ESI/Ediscovery – in progress
- Social Networking – in progress
- Enterprise Single Sign-on – completed

Policies

- Revised the Acceptable Use of Electronic Communications Devices

Standards

- Revised Access Control Standard ST006-04.5
- Revised Domain Name Standard EGT005-04.2
- Revised Desktop OS Standard DT003-06.2
- Revised Accessible Web Development Standard EGT004-04.1

Procurement

The Division is responsible for reviewing and approving the acquisition of technology by state agencies. The staff also provides technical assistance on best practices regarding IT procurements and works to ensure the State receives the best value for its technology dollars. An updated IT services contract template has been developed and will be published in 2009 pending review by the Office of Management and Budget (OMB) and the Office of Attorney General. This past fiscal year 101 contracts and Requests for Proposals (RFP) were submitted and reviewed within the five-day response time. The State PC Contract was re-procured in 2009. Working in cooperation with the State's Enterprise Architecture program and OMB, a cooperative state term contract with standard PC configurations has been approved for use by state agencies, schools, and political subdivisions starting September 1, 2009.

Business Intelligence (BI)

The Business Intelligence Competency Center (BICC) continues to grow and added an additional BI Analyst last year. The BICC worked with the Department of Public Instruction to plan and apply for a federal grant which was awarded to build the North Dakota Statewide Longitudinal Education Data Warehouse (ndSLEDs). The BICC will work on planning, designing, and implementing this elementary and secondary education data warehouse. The BICC continued their work with the Statewide Longitudinal Data System Committee (SLDS) to produce a North Dakota Roadmap and budget for a longitudinal data system for measuring the education pipeline from early childhood through higher education and the workforce; it is expected to begin design and early implementations of this system within the next year. The BICC team worked with OMB to produce a Request For Proposal (RFP) for a PeopleSoft reporting environment and the subsequent award. The team is now working on the implementation of the reporting system. North Dakota Century Code now requires a searchable database of state expenditures, and the BICC will work with OMB to create this warehouse and provide public transparency in reporting. Additionally, the BICC is working with the Department of Human Services to design and build

an enterprise data warehouse for DHS. The BICC team continues to support agencies as they begin to create and mature initial BI efforts.

Project Management

During the past fiscal year, state agencies completed or ended nine large IT projects under oversight of the Policy and Planning Division. Seven projects were completed on or under budget, resulting in a savings of \$399,711 and four of the projects were completed within the acceptable schedule variance. One project was terminated and reauthorized after expending \$2,428,848.

The success of IT Projects depends upon increasing the knowledge and skills of project managers. The Enterprise Project Management Office facilitated training and mentoring programs for state agency employees. Thirty project managers, team members, and executives attended a three-day project management class and nine certifications sanctioned by the National Information Technology Apprenticeship System (NITAS) were issued to project managers at the following levels: Level I – 6 and Level II – 3.

“The EPMO did an outstanding job authoring the Large Project Oversight Guidance Document for use in North Dakota state agencies. As a Project Manager, it helps me understand the expectations of the EPMO and outlines the interconnections between the external entities involved in a large project.”

Workforce Safety & Insurance



Enterprise Initiatives

GIS Hub

The GIS Hub leverages the State's existing data, infrastructure, and geospatial expertise to share core geographic datasets to state agencies and the public. The GIS Technical Committee, consisting of 10 state agencies, enhances the GIS Hub by adding data and applications and increasing awareness of the Hub by promoting its use, value, and functionality. There are over 200 data layers on the GIS Hub. At the end of June 2008, these layers consumed over 3.5 terabytes of storage, equivalent to about 750 DVDs. Users from state agencies average 45+ daily concurrent connections to the databases. During 2008, there were over 2.2 million hits on the web services. During the March 2009 flood-fighting efforts the GIS Hub web services experienced record-breaking usage of nearly 642,000 hits.

Criminal Justice Information System (CJIS Portal)

Created to improve public safety, the CJIS Portal includes information systems used to capture and share complete, accurate, and timely information so law enforcement entities can make better informed decisions across jurisdictional and organizational boundaries statewide. The portal has grown to more than 1,300 authorized users processing more than a million transactions. Forty-one agencies use the Law Enforcement Records Management System (NetRMS), totaling 272 users with 183 full-time officers. Cruiser, the NetRMS mobile component, was made available to all NetRMS agencies. Six counties use the State's Attorney Reporting System (Justware). Additional records have been made available through the CJIS Portal, which include NetRMS, DNA, and boat licenses. The Statewide Automated Victim Information and Notification (SAVIN) system continues to be implemented. This system will notify victims about their offender's movement throughout the criminal justice system.

ConnectND

ConnectND is the State's PeopleSoft implementation of Financial, Human Capital Management, Portal, and Student Information System modules. Last year, PeopleSoft applications and development tools were patched and the Absence Management module was deployed. Initiatives currently being deployed include Enterprise Learning Management (ELM), Business Intelligence PeopleSoft Project (BIPP), and User Productivity Kit (UPK). ELM is an internet-based training management solution that will allow agencies to manage their learning information. BIPP allows end users to search PeopleSoft Financial and HCM information in an easy-to-use format. UPK is a tool used to record the navigation of a PeopleSoft or non-PeopleSoft application. The tool includes the ability to create on-line play back features, create help links, and make a training guide. Additional PeopleSoft functionality is being researched for Data Archiving, Candidate Gateway, Talent Acquisition, and ePerformance.

Learn more about these initiatives at <http://www.nd.gov/itd/planning/initiatives/>.

