

Information Technology Hardware Relocation and Consolidation Study

Addressing the Requirements of SB 2021

Presented to:

North Dakota

Office of Management and Budget (OMB)

by

UmmelGroup International, Inc.

January 29, 2014

Agenda

- The Study
- Study Findings
- Recommendations
 - Benefits of Consolidation
 - Risks of Consolidation
 - Consolidation Process
 - Critical Success Factors for Consolidation
- Questions and Discussion

The Study

- Must include input from the attorney general and representatives from the exempted agencies and review the feasibility and the desirability of relocating and consolidating information technology hardware of the attorney general and the agencies exempted by the office of management and budget to the information technology department's secure data center
- Must address the issues of:
 - Cost
 - Security (physical and cyber)
 - Redundancy
 - Staffing
 - Impact on service to stakeholders, and
 - Impact on contractual relationships for software and hardware with federal partnerships

Study Findings

Cost

- No significant hard dollar cost savings could be identified by a consolidation effort.
- Increased costs are expected in ITD service fees to the agencies.

Study Findings

Physical Security

- Physical presence of staff. ITD's data centers are staffed 24 x 5.5
- Comprehensive Fire suppression
- Facility Access Control procedures
- ITD Background and Fingerprint Security Checks

Cyber Security

- ITD controls all of the networks for the state to the point where devices are connected to the network
- Exposure to cyber security attacks not specifically affected by proposed consolidation initiatives
- ITD currently provides support for intrusion detection and prevention
- ITD's automated patch management facilities will provide greater protection from virus and malware attacks

Study Findings

Redundancy	<ul style="list-style-type: none">• A level of redundancy of skill sets exists between ITD and agency IT staff.• Estimated 15% time recovery for agency IT staff to address application development and customer service activities.
Staffing	<ul style="list-style-type: none">• Each of the agencies have capable and talented IT staff.• Agency IT staff accomplish great results with relatively limited budgets.
Impact on Service to Stakeholders	<ul style="list-style-type: none">• Consolidation will allow more focus on application development and customer service activities for agency IT staff.
Contractual Relationships	<ul style="list-style-type: none">• Any application software licensing issues will be administrative in nature requiring simple coordination with the respective Federal partners

Recommendations

Agency	Recommended for Consolidation
Attorney General	No
PSC	Yes
Oil & Gas	Yes
State Water Commission	Yes

Benefits of Consolidation

- Opportunity for More Active Cyber Security Monitoring
 - Ongoing Intrusion Detection
 - Virus and Malware Protection
- Better backup up for data and operations
 - Environmental Controls
 - Power
 - Data Backup Hardware and Software
 - Business Continuity Hardware and Software
- Free up current IT personnel in Agencies for critical functions such as:
 - Application Development
 - End User Support

Risks of Consolidation

- UmmelGroup found no technical reasons the proposed consolidation could not work
- Personalities, History, Temperaments, and Habits, could lead to failure
- No Single Point of Organizational Convergence
- Loss of Key Agency IT Personnel
- Loss of Critical Knowledge
- Learning Curve (Agencies and ITD)
- Additional Time and Cost

Keys to Making Consolidation Process Work

- Current IT staff for those agencies to be consolidated remain assigned to their respective agency.
- ITD establish a virtual server environment that will facilitate the special computing needs of these three agencies.
- ITD make accommodations in their policies and procedures that enable the agency IT staff to continue to perform application development activity via the “virtual server environment” that quickly responds to changing business requirements.
- ITD provide the agency IT staff with sufficient administrative rights and control over their virtual servers to facilitate development and testing activities to include the capability to install new software and reboot virtual servers as required.
- Agency budgets should be adjusted to minimize impact of projected increases in ITD service fees following consolidation.



Critical Success Factors for Consolidation

- A Sense of Mission
- Trust and Cooperation
- Marketing
- Planning
- Communications
- Serving the Ultimate Customer



Questions and Discussion

State of North Dakota

Office of Management and Budget

IT Hardware Relocation/Consolidation Study

Final Report

12/29/2013



Professional Consulting and Advisory Services Provided By

UmmelGroup International, Inc.

UMMELGROUP.COM 
lighting the way to business and IT agility

Table of Contents

I.	EXECUTIVE SUMMARY	1
A.	Background	1
B.	Recommendations	1
C.	Key Findings	2
1.	Cost	2
2.	Physical Security.....	3
3.	Cyber security	3
4.	Redundancy.....	4
5.	Staffing	4
6.	Impact on Service to Stakeholders	4
7.	Impact on Contractual Relationships.....	5
II.	BACKGROUND	6
III.	CRITICAL SUCCESS FACTORS.....	6
A.	A Sense of Mission	7
B.	Trust and Cooperation	7
C.	Marketing.....	7
D.	Planning.....	7
E.	Communications	7
F.	Serving the Ultimate Customer.....	8
IV.	Current IT Environment Summary	8
A.	Attorney General	8
1.	Overview	8
2.	Current IT Environment	8
3.	Strengths of Current Environment.....	9
4.	Challenges in Current Architecture.....	9
5.	Threats and Risks of Consolidation	9
B.	Public Service Commission.....	10
1.	Overview	10
2.	Current IT Environment	10
3.	Strengths of Current Environment.....	10
4.	Challenges in Current Environment.....	11
5.	Threats and Risks of Consolidation	11

C.	Department of Mineral Resources (Oil and Gas Division)	11
1.	Overview	11
2.	Current IT Environment	12
3.	Strengths of Current Environment	13
4.	Challenges in Current Environment	13
5.	Threats and Risks of Consolidation	13
D.	State Water Commission	13
1.	Overview	13
2.	Current IT Environment	14
3.	Strengths of Current Environment	14
4.	Challenges in Current Environment	15
5.	Threats and Risks of Consolidation	15
E.	Information Technology Department (ITD)	15
1.	Overview	15
2.	Domain Capabilities	16
3.	Current IT Environment	18
4.	Strengths of Current Environment	18
V.	RECOMMENDATIONS	19
A.	Summary of Recommendations	19
B.	Recommendation Details	20
1.	Hardware Relocation or Consolidation Considerations	20
2.	Does Proposed Consolidation Save Money?	20
3.	Does Proposed Consolidation Enhance Security?	22
4.	Redundancy	25
5.	Staffing and Impact of Relocation/Consolidation on Customer Service?	25
6.	Operational Impacts on Federal Partnerships	26
C.	Benefits of this recommendation:	26
D.	Considerations for this Recommendation:	27
E.	Threats and Risks of Consolidation	28
F.	Implementation Approach	28
1.	Public Service Commission	28
2.	Department of Mineral Resources, Oil and Gas Division	28
3.	State Water Commission	29
4.	Information Technology Division	29
5.	Office of Management and Budget	30

VI. APPENDICIES	31
A. Fifty-eighth Legislative Assembly - House Bill No. 1505	31
B. N.D.C.C. 54-59 Information Technology Department.....	41
C. 2013 Senate Bill 2021.....	55

I. EXECUTIVE SUMMARY

A. Background

Ten years after a 2003 information technology consolidation effort, the North Dakota legislature adopted Senate Bill 2021. Section 8 of that bill called for an independent study to reexamine the potential of consolidation of four state agencies that were exempted from the 2003 consolidation. The State of North Dakota issued a Request for Proposal (RFP) in July of 2013 and selected the UmmelGroup International, Inc. to complete an information technology relocation and consolidation study.

“The study:

- a. Must include input from the attorney general and representatives from the exempted agencies and a review of the feasibility and the desirability of relocating and consolidating information technology hardware of the attorney general and the agencies exempted by the office of management and budget to the information technology department's secure data center.
- b. Must address the issues of cost, physical security, cybersecurity, redundancy, staffing, impact on service to stakeholders, and impact on contractual relationships for software and hardware with federal partnerships.
- c. Must be completed before December 31, 2013.”

(Excerpt from Senate Bill No. 2021 – Section 8.)

This report represents UmmelGroup’s findings and recommendations based on an analysis of the existing systems and IT hardware resources currently supporting the Office of the Attorney General, the Industrial Commission (Department of Mineral Resources - Oil and Gas Division), the State Water Commission, and the Public Service Commission.

B. Recommendations

Having found no specific value in a simple relocation of their IT hardware resources to ITD’s Agency Data Center, the focus of UmmelGroup’s recommendation is on the potential of consolidation for the four agencies studied.

UmmelGroup recommends that the Attorney General, as the focal point for FBI CJIS activity for the State of North Dakota, should not be considered for this consolidation initiative. The servicing of criminal history information retrieval requirements of law enforcement agencies statewide, and their information exchange responsibilities with and between the FBI, adds a level of complexity to their operations that creates unique challenges. The following list of responsibilities would end up adding additional unwarranted complexity to the current FBI CJIS communications structure and additional un-needed FBI mandated CJIS control structures and procedures to the ITD staff and Data Center if the AG’s Office were consolidated.

1. Interaction and partnership with the FBI for the management and dissemination of criminal history information.
2. The storage and administration of sensitive CJIS data storage as defined by FBI CJIS policy.
3. Administration of access to CJIS data by criminal justice agencies statewide in compliance with FBI CJIS policy.

UmmelGroup further recommends that the other three agencies, (Public Service Commission, DMR Oil & Gas, and State Water Commission) should be considered for consolidation under the following stipulations:

1. Current agency IT staff remains assigned to their respective agency.
2. ITD establish a virtual server environment that will facilitate the special computing needs of these three agencies.
3. ITD make accommodations in their policies and procedures that enable the agency IT staff to continue to perform application development activity that allows the agency to quickly respond to changing business requirements without sacrificing ITD management and security controls.
4. ITD provides agency IT staff with sufficient administrative rights and control over their own virtual servers to facilitate development and testing activities and to include the capability to install new software and reboot virtual servers as needed.
5. Agency budgets are adjusted accordingly to account for impact of projected increases in ITD service fees following consolidation.

C. Key Findings

The four agencies evaluated have small, well run data centers in place with typical department level attention to security, power protection, air conditioning needs, and backup and recovery procedures

1. Cost

Based on review of agency computer facilities, staff, and work environments, UmmelGroup concluded that *no specific current hard dollar cost savings could be identified by a consolidation effort*. There are three cost factors to be taken into consideration when considering a consolidation of IT hardware resources for the Attorney General, Public Service Commission, DMR Oil & Gas, and the State Water Commission.

a) Server Environment

Based on our analysis, a total of 18 new server instances in ITD would be anticipated to serve the three agencies. According to ITD's rate structures, \$36,000 (\$2,000 per server) in one time set up cost would be charged to the agencies to initially implement these servers. After initial setup, ITD would charge the agencies \$390 per month per server for ongoing operation and maintenance totaling \$84,240.

b) Data Storage Facilities

Data storage would also have an initial one time anticipated set up cost of \$3,900 per terabyte (TB) of storage which would be charged to the agencies totaling \$663,000 for all agencies for their 170 TB of data to be migrated. After this initial setup, ITD would charge, at current rates, \$50 per TB per month for ongoing operation and maintenance of the storage facilities totaling \$102,000 annually.

c) *Staffing Resources*

UmmelGroup anticipates that a consolidation of the three recommended agencies would have the effect of freeing up as much as 15% of each agency's IT staff from time spent doing routine hardware planning, installations, trouble shooting, repair, and maintenance activities. These activities would end up being shifted to ITD and the agency IT staff would have the opportunity to redirect that time toward focusing on application specific issues, business intelligence activities, and customer support requirements within their agency and on behalf of their agency's customers. OMB provided an average benefit loaded hourly salary rate of \$54 for agency IT staff. We have extrapolated the potential 15% of time saving for agency IT staff, which could be redirected to other activities, as an annual value of \$178,200.

2. **Physical Security**

UmmelGroup believes consolidation provides the opportunity to increase over-all physical security for the State's computing resources and reduce exposure to vulnerabilities.

Considerations:

- (1) **Physical presence of staff.** In each case, servers supporting the agency, while under their control, are not staffed around the clock. While ITD's data centers do not supply 24 x 7 staffing, they are staffed 24 x 5.5 – which is much closer than a normal 8 x 5 commitment used by the study agencies.
- (2) **Fire suppression.** Only one of the four agency data centers (the Attorney General) was observed to have a supplemental fire extinguisher close by their server room. ITD has up-to-date automatic fire suppression systems in both the capitol data center and at the remote disaster recovery facility.
- (3) **Access procedures.** All four of the study agencies plus ITD have varying levels of access control. In all cases we were escorted in our visits. We were required to sign in to create a log of our visit when visiting ITD's data center facilities.
- (4) **Employee Security Clearance.** An evaluation of the personnel and administrative security posture indicated the AG required the highest level of background checking of their IT personnel to satisfy the FBI's CJIS requirements. AG's background checks for staff include agent interviews with family, friends, and neighbors in addition to electronic checks for wants, warrants and fingerprints. FBI CJIS security policies preclude employees from having any evidence of felony conviction, and the AG adds the requirement of no evidence of misdemeanor theft or drug arrests or charges. Additionally, employee fingerprints are recorded in the AFIS system so the AG will be notified of any ongoing arrest activity for employees.

3. **Cyber security**

ITD controls all of the networks for the state to the point where devices are connected to the network. In general, since all of the agencies involved use ITD's network security, consolidation would not change the cybersecurity penetration and intrusion profile of any of the agencies.

Overall, our impression was that network security “due diligence” is being exercised by the ITD’s networking professionals.

The State’s exposure to cybersecurity attacks are not specifically affected by potential consolidation initiatives however, from past experience, UmmelGroup concluded that all of the agencies would be better positioned to ward off virus and malware exposure with ITD’s automated patch management program for server operating systems.

4. Redundancy

Currently, there is a level of redundancy of skill sets between ITD and all four of the exempted agencies. All of these entities, for example, are involved with the selection, installation, and maintenance of server class computer equipment. The scope of ITD’s server administration environment is extensive and the addition of the anticipated 18 servers needed to support a consolidation effort should have a minimal impact on the current ITD staff. However, we anticipate the agencies will be able to recover approximately 15% of their time now dedicated to the “care and feeding” of their respective server platforms to be redirected to more application development and customer service activities.

5. Staffing

It became clear that even though the relocation/consolidation study was focused specifically on the IT hardware, that agency management staff was primarily concerned about having their IT staff consolidated to ITD and losing their ability to be able to administer that staff to quickly establish priorities and respond to the very dynamic business environments each agency faces. It appeared that the IT hardware itself was really a secondary issue but, none the less, one where considerable concern was expressed in that the installed base of hardware provides the tools the agency IT staff utilize in their pursuit of just “getting the job done”. All of the agencies expressed concerns about potential impacts to their need for agility in their operations if their IT hardware was relocated or consolidated to ITD’s data center.

Each of the agencies appears to have capable and talented IT staff with entrepreneurial attitudes. This shows in what they have been able to accomplish with relatively limited budgets, the quality of the products they produce, and the respect they have garnered by members of their agencies and external customers of their products and work efforts.

6. Impact on Service to Stakeholders

The scope of ITD’s server administration environment is extensive and the addition of the proposed virtual server environment and the anticipated 18 virtual servers needed to support the consolidation effort should have a minimal impact on the current ITD staff. Therefore, we anticipate the agencies will be able provide more focus on application development and customer service activities.

7. Impact on Contractual Relationships

The Attorney General's office and the DMR Oil and Gas Division expressed concerns about the possibility of licensing issues for application software obtained via the Federal Government. With all of the variety of organizational alignments and IT support scenarios that exist in states across the country, we are confident any application software licensing issues will be administrative in nature requiring simple coordination with the respective Federal partners.