Customer Services

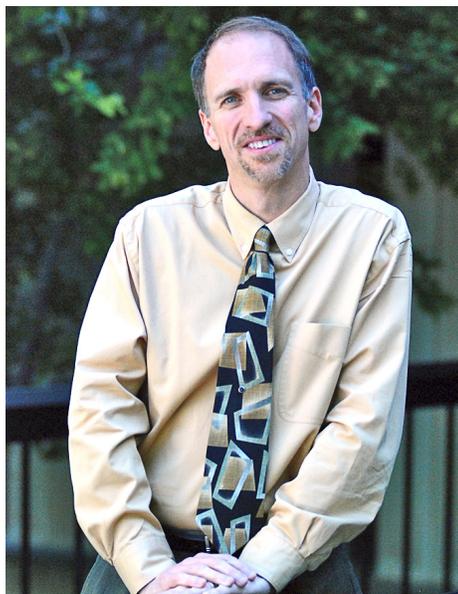
Setting Expectations - Delivering Results

The Information Technology Department (ITD) is committed to meeting the needs of its customers. Five years ago, ITD created a Customer Services Division, which today, has evolved into ITD's "single point of contact" for customers, providing 24/7 access to advice, guidance, and rapid restoration of services. The Service Desk closely works with all of ITD's divisions to resolve incidents, create a positive customer experience, and develop new services.

Committed to Change Management

ITD recently completed its Change Management Kickoff Project. In doing so, the Department adopted industry best-practices to ensure prompt and effective handling of changes. We integrated people, processes, and technology. This is how it works:

1. **People:** Change Coordinators exist within various divisions to assess and authorize changes, and a Change Manager is in place to facilitate the process. Together, they make up the Change Advisory Board – a group that meets weekly to discuss changes and drive efforts forward.
2. **Process:** A documented workflow is vetted against every change that causes a disruption in service.
3. **Technology:** A Change Management module is embedded within our IT Service Management system, and over two dozen people are trained on how to request and authorize changes.



Gary J. Vetter
Division Director

Going forward, we will apply what we have learned from our kickoff project, solidify our process, and expand our scope while working through the transition of formally managing changes. We will develop a culture of change management and build upon our commitment striving towards a proactive state of Change Management.

An Enterprise Service Desk

Although traditionally perceived as an ITD function, today's Service Desk provides "Tier 1" support for a variety of agencies. Over the past year, the Department of Human Services (DHS) expanded its utilization of the Service Desk by positioning it as the single point of contact for FRAME application users. They appreciate the prompt, courteous, 24/7 support provided by the Service Desk, and DHS program administrators enjoy a prioritized workload with a manageable level of interruptions.

Service Level Agreements

As part of setting expectations, delivering results, and measuring outcomes, ITD is vetting Service Level Agreements with a handful of agencies. These documents are designed to manage and improve upon the established levels of service between ITD and its customers. Typically, they generate:

- An understanding of the customer's business processes and drivers
- An acceptance of the benefits from early discussions regarding future changes to services
- Constructive discussions on better ways of meeting customer needs

ITD will utilize the feedback it has received to craft Service Level Agreements for all of its enterprise offerings.



Creating a Complaint-Free Workplace

ITD's Service Desk and Network Operations Center joined more than six million people in accepting the challenge presented in Will Bowen's book, *A Complaint Free World*. They have declared their office a complaint free zone and have committed themselves to working 21 consecutive days without put-downs, negative small-talk, criticism, cursing, or gossip. Ultimately, they hope to improve the overall customer experience by raising the bar on customer-centric service.

Listening to Our Customers

North Dakota Century Code requires ITD to document information related to service support and delivery, which includes formal complaints regarding dependability, responsiveness, and cost. From July 2008 through June 2009, no formal complaints were filed. However, ITD is asking for, listening to, and acting on customer feedback each and every day.

ITD's goal is to create a positive customer experience for our customers - our annual survey tells us how well we do

95.1%
feel ITD provides a
positive customer
experience

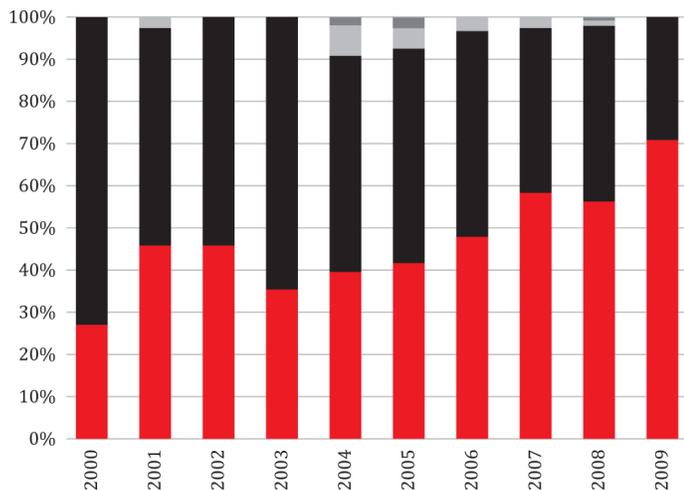
91.8%
believe ITD builds
strong business
relationships



85.5%
agree doing business with ITD is easy

Service Desk Trends

- Very Dissatisfied
- Dissatisfied
- Satisfied
- Very Satisfied



“ITD has improved vastly over the past few years. It used to be that if you didn't know who specifically to talk to about a certain issue, you'd get quite a run around. Now the front line staff almost always knows exactly where to direct your call when you explain your problem. This has helped tremendously. I've been very pleased with this improvement.”
— Barnes County

Administration

Committed to accountability & security

The Administrative Services Division includes fiscal administration, contingency planning, security administration, and records management.

Security & Disaster Recovery a Priority

Information technology security and related privacy issues are a focus for the Information Technology Department (ITD) in the operation of the Statewide Technology Access for Government and Education Network (STAGEnet) and the State's computing infrastructure. ITD's divisions work closely together to provide the expertise and leadership necessary to secure the State of North Dakota's information technology resources. We recognize that our success in maintaining a strong security program is often dependent upon corresponding projects and processes within state agencies, and we appreciate the efforts and input we receive from our customers to help strengthen the State's security practices.

A biennial SAS70 audit is conducted by the Office of the State Auditor with specialized security testing conducted by an external security consultant. This audit provides assurance to our customers and their auditors that ITD has appropriate controls in place. The latest audit was completed in December 2007. A copy of the SAS70 report can be found at http://www.nd.gov/auditor/reports/SAI11200_07.pdf.



Dan Sipes
Division Director

ITD operates a second data center for disaster recovery purposes. ITD's initial focus has been to minimize data loss in the event of a disaster – this is commonly referred to as the recovery point objective (RPO) and measures the time (relative to the disaster) to which data can be recovered. For overnight backups, the recovery point objective will often be the end of the previous day's activity.

The second data center houses the backup data for all systems and allows ITD to perform real-time data mirroring for critical systems. In addition to improving recovery point objectives for the State's data, ITD is working with agencies on the recovery time objective (RTO) for their applications. RTO is a measure of how long it takes a system to resume normal operations. The second data center has redundant processing hardware in place for agencies who have determined that their business applications require immediate failover in the event of a disaster.



Records Management Practices in Place

North Dakota Century Code (NDCC) 54-46-11 requires ITD to report on Records Management practices and programs in state government. Records management programs include records retention schedules, annual disposal of reports, forms inventories, and consulting. ITD has implemented records management programs in 60 state agencies. Records management programs are established in 22 boards, commissions, and councils. Last year, state agencies and local government offices disposed of 6,647 cubic feet of records to meet retention requirements. This savings in storage space, equipment, and related salaries resulted in a cost avoidance of \$1,784,186.

Administrative Highlights

Creating Cyber Security Awareness

ITD's Security Section participates in and contributes to the Multi-State Information Sharing and Analysis Center (MS-ISAC). MS-ISAC is a collaborative organization with participation from all 50 states, the District of Columbia, local governments, and U.S. Territories. The mission of the MS-ISAC, consistent with the objectives of the National Strategy to Secure Cyberspace, is to provide a common mechanism for raising the level of cyber security readiness and response in each state and with local governments. The MS-ISAC provides a central resource for gathering information on cyber threats to critical infrastructures from the states and providing two-way sharing of information between and among the states and with local government.

Raising the level of security awareness in State Government was a primary focus for the ITD Security Section last year. The following initiatives were connected with that effort:

- October 2008 was declared Cyber Security Awareness month in North Dakota. This was a joint venture with MS-ISAC and the North Dakota Office of the Attorney General with a proclamation signed by Governor Hoeven.
- ITD created a new ITD Security Portal as a "One-Stop" shop for cyber security related resources, newsletters and advisories (<http://www.nd.gov/itd/security/>).

- ITD emails a monthly Cyber Security Newsletter to IT Coordinators in state agencies and encourages the agencies to redistribute the newsletters or republish the information in their internal newsletters.
- A Security Officer Listserv was created to disseminate enterprise security information and advisories in a more proactive manner. This group includes more than 60 personnel from 42 state agencies.

Liquid Office Creates Efficiencies

The use of LiquidOffice as an electronic forms solution continues to expand. Participating agencies are improving their business processes by saving time and reducing the number of resources required. One agency stated they saved 115 hours last year processing one form and another agency stated they paid for the costs associated with the form after one renewal period.

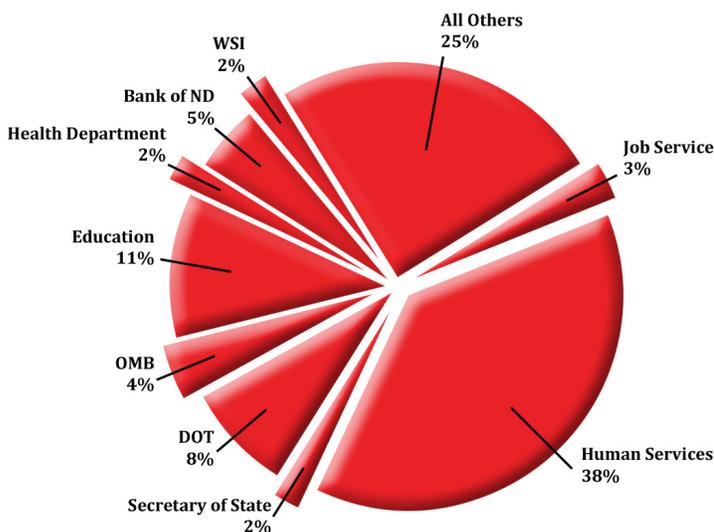
Records Management Programs Expand

ITD's Records Management team worked with higher education customers to expand the implementation of records management programs in higher education institutions. They also worked with local government entities to increase participation from local government offices in the records management program to raise awareness regarding the importance of records management at the local government level.

ITD Revenue By Department

Fiscal Year 2009

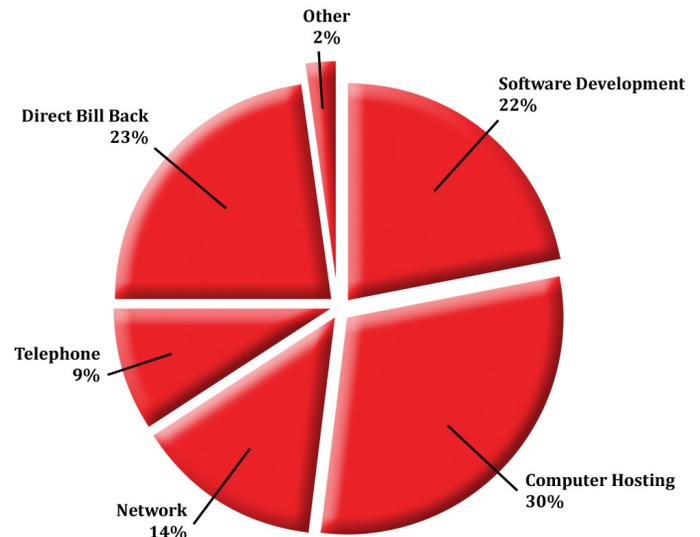
Total Billing: \$46,460,814



ITD Revenue By Service

Fiscal Year 2009

Total Billing: \$46,460,814



Software Development

Software That Works

Since its inception, CDP/ISD/ITD has provided enterprise software development services. We have evolved the type of software we create to keep current with the technology of the day. In our early years, batch/keypunched input and printed reports were our customers' means of interfacing with the mainframe computer. In the mid 1970s, Cathode Ray Tubes (CRTs) provided a green-screen user interface for entering and retrieving data and information. When personal computers arrived on the scene, the user interface became graphical and user friendly. Today, web browsers provide the user interface of choice and applications provide workflows that structure our customers' work efforts and provide consistent work outcomes.