II. BACKGROUND

On September 15, 2003, in response to the 58th Legislative Assembly's passage of House Bill 1505 (Appendix A), the IT Functional Consolidation Project presented its Final Recommendation Report. The result of their study was an implementation plan for the consolidation of information technology facilities and services for 48 state agencies. The result of this effort included a consolidation of email and file and print services for all agencies, however, the Attorney General's office, the State Water Commission, the Oil and Gas Division of the Department of Mineral Resources (Industrial Commission), and the Public Service Commission were exempted from a consolidation of hardware required to support their primary business applications.

The 63rd Legislature passed Senate Bill 2021 (Appendix C), which requires a private consultant to conduct information technology relocation and consolidation study of information technology equipment operated by the Attorney General and by agencies that have been exempted under N.D.C.C. § 54-59-22 (Appendix B) by the Office of Management and Budget (OMB). Exempted agencies include the Industrial Commission Department of Mineral Resources - Oil and Gas Division (DMR), the State Water Commission (SWC), and the Public Service Commission (PSC).

On July 25, 2013, the State of North Dakota issued a Request for Proposal (RFP) to solicit proposals for a consultant to conduct information technology relocation and consolidation study of information technology equipment operated by the Attorney General and agencies that have been exempted under N.D.C.C. § 54-59-22.

On September 9, 2013, the State of North Dakota entered into a contract with UmmelGroup International, Inc to complete an information technology relocation and consolidation study and develop a report resulting from the study.

As stated in the RFP, this study will:

- a. Include input from the Office of the Attorney General, and representatives from the exempted agencies and a review of the feasibility and the desirability of relocating and consolidating information technology hardware of the Attorney General and the agencies exempted by the Office of Management and Budget to the Information Technology Department's secure data center;
- b. Address issues of cost, physical security, cybersecurity, redundancy, staffing, impact on service to stakeholders, and impact on contractual relationships for software and hardware with federal partnerships;

III. CRITICAL SUCCESS FACTORS

There is no foolproof blueprint for consolidation of IT resources, however, UmmelGroup has found that there are a set of critical success factors that seem to be present in most successful relocation and consolidation projects.

A. A Sense of Mission

One of the key elements to the success of a consolidation project is a sense of mission. All of the parties involved have some very important things in common: they work for people of the State of North Dakota and they are charged with doing the very best they can with the resources at hand. IT systems play a big role in the delivery of services to the people and this role is growing. The mission of consolidation, therefore, is large as well.

It is a given that not everyone involved in a consolidation project will be entirely committed in the beginning of the project, but if the project management can instill the sense of mission to everyone involved in the project, then a strong basis exists for building trust and cooperation.

B. Trust and Cooperation

“Trust is the bandwidth of communication” K-E Sveiby

From the interviews with all of the parties involved, the UmmelGroup team, which has experience on both sides of a number of similar consolidations, has found a certain lack of mutual trust. This is critical since trust and cooperation are, perhaps, the most important critical success factors in consolidations such as this. If both parties trust each other, then small problems, even large ones, can be overcome. If trust is lacking, however, then cooperation is much more difficult. The bottom line is that trust takes time to establish and if, for whatever reasons, trust is lacking between organizations with a long relationship, then conscious effort must be made to rebuild and renew that trust.

C. Marketing

IT managers and professionals are not famous for their marketing skills, but marketing, continuous and persistent marketing, has proved to be a major success factor in relocation and consolidation efforts. Those involved in managing this project must be constantly thinking of how to demonstrate to the others in the project what the benefits are and how they and their organization can benefit by its success.

D. Planning

Relocation and Consolidation projects are by their very nature complicated. This means that extensive data gathering and planning at the beginning of the project are extremely important. Often, some seemingly trivial item will be overlooked that will cause significant difficulties. While time is an important element in any project of this nature, relocation and consolidation projects result in very long term relationships that will span years or as in this case decades. UmmelGroup has found that planning is a very critical success factor.

E. Communications

On projects of this nature, UmmelGroup has found that there needs to be clear lines of communication between and within all of the agencies involved. Often, IT professionals are not great communicators,

but in order to be successful, they need to learn to communicate better. Regular communication to and among all the management and staff involved is imperative.

F. Serving the Ultimate Customer

In the end, the success or failure of the relocation or consolidation effort will be determined by the people served. Are the end users, i.e., the public, managers, employees or contractors, happy with the IT systems that the State provides and the costs of those services? Do changes get made to those systems promptly and are the systems robust and bulletproof? Does everyone work to ensure responsiveness? These are the questions that need to be on everyone's mind.

IV. Current IT Environment Summary

The following examines each of the study agencies for strengths and challenges found in their current IT environments. It should not be construed that indicated strengths would be lost nor challenges overcome by a relocation or consolidation effort.

A. Attorney General

1. Overview

"The Attorney General is the chief legal counsel and advisor to state government in North Dakota. He represents and defends the interests of the state (and, therefore, the people) of North Dakota in civil and criminal actions. He may take legal action to protect the state's rights, defend the actions of state officials, and ensure public order. State law prohibits the Attorney General and his staff from providing legal advice to, or representing, members of the public.

(<http://www.ag.state.nd.us/About/AboutOffice.htm>, accessed 10/10/2013)

2. Current IT Environment

- The AG's office is authorized a staff of over 213 which includes a full-service IT staff of 14, not including contractors.
- The AG operates six separate sites in the Bismarck area and eight remote locations.
- Windows Server® based Intel servers support application processing requirements.
- The Automated Fingerprint Information System (AFIS) is managed by the AG.
- Federal CJIS-compliant communications must be maintained between the AG, State Radio, the Crime Lab, and the State Patrol.
- Secure CJIS inquiries for Individual Identifying Information (III) and Criminal History information, and AFIS traffic passes through the AG systems to the CJIS switch located at State Radio.
- The AG operates a VMware® based virtual server farm.
- AG is pursuing a two year plan to develop a more robust disaster recovery (DR) and business continuity site at the Crime Lab location to take advantage of the backup power that is already in place at that location.

- VMware® is used to provide replicated servers to enhance business continuity and disaster recovery.
- Email, wide area network services, anti-virus, and VPN services for external users are currently provided by ITD.

3. Strengths of Current Environment

- Industry standard Windows Server® based servers support AG operations.
- Servers and storage are currently housed in a secured CJIS-qualified facility.
- AG has a remote disaster recovery (DR) facility which operates on a separate power grid.
- Generator backup to commercial power is available at the DR site.
- Daily and weekly tape backups are maintained at the DR site.
- AG's server room is configured with raised flooring and integrated supplemental power and air conditioning.
- Uninterruptible power systems (UPS) are installed which condition power and provides protection from power spikes, brown out, and approximately 2 hours of protection for power outage.

4. Challenges in Current Architecture

- Lack of auxiliary (generator) power backup at the AG's server room location.
- Extended power outage will exhaust capacity of UPS facilities. Because of the difficulty of locating a backup generator at the primary site, auxiliary power beyond UPS is available only at their current DR site. Consequently, the backup site should be tested routinely to make certain fail-over capability is adequate and robust.
- The AG has a complicated computing environment which provides data communications to a large network of law enforcement agencies across the State. The AG's network must support Federal CJIS compliant communications between the AG, State Radio, the Crime Lab, the State Patrol, and other criminal justice entities and provide access to a diverse set of CJIS related applications.
- UmmelGroup observed a single, hand-operated fire extinguisher located inside of the server room. This is inadequate to cover incidents that may occur outside of normal business hours.
- As noted above, the AG is developing a disaster recovery (DR) and business continuity site at a remote location.
- The AG must provide life-cycle management for replacing servers and is responsible for manually scheduling OS updates and security patch management.

5. Threats and Risks of Consolidation

- The laboratory management system, FA-LIMS, at the Crime Lab may need to be recertified for the integrity of information exchanged with other CJIS systems.
- A relocation or consolidation of IT hardware would necessitate a reconnection of Crime Lab instruments with the FA-LIMS, NCIC, NLETS, AFIS facilities, and the DNA Database.
- Internet Protocol (IP) address based security requirements would have to be re-architected and re-certified for integrity.

- Concerns for the confidentiality of FBI CJIS data would have to be addressed and audited by the FBI.
- A relocation or consolidation would create the potential for service outage to all North Dakota criminal justice agencies during transition. An outage for the AG is more critical than for the other studied agencies because there are law enforcement staff relying on these data for their safety and protection – lives could be on the line.

B. Public Service Commission

1. Overview

“The Public Service Commission is a constitutional agency with varying degrees of statutory authority over abandoned mine lands, coal mine reclamation, electric and gas utilities, telecommunications companies, energy conversion facility locations, transmission facility locations, railroads, grain elevators, facility-based grain buyers, roving grain buyers, and hay buyers, auctioneers, auction clerks, weighing and measuring devices, pipeline safety, and underground damage prevention.” (<http://www.psc.nd.gov/index.php> accessed 10/10/2013)

“The Legislature has given the commission broad jurisdiction over several industries. In some cases the commission functions like a court, in other instances it operates like a licensing board, and sometimes it serves as an environmental regulatory inspection agency”

(<http://www.psc.nd.gov/public/newsroom/2011/2011%20PSC%20Biennial%20Report.pdf>, accessed 10/10/2013)

2. Current IT Environment

- The PSC office is located in the Capitol building.
- There are three IT staff allocated as a part of the total of 44 PSC employees.
- Three Windows Server® based Intel application servers installed. One server is running VMware® which supports a number of virtual server instances.
- One Mandriva Linux® server is installed which supports the GIS function.
- PSC uses open source PostGIS with a PostgreSQL database to supplement ESRI GIS capability.
- PSC has approximately 25 TB of RAID 5 server attached storage is installed.
- PSC’s primary application software has been supplied by the Federal Office of Surface Mining.

3. Strengths of Current Environment

- PSC has a relatively simple IT architecture and computer network with no remote locations.
- PSC servers are physical located within the Capitol building.
- PSC uses industry standard Windows Server based servers to support primary PSC operations.
- Data are backed up to tape locally on a daily basis.
- Archival backup tapes are stored at an offsite location.
- PSC replicates some of their data to a storage facility located at the State Water Commission.

4. Challenges in Current Environment

- The network diagram indicates an off-site tape backup however; this facility used to be located at a PSC office in Minot but, since a recent major flood, is currently located at the PSC central office.
- One Mandriva Linux server installed (Mandriva is not supported in State Enterprise Architecture). According to UmmelGroup's research, the last official release of Mandriva was made in 2011 and is based on the 3.4.30 version of the Linux kernel. According to Linux archives, the most recent stable Linux kernel is 3.12.5. This indicates the continued use of Mandriva should not be considered appropriate and a plan should be developed for the replacement of this software.
- No supplemental fire protection / suppression suitable for a computer room environment was observed in the server room. This puts significant data and equipment at risk, especially during hours of limited staffing (nights and weekends). Water has recently been accepted as a fire suppressant in data centers, but it usually installed with dry piping. While water sprinklers are in the PSC server room, drenched equipment has to go through special treatment to thoroughly dry it before use, and any perishable material, especially paper, is likely to be ruined. In some cases, electrical work is required to make certain power is removed from the equipment prior to discharging water spray.
- During non-business hours, personnel would not be available to intervene in an extended power outage would result in an exhaustion of the battery backup capacity of UPS facilities.
- Supplemental air conditioning is provided by a portable unit which is temporarily vented into the building's above ceiling return air plenum via a hose stuck through a removed ceiling tile. Installation did not appear to have been done in a "workmanlike manner".
- PSC must provide their own life-cycle management for replacing servers and is responsible for scheduling OS updates and security patch management.

5. Threats and Risks of Consolidation

- Increased cost to PSC for ITD services – particularly for servers and storage. See section V.B.2 of this report for a more in-depth cost analysis.
- PSC fears consolidation would cause losing IT efficiency and agility in supporting their clients.

C. Department of Mineral Resources (Oil and Gas Division)

1. Overview

"The Legislature created the Industrial Commission of North Dakota (the "Commission") in 1919 to conduct and manage, on behalf of the State, certain utilities, industries, enterprises and business projects established by state law. The members of the Commission are the Governor, the Attorney General and the Agriculture Commissioner of the State. The Governor is the Chairman, and a quorum for the transaction of business consists of the Governor and one additional member. The Attorney General serves as general counsel."

(<http://www.nd.gov/ndic/> accessed 10/10/2013)

The Department of Mineral Resources is one of twelve organizations that the Industrial Commission oversees (<http://www.nd.gov/ndic/> accessed 10/10/2013). The Department is made up of three areas. Of primary interest to this study is the Oil and Gas Division and Geotech Support.

Oil and Gas Division

“The Oil and Gas Division regulates the drilling and production of oil and gas in North Dakota. Our mission is to encourage and promote the development, production, and utilization of oil and gas in the state in such a manner as will prevent waste, maximize economic recovery, and fully protect the correlative rights of all owners to the end that the landowners, the royalty owners, the producers, and the general public realize the greatest possible good from these vital natural resources”

(<https://www.dmr.nd.gov/oilgas/>, accessed 10/10/2013)

Geotech Support

The Geotech Support group is a smaller division of the department that provides critical administration, budget, and IT support to the other divisions.

(<https://www.dmr.nd.gov/ndgs/>, accessed 10/10/2013)

2. Current IT Environment

- The Department of Mineral Resources Oil and Gas Division is located in two separate buildings in the northern part of Bismarck. Physical location of the DMR server room is in a separate building from the location of the IT staff offices.
- The Industrial Commission (which includes the Oil & Gas Division) has a staff of 98 who are supported by an IT staff of 4.
- DMR has an estimated 30 TB of server attached storage installed.
- The agency is supported by four Windows Server® based servers.
- One server drives a tape backup facility.
- A primary application, RBDMS, was obtained from the Ground Water Protection Council (GWPC) and funded by Federal grant funds.
- The RBDMS application architecture is based on Microsoft Access running against a MS SQL Server database management system that has been heavily modified to suit departmental needs. UmmelGroup was not able to identify solid documentation on the changes which will make it difficult to move to newer releases of the software.
- The RBDMS application and database model is used by all 25 oil producing states.
- Remote users of RBDMS require data to be replicated to a local instance of SQL Server Express.
- Old documents have been scanned and made available via a web portal to land owners and mining companies.
- Drilling companies are able to submit permit requests, production reports, and spill reports online.

3. Strengths of Current Environment

- DMR has a relatively simple IT architecture and computer network with no remote locations (although they have substantial numbers of remote clients).
- Industry standard Windows Server® based servers support DMR operations.
- Current backup tapes are stored on site. Archived backup tapes are stored in multiple off site locations.
- Daily backups are kept for five weeks.
- IT funding for hardware acquisitions is supplemented by data access subscription fees.

4. Challenges in Current Environment

- During non-business hours, personnel would not be available to intervene in an extended power outage would result in an exhaustion of the battery backup capacity of UPS facilities.
- The RBDMS application architecture is based on Access programming against SQL Server.
- This RBDMS architecture impacts network loading and design.
- Because local access to RBDMS data is via Microsoft Access, remote access to RBDMS requires data replication of the entire RBDMS from the central SQL Server to the remote user.
- Data replication processing is subject to potential port lockout which can create corruption in the data which requires daily manual intervention to correct.
- Staff knowledge depth and resource backup are thin due to small number of staff.
- Although charging mechanisms are in place (three tiers), the amounts charged could be greater based on the value received.

5. Threats and Risks of Consolidation

- Slower application response is a concern for local users who are not set up with data replication capability, like those for remote users, because servers would be located at a greater distance than current configuration.
- Some additional coordination of potential software license (GWPC) may be required.
- Anticipated increased cost to DMR in ITD service fees – particularly for servers and storage. See section V.B.2 of this report for a more in-depth cost analysis.
- Agency concern for potential loss of efficiency and agility.