Enterprise Development Provides Value

The technology evolution and the changes it brought occurred at a rapid pace. The value of enterprise software development services is a foundation block for our service offerings and thus remains fairly consistent through the years. ITD has a collective knowledge of many state agencies' business requirements and processes. This enterprise knowledge provides a perspective on when it makes sense to recommend enterprise applications and/or application services that can be shared by several agencies. The applications that we create follow Enterprise Architecture standards

as well as our own standards in an effort to produce applications with consistent architecture. The project management methodology we follow is consistent with North Dakota's enterprise standards. The project management experience our customers receive is similar on all projects we manage.

We believe sharing knowledge with our state government peers makes the enterprise stronger so we host User Group meetings that provide an exchange of software development knowledge and ideas. User Groups are a powerful motivator for everyone in the State's software development enterprise to work together. We are grateful our customers partner with us to foster an enterprise environment that works for everyone's benefit.

Technology Enables Business Processes

In the early years, business processes had to change in order to enable technology. That notion has been reversed. Today, technology should enable business activities. Also, we are seeing definite changes in the type of work we do. In 2003, 25 percent of our workload was new application development. In 2008, 43 percent of our workload was new application development. We attribute that change to the fact several customers have replaced mainframe applications with purchased software their integration vendors maintain and the applications we have written in the past few years require less maintenance. After analyzing these trends, we have determined we can provide more enterprise value by becoming more involved our customers' business and understanding their business problems in greater detail so we can recommend solutions that enable them to achieve their business goals. This past year we worked with the Department of Human Services to create requirements for a Business Analyst job classification series. Individuals in the Business Analyst job classification will understand our customers' business and become their advocate as new solutions are implemented to proactively solve business problems. As the collective knowledge of our Business Analysts grows, ITD will be able to create more effective enterprise business solutions for state agencies.



Vern Welder
Division Director



Initiatives & Accomplishments

Quality Assurance is Important to Us

While our Software Quality Assurance (Q/A) initiative did not achieve our planned goals as quickly as we originally planned, the quality of our software has not suffered. We have, however, restructured our approach to the Q/A initiative, and we have begun implementing a new plan.

New Code Security Initiative

As part of our quality assurance initiatives, we regularly perform manual code reviews to ensure our customers' applications are secure. To enhance this process, we have decided to implement an automated vulnerability testing tool. We teamed up with several state agencies to host product demonstrations to learn how automated tools can help. Our software architecture team has prepared an Application Security Vulnerability Testing Tool Request For Proposal (RFP). Our goal is to have an automated vulnerability testing tool operational in December 2009. We will scan both custom and vendor delivered applications for vulnerabilities on a defined schedule and as part of our quality assurance processes.

Teams Restructured to Meet Demands

Software development teams were restructured in an effort to balance the span of control and be more responsive to our customers' specific technology needs.

Provided Support for Legislative Session

The Division revived LR's legacy systems and provided seamless support for the 2009 legislative session.

Benefits of Service Oriented Architecture

Service Oriented Architecture (SOA) is a software design pattern consisting of any number of business services and service consumers (clients) in loosely coupled relationships where each service has an implementer and one or more consumers. Business services are designed for reuse across multiple applications and the consumer is not aware of the processing within the service. A business service may be a brand new service, the wrapping of a legacy routine, or a composite service consisting of new and wrapped services. ITD has implemented SOA concepts to integrate many business applications within the enterprise which either share data from business application to business application or utilize shared business services. ITD provides several enterprise business services such as credit card authorization services, user authentication services, report generation services, document repository services, address validation services, bank routing number validation service, and other services.

Leadership Changes in Division

In July 2009, Software Development Director Vern Welder retired from ITD after serving 36 years. "I've worked with very talented and dedicated customers and co-workers," Vern said. "It has been a great career for me, and I wouldn't change a thing. Software has been my life." Following Vern's retirement, Marlys Axtman became the Division's new director. She brings 32 years of IT and state government experience to the position.

“ITD has been very helpful in implementing some major IT projects within our department.”

Dept. of Corrections and Rehabilitation

Computer Systems

Maximizing technology

In North Dakota state government, agency information technology (IT) requirements continue to grow. The Information Technology Department's (ITD) deployment for both new and existing applications requires additional software and hardware to be implemented to meet this demand. This has been the trend here not only in government but for the world as well during the past 40 years.

Keeping Pace

Properly managing IT growth requires new managerial talent, system software tools, faster performing hardware, and continuing staff education. The breadth of staff knowledge and experience spans four decades among our existing staff. To keep pace with technology trends, we do our best to ensure our staff gets the training they require to support the systems we have in place. This puts us in a nice position to apply the best practices from the past to the current as well as into future computing environments.

Computing Initiatives

Last year, the Division continued its efforts in the areas of disaster recovery and performance measures. They are a key focus in our business practices to enhance the value we provide to our customers.



L. Dean Glatt
Division Director

Green computing is a relatively new term in the industry but is far from being a new practice at ITD. We have always strategized with our vendors to make sure that systems we deploy operate with the best power efficiencies. Computing products we purchase are EPEAT/ENERGY STAR registered products which defines the environmental performance computer systems should meet. This includes energy conservation, materials reductions, and packaging.

Virtualization

Virtualized Machines (VM) were deployed 30 years ago in the Information Technology Department (ITD). Without virtualization, North Dakota state government would have likely owned several mainframe systems. VM allowed us to consolidate agency mainframe requirements into one hardware system. As with the VM of yesterday, current virtualization techniques allow us to put more systems into less computer hardware. ITD has VM systems deployed for many large systems including PowerSchool, ConnectND, and enterprise databases. Roughly one-third of our systems are virtualized, and we see the virtualization trend continuing upwards. Additionally, virtualization provides a side benefit to green computing, i.e., having fewer servers results in less power consumption.

Cloud Computing

Cloud computing is an emerging trend in the IT industry. In its most basic design, applications run on virtualized computer systems running elsewhere in the world. Today, ITD functions as a cloud computing provider to education and state agencies in North Dakota. The data is held, managed, and secured within state government control, procedures, and audit guidelines.

As with any new technology, it is the nature of our business to study a platform and assess its ability to benefit state government. We feel there are significant legal and security issues to be addressed before cloud computing should host agency data. As we move forward, we will engage state government business leaders to help us assess the viability of cloud computing in state government.

Facts about our systems...

Enterprise Databases			
	Applications	Tables	GB
SQL Server	360	225,903	3,663
Oracle	204	35,476	3,806
ADABAS	107	537	132
DB2	63	2,850	212
Totals	734	264,766	7,813

“As always, the technician was knowledgeable and helpful.”
Bank of North Dakota



Disk Storage
270 Terabytes
68% Virtualization



Active Directory Objects
190,293 users
7,675 groups
11,804 computers

Daily Email Activity (Averages)

Inbound Messages
3.5 million

Percent of Messages
Removed by SPAM Filter
98.1%

Inbound “Clean” Messages
68,767

Outbound Messages from
State Employees
41,200



**Consolidated
File & Print Support**
Printers 1,361
Shares 1,924
Terabytes 14.1



Server Operating Systems		
	Physical	w/Virtualization
Windows	376	654
Linux	98	142
AIX/Solaris	27	133
MF/z-series	2	5
AS400/i-series	5	7
	508	941
46% Virtualization		

Telecommunications

Providing a secure & reliable network

The Telecommunications Division provides communications technologies and support to government and education. The Division offers customers a fast, secure, and reliable network that truly provides the circulatory system for North Dakota government and education entities.

The Value of a Statewide Network

The Division accomplishes its mission through a strategic partnership between government and education known as the North Dakota Statewide Technology Access for Government and Education network (STAGEnet). The vision of STAGEnet is to provide a secure, reliable, and cost-effective network with the scale and flexibility to support the convergence of data, voice, and video to meet and exceed the business objectives of government and education.

The first statewide network was rolled out in 1983 for state and local governments and successfully merged two university networks. Since then the network has received several major upgrades to keep up with modern technology. Currently, we are undergoing another major network upgrade by securing and implementing 2 Gbps of redundant internet bandwidth and securing and beginning to implement Ethernet circuits intended

to replace existing ATM technology. The success of the statewide network is possible through the support of numerous partnerships that not only prosper community development but also gives customers a secure and reliable infrastructure that connects over 100,000 devices which includes more than 80,000 computers and 10,000 telephones in over 800 locations.

Unified Communications Growing

As communications technologies converge, video and voice are becoming larger components of the network. Presently, the network supports over 500 video endpoints that participated in more than 19,000 video events last year. Video events are largely used to support distance education throughout the state, however, video is becoming a key component in many customers' green IT initiatives to reduce travel as well as conserve time and improve communications. Voice over IP (VoIP) is also a critical component of the converged network as an enabling technology for unified communications. VoIP is enabled on most PBX's statewide with over 20 percent of endpoints converted to IP. Moving forward, the converged network with the enabling technologies of voice and video will provide opportunities for numerous unified communications applications. Using unified communications, customers can more effectively communicate with one another as well as utilize communications technologies to improve business processes and create new and improved services to the community.

Mobility

Wireless and mobility are becoming significant factors in the overall design and capabilities of the communications infrastructure. With more than 500 wireless access points across the state delivering a managed and secure wireless solution, many customers are no longer bound by the restriction of cables. In addition, more than 500 smart phones are helping many customers improve overall efficiency and be more effective in completing their mission. As we look into the future, we envision a seamless and reliable network that includes high speed wireless technologies that will allow communications enabled business applications to support a mobile workforce.



Duane Schell
Division Director



Accomplishments & Highlights

Ethernet Service

To meet endpoint connectivity requirements of government and education, the Division procured an Ethernet service designed to replace existing ATM T1 technologies. This service provides a minimum of 5 Mbs of bandwidth which will upgrade the existing 1.5 Mbs T1 circuits currently in place.

K-12 Receives Higher Bandwidth

The 2009 Legislature graciously funded connectivity for 10 Mbs of Ethernet bandwidth to all K-12 school districts throughout the state. The Division has focused on replacing existing circuits for K-12 schools prior to the start of classes in 2009. The additional bandwidth will allow the educational community to use more video in the classroom and utilize learning tools available through the internet to enhance student learning throughout the state.

Internet Bandwidth Upgrade

To meet demands of government and education, the Division procured and implemented a new internet provider. The internet is currently capable of providing redundant 2 Gbps of connectivity with the capability to add bandwidth in 1 Gbps increments as needed.

Internet Filtering Implemented

Along with the internet upgrade, proactive filtering of unacceptable internet traffic was implemented to protect the overall integrity of the network and customers using the network.

New Voice Recording Service

To meet the business requirements of several key customers, the Division evaluated, procured, and implemented an enterprise solution designed to meet the voice call recording needs of customers located in the Bismarck area.

Secure Mobile Connectivity

Through a partnership with the law enforcement community, the Division provides reliable and secure connectivity for mobile law enforcement personnel.

Flood Support

The Division helped set up several temporary offices and provided support to government and education customers who relocated to different buildings in response to flooding activities that plagued many communities in spring 2009.

New Inmate Phone System

Through a partnership with the corrections community, a new inmate phone system that meets the special requirements of the corrections community was procured and implemented.

Fargo Metro Network

The metro area network serving the community of Fargo and West Fargo was completed during the year providing 10 Gbps of redundant service.

“Your ‘rapid response team’ associated with our technology related flood issues deserves a gold medal.”

Department of Human Services, SCHSC

Human Resources

Employees are our most valuable resource

The Human Resources (HR) Division is uniquely situated to view the organization as a whole, and thus, has the capability to see the interrelationships among divisions as well as how individual employees fit into their respective areas. HR is intricately linked with the organizational goals in many ways. This helps us to define the organizational structure and staff positions effectively. For example, HR must forecast future staffing needs, design interview processes, train managers on interviewing skills, and measure recruiting efforts. These activities help formulate HR's objectives, practices, and policies to meet organizational needs and opportunities.