D. State Water Commission

1. Overview

“The State Water Commission (SWC) is responsible for the management and regulation of the water resources in the State of North Dakota. The mission of the agency and the State Engineer

... is to improve the quality of life and strengthen the economy of North Dakota by managing the water resources of the state for the benefit of its people...”

“The SWC utilizes information technology to support almost all facets of the business operations surrounding water resource management. Agency IT requirements are generally driven by the scientific applications used for water resource analysis. Advanced data analysis, research, data modeling, and engineering applications are routinely combined with customized applications that are developed internally. Because of the wide range and diversity of applications used, the IT infrastructure must be open and extensible. An open framework supports a wide range of diverse applications, which makes it possible to easily scale and evolve the IT infrastructure to accommodate changes in current initiatives as well as any new initiatives.”

(ND State Water Commission - IT Strategic Plan 2013-2015 - IT Architecture Review)

2. Current IT Environment

- The State Water Commission’s main office is located in a separate building on the Capitol complex grounds.
- SWC has a total staff of 90 supported by 4 IT staff.
- SWC provides IT services to 6 remote locations.
- SWC utilizes Apple workstations.
- SWC has four Apple Xserve servers supporting applications and data, five Mac Pro desktops running as servers supporting backups and SCADA, and twelve Mac Mini desktop computers configured as servers providing web server, file services, imagery, and directory services.
- SWC is using the BSD distribution of Linux® for a couple of servers.
- Apple’s virtual services are used to support creation of virtual server instances.
- Approximately 100 TB of RAID 5 server attached storage is installed at the primary location.
- Apple Xgrid is utilized to provide parallel computing clusters for large modeling requirements.
- All applications have been developed using open-source technologies.
- SWC provides IT support for SCADA (Supervisory Control And Data Acquisition) systems located at reservoirs.
- Support is provided for RADAR (Radio Detection and Ranging) and LIDAR (Light Detection and Ranging -- a remote sensing technology that measures distance by illuminating a target with a laser and analyzing the reflected light) supplementation, and cloud-seeding flight operations.

3. Strengths of Current Environment

- IT costs are somewhat contained through the use of open source software and development tools.
- SWC has developed the ability to use parallel processing by spreading large processing requirements across multiple servers and desktop devices to significantly reduce time required for modeling scenarios. This capability utilizes unused CPU cycles when clients are doing other tasks or are away from their workstation during nights and weekends. This is a fine example of SWC’s innovation that has saved significant staff hours.
- SWC’s development for the cloud-seeding application is another notable innovation.
- Daily and weekly tape backups are maintained off site.
- Data are replicated to servers and storage facilities located at an SWC off site location that is being used to host disaster recovery capabilities.

- Uninterruptable power systems (UPS) condition power and protect from power spikes, brown outs, and provide approximately 15 minutes of protection for power outage.

4. Challenges in Current Environment

- Open source software typically has no commercial support systems, and must rely on other users for support.
- Apple announced that the Xserve server hardware products would no longer be manufactured as of January 31, 2011 requiring a conversion to a different platform (likely Linux) in the near future. This is a significant effort that produces no tangible return – other than the ability to keep processing. Failure to do the conversion results in the inability to do other future updates because prerequisites cannot be met.
- A conversion of applications and tools from Apple server environment, the environment staff know and with which they are comfortable working, will be needed in the near future.
- Apple Xgrid needs to be replaced; SWC is looking at the open source Pooch product.
- No observed fire protection in the server room.
- There is a lack of auxiliary (generator) power at the SWC main office to support the server room.
- During non-business hours, personnel would not be available to intervene in an extended power outage would result in an exhaustion of the battery back capacity of UPS facilities.
- Management of the growing application library is placing stress on IT staff resources as business demands grow.
- SWC IT staff expressed a need for two additional IT staff during the budget process but, apparently, these were not requested beyond the agency level.
- There is a duplication of effort because ITD provides life-cycle management for replacing servers and is responsible for scheduling OS updates and security patch management.

5. Threats and Risks of Consolidation

- Anticipated increased cost to SWC in ITD service fees – particularly for servers and storage. See section V.B.2 of this report for a more in-depth cost analysis.
- SWC has a concern for loss of efficiency and agility in their IT support in a consolidated IT hardware configuration.

E. Information Technology Department (ITD)

1. Overview

The Information Technology Department exists for the purpose of creating and operating a centralized IT facility, leading state agencies in discovering, assessing, and implementing information technologies. ITD is committed to better understanding state agency needs and in assisting in the implementation of the proper technology solution to accomplish these needs. It is organized to provide a broad range of technologies including mainframe and desktop computing, local and wide area networks, voice and data technologies, web, client server and mainframe software development, video conferencing, and emerging technologies. This is accomplished by investing in the development of highly skilled employees along with

contracting outside vendors who maintain a level of expertise that is not available in-house or is limited due to the demands for a particular service.

(<http://www.nd.gov/itd/about-us/organizational-structure>)

2. Domain Capabilities

- a) Computer Systems
- b) Enterprise Architecture and Strategic Planning
- c) Criminal Justice Information Sharing (CJIS) Coordination. This should not be confused with the National FBI CJIS program. The ND-CJIS Board has a key role in approving and enabling strategic planning activity focusing on public safety issues in the State of North Dakota. The ITD Chief Information Officer (CIO) is the chairman of this board, and the ITD provides funding for the activities of the CJIS Coordinator.
- d) Network Administration
 - (1) Wide Area Network (WAN)
 - (2) Local Area Network (LAN)
 - (3) STAGEnet Wireless Network
 - (a) Guest
 - (b) Member
 - (4) Charges for network traffic:
 - (a) Port connection for all network attachable devices.
 - (b) Bandwidth usage for data transmission.
 - (c) Included in ITD's monthly chargeback billing.
- e) Security
 - (1) Microsoft's Active Directory is used for identity management and authentication services for access to the network and common open systems applications.
 - (2) IBM's RACF provide security management for the State's central enterprise server.
 - (3) Firewalls at network points of entry and for separation of network segments.
 - (4) Virtual Private Network (VPN) – has to be requested by the agencies for remote access into the State's network (STAGEnet).
 - (5) Anti-virus software for workstations and servers.
 - (6) SPAM guard for e-mail.
 - (7) All ITD staff is subject to a background check which includes fingerprints which are sent to the FBI for evaluation.
 - (a) Performed through the Attorney General's (AG) office.
 - (b) Level & quality of check is set by the AG.
 - (8) Disaster Recovery and Business Continuity

ITD operates a full service disaster recovery site at a remote location. This site has comparable power (with UPS and generator backup), fire suppression, air conditioning, and humidity controls in place at this site similar to those servicing the main data center at the Capitol complex. At this disaster site, servers are in place that provide for rapidly replacing the processing capability of their Level 1 processing capabilities within one hour. They have identified the following five disaster recovery levels. Each level indicates the recovery activity and the timeframe for recovery. ITD will work with

agencies to identify a recovery level that best meets the agencies' needs for the cost they are willing to pay. Disaster recovery is an added service to an agency's service level agreement and would be provided at an additional monthly cost.

<div><div>LEVEL 1</div><div>CORE INFRASTRUCTURE COMPONENTS INDEPENDENTLY ACTIVE IN THE MDC.</div><div>Level 1 System Availability includes: 1. Systems fully and independently operational in the MDC without dependencies on other systems. 2. Systems that can be active within 1 hour with automatic failover, manual activation or rerouting.</div><div>ACTIVE WITHIN FIRST HOUR</div></div>	<div><div>LEVEL 2</div><div>INFRASTRUCTURE AND USER APPLICATIONS READY FOR IMMEDIATE ACTIVATION.</div><div>Level 2 System Availability includes: 1. Active after repurposing test/dev hardware. 2. Active using dedicated disaster recovery hardware, including VMWare/SRM. 3. Active after dependencies in Level 1 are active.</div><div>30 MINUTES - 4 HOURS</div></div>	<div><div>LEVEL 3</div><div>INFRASTRUCTURE AND USER APPLICATIONS</div><div>Level 3 System Availability includes: 1. Active after repurposing test/dev hardware. 2. Active using dedicated disaster recovery hardware including VMWare/SRM. 3. Active after dependencies in levels 1 and 2 are active.</div><div>2 HOURS – 12 HOURS</div></div>
<div><div>LEVEL 4</div><div>INFRASTRUCTURE AND USER APPLICATIONS WITH A D/R SLA</div><div>Level 4 System Availability includes: 1. Active after repurposing test/dev hardware. 2. Active using dedicated disaster recovery hardware, including VMWare/SRM.</div><div>12 HOURS – 48 HOURS</div></div>	<div><div>LEVEL 5</div><div>INFRASTRUCTURE AND USER SYSTEMS WITHOUT A D/R CAPABILITY OR SLA</div><div>Level 5 System Availability: 1. Replacement hardware obtained after a disaster.</div><div>INDETERMINABLE NUMBER OF WEEKS</div></div>	

Information source: ITD

3. Current IT Environment

- A comprehensive statewide communications network, STAGEnet, provides protection against most single points of failure.
- ITD operates a central IBM mainframe computer system.
- Storage Area Network (SAN) data storage facilities have the ability to support high volumes of data and high processing demands.
- VMware based Virtual server environment supporting a high percentage of open systems server requirements.
- A secure and comprehensive disaster recovery facility is capable of supporting business continuity initiatives.
- UmmelGroup found ITD to be more than competent to handle the additional load proposed by any or all of the agencies under study.

4. Strengths of Current Environment

- Size of the department - At 340 FTE, ITD outnumbers the IT staff of the four subject departments combined by a factor of 30. The combined IT experience of this team can be measured in centuries, not just years.
- Breadth of experience - With the number of individuals on staff, there is a broad base of experience upon which to draw for almost any reason, and the odds are that someone on staff has either “done it” or knows someone who has.
- Economies of scale - There is considerable “depth of staff.” Just based on workloads, there are few areas where a skill is known by only one individual.
- The State has clearly invested heavily in ITD. UmmelGroup is impressed with the recent remodeling of the data center, the emphasis on resolving the relatively recent power problems, and the capabilities of the backup center.
- The data center well laid out, organized, and neat. Wiring was mostly hidden, what was visible was neatly bundled and carefully routed.
- Fire protection was professionally installed, and the ceiling was being used as a return-air plenum.
- Data center security was obviously thought through and efforts had been taken to plug any security “holes.” We were signed-in, checked against our driver’s license, given badges, escorted, and the whole thing logged on camera.
- Professionalism is a major strength. Without exception, with the individuals we interviewed, there were the traits of people confident in their positions, knowledge, and commitment to “doing the job right.” It speaks well for the managers of ITD over years of operation.
- Procedures have been developed to ensure up-to-date documentation and an enterprise view of potential impacts of actions taken that can prove extremely valuable during a major outage.

V. RECOMMENDATIONS

A. Summary of Recommendations

The focus of UmmelGroup's recommendation is on the issue of consolidation for the four agencies studied, having found no specific value in a simple relocation of their IT hardware resources to ITD's Agency Data Center (see Recommendation Details below).

UmmelGroup recommends that the Attorney General, as the focal point for FBI CJIS activity for the State of North Dakota, servicing of criminal history information retrieval requirements of law enforcement agencies statewide, and their information exchange responsibilities with the FBI, their operations are unique and complex within the State, should not be considered for consolidation. The following list of responsibilities would end up adding additional unwarranted complexity to the current CJIS communications structure and additional un-needed CJIS control structures and procedures to the ITD Data Center.

1. Interaction and partnership with the FBI for the management and dissemination of criminal history information.
2. The storage and administration of sensitive CJIS data storage as defined by FBI CJIS policy.
3. Administration of access to CJIS data by criminal justice agencies statewide in compliance with FBI CJIS policy.

While not recommended for consolidation, the Attorney General's Office should be considered "partners for the long run" with ITD for consulting, advice, and assistance on a regular basis. Over time, the Attorney General's office may find certain ITD services an attractive option to continuing to grow their own computing capability for non-CJIS information processing needs.

UmmelGroup further recommends that the other three agencies, (Public Service Commission, DMR Oil & Gas, and State Water Commission) should be considered for consolidation under the following stipulations:

1. Agency IT staff remains assigned to their respective agency.
2. ITD establish a virtual server environment that will facilitate the special computing needs of these three agencies.
3. ITD make accommodations in their policies and procedures that enable the agency IT staff to continue to perform application development activity that quickly responds to changing business requirements.
4. ITD provides the agency IT staff with sufficient administrative rights and control over their virtual servers to facilitate development and testing activities to include the capability to install new software and reboot virtual servers as needed.
5. Agency budgets are adjusted accordingly to account for impact of projected increases in ITD service fees following consolidation.

B. Recommendation Details

1. Hardware Relocation or Consolidation Considerations

a) Relocation

ITD operates a facility referred to as the Agency Data Center where they provide raised floor space, conditioned power, fire suppression, and regulated environmental (cooling and humidity). This space is available to agencies that have a need to install servers that support unique functions that have been determined to be managed by the agency rather than ITD. The facility is physically and securely separated from the main data center and agency personnel are given access to enter so they may perform whatever installation or support activities needed. This facility can also be used for hardware that has been purchased by the state that needs direct vendor “hands on” support.

Relocation of the IT hardware of the study agencies would largely involve moving the equipment currently installed at the agencies into this Agency Data Center, and would technically satisfy the scope of the RFP. However, UmmelGroup finds no intrinsic value in just doing this.

If the IT hardware were relocated to the Agency Data Center, agency staff would still have to perform all maintenance activities, and would have to travel to the Capitol complex for some of them, wasting valuable time in the process. No specific savings are identified for power conditioning and cooling (other operating costs) at this time since all of the agencies have already invested in uninterruptable power supplies (UPS) and have supplemented the air conditioning capabilities in the small server rooms within their agency. At best, future costs associated with replacement of these investments could be avoided. An in-depth analysis of the age and potential life expectancy of the existing equipment would be needed to determine the level of cost avoidance that could be anticipated and the potential timeframe.

b) Consolidation

Consolidation of IT Hardware would involve the retirement of existing server and storage equipment by re-hosting the applications currently on agency servers to virtual servers in the main ITD data center. This option positions agencies to take advantage of ITD services for basic hardware management and support in addition to being located in a more restricted secure facility with enhanced power management and business continuity resiliency than where they are currently housed.

Opportunities, challenges and issues in taking advantage of this type of IT consolidation will be the focus of the following recommendations.

2. Does Proposed Consolidation Save Money?

Based on review of agency computer facilities, staff, and work environments, UmmelGroup concluded that no specific current hard dollar cost savings could be identified by a consolidation

effort. In fact, a primary stumbling block to a proposed hardware consolidation, from the agencies' perspective, is increased cost to the agencies in the form of ITD service fees, primarily for computer servers, and disk storage space. Each of the agencies has large volumes of data stored in their systems. The majority of this data is historical and extremely valuable but is not accessed on a frequent basis. Much of the concern for increased costs, UmmelGroup believes, stems from the agencies' lack of consideration for a total life-cycle costing when they compare ITD's billing rates to direct purchasing of IT assets employed by their respective agencies.

The table below examines three cost factors to be taken into consideration when considering a consolidation of IT hardware resource for the Public Service Commission, DMR Oil & Gas, and the State Water Commission. The primary increases in cost that would be passed along to these agencies through increased ITD service fees come from charges for server instances and data storage facilities that would be provided by ITD.