HR's mission, in support of ITD's mission and vision, is to provide value-added services focused on recruiting, developing, and motivating ITD's most valuable resource – its people. Our vision is to serve as a strategic business partner by aligning people, strategy, and performance to ITD's mission and vision. Focusing on strategies that align human resources with ITD's goals and objectives in a fast-paced technological environment, HR takes pride in hiring employees who are highly skilled, service-minded individuals who bring technology to life. We are committed to fostering a work environment that attracts and inspires excellence in people. Our employees are the heart and

soul of ITD, and they are the key in helping ITD deliver services to its customers.

EduTech Joins ITD

Following the 2009 Legislative Session, EduTech, an organization that provides technology and related support and training to North Dakota K-12 schools, was placed under ITD which added 29 employees to ITD's roster. Additionally, 19 new employees joined ITD last year. HR participated in approximately 115 interviews. Furthermore, 24 employees moved to new jobs within ITD or earned a promotion.

“Everyone I've ever worked with is extremely courteous and helpful - all the time. Doesn't anyone ever have a bad day? Keep up the great work!”

West Central Human Services Center



Shelly Miller
Division Director





Initiatives & Accomplishments

Getting the Word Out

The Division continued its branding efforts through representation at job fairs, advertising methodologies, participation in the North Dakota Workforce Summit, connections with North Dakota colleges and universities, and through employee feedback regarding cultural improvement.

Managing & Reducing Turnover

HR continues to explore new retention initiatives and is working closely with ITD's Executive Management Team to review ideas brought up by employees through the employee biennial survey. To be most effective HR must continue its focus on seeking the best methods to recruit and retain employees in a competitive market because they are ITD's most valuable resource. We are proud of the staff we have retained and the new staff we have hired.

ITD's turnover rate decreased from 6.8 percent last year to our current rate of 3.6 percent. While the IT industry as a whole remains a competitive labor market where these types of workers are in short supply, we have noted an increase in applicants from other states.

Employee Satisfaction is Great

Based on our biennial employee survey, employees continue to say recognition is important to them just as it is for ITD's management team. ITD's Employee Recognition Committee, developed five years ago and driven by employees, provides a variety of cultural improvement activities, educational opportunities, team-based recognition events, and provides recognition "toolkits" for managers to help enhance ITD's culture.

Employee satisfaction regarding leadership, planning and organizing resources; setting direction; and

creating opportunities remained high on the biennial employee satisfaction survey with an average score of 2.26, based on a scale of 0-3.

Making Health & Wellness a Priority

Since HR places a high value on the health, safety, and wellness of ITD's employees, we have maintained and initiated new efforts in those areas. Last year, ITD successfully completed a wellness program and received the full discount from the North Dakota Public Employees Retirement System's Group Health Insurance. Other initiatives included hosting a convenient onsite flu-shot clinic for employees and offering healthier snacks at all-staff meetings provided by the Employee Recognition Program.

ITD continues to reduce the number of workplace injuries through the Department's ergonomic program. ITD also utilizes the Risk Management Fund Contribution Discount and the Risk Management Worker's Compensation Premium Discount programs where safety inspections, disaster recovery efforts, reporting of incidents, publishing safety guidelines, and policies are regularly done and completed in a timely manner.



Strategic Planning & Performance Measures

Measurement	Baseline (Previous Years)	Current (June 2009)	Target
ACCEPTABLE LEVEL OF TOTAL NET ASSETS	2006 - 1.4 2007 - 1.7 2008 - 1.4	2009 - 1.7	< OR = 2.0

SCORECARD PERSPECTIVE: FINANCIAL. Based on financial end of year "Statement of Net Assets," Total Net Assets does not exceed two (2) times the average monthly expenditures.

PERCENTAGE OF ITD RATES REPORTED IN ANNUAL REPORT THAT ARE COMPETITIVE	2006 - 100% 2007 - 100% 2008 - 100%	2009 - 100%	100%
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SCORECARD PERSPECTIVE: FINANCIAL. Based on 22 service rates representing 75% of ITD's revenue as reported in the Annual Report. "Competitive" is defined as a rate not exceeding 10% higher than the average comparable service rates provided by other government and private entities.

TOTAL NUMBER OF SERVICE REQUESTS AND INCIDENTS COMPLETED	2007	2008	2009	
SERVICE REQUESTS	28,564	32,105	33,243	MONITOR
INCIDENTS	48,792	53,738	55,421	

SCORECARD PERSPECTIVE: FINANCIAL. Although this measure is largely dependent on client budget appropriations and spending, it provides an indicator reflecting the amount of work volume or output produced by ITD. This measure reflects a 12-month timeframe.

CUSTOMER SATISFACTION INDEXES	% SATISFIED / VERY SATISFIED		% SATISFIED / VERY SATISFIED	
	2007	2008	2009	
Value	87.3%	86.9%	83.9%	92%
Timeliness	87.4%	86.9%	92.2%	97%
Quality	95.5%	93.0%	95.3%	97%
Knowledge	94.8%	97.0%	96.8%	98%
Professionalism & Courtesy	97.1%	99.0%	100%	100%

SCORECARD PERSPECTIVE: CUSTOMER. Customer Surveys are collected annually. This year, executives and business professionals were invited to join IT coordinators in completing ITD's Annual Customer Survey. As a result, 65 people provided feedback on these attributes. Customers are encouraged to offer candid feedback regarding ITD's ability to meet their business needs.