- a) There are currently a total of 35 servers installed between PSC, DMR, and SWC.
 - (1) Five of these servers are located at remote locations supporting specialty processing capabilities and are not candidates for consolidation.
 - (2) Ten servers are providing data backup services for the agencies and should be able to be replaced by existing ITD backup services.
 - (3) Two servers are providing website hosting capabilities and should be folded into the State's website strategies.
 - (4) Eighteen servers are supporting application and database management support for these three agencies.
- b) Based on our analysis, 18 new virtual server instances would be anticipated to serve the three agencies. According to ITD's rate structures, \$36,000 (\$2,000 per server) in one time set up cost would be charged to the agencies to initially implement these servers. After initial setup, ITD would charge the agencies \$390 per month per server for ongoing operation and maintenance totaling \$84,240 annually.
- c) Data storage would also have an initial one time anticipated set up cost of \$3,900 per terabyte (TB) of storage which would be charged to the agencies totaling \$663,000 for the 170 TB of active storage installed at the agencies. After this initial setup, ITD would charge, at current rates, \$50 per TB per month for ongoing operation and maintenance of the storage facilities totaling \$102,000 annually.
- d) The third cost factor for consideration is staff costs. We anticipate that a consolidation of the three recommended agencies would have the effect of freeing up as much as 15% of the each agency's IT staff from time spent doing routine hardware planning, installations, trouble shooting, repair, and maintenance activities. These are activities that would end up being shifted to ITD and the agency IT staff would have the opportunity to redirect that time toward focusing on application specific issues, business intelligence activities, and customer support requirements within their agency and on behalf of their agency's customers. OMB provided an average benefit loaded hourly salary rate of \$54 for agency IT staff. We have extrapolated the potential 15% of time saving for agency IT staff, which could be redirected to other activities, as an annual value of \$178,200.

ESTIMATED COSTS OF PROPOSED CONSOLIDATION

Costs to Agencies from ITD's Service Rates					
#	Item	DMR	PSC	SWC	TOTAL
1	Anticipated Virtual Servers Required	4	6	8	18
2	Data Storage Required (TB)	30	40	100	170
Initial Costs					
3	ITD Server Acquisition Fee @ \$2,000/ea	\$8,000	\$12,000	\$16,000	\$36,000
4	Data Storage Install Fee @ \$3,900/TB	\$117,000	\$156,000	\$390,000	\$663,000
	Total Initial Costs	\$125,000	\$168,000	\$406,000	\$699,000
Annual Ongoing Costs					
5	ITD Server Monthly Fee @ \$390/server	\$18,720	\$28,080	\$37,440	\$84,240
6	Data Storage Monthly Fee @ \$50/TB	\$18,000	\$24,000	\$60,000	\$102,000
	Total Annual Ongoing Costs	\$36,720	\$52,080	\$97,440	\$186,240
Potential Cost Avoidance for Agencies					
#	Item	DMR	PSC	SWC	TOTAL
7	IT Allocated Staff (FTE)	4	3	4	11
8	Annual IT Staff Hours Available	8,000	6,000	8,000	22,000
9	Annual Hours Available for Reallocation @ 15%	1,200	900	1,200	3,300
10	Average IT Staff Hourly Rate	54	54	54	
11	Annual Value of Reallocated IT Staff Hours	\$64,800	\$48,600	\$64,800	\$178,200

Notes by Line Number

- 2 Number of TB of storage in use; growth projections not included.
- 3 ITD's standard rate.
- 4 ITD's standard rate. Projected volume of data equals approximately 50% of ITD's current installation. Recommend re-examining opportunities for volume discounts.
- 5 ITD's standard rate.
- 6 Rate from ITD as of 11/26/13; published rate is \$175/mo/TB.
- 8 40 hours/week * number of staff members * 50 weeks (two weeks annual vacation)
- 9 Estimated time devoted to researching / solving server hardware-related issues = 15%. This does not mean an over-staffed condition exists. Each of these agencies is currently understaffed. These are hours that could be redirected to other assignments or activities.
- 10 Average "fully-burdened" (includes benefits) hourly IT staff rate. Source: OMB.
- 11 Line 9 * Line 10 to show the value of making agency IT staff available for other work.

3. Does Proposed Consolidation Enhance Security?

UmmelGroup decided to use ITD's security profile as the baseline to compare each of the study agencies. This created a very high bar for the comparison for the agencies. From a physical security standpoint, the ITD data center is well designed, fully staffed 24 X 5.5 days per week, environmentally controlled and monitored for air conditioning and humidity, configured with significant UPS and generator power backup, and carefully designed data backup and recovery capabilities when paired with the offsite disaster recovery facility.

a) Physical Security

UmmelGroup believes consolidation provides the opportunity to increase over-all physical security for the State's computing resources and reduce exposure to vulnerabilities.

- (1) The ITD data center provides better physical security than was found at the study agencies.
- (2) In terms of personnel security, AG has a more stringent access system than the other exempted agencies, and they are required to have a more extensive FBI CJIS compliant security clearance of all of its employees than what is currently used for ITD staff. According to the AG their staff must pass a more in-depth background test to qualify for CJIS certification than background tests used for other personnel in the State.
- (3) In terms of administrative security, the FBI insists that all state and local systems connected to sensitive FBI systems (e.g., NCIC, etc.) be under the administrative control of a bona fide criminal justice agency.

Considerations:

- (1) **Physical presence of staff.** In each agency's case, servers supporting the agencies, while under their control, are not staffed around the clock. While ITD's data centers do not supply 24 x 7 staffing, they are staffed for support 24 x 5.5.
- (2) **Fire suppression.** Only one of the four agency data centers (the Attorney General) was observed to have a CO₂ based fire extinguisher close by their server room. None of the server rooms for the study agencies was observed to have fire suppression beyond typical water sprinkler systems which, without being tied to an ability to cut power to the computer equipment prior to the sprinkler deploying, meets the needs of a data center. ITD has up-to-date automatic fire suppression systems in both the capitol data center and at the remote disaster recovery facility.
- (3) **Access procedures.** All four study agencies plus ITD have varying levels of access control. In all cases we were escorted in our visits.
 - (a) DMR and ITD had us sign in. Only ITD verified our names with our driver's licenses, as we signed in, and provided visitor badges so it was obvious to all that we were not employees. (This was not a significant issue with the others because: the rooms were very limited in size, and other than our escorts, no one else was present.)
 - (b) Only ITD had multiple security doors with proximity cards through which entrance had to be gained. Only ITD had a mixture of security cameras in place throughout all critical areas, both inside and out, of the data center. Videos are retained for 30 days.
 - (c) We were particularly concerned about the data center used by the DMR Oil and Gas Division. It is our understanding their buildings were recently renovated and the IT staff moved to their current location in the building

next door, while their data center remained behind. There is limited staff members assigned to the building, there is ample glass on the outside, and while key locks are used, they did not give the appearance of being more secure than a normal office environment from a security standpoint. In addition, the building location is such that it could be a relatively easy target to access during non-business hours. The value of their information provides to external entities contributed to our concerns.

- (d) ITD has additional security audits as part of their requirements for hosting HIPPA and PCI-DSS-sensitive data.
- (e) None of the study agency server rooms were configured with manual “panic alarms” to enable notifying local law enforcement.

None of the study agencies really came close when compared to the physical security attributes of the ITD data center. Access to the buildings that housed the agencies’ data centers were no more secure than a normal office building, with the exception of the AG’s computer center at the BCI building.

An evaluation of the personnel and administrative security posture indicated the AG required the highest level of background checking of their IT personnel to satisfy the FBI’s CJIS requirements. AG’s background checks for staff include agent interviews with family, friends, and neighbors in addition to electronic checks for wants, warrants and fingerprints. FBI CJIS security policies preclude employees from having any evidence of felony conviction, and the AG adds the requirement of no evidence of misdemeanor theft or drug arrests or charges. Additionally, employee fingerprints are recorded in the AFIS system so the AG will be notified of any ongoing arrest activity for employees.

The AG’s Office has signed MOUs with the FBI, regarding the administration, personnel, and computer security for all systems that interact with the FBI and other federal agencies.

UmmelGroup’s observations concluded that DMR, PSC and SWC would be significantly improved from a security, backup, and continuity of operations standpoint by a consolidation of IT hardware resources.

b) Cybersecurity

ITD controls all of the networks for the State to the point where devices are connected to the network. In general, since all of the agencies involved use ITD’s network security, consolidation would not change the cybersecurity profile of any of the agencies. Overall, our impression was that network security “due diligence” is being exercised by the ITD’s networking professionals to isolate computing resources from external attack. The State’s exposure to cybersecurity penetration attacks should not be specifically affected by potential consolidation initiatives.

That said, several of the agencies are operating individual websites. These web servers appear to be appropriately firewalled and protected from cybersecurity attacks but vulnerability tests should be performed to validate these assumptions.

ITD also manages a virus protection program that includes an automated patch management facility which ensures workstation and server operating systems are kept current with updates from the manufacturer. UmmelGroup's evaluation did not include an evaluation of patch levels maintained by the agencies for their distributed computing environments.

4. Redundancy

Currently, there is a level of redundancy of skill sets between ITD and all four of the study agencies. All of these entities are involved with the selection, installation, and maintenance of server class computer equipment. The scope of ITD's server administration environment is extensive and the addition of the proposed virtual server environment and the anticipated 18 virtual servers needed to support the consolidation effort should have a minimal impact on the current ITD staff. However, we anticipate the agencies will be able to recover approximately 15% of their time now dedicated to the "care and feeding" of their respective server platforms to be redirected to more application development and customer service activities.

5. Staffing and Impact of Relocation/Consolidation on Customer Service?

During the course of this study, each department expressed the value of having a small, dedicated staff performing IT functions for their department. Each agency management expressed a very high level of satisfaction with the level of service and support that was being provided by their existing IT staff and operations, and stressed that their IT staff:

- a) Know the individuals they support.
- b) Know the data involved – its format and limitations.
- c) Provides excellent service to their department.
- d) Are knowledgeable concerning the operating systems, programming languages, database systems, and other software used in their core applications.
- e) Has expertise as members of their respective departments – they can communicate with the business staff and customers they support "in their native language" – in many cases, they are fellow engineers and scientists who have taken the time to learn computing and programming skills. The AG's office has a considerably larger IT staff that appears to consist of mostly IT professionals rather than repurposed "business" staff members.

Any consolidation effort must strive for zero negative impact on customer service, both to the agency and to the agency's customers and constituents.

- a) UmmelGroup concluded that a large part of the satisfaction expressed by the study agencies with IT staff was due to the quality of their small, experienced IT teams.
- b) All of the agencies reviewed, with the possible exception of the AG's IT, are operating with limited IT staffing resources. Agencies' IT staff is able to produce quite good results due to their extensive business experience and good communication with the users in their agencies.

- c) On the other hand, some of the agency IT staff are nearing retirement age or possess knowledge about systems and software tools that are no longer in wide usage. As a result, all of these agencies are at risk of losing key staff and capabilities.
- d) Based on the review of IT staff in DMR, PSC, and SWC, the IT staffs appear to be stretched quite thin and these agencies have been considering adding additional IT staff. While the amount of server operation and administration by these three agencies is not excessive (estimated at up to 15% of available time), moving the responsibility for computer operations and administration to ITD would free up time for agency IT staff to focus on other pressing challenges, application development, and business intelligence activities.
- e) As a result, viewed from an Agency and State perspective, there is a strong long-term need to augment/enhance these existing staffs.

Therefore, UmmelGroup recommends leaving the agencies' IT staff intact and assigned to their respective agencies.

6. Operational Impacts on Federal Partnerships

The Attorney General's office and the DMR Oil and Gas Division expressed concerns about the possibility of licensing issues for software obtained via the Federal Government. With all of the variety of organizational alignments and IT support scenarios that exist in states across the country, UmmelGroup is confident any licensing issues will be administrative in nature requiring simple coordination with the respective Federal partners.

C. Benefits of this recommendation:

1. Better positioning to ward off virus exposure and malware attacks with ITD's intrusion detection and automated patch management programs.
2. Critical equipment supporting agency operations will be located in a more secure environment, with industry best-practice security, up-to-date environmental controls (temperature and humidity), robust power, fire protection, and opportunities to participate in high-quality data backup, disaster recovery, and business continuity programs.
3. The three agency's massive data resources would be provided enterprise class protection.
4. ITD's Data Center is staffed 24 x 5 plus Saturday mornings and can provide closer monitoring of computer operations.
5. Agencies would receive access to improved staffing depth for server support.
6. ITD would provide life cycle management for server replacement budgeting and scheduling.
7. Consolidation would present a more accurate view of the computing costs to the State because a greater percentage of IT expenditures are all in the "same bucket."
8. Knowledgeable staff is retained within their respective agencies to continue to provide excellent service. No changes are recommended at this time, to these staffs other than minimal procedural ones concerning how they perform tasks associated with virtual servers running remotely from their location. Indeed, there should be some staff time saving because of the virtualization of the servers and the overall ease with which new ones can be created by ITD.
9. The agencies IT staff members bring some excellent innovation, creativity, and a deep understanding of what their clients need to do their work which can be better leveraged for the

good of the State. In many cases, these agencies can be leveraged to try new approaches and technologies.

10. Some reallocation of IT duties (server support) to ITD staff would off-load these tasks from agency staff enabling them to concentrate on supporting their clients.
11. Agencies will have access to ITD's current virtual server functionality and remote control capabilities.
12. ITD's Citrix or VDI facilities provide the agencies with the opportunity to address remote control needs and can be used to address the data replication issues for DMR.
13. By moving to virtual servers on ITD equipment, there is reduction of risk to current servers during a move and the majority of required testing should be able to be accomplished during normal working hours because the virtual environment can be created while existing equipment continues to support production workloads. The impact should be the same as if new servers were to be purchased by the department. ITD should provide assistance in the defining requirements of these virtual servers so they would perform as well as, and ideally better than the current physical servers. ITD would create the virtual servers and turn them over to agency IT staff for software installation, operation, and testing.
14. Access to ITD's current virtual server functionality should aid the conversion from Apple servers to alternative servers for the SWC.

D. Considerations for this Recommendation:

1. In each of the subject agencies, there is a perceived lack in the depth and backup of staff. The staff is knowledgeable but, the number of staff members is such that the loss of any one could create a significant restriction of the staffing resource. If a consolidation were implemented, the agency IT staff will still be doing some of the same tasks, just on different (virtual) servers.
2. During the discovery sessions we identified a weakness in the study agencies' documentation of processing schedules and operational procedures. We recommend the agencies work with ITD to establish documentation standards and work toward implementing those standards for existing and future applications.
3. IT staffs of the study agencies, in general, do not consider ITD as a partner or ally.
4. In order for consolidation to be a success, both ITD and the agency staff must work together toward a common goal for success.
5. A lack of cooperation or desire for success by either side of this effort could have serious implications on the level of success of this recommended consolidation effort.
6. While ITD outnumbers the agency staffs almost 30 to 1, size has its drawbacks as well. ITD, by nature of its size, does not "turn on a dime." On the positive side, procedures have been developed to ensure up-to-date documentation and an enterprise view of potential impacts of actions taken that can prove extremely valuable during a major outage.
7. Consolidation will lead to increased costs to the study agencies in terms of ITD's billings which are a significant concern to the four subject agencies, particularly charges for data storage and server hosting. Much of this, UmmelGroup believes, stems from the agencies' lack of consideration for a total life-cycle costing when they compare ITD's billing rates to direct purchasing of IT assets employed by their respective agencies.

E. Threats and Risks of Consolidation

1. UmmelGroup was unable to identify any technical reasons the proposed consolidation could not work, there are potentially very real reasons based on personalities, history, temperament, habits, etc. that could lead to failure. This is undoubtedly the greatest risk to the proposed consolidation.
2. Any consolidation effort will involve intense activity because of the differences in philosophy, lack of standards among the agencies, perception of service response from ITD, and general feelings of “win-lose” that will inevitably come with the project. Therefore, very careful selection of staff for a consolidation team is critical.
3. There is no single point of organizational reporting convergence where ITD and a subject agency come together. Consequently, staff members on either side who don’t seek cooperation could sabotage the success of the project.
4. There will be additional work for some ITD staff should a consolidation be undertaken. For example, during the early stages there will be the need to carefully study requirements, purchases, installations, and equipment and network configurations. It is especially important to consider these workloads early on in the planning phases. Over time, this work should ease, as time goes by and the relationships firm up as to responsibilities.
5. Staff turnover in the agencies due to retirements or job changes spurred by the proposed consolidation can pose significant problems. This is where any lack of documentation can be a real risk with ITD being left “holding the bag” on the project.