Measurement	Baseline (Previous Years)	Current (June 2009)	Target
EMPLOYEE SATISFACTION INDEX	2006-2007 – 2.13 2007-2008 – 2.13	2009 – 2.14	2.0
<i>SCORECARD PERSPECTIVE: LEARNING & GROWTH. Every other year, ITD assesses its employee satisfaction. Employees are asked to grade ITD as a place to work. The above survey indexes reflect the overall average score of all employee survey rankings. The grading range is from 0-3 (dissatisfied to very satisfied). Ninety-eight percent of employees participated in the survey process.</i>			
CONTROLLABLE EMPLOYEE TURNOVER	2007 – 4.6% 2008 – 6.8%	2009 – 3.6%	BELOW 6%
<i>SCORECARD PERSPECTIVE: LEARNING & GROWTH. ITD tracks employee turnover on a quarterly basis. Employee turnover is a critical measure of organizational success. Technology skills will remain in high demand and in short supply through the next decade.</i>			
PERCENTAGE OF SERVICE LEVELS MET	2008 – 100%	2009 – 100%	100%
<i>SCORECARD PERSPECTIVE: INTERNAL PROCESS. ITD is developing service level objectives (SLO) for its primary services. Once the SLOs are established, this measure will indicate ITD's ability to meet its service objectives.</i>			
PERCENT OF STRATEGIC BUSINESS PLAN OBJECTIVES COMPLETED OR ON SCHEDULE	2007 – 46% 2008 – 43%	2009 – 61.5%	75%
<i>SCORECARD PERSPECTIVE: INTERNAL PROCESS. ITD creates a strategic business plan that defines business improvement goals and objectives which are achieved through initiatives created at the department and division levels. All initiatives are prioritized and defined as projects through an internal project definition process that describes the scope, cost, timeframe, and expected outcomes. This measure assesses management's ability to plan effectively and put business strategy into action.</i>			



Rate Comparisons & Trends

The Information Technology Department (ITD) generates revenues by providing 107 services, each with its own rate. Customers are billed monthly for services provided the previous month. Federal regulations do not allow state central service agencies to accumulate an excess of cash. Therefore, ITD closely monitors the cost and revenue for each service and adjusts its rates accordingly.

In April of every even numbered year, ITD establishes budget rates for the upcoming biennium. These rates generally do not increase during the two-year period because agencies do not have the ability to request additional funds. However, if the cost for providing a service decreases, ITD will reduce the rate. ITD also monitors what other entities are charging for similar services in an effort to maintain quality services at a fair price. The following tables reflect ITD's comparisons and history. In summary, service rates are the result of higher labor rates along with the need to upgrade old equipment to deploy new technologies.

CPU Rates

(based per second)

	North Dakota	South Dakota	Montana	Minnesota
	ITD	BIT	ITSD	OET
Batch CPU	\$ 1.17	\$ 1.59	\$ 2.80	n/a
CICS CPU	\$ 1.17	\$ 1.59	\$.93	n/a
ADABAS CPU	\$ 1.23	\$ 1.59	\$ 1.73	n/a
TSO CPU	\$ 1.17	\$ 1.59	\$ 3.71	n/a

SD operates an IBM zSeries 800 2066-OC1 mainframe - approx. 3x slower-published rate is \$.53/CPU second. SD also charges \$.06/1,000 I/Os. MT operates an IBM zSeries z9 - approx. 43% slower. MT rate is adjusted above. MN uses service units to bill rather than CPU seconds. This is because they run three different processors.

NETWORK FEES

	North Dakota	South Dakota	Montana	Minnesota
	ITD	BIT	ITSD	OET
Technology Fee	\$ 43.50	\$ 39.00	\$ 90.50	\$ 35.00
DSL Service	Actual (\$ 40 - \$ 199)	n/a	\$ 250.00	Cost + 15%
ETS-5 (5mbps bandwidth)	\$ 890.00	n/a	\$ 650.00	Cost + \$ 140 (access) \$ 150/mbps (bandwidth)
Access/Information/ Enterprise Mgt. Fee	n/a	\$ 66.00	n/a	\$ 99.00

TELEPHONE FEES

	North Dakota	South Dakota	Montana	Minnesota
	ITD	BIT	ITSD	OET
Telephone Line	\$ 24.00	\$ 13.00	\$ 14.00	\$ 54 - VoIP
Speaker	\$ 3.00	Actual Cost	\$ 7.00 - \$ 11.00	Actual Cost
Display	\$ 5.00	Actual Cost	\$ 10.00 - \$ 18.00	Actual Cost
Voice Mail (unlimited)	\$ 5.00	\$ 6.00		\$ 6.00
3-minute limit	n/a	n/a	\$ 5.00	n/a
6-minute limit	n/a	n/a	\$ 8.00	n/a
8-minute limit	n/a	n/a	\$ 10.00	n/a

LONG DISTANCE

	North Dakota (ITD)	South Dakota (BIT)	Montana (ITSD)	Minnesota (OET)
In-State	\$.075	\$.08	\$.105	\$.07
Out-of-State	\$.075	\$.09	\$.105	\$.20
800 Service	\$.07	\$.09	\$.100	\$.049

SOFTWARE DEVELOPMENT RATE COMPARISON

ENTITY	LOCATION	BILLING RATE/HOUR OF SERVICE
Information Technology Department	State of North Dakota	\$ 63 - \$ 75
Applied Engineering	Bismarck, ND	\$ 75 - \$ 125
Eide Bailly	Bismarck, ND	\$ 95 - \$ 155
Enterprise Solutions	Bismarck, ND	\$ 95 - \$ 140
Nexus Innovations	Bismarck, ND	\$ 95 - \$ 125
Vision Technology	Bismarck, ND	\$ 70 - \$ 75
Everest Consultants	Beaverton, OR	\$ 63 - \$ 100
Ciber	Vancouver, WA	\$ 65 - \$ 100
Compuware	Plymouth, MN	\$ 80 - \$ 125
Maximus	Rancho Cordova, CA	\$ 145 - \$ 185

ITD SERVICE RATE TRENDS

SERVICE RATES	July 2009	July 2008	July 2007	July 2006
Software Developer	\$ 63 - \$ 75	\$ 58 - \$ 63	\$ 58 - \$ 63	\$ 54 - \$ 58

CENTRAL COMPUTER CPU

Batch CPU	\$ 1.17	\$ 1.17	\$ 1.17	\$ 1.17
CICS CPU	\$ 1.17	\$ 1.17	\$ 1.17	\$ 1.17
ADABAS CPU	\$ 1.23	\$ 1.23	\$ 1.23	\$ 1.23
TSO CPU	\$ 1.17	\$ 1.17	\$ 1.17	\$ 1.17

CPU rates for July 2006 through July 2008 were adjusted to be comparable to the faster computer purchased in 2009.