F. Implementation Approach

UmmelGroup recommends a serial implementation approach with the three exempted agencies recommended for consolidation.

1. Public Service Commission.

We recommend that the PSC should be considered as the first agency for consolidation. UmmelGroup’s review suggests that PSC has the simplest IT infrastructure and the least volume of data to be migrated and a consolidation effort would consist of a relatively straight forward re-hosting effort of their applications to the new virtual server platform. This would facilitate the development of a “proving ground” for consolidation recommendations.

2. Department of Mineral Resources, Oil and Gas Division.

We recommend that the DMR be considered as the second agency for consolidation. Like PSC, DMR has a relatively simple IT infrastructure but has a more complex application support environment. Their consolidation effort would also consist of a relatively straight forward re-hosting effort. In addition to the support benefits for their server environment, the RBDMS application at DMR would benefit from the opportunity to take advantage of ITD’s Citrix or VDI investments which would simplify application architectural complexities and reduce network data replication traffic. A longer term solution to this issue lies with a migration to one of a number of different web based efforts being worked on around the country to access the RBDMS database via web technologies.

3. State Water Commission.

We recommend that the State Water Commission be the third and final agency to be considered for consolidation. SWC primarily uses Apple workstations and servers in their computing architecture. Apple has discontinued production of server class hardware. Therefore, SWC is facing more than a simple re-hosting effort. All of their applications will need to be either converted to run on a different operating platform (presumably LINUX) or their existing software will need to be replaced with an alternative solution that performs the same function and will run on the new platform. This effort will require much more research and development, conversion, and implementation time than the other agencies.

4. Information Technology Division.

ITD briefly discussed their explorations and directions toward offering a hosted “internal cloud.” This holds significant promise and opportunity for ITD’s entire customer base, including the four agencies under study. These agencies need to be provided information and guidance so they can understand how this concept may impact them or enhance their capabilities.

a) ITD must be willing to create and administer a virtual server environment which supports:

- (1) An agreeable “standard server” definition for each supported agency.
- (2) A virtual server environment where administrative rights to the virtual server they create can be given to the agencies. Specifically, agency IT staff must be provided the ability to reboot the virtual server as needed, load software on it, etc.
- (3) A “virtual server sandbox” where agencies can have extensive freedom with development and testing activities for new software solutions.

b) ITD should run network statistics to gather end-to-end response times serving each agency before and after any moves. This should be conducted over a sufficient time – at least a week – to gain a significant bench-mark for comparison. If more than one of these can be run the better, and ideally, the department should not be aware when at least one of these studies is being conducted.

c) Agencies should be heavily involved in the planning of the virtual move to ITD’s data center. Some considerations:

- (1) Adequate staff and resources must be allocated by ITD to a conversion team.
- (2) Where possible, the agencies should be converted serially so lessons can be learned and applied to the next conversion effort.
- (3) There should be high-level visibility given to the conversion team.
- (4) Schedule – demands on the departments fluctuate and must be taken into account.
- (5) Since simple server relocation is not recommended, a plan should encompass a parallel virtual setup where agency systems can be fully set up and tested prior to a “cutover” from the distributed servers to the centralized virtual server environment. Care must be exercised to ensure recently changed data are not left behind during the cutover.

5. Office of Management and Budget

A major objection voiced by the agencies to any hardware consolidation or relocation initiative was the perception that doing so would force very deep budget cuts in the non-IT portions of the agencies' budgets to cover anticipated increases in ITD service fees. It is our recommendation that OMB work closely with the agencies to develop strategies to assist the agencies to work toward a neutral impact to the non-IT portions of their budgets.

VI. APPENDICIES

A. Fifty-eighth Legislative Assembly - House Bill No. 1505

Document begins on the following page.

**Fifty-eighth Legislative Assembly of North Dakota
In Special Session Commencing Monday, May 5, 2003**

HOUSE BILL NO. 1505
(Representative Berg)
(Senator Stenehjem)
(Approved by the Delayed Bills Committee)

AN ACT to provide an appropriation for defraying the expenses of the information technology department, the judicial branch, and the legislative council; to authorize the industrial commission to issue and sell evidences of indebtedness for connectND; to provide for the purchase of information technology equipment and software; to provide for the transfer of state agency information technology employees; to provide for reports to the budget section; to provide for a legislative council study; to create and enact a new section to chapter 54-10, a new section to chapter 54-35, two new sections to chapter 54-59, and a new subsection to section 54-59-05 of the North Dakota Century Code, relating to information technology responsibilities of the state auditor, information technology committee responsibilities, information technology services, and information technology department powers and duties; to amend and reenact sections 54-59-02, 54-59-05, and 54-59-09 of the North Dakota Century Code, relating to responsibilities of the information technology department and information technology standards; to repeal section 54-59-13 of the North Dakota Century Code, relating to information technology reviews; and to provide an effective date.

BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:

SECTION 1. APPROPRIATION. The funds provided in this section, or so much of the funds as may be necessary, are appropriated out of any moneys in the general fund in the state treasury, not otherwise appropriated, and from special funds derived from other income, to the information technology department for the purpose of defraying the expenses of the information technology department, for the biennium beginning July 1, 2003, and ending June 30, 2005, as follows:

Salaries and wages	\$25,715,694
Operating expenses	33,120,860
Capital assets	5,323,000
Division of independent study	5,625,480
Educational technology council	793,818
EduTech	2,540,348
Wide area network	7,436,223
Enterprise resource planning system (connectND)	20,000,000
Geographic information system	678,343
Prairie public broadcasting	1,337,138
Criminal justice information sharing	4,741,200
Less budget adjustment	<u>(1,000,000)</u>
Total all funds	\$106,312,104
Less estimated income	<u>98,117,301</u>
Total general fund appropriation	\$8,194,803

SECTION 2. ESTIMATED INCOME - SPECIAL FUNDS TRANSFERS. The estimated income line item in section 1 of this Act includes \$862,059 from the special funds of various state agencies resulting from information technology reductions, for the biennium beginning July 1, 2003, and ending June 30, 2005. Notwithstanding any other provisions of law, the office of management and budget shall transfer to the information technology department the following amounts available from the special funds of the agencies listed, for the biennium beginning July 1, 2003, and ending June 30, 2005.

AGENCY	AMOUNT
State department of health	\$11,108
Aeronautics commission	6,942
Veterans' home	6,046
Department of financial institutions	7,881
Highway patrol	9,450
Department of transportation	350,000
Industrial commission	4,034
Bank of North Dakota	300,000
Housing finance agency	24,080
Mill and elevator association	23,230
Department of corrections and rehabilitation	24,567
Office of administrative hearings	4,311
Secretary of state	19,550
Attorney general	12,929
State auditor's office	1,465
Department of agriculture	1,329
Insurance commissioner	37,368
Vision services - School for the blind	2,725
Seed department	10,050
Parks and recreation department	4,994
Total	\$862,059

SECTION 3. APPROPRIATION AUTHORITY - REDUCTIONS. The office of management and budget shall reduce the special funds appropriation authority for the aeronautics commission, the department of financial institutions, the insurance commissioner, and the seed department, for the biennium beginning July 1, 2003, and ending June 30, 2005, by the amounts listed in section 2 of this Act relating to information technology reductions. The amounts will be available in the special funds for transfer as provided in section 2 of this Act.

SECTION 4. BOND ISSUANCE AUTHORIZATION - PURPOSES - APPROPRIATION. The industrial commission, acting as the North Dakota building authority, shall arrange through the issuance of evidences of indebtedness under chapter 54-17.2 from the effective date of this Act and ending June 30, 2005, for the funding in an amount not to exceed \$20,000,000 to be loaned to the information technology department for the purchase or lease of computer hardware and software and for the costs of the implementation services for the enterprise resource planning system commonly known as the connectND project. ConnectND is declared to be in the public interest and is, for the purpose of this Act, a project as that term is defined in chapter 54-17.2. The amount of the evidences of indebtedness may be reduced by any moneys made available from the higher education institutions. The proceeds of the evidences of indebtedness and other available funds, as appropriated in section 1 of this Act, may be used for connectND project costs, debt service repayment, and refunding of connectND interim borrowings. The industrial commission shall issue evidences of indebtedness under this section with the condition that repayment on the evidences of indebtedness need not begin until July 1, 2005. For purposes of this Act, loan or debt service repayments are equivalent to lease rental payments as that term is used in chapter 54-17.2. ConnectND student fee revenues and other available funds are appropriated to the North Dakota university system for the North Dakota university system's share of the connectND project costs, debt service repayment, refunding of connectND interim borrowings, and other costs incidental to connectND implementation.

The authority of the industrial commission to issue evidences of indebtedness under this section ends June 30, 2005, but the industrial commission may continue to exercise all other powers granted to it under chapter 54-17.2 and this Act and comply with any covenants entered into before that date.

The limitation provided in section 54-17.2-23 does not apply to repayments allocable to the evidences of indebtedness issued for the connectND project.

SECTION 5. EVIDENCES OF INDEBTEDNESS ISSUANCE REPAYMENT RESPONSIBILITY. Debt service on the evidences of indebtedness issued under section 4 of this Act must be available from charges made and collected by

the information technology department from users of the system with twenty-nine percent of the debt service being the responsibility of state agencies and seventy-one percent of the debt service being the responsibility of higher education.

SECTION 6. APPROPRIATION. There is appropriated out of any moneys in the general fund in the state treasury, not otherwise appropriated, the sum of \$45,999, or so much of the sum as may be necessary, to the judicial branch for the purpose of defraying costs associated with information technology, for the biennium beginning July 1, 2003, and ending June 30, 2005.

SECTION 7. PURCHASE OF INFORMATION TECHNOLOGY EQUIPMENT AND SOFTWARE - REPORTS TO THE INFORMATION TECHNOLOGY COMMITTEE. After receiving input from executive branch state agencies, departments, and institutions, the information technology department shall establish information technology equipment and software product specifications and shall provide the product specifications to the office of management and budget to be used for procuring equipment and software as provided for in chapter 54-44.4. The office of management and budget, after receiving advice from the information technology department, shall establish policies and guidelines for the purchase of information technology equipment and software and related accountability reporting. All executive branch state agencies, departments, and institutions, excluding institutions under control of the state board of higher education, shall comply with the policies and guidelines unless exempted by the office of management and budget. The office of management and budget, in conjunction with the information technology department, shall aggregate information technology equipment and software purchases and administer contracts to achieve the most cost-effective results for the state. The information technology department shall provide periodic reports to the information technology committee regarding budgeted and actual information technology equipment and software purchases and estimated savings by funding source.

SECTION 8. TRANSFER OF APPROPRIATION AUTHORITY BETWEEN LINE ITEMS. Notwithstanding section 54-16-04, the director of the office of management and budget and the state treasurer shall make transfers of funds between line items for state agencies, departments, and institutions as may be requested to accommodate information technology funding reductions made by the fifty-eighth legislative assembly. The office of management and budget shall report to the budget section regularly on transfers made pursuant to this section.

SECTION 9. TRANSFERS. Notwithstanding section 54-16-04, the director of the office of management and budget shall make transfers of funds between line items of appropriations in section 1 of this Act for the information technology department as may be requested by the chief information officer.

SECTION 10. TRANSFER OF STATE AGENCY INFORMATION TECHNOLOGY EMPLOYEE POSITIONS - CONSOLIDATION OF INFORMATION TECHNOLOGY FUNCTIONS. On November 1, 2003, the following number of authorized full-time equivalent employee positions relating to information technology services, including electronic mail, file and print server administration, data base administration, storage, application server, and hosting services must be reduced and transferred from the named agencies to the information technology department, except as otherwise provided under this section or unless exempted by the chief information officer:

AGENCY	FULL-TIME EQUIVALENT EMPLOYEE POSITIONS
Office of management and budget	1
Tax department	1
Department of public instruction	1
State department of health	1
Department of human services	5
Job service North Dakota	3
Industrial commission	1

Bank of North Dakota	1
Housing finance agency	1
Workers compensation bureau	2
Highway patrol	1
Department of corrections and rehabilitation	2
Game and fish department	1
State water commission	1
Department of transportation	2

After consultation with the information technology department, each affected agency shall identify the specific positions for reduction and transfer. The agency shall conduct any reduction-in-force analysis that may be required.

Each agency shall limit its consideration to information technology related positions and shall identify for reduction and transfer those positions most closely associated with services assumed centrally by the information technology department.

Each affected agency shall establish an information technology services accounting code consisting of funding related to the salaries and wages for the identified employee positions and related funding for equipment, training, office rent, travel, contracted services, or other related costs. Each agency shall use the funding contained in the information technology services account to purchase information technology services from the information technology department. The information technology department may receive any funding relating to the purchase of information technology services under this section, which is hereby appropriated. Each agency is entitled to receive from the information technology department the equivalent in services that would have been performed by employees in the transferred positions at a cost not exceeding the amounts transferred to the agency's information technology services account.

The information technology department shall determine the number of full-time equivalent positions necessary to provide the related information technology functions to state agencies. The department is authorized to employ the number of necessary employees and require all persons interested in filling the employee positions to apply with the department. In filling the employee positions, the department shall give preference to current state employees working in information technology. The department may make arrangements with the agency from which an employee was transferred to transfer any leave accrued by that employee.

In furtherance of the consolidation of information technology functions under this section, the supreme court and the attorney general shall continue to collaborate with the information technology department to implement the criminal justice information sharing program.

SECTION 11. INFORMATION TECHNOLOGY FUNCTION CONSOLIDATION - ACCUMULATED SAVINGS - TRANSFER TO THE GENERAL FUND. The office of management and budget and the information technology department shall achieve efficiencies during the biennium beginning July 1, 2003, and ending June 30, 2005, relating to the required consolidation of information technology functions, including electronic mail, file and print server administration, data base administration, storage, application server, hosting services, and related equipment. Notwithstanding the provisions of section 10 of this Act, the office of management and budget in conjunction with the information technology department, may exercise full discretion in achieving efficiencies and cost-savings expected from the proposed consolidation of information technology services, including any such modifications deemed advisable. The office of management and budget and the information technology department through efficiencies resulting from this consolidation shall achieve accumulated net savings totaling \$1,400,000 for the 2003-05 biennium. The director of the office of management and budget shall transfer the savings accumulated as a result of these efficiencies in the amount of \$1,400,000 to the general fund by June 30, 2005.

SECTION 12. INFORMATION TECHNOLOGY SERVICE - REPORTS TO THE INFORMATION TECHNOLOGY COMMITTEE AND THE BUDGET SECTION. The information technology department shall document information relating to the delivery of the consolidated services to agencies, including service dependability, agency complaints, and information technology department responsiveness, and shall report that information and the status of the accumulated savings to the information technology committee and the budget section as requested. Any agency receiving consolidated services may provide information to the information technology committee with respect to service availability, service

dependability, complaints of the agency or of persons receiving services from the agency or the department, department responsiveness, and any additional costs incurred by the agency as a result of the consolidated services.

SECTION 13. INFORMATION TECHNOLOGY LEGISLATIVE COUNCIL STUDY - APPROPRIATION - REPORTS TO THE BUDGET SECTION. There is appropriated out of any moneys in the general fund in the state treasury, not otherwise appropriated, the sum of \$350,000, or so much of the sum as may be necessary, to the legislative council for the biennium beginning July 1, 2003, and ending June 30, 2005, for the purpose of contracting with consultants to conduct an information technology organizational study and an information technology management study and to provide assistance with the preparation of the request for proposals and consultant oversight. The studies must be completed by October 1, 2003, and periodic progress reports on the status of the studies must be provided to the information technology committee. The information technology committee may extend the October 1, 2003, deadline as it deems appropriate. A final report must be presented to the budget section upon completion of the studies.

The information technology organizational study must include a review and identification of:

1. The cost and benefits of a centralized information technology structure and the cost and benefits of a decentralized information technology structure.
2. The cost of providing electronic mail administration, file and print server administration, seat management and desktop personal computer support, mainframe and distributed computing hosting services, consolidated storage management and disaster recovery, and software development.
3. The roles and responsibilities of agency personnel providing information technology services under a centralized information technology structure and a decentralized information technology structure.
4. The positions and competencies needed by the information technology department to provide the information technology services on a centralized basis, including the organizational changes required within the department to provide the centralized services.
5. The human resource management issues, including change management, training, and employee compensation, to be addressed for a successful centralization.
6. The adequacy and quality of the services as currently provided and proper performance measures.
7. The comparison of current costs to industry data and data from other states.
8. Information technology services appropriate to be performed by individual agencies.
9. A plan to either centralize or decentralize the services identified, including the reorganization tasks, personnel transfers, and the changes required for information technology budgeting and cost allocation processes.

The information technology management study must include a review of:

1. The technology management processes of other states and private industry with respect to prioritizing state agency information technology budget requests, establishing information technology standards and policies, and overseeing information technology expenditures.
2. The role of other states in providing information technology services to nonstate government entities.
3. The level of information technology outsourcing in other state governments and the private sector and the applicability to the state of North Dakota.
4. The trends that will impact technology deployment and spending in the next five to ten years.
5. The level of coordination in the management of enterprise initiatives, such as the statewide wide area network, the enterprise resource planning system initiative, the geographic information system initiative, and the criminal justice information sharing initiative, compared to other states, including a recommendation regarding the appropriate governance structure to provide the maximum benefits to the state.
6. The potential changes to the organizational structure of the information technology department and other state government entities as related to information technology.

SECTION 14. A new section to chapter 54-10 of the North Dakota Century Code is created and enacted as follows:

Information technology responsibilities. The state auditor shall:

1. Conduct information technology compliance reviews, as determined necessary by the information technology committee, by conducting individual agency audits of information technology management, information technology planning, compliance with information technology plans, and compliance with information technology standards and policies and conducting statewide agency audits of compliance with specific information technology standards and policies.
2. Consult with the information technology department on audits of compliance with information technology plans and compliance with information technology standards and policies.
3. Participate in the information technology department's enterprise architecture process for developing information technology standards and policies.
4. Monitor major information technology projects for compliance with project management and information technology standards and policies.
5. Present results of information technology compliance reviews to the information technology committee and the information technology department's enterprise architecture committee.

SECTION 15. A new section to chapter 54-35 of the North Dakota Century Code is created and enacted as follows:

Information technology committee - Information technology reviews. The information technology committee may request the state auditor to conduct an information technology compliance review. The review may consist of an audit of an agency's information technology management, information technology planning, compliance with information technology plans, and compliance with information technology standards and policies or an audit of statewide compliance with specific information technology standards and policies.

SECTION 16. Two new sections to chapter 54-59 of the North Dakota Century Code are created and enacted as follows:

Department shall establish certain standards for agencies - Advisory committee - Exceptions. The department shall appoint an advisory committee consisting of representatives of state agencies for the purposes of prioritizing major computer software projects and establishing policies, standards, and guidelines for executive branch state agencies, departments, and institutions, excluding institutions under control of the state board of higher education and agencies of the judicial and legislative branches with respect to the purchase of computer software and computer systems. The chief information officer shall submit recommendations of the advisory committee regarding major software projects to the information technology committee for consideration by the committee and the drafting of appropriate legislation to implement the recommendations. The judicial and legislative branches shall annually notify the advisory committee on their major computer software projects and priorities. The chief information officer may exempt an agency from the policies, standards, and guidelines established by the committee to address situations unique to that agency.

Required use of electronic mail, file and print server administration, data base administration, application server, and hosting services. Each state agency and institution, excluding the legislative and judicial branches, the institutions under the control of the state board of higher education, the public employees retirement system, the retirement and investment office, the attorney general, and any entity exempted by the office of management and budget after advisement by the information technology department, shall obtain electronic mail, file and print server administration, data base administration, storage, application server, and hosting services through a delivery system established by the information technology department in conjunction with the office of management and budget. The office of management and budget, after receiving advice from the information technology department, 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.

SECTION 17. AMENDMENT. Section 54-59-02 of the North Dakota Century Code is amended and reenacted as follows:

54-59-02. Information technology department - Responsibility - Public policy. The information technology department is established with the responsibility for all wide area network services planning, selection, and implementation for all state agencies, including institutions under the control of the board of higher education, counties, cities, and school districts in this state. With respect to a county, city, or school district, wide area network services are those services necessary to transmit voice, data, or video outside the county, city, or school district. In exercising its powers and duties, the department is responsible for computer support services, host software development, statewide communications services, standards for providing information to other state agencies and the public through the internet, technology planning, process redesign, and quality assurance. The department may not exercise its powers and duties in a manner that competes or otherwise interferes with the provision of telecommunications services to private, charitable, or nonprofit entities by privately or cooperatively owned telecommunications companies.

SECTION 18. A new subsection to section 54-59-05 of the North Dakota Century Code is created and enacted as follows:

May provide wide area network services to a state agency, city, county, school district, or other political subdivision of this state. The information technology department may not provide wide area network service to any private, charitable, or nonprofit entity except the information technology department may continue to provide the wide area network service the department provided to the private, charitable, and nonprofit entities receiving services from the department on January 1, 2003. The department shall file with the state auditor before September 1, 2003, a description of the wide area network service the department provided to each private, charitable, and nonprofit entity receiving services from the department on January 1, 2003.

SECTION 19. AMENDMENT. Section 54-59-05 of the North Dakota Century Code is amended and reenacted as follows:

54-59-05. Powers and duties of department. The department:

1. Shall provide, supervise, and regulate information technology of all executive branch state entities, excluding the institutions under the control of the board of higher education.
2. Shall provide network services in a way that ensures the network requirements of a single entity do not adversely affect the functionality of the whole network, facilitates open communications with the citizens of the state, minimizes the state's investment in human resources, accommodates an ever-increasing amount of traffic, supports rapid detection and resolution of problems, protects the network infrastructure from damage and security breaches, provides for the aggregation of data, voice, video, and multimedia into a statewide transport mechanism or backbone, and provides for the network support for the entity to carry out its mission.
3. May review and approve additional network services that are not provided by the department.
4. May purchase, finance the purchase, or lease equipment or software or replace, including by trade or resale, equipment or software as may be necessary to carry out this chapter. An agreement to finance the purchase of software, equipment, or implementation services may not exceed a period of three years. The department shall submit any intended financing proposal for the purchase of software, equipment, or implementation services under this subsection, which is in excess of one million dollars, to the budget section of the legislative council before executing a financing agreement. If the budget section does not approve the execution of a financing agreement, the department may not proceed with the proposed financing arrangement. The department may finance the purchase of software, equipment, or implementation services only to the extent the purchase amount does not exceed the amount appropriated to the department during that biennium for equipment.
5. Each executive branch agency or institution, excluding the institutions under the control of the board of higher education, shall submit to the department, in accordance with guidelines established by the department, a written request for the lease, purchase, or other contractual acquisition of information

technology. The department shall review requests for conformance with the requesting entity's information technology plan and compliance with statewide policies and standards. If the request is not in conformance or compliance, the department may disapprove the request or require justification for the departure from the plan or statewide policy or standard.

6. Shall provide information technology, including assistance and advisory service, to the executive, legislative, and judicial branches. If the department is unable to fulfill a request for service from the legislative or judicial branch, the information technology may be procured by the legislative or judicial branch within the limits of legislative appropriations.
7. Shall request information on or review information technology, applications, system development projects, and application development projects of executive branch agencies.
8. Shall study emerging technology and evaluate its impact on the state's system of information technology.
9. Shall develop guidelines for reports to be provided by each executive branch agency, institution, or department, the institutions under the control of the board of higher education, and agencies of the judicial and legislative branches on information technology in those entities.
10. Shall review the information technology management of executive branch agencies or institutions.
11. Shall perform all other duties necessary to carry out this chapter.

SECTION 20. AMENDMENT. Section 54-59-09 of the North Dakota Century Code is amended and reenacted as follows:

54-59-09. Information technology standards. Based on information from state agencies and institutions, the department and the office of management and budget shall develop statewide information technology policies, standards, and guidelines. The policies, standards, and guidelines must recognize the uniqueness of certain agencies and state which agencies are included or exempted from the policies, standards, and guidelines. The policies, standards, and guidelines must be reviewed by the state information technology advisory committee. Unless an exemption is granted by the chief information officer, each executive branch state agency and institution, excluding the institutions under the control of the board of higher education with respect to academic and research uses of information technology, shall comply with the policies and standards developed by the department and the office of management and budget. Unless an exemption is granted by the chief information officer, each entity receiving wide area network services provided by the department shall comply with the policies and standards developed by the department with respect to access to or use of wide area network services.

SECTION 21. REPEAL. Section 54-59-13 of the North Dakota Century Code is repealed.

SECTION 22. EFFECTIVE DATE. The enterprise resource planning system line item in section 1 of this Act and sections 4, 5, and 13 become effective May 16, 2003, and the remainder of the Act becomes effective on July 1, 2003.

Speaker of the House

President of the Senate

Chief Clerk of the House

Secretary of the Senate

This certifies that the within bill originated in the House of Representatives of the Fifty-eighth Legislative Assembly of North Dakota and is known on the records of that body as House Bill No. 1505.

House Vote: Yeas 65 Nays 28 Absent 1

Senate Vote: Yeas 31 Nays 15 Absent 1

Chief Clerk of the House

Received by the Governor at _____ M. on _____, 2003.
Approved at M. on , 2003.

Governor

Filed in this office this _____ day of _____, 2003,
at _____ o'clock _____ M.

Secretary of State

B. N.D.C.C. 54-59 Information Technology Department

Document begins on the following page.

CHAPTER 54-59

INFORMATION TECHNOLOGY DEPARTMENT

54-59-01. Definitions.

As used in this chapter:

1. "Agency" or "entity" does not include any agricultural commodity promotion group or any occupational or professional board.
2. "Department" means the information technology department.
3. "Information technology" means the use of hardware, software, services, and supporting infrastructure to manage and deliver information using voice, data, and video.
4. "Network services" means the equipment, software, and services necessary to transmit voice, data, or video.

54-59-02. Information technology department - Responsibility - Public policy.

The information technology department is established with the responsibility for all wide area network services planning, selection, and implementation for all state agencies, including institutions under the control of the board of higher education, counties, cities, and school districts in this state. With respect to a county, city, or school district, wide area network services are those services necessary to transmit voice, data, or video outside the county, city, or school district. In exercising its powers and duties, the department is responsible for computer support services, host software development, statewide communications services, standards for providing information to other state agencies and the public through the internet, technology planning, process redesign, and quality assurance. The department may not exercise its powers and duties in a manner that competes or otherwise interferes with the provision of telecommunications service to a private, charitable, or nonprofit entity by a privately or cooperatively owned telecommunications company.

54-59-02.1. Prioritization of proposed major information technology projects.

The department shall submit information regarding proposed major information technology projects for executive branch state agencies, departments, and institutions, excluding institutions under control of the state board of higher education and agencies of the judicial and legislative branches to the state information technology advisory committee. The committee shall review the projects and rank those projects that receive the committee's affirmative recommendation. The chief information officer shall submit recommendations of the committee regarding the prioritization of major information technology projects to the information technology committee, the office of management and budget, and the appropriations committees of the legislative assembly. The judicial and legislative branches shall notify biennially the committee on their major information technology projects and priorities.

54-59-03. Chief information officer of the state.

The governor shall appoint the chief information officer of the state. The governor shall appoint the chief information officer on the basis of education, experience, and other qualifications in information technology and administration. The position of chief information officer is not a classified position. The chief information officer serves at the pleasure of the governor. The governor shall set the salary of the chief information officer within the limits of legislative appropriations.

54-59-04. Duties of chief information officer.

The chief information officer shall:

1. Administer the department.

2. Employ any personnel determined to be necessary to carry out the responsibilities of the department and duties as prescribed by law.
3. Fix the salaries of all employees within the department, within the limits of legislative appropriation. All personnel within the department are entitled to actual and necessary travel expenses at the same rate as for other employees of the state.

54-59-05. Powers and duties of department.

The department:

1. Shall provide, supervise, and regulate information technology of all executive branch state entities, excluding the institutions under the control of the board of higher education.
2. Shall provide network services in a way that ensures the network requirements of a single entity do not adversely affect the functionality of the whole network, facilitates open communications with the citizens of the state, minimizes the state's investment in human resources, accommodates an ever-increasing amount of traffic, supports rapid detection and resolution of problems, protects the network infrastructure from damage and security breaches, provides for the aggregation of data, voice, video, and multimedia into a statewide transport mechanism or backbone, and provides for the network support for the entity to carry out its mission.
3. May review and approve additional network services that are not provided by the department.
4. May purchase, finance the purchase, or lease equipment, software, or implementation services or replace, including by trade or resale, equipment or software as may be necessary to carry out this chapter. An agreement to finance the purchase of software, equipment, or implementation services may not exceed a period of five years. The department shall submit any intended financing proposal for the purchase of software, equipment, or implementation services under this subsection, which is in excess of one million dollars, to the budget section of the legislative management or the legislative assembly before executing a financing agreement. If the budget section or the legislative assembly does not approve the execution of a financing agreement, the department may not proceed with the proposed financing arrangement. The department may finance the purchase of software, equipment, or implementation services only to the extent the purchase amount does not exceed seven and one-half percent of the amount appropriated to the department during that biennium.
5. Shall review requests for lease, purchase, or other contractual acquisition of information technology as required by this subsection. Each executive branch agency or institution, excluding the institutions under the control of the board of higher education, shall submit to the department, in accordance with guidelines established by the department, a written request for the lease, purchase, or other contractual acquisition of information technology. The department shall review requests for conformance with the requesting entity's information technology plan and compliance with statewide policies and standards. If the request is not in conformance or compliance, the department may disapprove the request or require justification for the departure from the plan or statewide policy or standard.
6. Shall provide information technology, including assistance and advisory service, to the executive, legislative, and judicial branches. If the department is unable to fulfill a request for service from the legislative or judicial branch, the information

technology may be procured by the legislative or judicial branch within the limits of legislative appropriations.

7. Shall request and review information, including project startup information summarizing the project description, project objectives, business need or problem, cost-benefit analysis, and project risks and a project closeout information summarizing the project objectives achieved, project budget and schedule variances, and lessons learned, regarding any major information technology project of an executive branch agency. The department shall present the information to the information technology committee on request of the committee.
8. May request and review information regarding any information technology project of an executive branch agency with a total cost of between one hundred thousand and five hundred thousand dollars as determined necessary by the department. The department shall present the information to the information technology committee on request of the committee.
9. Shall study emerging technology and evaluate its impact on the state's system of information technology.
10. Shall develop guidelines for reports to be provided by each agency of the executive, legislative, and judicial branches, excluding the institutions under the control of the board of higher education, on information technology in those entities.
11. Shall collaborate with the state board of higher education on guidelines for reports to be provided by institutions under control of the state board of higher education on information technology in those entities.
12. Shall perform all other duties necessary to carry out this chapter.
13. May provide wide area network services to a state agency, city, county, school district, or other political subdivision of this state. The information technology department may not provide wide area network service to any private, charitable, or nonprofit entity except the information technology department may continue to provide the wide area network service the department provided to the private, charitable, and nonprofit entities receiving services from the department on January 1, 2003.
14. Shall assure proper measures for security, firewalls, and internet protocol addressing at the state's interface with other facilities.
15. Notwithstanding subsection 13, may provide wide area network services for a period not to exceed four years to an occupant of a technology park associated with an institution of higher education or to a business located in a business incubator associated with an institution of higher education.