NETWORK FEES

Technology Fee	\$ 43.50	\$ 41.27	\$ 41.27	\$ 38.92
ATM T-1	\$ 890.00	\$ 890.00	\$ 890.00	\$ 840.00

Device fees for July 2006 through July 2008 were adjusted to be comparable to the new technology fee method used in 2009.

TELEPHONE FEES

Telephone Line	\$ 24.00	\$ 24.00	\$ 24.00	\$ 21.00
Speaker	\$ 3.00	\$ 3.00	\$ 3.00	\$ 2.00
Display	\$ 2.00	\$ 2.00	\$ 2.00	\$ 1.00
Voice Mail (Unlimited)	\$ 5.00	\$ 5.00	\$ 5.00	\$ 3.00

LONG DISTANCE

In-State	\$.075	\$.075	\$.09	\$.05
Out-of-State	\$.075	\$.075	\$.09	\$.05
800 Service	\$.07	\$.07	\$.07	\$.07

Financial Statements

Statement of Net Assets June 30, 2008 & 2007

	FY 2008	FY 2007
ASSETS		
CURRENT ASSETS:		
Cash Deposits at BND	3,182,256	3,198,104
Restricted Cash	8,294,424	5,997,582
Intergovernmental Receivables	152,226	51,464
Account Receivables	106,341	616,467
Due From Other Funds	3,639,730	4,073,472
Prepaid Items	<u>2,252,705</u>	<u>1,580,044</u>
TOTAL CURRENT ASSETS	17,627,682	15,517,133
NON-CURRENT ASSETS:		
Unamortized Bond Issuance Costs	46,546	53,196
Capital Assets:		
Building & Equipment - Net	<u>12,248,796</u>	<u>9,649,100</u>
Total Non-current Assets	12,295,342	9,702,296
TOTAL ASSETS	<u>29,923,024</u>	<u>25,219,429</u>
LIABILITIES		
CURRENT LIABILITIES:		
Accrued Payroll	1,433,655	1,220,833
Accounts Payable	665,988	738,716
Interest Payable	520,793	303,451
Intergovernmental Payable	4,809	450
Due to Other Funds	28,441	24,627
Compensated Absences Payable	76,548	66,198
Bonds Payable	<u>629,458</u>	<u>606,258</u>
TOTAL CURRENT LIABILITIES	3,359,692	2,960,533
NON-CURRENT LIABILITIES:		
Compensated Absences Payable	1,330,576	1,209,285
Notes Payable	12,000,000	6,000,000
Bonds Payable	<u>3,576,645</u>	<u>4,206,103</u>
TOTAL NON-CURRENT LIABILITIES	16,907,221	11,415,388
TOTAL LIABILITIES	20,266,913	14,375,921
NET ASSETS		
Invested in Capitol Assets, Net of Related Debt	6,248,796	9,649,100
Unrestricted	<u>3,407,315</u>	<u>1,194,408</u>
TOTAL NET ASSETS	9,656,111	10,843,508
TOTAL LIABILITIES & NET ASSETS	<u>29,923,024</u>	<u>25,219,429</u>

Financing Agreements: ITD has a note for \$6,000,000 from the Bank of America at 3.57% acquired for the Mainframe Migration Project. Repayment on the loan will begin in fiscal year 2009. ITD also borrowed \$6,000,000 from SunTrust Leasing at 3.469% for Dept. of Human Services' (DHS) Medicaid Systems Project. DHS will obtain Federal and General Funds in the 2009-11 biennium for which ITD will use to pay off this note.

Financial Statements

Statement of revenues, expenses, and changes in fund net assets for years ending June 30, 2008 & 2007

	FY 2008	FY 2007
OPERATING REVENUE:		
Sales and Services	40,592,466	38,239,041
OPERATING EXPENSES:		
Salaries and Benefits	16,499,257	14,604,840
Operating	22,229,584	17,404,753
Depreciation	<u>2,956,238</u>	<u>2,697,725</u>
TOTAL OPERATING EXPENSES	<u>41,685,079</u>	<u>34,707,318</u>
OPERATING INCOME (LOSS)	(1,092,613)	3,531,723
NON-OPERATING REVENUES (EXPENSES):		
Interest and Investment Income	114,424	31,694
Interest Expense	(192,203)	(213,507)
Loss on Sale of Capital Assets	(33,112)	(9,729)
Other	<u>16,107</u>	<u>16,108</u>
TOTAL NON-OPERATING REVENUE (EXPENSES)	<u>(94,784)</u>	<u>(175,434)</u>
INCOME (LOSS) BEFORE CONTRIBUTIONS AND TRANSFERS	(1,187,397)	3,356,289
TOTAL NET ASSETS-BEGINNING OF YEAR	<u>10,843,508</u>	<u>7,487,219</u>
TOTAL NET ASSETS-END OF YEAR	<u><u>9,656,111</u></u>	<u><u>10,843,508</u></u>

Guiding Principles

Respect

We treat everyone with dignity and respect.

Teamwork

We recognize ITD's success depends on partnerships and collaboration.

Achievement

We develop quality solutions that best address the needs of our state. We are committed to delivering results – on time and within budget.

Integrity

We build long-term, lasting relationships through mutual trust. We value open, honest, two-way communication.

Leadership

We encourage initiative and creativity. We are committed to investing in knowledge and expertise.

Service

We hold ourselves accountable for a positive customer experience.



Websites & Additional Information

North Dakota State Portal

www.nd.gov

State of North Dakota Information Technology Department

www.nd.gov/itd

Enterprise Project Management

www.nd.gov/epm

North Dakota Enterprise Architecture

www.nd.gov/ea

For more information or to request additional copies of this report, please contact the Service Desk at servicedesk@nd.gov

An electronic copy of the Information Technology Department's Annual Report can be viewed by visiting www.nd.gov/itd/pubs

State of North Dakota
Information Technology Department
2008-2009 Annual Report
40 Years of Technology, People & Processes