54-59-06. Business plan.

The department shall develop and maintain a business plan. The business plan must:

1. Define the department's overall organization, mission, and delivery of services.
2. Define the department's short-term and long-term goals and objectives based on customer needs.
3. Outline the strategies and activities necessary to meet the goals and objectives of the department while improving the efficiency of the department and improving service to customers.
4. Define rates and funding mechanisms necessary to finance the proposed activities of the department.
5. Define a method for evaluating progress toward the goals outlined in the business plan.

6. Determine the specific strategies and processes to ensure that agencies share information, systems, and the statewide network.
7. Address the processes that will be put in place to ensure that the department exercises its powers and duties with minimal delay, cost, and procedural burden to an entity receiving services from the department; to ensure that the department provides prompt, high-quality services to an entity receiving services from the department; to ensure that an entity receiving services from the department is aware of the technology available and to ensure training on its use; and to foster information technology innovation by state entities.

54-59-07. State information technology advisory committee.

The state information technology advisory committee consists of the chief information officer; the commissioner of higher education or the commissioner's designee; the attorney general or the attorney general's designee; the secretary of state or the secretary of state's designee; the tax commissioner or the commissioner's designee; the chief justice of the supreme court or the chief justice's designee; two members of the legislative assembly appointed by the legislative management; a minimum of eight members representing state agencies, appointed by the governor; and two members with technology management expertise representing private industry, appointed by the governor. The appointees of the governor serve at the pleasure of the governor. The governor shall designate the chairman of the committee. Additional members may be asked to participate at the request of the chairman. The department shall provide staff services to the committee. The members of the committee representing private industry are entitled to be compensated for time spent in attendance at meetings of the committee and for other travel as approved by the chairman of the committee at the rate of sixty-two dollars and fifty cents per day and are entitled to reimbursement for actual and necessary expenses incurred in the same manner as other state officials. The compensation and expenses are to be paid from appropriations for the department. The committee shall advise the department regarding statewide information technology planning and budgeting, services of the information technology department, and statewide information technology initiatives and policy and shall review reports on major information technology projects as required by this chapter and policies, standards, and guidelines developed by the department. The chief information officer shall submit recommendations of the committee regarding information technology issues to the information technology committee for its consideration.

54-59-08. Required use of wide area network services.

Each state agency and institution that desires access to wide area network services and each county, city, and school district that desires access to wide area network services to transmit voice, data, or video outside that county, city, or school district shall obtain those services from the department. The chief information officer may exempt from the application of this section a county, city, or school district that demonstrates its current wide area network services are more cost-effective for or more appropriate for the specific needs of that county, city, or school district than wide area network services available from the department. For purposes of enhanced 911 and next generation 911 communications services, governmental entities are exempt from the provisions of this section. In selecting enhanced 911 and next generation 911 communication network providers, governmental entities shall select providers that are cost-effective, demonstrably reliable, and which follow interoperable standards set by the emergency services communications coordinating committee.

54-59-09. Information technology standards.

Based on information from state agencies and institutions, the department and the office of management and budget shall develop statewide information technology policies, standards,

and guidelines. The policies, standards, and guidelines must recognize the uniqueness of certain agencies and state which agencies are included or exempted from the policies, standards, and guidelines. The policies, standards, and guidelines must be reviewed by the state information technology advisory committee. Each executive branch state agency and institution, excluding the institutions under the control of the board of higher education, shall comply with the policies and standards developed by the department and the office of management and budget unless the chief information officer exempts an agency from the policies, standards, and guidelines to address situations unique to that agency. Unless an exemption is granted by the chief information officer, each entity receiving wide area network services provided by the department shall comply with the policies and standards developed by the department with respect to access to or use of wide area network services.

54-59-10. Information technology coordinators.

Each agency or institution shall appoint an information technology coordinator. The coordinator shall maintain liaison with the department and assist the department in areas related to making the most economical use of information technology.

54-59-11. Information technology plans.

Each executive branch state agency or institution, excluding the institutions under the control of the board of higher education, unless the chief information officer grants an exemption, shall participate in the information technology planning process based on guidelines developed by the department. The plan must be submitted to the department by August fifteenth of each even-numbered year unless the chief information officer grants an extension. The department shall review each entity's plan for compliance with statewide information technology policies and standards and may require an entity to change its plan to comply with statewide policies or standards or to resolve conflicting directions among plans. Agencies of the judicial and legislative branches shall file their information technology plans with the department by August fifteenth of each even-numbered year. Based on the plans, the department shall prepare a statewide information technology plan and distribute copies of that plan to members of the legislative assembly as requested by the legislative council. The statewide information technology plan must be developed with emphasis on long-term strategic goals, objectives, and accomplishments.

54-59-11.1. Information technology project planning.

Each executive branch state agency, excluding entities under the control of the state board of higher education, considering the development of an information technology project with an estimated cost of one hundred thousand dollars or more shall involve the information technology department in the planning and study of the project. A state agency must receive a recommendation from the information technology department prior to proceeding with any study relating to the project.

54-59-12. Coordination of activities - Reports.

The department shall cooperate with each state entity providing access to any computer database or electronically filed or stored information under subsection 4 of section 44-04-18 to assist in providing economical, efficient, and compatible access. The chief information officer shall conduct conferences and meetings with political subdivisions to review and coordinate information technology. The chief information officer and the commissioner of the board of higher education shall meet at least twice each year to plan and coordinate their information technology. The chief information officer and commissioner shall consider areas in which joint or coordinated information technology may result in more efficient and effective state government operations. Upon request, the chief information officer shall report to the legislative

management regarding the coordination of services with political subdivisions, and the chief information officer and commissioner shall report to the legislative management regarding their findings and recommendations.

54-59-13. Compliance reviews.

Repealed by S.L. 2003, ch. 665, § 21.

54-59-14. Information technology operating account.

The department shall establish a state information technology operating account in the state treasury to be used, in accordance with legislative appropriation, for procuring and maintaining information technology and network services and for providing information technology, network services, and central microfilm unit services to state entities and network services to users of the state network. Unless exempted by law, each agency or institution provided with information technology or network services shall pay to the department the charges as determined by the department. The department shall deposit the amounts received in the information technology operating account or the information technology development account, as appropriate.

54-59-15. Acceptance of funds.

The department may accept federal or other funds, which must be deposited in the information technology operating account or other accounts specified by the office of management and budget and which may be spent subject to legislative appropriation. The department may apply for any public or private grants available for the improvement of information technology.

54-59-16. Confidentiality.

The department may receive from various agencies and various agencies may provide to the department any information from the agencies necessary to effect the purposes of this chapter without regard to the confidential nature of the information. Each agency shall notify the department regarding the confidential nature of any information submitted to the department. The department is subject to the same restrictions and penalties regarding the dissemination of this information as the entity involved. Except for a request for access authorized by section 54-10-22.1 or a request to access information collected to carry out section 54-59-09, 54-59-11, or 54-59-13, the department shall refer a request for access to or inspection of information provided by an agency to that agency for response. Referral to the agency satisfies any responsibility of the department to provide that information under open records requirements. Upon court order, the department shall provide access to or inspection of this information in accordance with restrictions of that entity involved governing dissemination of that information.

54-59-17. Educational technology council - Meetings - Compensation.

1. The educational technology council is responsible for coordinating educational technology initiatives for elementary and secondary education.
2. The educational technology council consists of:
 - a. The chief information officer.
 - b. The superintendent of public instruction or the superintendent's designee.
 - c. The commissioner of higher education or the commissioner's designee.
 - d. A representative appointed by the state board for career and technical education.
 - e. A representative appointed by the governor from a list of three nominees submitted by the North Dakota association of technology leaders.

- f. A representative appointed by the governor from a list of three nominees submitted by the North Dakota council of educational leaders.
 - g. A representative appointed by the governor from a list of three nominees submitted by the North Dakota school boards association.
 - h. A representative appointed by the governor from a list of three nominees submitted by the North Dakota association of special education directors.
 - i. A school district representative who is appointed by the governor and who represents a school district that has an enrollment in kindergarten through grade twelve of fewer than four hundred.
 - j. A school district representative who is appointed by the governor, who is licensed to teach by the educational standards and practices board, and who is employed by a public school district in this state as a classroom teacher.
 - k. The director of technology for the department of public instruction.
 - l. A representative appointed by the governor from a list of three nominees submitted by the state association of non public schools.
- 3. The council shall select a chairman from among its members.
 - 4. The term of office for the members appointed by the governor is four years.
 - 5. The members of the educational technology council appointed by the governor are entitled to receive as compensation sixty-two dollars and fifty cents per day and to reimbursement of expenses as provided by law for state officers while attending meetings of the council.

54-59-18. North Dakota educational technology council - Powers and duties.

The educational technology council shall:

- 1. Coordinate the use of technology and the development of technology systems to enhance educational opportunities for elementary and secondary education.
- 2. Cooperate with state agencies and other organizations to develop statewide educational technology systems.
- 3. Adopt bylaws for the conduct of its affairs.
- 4. Publish the informational material it deems necessary.
- 5. Conduct a continuing study to assess the needs, resources, and facilities that are available or which may be required to establish educational technology systems throughout the state.
- 6. Solicit and receive moneys from public and private sources and expend the moneys for educational technology.
- 7. Appoint a technology director who shall serve at the will of the council.
- 8. Hire the director of the center for distance education.

54-59-19. Information technology department annual report.

The department shall prepare and present an annual report to the information technology committee. In addition to the presentation of the annual report to the information technology committee, the department shall present a summary of the annual report to the budget section. The report must contain:

- 1. A list of all projects for which financing agreements have been executed.
- 2. A comparison of the department's rates charged for services compared to rates charged for comparable services in other states and in the private sector.
- 3. Information regarding the delivery of services to agencies, including service dependability, agency complaints, and information technology department responsiveness.
- 4. A description of the status and progress of programs established pursuant to chapter 54-46 and as specifically required by section 54-46-11.

54-59-20. Security background information.

The chief information officer shall require as a condition of employment with the department that individuals who have unescorted physical access to the facilities or other security-sensitive areas of the department designated by the chief information officer submit to a criminal history record check in accordance with section 12-60-24. The chief information officer may require as a condition of contracting with the department or other state agency or department with respect to an information technology project that any individual employed by the contractor or a subcontractor to perform the work under the contract submit to a criminal history record check in accordance with section 12-60-24.

54-59-21. Criminal justice information sharing board - Membership - Duties and powers - Director - Exempt records.

1. The criminal justice information sharing board consists of:
 - a. The chief justice of the supreme court or the chief justice's designee.
 - b. The attorney general or the attorney general's designee.
 - c. The chief information officer of the state.
 - d. The director of the department of emergency services or the director's designee.
 - e. The director of the department of corrections and rehabilitation or the director's designee.
 - f. The superintendent of the state highway patrol or the superintendent's designee.
 - g. The chief of the bureau of criminal investigation.
 - h. The director of the department of transportation or the director's designee.
 - i. A representative of a city police department, appointed by the governor from a list of two or more nominees from the North Dakota chiefs of police association.
 - j. A representative of a county sheriff's office, appointed by the governor from a list of two or more nominees from the North Dakota sheriffs and deputies association.
 - k. A state's attorney, appointed by the governor from a list of two or more nominees from the North Dakota state's attorneys association.
 - l. One at-large member appointed by the governor.
2. The chief information officer is chairman of the board. Board members who are not permanent full-time state employees are entitled to compensation of seventy-five dollars per day and mileage and expenses as provided by law for state employees to be paid by the information technology department. A state employee who is a board member must receive that employee's regular salary and is entitled to mileage and expenses, to be paid by the employing agency. Board members who are appointed by the governor under this section serve for a term of three years.
3. The information technology department, at the direction of the board, shall maintain a criminal justice data information sharing system to facilitate the exchange of criminal justice information among judicial, law enforcement, and emergency personnel. Only a criminal justice agency, as defined in section 12-60-16.1, and any other person designated by the board may access the system. The system only may be accessed for the purposes set forth by the board. Any law enforcement record in the possession of the department is an exempt record.
4. The board may appoint and employ a director who serves at the pleasure of and under the direct supervision of the board. The information technology department shall provide staff and other necessary support to the board. The board or director

- may acquire support staff and employ personnel who are under the direct supervision of the director and the board.
5. The board shall set policy and adopt rules relating to the access to and the collection, storage, and sharing of criminal justice information and the systems necessary to perform those functions. The board shall provide operational oversight for criminal justice information sharing activities and shall approve and provide oversight of criminal justice information sharing budgets. The board may appoint such committees as it deems necessary.
 6. The director may contract with the bureau of criminal investigation for the processing of federal fingerprint identification.

54-59-22. Required use of electronic mail, file and print server administration, database administration, application server, and hosting services.

Each state agency and institution, excluding the legislative and judicial branches, the institutions under the control of the state board of higher education, the attorney general, and any entity exempted by the office of management and budget after advisement by the information technology department, shall obtain electronic mail, file and print server administration, database administration, storage, application server, and hosting services through a delivery system established by the information technology department in conjunction with the office of management and budget. The office of management and budget, after receiving advice from the information technology department, 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.

54-59-23. Information technology projects - Reports.

1. An executive, legislative, or judicial branch agency, except for institutions under the control of the state board of higher education, shall report to the state information technology advisory committee according to guidelines developed by the department and reviewed by the state information technology advisory committee regarding the plan for and status of any information technology project that is estimated to cost more than five hundred thousand dollars.
2. During the life of the project, the agency shall notify the state information technology advisory committee if:
 - a. At a project milestone, the amount expended on project costs exceeds the planned budget for that milestone by twenty percent or more; or
 - b. At a project milestone, the project schedule extends beyond the planned schedule to attain that milestone by twenty percent or more.
3. A report under subsection 2 must specify corrective measures being undertaken to address any cost or time of completion issue. If the agency has not taken adequate corrective measures within ninety days after the report, the agency shall submit a report to the legislative management's information technology committee regarding the project.
4. Upon completion of the project, the agency shall notify the state information technology advisory committee if:
 - a. The budget for the project exceeded the original budget by twenty percent or more; or
 - b. The final project completion date extended beyond the original project scheduled completion date by twenty percent or more.

54-59-24. Borrowing authority - E-rate funding - Emergency commission approval.

Notwithstanding the limitations provided in section 54-59-05 and upon the approval of the emergency commission, the department may borrow from the Bank of North Dakota an amount necessary to pay telecommunications costs for connecting approved schools and libraries in the event e-rate funding is not received by the department from the schools and libraries division of the universal service administrative company. In addition to the principal repayment, the Bank of North Dakota is entitled to receive interest on the loan at a rate equal to other state agency borrowings. If at the end of the biennium a balance exists on any loan obtained pursuant to this section and funds are not anticipated to be available from the schools and libraries division of the universal service administrative company to repay the loan, the department shall request a deficiency appropriation from the legislative assembly to repay the loan.

54-59-25. Health information technology advisory committee - Duties.

1. The health information technology advisory committee consists of the state chief information officer or the chief information officer's designee, the state health officer or the state health officer's designee, the governor or the governor's designee, the executive director of the department of human services or the executive director's designee, the chairman of the house human services committee and the chairman of the senate human services committee or if either or both of them are unwilling or unable to serve then the chairman of the legislative management shall appoint a replacement who is a member of the same legislative chamber as the individual being replaced, and individuals appointed by the governor to represent a broad range of public and private health information technology stakeholders.
2. The health information technology advisory committee shall collaborate with and make recommendations to the health information technology office, as provided under sections 6-09-42, 6-09-43, 54-59-26, and 54-59-27.
3. As requested by the health information technology advisory committee, the department shall provide or arrange for administrative services to assist the health information technology advisory committee.
4. The health information technology advisory committee may employ an executive director who serves at the pleasure of and under the direct supervision of the health information technology advisory committee. The executive director may employ personnel as necessary for the administration of this section.
5. The health information technology advisory committee may accept private contributions, gifts, and grants from any source to carry out the purposes of the committee and the health information technology office.

54-59-26. Health information technology office - Duties - Loan and grant programs.

1. The health information technology office is created in the department. The health information technology advisory committee shall make recommendations to the health information technology office for implementing a statewide interoperable health information infrastructure that is consistent with emerging national standards; promote the adoption and use of electronic health records and other health information technologies; and promote interoperability of health information systems for the purpose of improving health care quality, patient safety, and the overall efficiency of health care and public health services.
2. The health information technology office director, in collaboration with the health information technology advisory committee, shall:

- a. Apply for federal funds that may be available to assist the state and health care providers in implementing and improving health information technology.
 - b. Implement and administer a health information exchange that utilizes information infrastructure and systems in a secure and cost-effective manner to facilitate the collection, storage, and transmission of health records.
 - c. Adopt rules under chapter 28-32 for the use of health information, use of the health information exchange, and participation in the health information exchange.
 - d. Adopt rules under chapter 28-32 for accessing the health information exchange to ensure appropriate and required privacy and security protections and relating to the authority of the director to suspend, eliminate, or terminate the right to participate in the health information exchange.
 - e. Establish a health information technology loan program to provide loans to health care providers for the purpose of purchasing and upgrading certified electronic health record technology, training personnel in the use of such technology, and improving the secure electronic exchange of health information, and for any other purpose under section 6-09-42.
 - f. Establish a health information technology planning loan program to provide low-interest loans to health care entities to assist those entities in improving their health information technology infrastructure under section 6-09-43.
 - g. Facilitate and expand electronic health information exchange in the state, directly or by awarding grants.
 - h. Establish an application process and eligibility criteria for and accept and process applications for loans and grants under subdivisions e, f, and g. The eligibility criteria must be consistent with federal requirements associated with federal funds received under subdivision a. The eligibility criteria for loans under subdivision f must include a requirement that the recipient's approved health information technology be strategically aligned with the state's health information technology plan and the associated federal standards and that the recipient has passed an onsite electronic medical record readiness assessment conducted by an assessment team determined by the health information technology advisory committee and the health information technology office director.
 - i. Determine fees and charges for access and participation in the health information exchange. Any moneys collected under this subdivision must be deposited in the electronic health information exchange fund.
 - j. Consult and coordinate with the state department of health and the department of human services to facilitate the collection of health information from health care providers and state agencies for public health purposes, including identifiable health information that may be used by state agencies, departments, or institutions to comply with applicable state or federal laws.
3. If the health information technology advisory committee determines that establishing a health information exchange with another state or states will assist in providing health information exchange services in a cost-effective manner, the health information technology office director, in collaboration with the health information technology advisory committee, may join with another state or states to

establish, implement, and administer a health information exchange consistent with other provisions of this chapter.

54-59-27. Health information technology office - Electronic health information exchange fund.

1. There is created an electronic health information exchange fund. The fund consists of moneys deposited in the fund from federal or other sources or moneys transferred into the fund as directed by the legislative assembly. The health information technology office shall administer this fund and shall distribute moneys in the fund accordingly. The moneys in the fund must be used to facilitate and expand electronic health information exchange. Moneys in the fund may be used, subject to legislative appropriations, to provide services directly, for grants as provided under this section, and for the costs of administration of the fund.
2. A grant applicant shall submit an application to the health information technology office, which shall determine the applicant's eligibility based upon criteria established by the health information technology office director in collaboration with the health information technology advisory committee.
3. This section does not create an entitlement to any funds available for grants under this section. The health information technology office may award these grants to the extent funds are available and, within the office's discretion, to the extent such applications are approved.

54-59-28. Participation in the health information exchange by executive branch state agencies and institutions of higher education.

1. Before January 1, 2015, each executive branch state agency and each institution of higher education that implements, acquires, or upgrades health information technology systems shall use health information technology systems and products that meet minimum standards adopted by the health information technology office for accessing the health information exchange. A state agency or institution of higher education that participates in or has health information that supports or develops the health information exchange shall provide access to patient-specific data to complete the patient record within the health information exchange. Notwithstanding any other provision of law, each participating agency and institution shall provide patient-specific data to the health information exchange.
2. Participation in the health information exchange by a state agency or institution has no effect on the content, use, or disclosure of health information of patient participants which is held in locations other than the exchange. This section does not limit or change the obligation of an agency or institution to exchange health information in accordance with other applicable federal and state laws or rules.

54-59-29. Health information exchange - Confidential records.

Any individually identifiable health information, as defined under the federal Health Insurance Portability and Accountability Act of 1996 [Pub. L. 104-191], submitted to, stored in, or transmitted by the health information exchange under this chapter and any such data or record in the possession of the health information technology office is confidential. Any other information relating to patients, individuals, or individually identifiable demographic information contained in a master client index submitted to, stored in or transmitted by the health information exchange or in the possession of the health information technology office is an exempt record.

54-59-30. Immunity for reliance on data from the health information exchange.

A health care provider that relies in good faith upon any information provided through the health information exchange in the treatment of a patient is immune from criminal or civil liability arising from any damages caused by that good-faith reliance. The immunity granted under this section does not apply to acts or omissions constituting gross negligence or reckless, wanton, or intentional misconduct.

54-59-31. (Effective after December 31, 2014) Certified electronic health records systems.

An executive branch state agency, an institution of higher education, and any health care provider or other person participating in the health information exchange may use only an electronic health record system for use in the exchange which is certified under rules adopted by the office of the national coordinator for health information technology.

54-59-32. Major information technology projects - Appointment of executive steering committees.

1. An executive branch state agency, excluding institutions under the control of the state board of higher education, proposing to conduct a major information technology project as described in subsection 10 of section 54-35-15.2, the department, and the office of management and budget, in consultation with the attorney general, shall collaborate on the procurement, contract negotiation, and contract administration of the project. The agency, the department, and the office of management and budget, in consultation with the attorney general, shall approve the solicitation, contract, or agreement, and any amendments relating to the project before submission to the executive steering committee as provided in subsection 3.
2. The procurement officer and primary project manager for a major information technology project must meet the qualifications established by the department and the office of management and budget.
3. An executive steering committee must be appointed to oversee each major information technology project. The agency project sponsor shall serve as chairman of the committee. The executive steering committee must consist of the director of the office of management and budget or a designee of the director, the chief information officer or a designee of the officer, the head of the agency contracting for the project or a designee, the project sponsor, and a large project oversight analyst designated by the chief information officer. The executive steering committee shall monitor the overall status of the project and review project decisions, including negotiation and execution of contracts, approval of project budgets, implementation of project schedules, assessment of project quality, and consideration of scope changes. Any project
4. decision declared by a member of the committee to be a major project decision requires at least four affirmative votes.
5. An agreement or contract, including an amendment, revision, or scope change, for a major information technology project may not be entered unless signed by the head of the contracting agency or a designee and the chief information officer or a designee of the officer.

C. 2013 Senate Bill 2021

Document begins on the following page.

**Sixty-third Legislative Assembly of North Dakota
In Regular Session Commencing Tuesday, January 8, 2013**

SENATE BILL NO. 2021
(Appropriations Committee)
(At the request of the Governor)

AN ACT to provide an appropriation for defraying the expenses of the information technology department; to create and enact a new section to chapter 54-59; to amend and reenact sections 54-59-15 and 54-59-22 of the North Dakota Century Code, relating to acceptance of funds and to agencies exempted from certain services of the information technology department; to provide for studies; to provide for a report to the budget section; to provide an appropriation for the office of management and budget; and to provide for various transfers.

BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:

SECTION 1. APPROPRIATION. The funds provided in this section, or so much of the funds as may be necessary, are appropriated out of any moneys in the general fund in the state treasury, not otherwise appropriated, and from special funds derived from federal funds and other income, to the information technology department for the purpose of defraying the expenses of that agency, for the biennium beginning July 1, 2013, and ending June 30, 2015, as follows:

	Base Level	Adjustments or Enhancements	Appropriation
Salaries and wages	\$47,383,177	\$4,170,074	\$51,553,251
Accrued leave payments	0	2,626,084	2,626,084
Operating expenses	69,218,477	(4,383,834)	64,834,643
Capital assets	15,035,666	(2,535,066)	12,500,600
Center for distance education	6,649,238	(780,847)	5,868,391
Statewide longitudinal data system	1,869,243	1,511	1,870,754
Educational technology council	1,075,403	739,206	1,814,609
EduTech	7,926,447	125,647	8,052,094
K-12 wide area network	5,206,992	(278,815)	4,928,177
Geographic information system	1,112,065	348,229	1,460,294
Health information technology office	13,959,238	(9,208,515)	4,750,723
Criminal justice information sharing	2,781,394	1,087,967	3,869,361
Federal stimulus funds	0	<u>6,800,000</u>	<u>6,800,000</u>
Total all funds	\$172,217,340	(\$1,288,359)	\$170,928,981
Less estimated income	<u>153,165,136</u>	<u>(3,490,583)</u>	<u>149,674,553</u>
Total general fund	\$19,052,204	\$2,202,224	\$21,254,428
Full-time equivalent positions	336.30	4.00	340.30

SECTION 2. ONE-TIME FUNDING - EFFECT ON BASE BUDGET - REPORT TO SIXTY-FOURTH LEGISLATIVE ASSEMBLY.

The following amounts reflect the one-time funding items approved by the sixty-second legislative assembly for the 2011-13 biennium and the 2013-15 one-time funding items included in the appropriation in section 1 of this Act:

One-Time Funding Description	2011-13	2013-15
Criminal justice information sharing projects	\$200,000	\$800,000
Statewide longitudinal data system	1,757,624	0
Eligibility system	1,500,000	0
Federal fiscal stimulus	8,000,000	0
Educational technology council grants	0	200,000
Archiving study	0	100,000
Geographic information system projects	<u>0</u>	<u>215,000</u>

Total all funds	\$11,457,624	\$1,315,000
Less estimated income	<u>11,257,624</u>	<u>0</u>
Total general fund	\$200,000	\$1,315,000

The 2013-15 one-time funding amounts are not a part of the entity's base budget for the 2015-17 biennium. The information technology department shall report to the appropriations committees of the sixty-fourth legislative assembly on the use of this one-time funding for the biennium beginning July 1, 2013, and ending June 30, 2015.

SECTION 3. TRANSFERS. Notwithstanding section 54-16-04, the director of the office of management and budget shall make transfers of funds between line items in section 1 of this Act for the information technology department as may be requested by the chief information officer as determined necessary for the development and implementation of information technology projects.

SECTION 4. DEPARTMENT OF PUBLIC INSTRUCTION - STATEWIDE LONGITUDINAL DATA SYSTEM EXPENDITURES - APPROVAL. The department of public instruction may spend only the federal funds for costs associated with the statewide longitudinal data system upon approval of the expenditures by the information technology department, for the biennium beginning July 1, 2013, and ending June 30, 2015.

SECTION 5. A new section to chapter 54-59 of the North Dakota Century Code is created and enacted as follows:

Information technology project planning.

Each executive branch state agency, excluding entities under the control of the state board of higher education, considering the development of an information technology project with an estimated cost of one hundred thousand dollars or more shall involve the information technology department in the planning and study of the project. A state agency must receive a recommendation from the information technology department prior to proceeding with any study relating to the project.

SECTION 6. AMENDMENT. Section 54-59-15 of the North Dakota Century Code is amended and reenacted as follows:

54-59-15. Acceptance of funds.

The department may accept federal or other funds, which must be deposited in the information technology operating account or other accounts specified by the office of management and budget and which may be spent subject to legislative appropriation. The department may apply for any public or private grants available for the improvement of information technology.

SECTION 7. AMENDMENT. Section 54-59-22 of the North Dakota Century Code is amended and reenacted as follows:

54-59-22. Required use of electronic mail, file and print server administration, database administration, application server, and hosting services.

Each state agency and institution, excluding the legislative and judicial branches, the institutions under the control of the state board of higher education, the attorney general, and any entity exempted by the office of management and budget after advisement by the information technology department, shall obtain electronic mail, file and print server administration, database administration, storage, application server, and hosting services through a delivery system established by the information technology department in conjunction with the office of management and budget. The office of management and budget, after receiving advice from the information technology department, 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.

SECTION 8. APPROPRIATION - OFFICE OF MANAGEMENT AND BUDGET – INFORMATION TECHNOLOGY HARDWARE RELOCATION AND CONSOLIDATION STUDY. There is appropriated out of any moneys in the general fund in the state treasury, not otherwise appropriated, the sum of \$200,000, or so much of the sum as may be necessary, to the office of management and budget for the purpose of contracting with a private consultant to conduct an information technology relocation and consolidation study of information technology equipment operated by the attorney general and by agencies that have been exempted by the office of management and budget under section 54-59-22, for the biennium beginning July 1, 2013, and ending in June 30, 2015.

1. The study:
 - a. Must include input from the attorney general and representatives from the exempted agencies and a review of the feasibility and the desirability of relocating and consolidating information technology hardware of the attorney general and the agencies exempted by the office of management and budget to the information technology department's secure data center.
 - b. Must address the issues of cost, physical security, cybersecurity, redundancy, staffing, impact on service to stakeholders, and impact on contractual relationships for software and hardware with federal partnerships.
 - c. Must be completed before December 31, 2013.
2. The office of management and budget shall report its findings and recommendations to the budget section and the legislative management's information technology committee by March 31, 2014, and submit any proposed legislation necessary to implement the consolidation or relocation to the legislative management's information technology committee by July 1, 2014. If the findings of the study indicate that a partial or full consolidation of information technology services or relocation of information technology hardware, are feasible and desirable, the office of management and budget and the information technology department shall assist any affected agency in developing an implementation plan as a part of the agency's 2015-17 budget request.

SECTION 9. INFORMATION TECHNOLOGY DESKTOP SUPPORT STUDY - REPORT TO BUDGET SECTION. Prior to January 1, 2014, the information technology department shall conduct a study of all state agencies' information technology desktop support to determine the feasibility and desirability of centralization of desktop support services through the information technology department for all state agencies. The study must include a review of the support staff, associated costs to the respective agency, use of third-party information technology contractors, and a cost-benefit comparison of current state agencies' desktop support self services and desktop support services provided by the information technology department. The information technology department shall report its findings and recommendations to the office of management and budget, the budget section, and the interim information technology committee prior to January 1, 2014. The office of management and budget shall provide a report to the budget section regarding the findings, recommendations, and any legislation required to implement the recommendations of the study.

President of the Senate

Speaker of the House

Secretary of the Senate

Chief Clerk of the House

This certifies that the within bill originated in the Senate of the Sixty-third Legislative Assembly of North Dakota and is known on the records of that body as Senate Bill No. 2021.

Senate Vote: Yeas 47 Nays 0 Absent 0

House Vote: Yeas 76 Nays 14 Absent 4

Secretary of the Senate

Received by the Governor at _____ M. on _____, 2013.

Approved at _____ M. on _____, 2013.

Governor

Filed in this office this _____ day of _____, 2013,
at _____ o'clock _____ M.

Secretary of State