INFORMATION TECHNOLOGY COMMITTEE

The Legislative Council delegated to the Information Technology Committee the council's authority under North Dakota Century Code (NDCC) Section 54-35-15 to study emerging technology and evaluate its impact on the state's system of information technology. The Legislative Council also delegated to the committee the responsibility to receive the annual report from the Information Services Division regarding the coordination of information technology services with political subdivisions under NDCC Section 54-44.2-02 and to receive reports from the director of the Information Services Division and the Commissioner of the Board of Higher Education regarding areas for coordinated information technology systems under NDCC Section 54-44.2-11. The Legislative Council assigned to the committee the study directed by Senate Concurrent Resolution No. 4024 (the development of an electronic mail and records management policy for governmental entities).

Committee members were Senators Larry J. Robinson (Chairman), William G. Goetz (until his resignation from the Legislative Assembly on July 10, 1997) Karen K. Krebsbach, Carolyn Nelson, Ken Solberg, and Rod St. Aubyn (who was appointed to replace Senator Goetz) and Representatives Rex R. Byerly (who was appointed to replace Representative Clark), Tony Clark (until his resignation from the Legislative Assembly on October 24, 1997), Eliot Glassheim, Ken Svedjan, Rich Wardner, and Robin Weisz.

The committee submitted this report to the Legislative Council at the biennial meeting of the Council in November 1998. The Council accepted the report for submission to the 56th Legislative Assembly.

EMERGING TECHNOLOGY'S IMPACT ON STATE'S SYSTEM OF INFORMATION TECHNOLOGY

Background

The Legislative Assembly has been closely involved in the development of information technology at the state level. As a result of a Legislative Council study during the 1967-68 interim, the 41st Legislative Assembly enacted legislation establishing the Central Data Processing Division (renamed the Information Services Division in 1989) for the purpose of establishing an electronic data processing center to be used by all state agencies except the institutions of higher education, Job Service, and the Office of the Adjutant General. As a result of a Legislative Council study during the 1969-70 interim, a higher education computer network was funded at three institutions and was later extended to all institutions of higher education under the State Board of Higher Education. As a result of a Legislative Council study during the 1979-80 interim, the 47th Legislative Assembly defined the responsibilities of the Information Services Division and state agencies for the use of data processing resources and provided that the director of the division was to supervise all executive branch agency data processing activities. Recommendations resulting from the Legislative Council study during the 1995-96 interim were contained in House Bill No. 1034 (1997): that agencies prepare information technology plans; that the Information Services Division establish statewide information technology policies, standards, and guidelines; that the division and the State Board of Higher Education meet to coordinate their information technology systems and services; that the State Auditor provide information systems audits of information technology systems; and that the division perform information technology management reviews of state agencies except higher education institutions. Before final passage, House Bill No. 1034 was amended to involve the Legislative Council in the information technology planning and audit process and to remove the State Auditor from the information systems audit process.

House Bill No. 1034 amended NDCC Section 54-35-15 and added several responsibilities to the Legislative Council. The Legislative Council is to study emerging technology to evaluate its impact on the state's system of information technology; develop guidelines for reports to be provided by each agency or institution of the executive, judicial, and legislative branches of government; review the information technology management of state agencies and institutions; perform information systems reviews and audits of information technology systems of state agencies and institutions; and monitor implementation of information technology systems development projects and application of development projects. The Legislative Council staff advertised and solicited applications for an individual to handle these new, major responsibilities, but the attempts to recruit a qualified individual to fill this position during the interim did not succeed. At the request of legislative leaders, the staff solicited outside assistance for the committee. Two firms submitted proposals and on recommendation of the committee the Legislative Council contracted with Wolf & Associates (now known as Inteliant) to conduct three projects, which are described in this report.

House Bill No. 1034 also added responsibilities to the Information Services Division. Job Service North Dakota and the Adjutant General were brought under the division's jurisdiction (NDCC Section 54-44.2-02). The division is required to prepare guidelines for agency information technology plans (NDCC Section 54-44.2-10); develop a statewide plan based on agency plans (NDCC Section 54-44.2-10); develop statewide information technology policies, standards, and guidelines in consultation with the Legislative Council (NDCC Section 54-44.2-09); review information technology management of state agencies (NDCC Section 54-44.2-12); coordinate information technology services with political subdivisions (NDCC Section 54-44.2-02); coordinate information technology systems and services with higher education (NDCC Section 54-44.2-11); and report noncompliance with statewide policies and standards to the Legislative Audit and Fiscal Review Committee (NDCC Section 54-44.2-12). During the interim, several questions were brought to the committee with respect to the interpretation of these responsibilities and those

issues are described in this section of the report.

State Agency Information Technology Plans Statutory Requirements

Under NDCC Section 54-44.2-10, all agencies in the executive, judicial, and legislative branches of government are required to prepare information technology plans. A plan is required to be submitted to the Information Services Division and the Legislative Council by January 15th of each even-numbered year. A plan must be prepared based on guidelines developed by the division in consultation with the Legislative Council. The plan must provide information technology goals, objectives, and activities of the organization for the next five years, and must include a detailed list of information technology assets owned, leased, or employed by the agency. The division reviews each agency's plan for compliance with statewide information technology policies and standards and may require an agency to change its plan to comply with the policies or standards or to resolve conflicting directions among plans. An agency's budget request for the next biennium must be based on its information technology plan.

In addition, House Bill No. 1034 contained a statement of legislative intent listing requirements that each plan should include. These requirements include an executive summary that identifies the proposed information technology direction for the agency, annual projections for five years of operating costs by funding source, and information technology accomplishments; a description of the agency and a summary of the services provided by the agency; a list of current information technology systems; an assessment of current systems; a description of the information technology direction for the agency; and accomplishments in achieving information technology goals and objectives.

Oregon's Information Technology Planning

The committee received information from Oregon regarding its information technology planning efforts. Oregon has engaged in information technology planning since 1991. In Oregon, three entities are involved in governing state information technology efforts--the Information Resources Management Council, which is chaired by the Chief Information Officer and the membership of which includes agency directors, local government administrators, and private sector executives; the Information Resources Management Division, which is responsible for adopting policies and standards for managing the state's information resources, ensuring that information resources fit together in a statewide system, and exercising overview responsibility for ensuring agencies' planning and implementation activities support the statewide information resources management plan; and the Joint Legislative Committee on Information Management and Technology, which reviews and establishes statewide goals and policy regarding information systems and technology, conducts studies of information management and technology efficiency, and makes recommendations regarding information resource management programs and information technology acquisitions.

Oregon's planning efforts appear to be successful because people become engaged in discussion and communication. This process is viewed to be as valuable as the product produced. In addition, the process is linked to business goals and objectives and requires early planning efforts, executive support and involvement, and involvement of external information partners, e.g., political subdivisions, other agencies, and federal agencies.

Oregon is also facing several issues related to information technology management. These issues include difficulty in recruiting, retaining, and retraining information resources management personnel; cumbersome technology procurement processes; inadequate contract management expertise to deal with the expanded use of contractors; inadequate project planning and management; inadequate overview processes; and year 2000 (Y2K) compliance concerns.

Of special interest to the committee was the Oregon joint legislative committee and its responsibility to review information technology projects. That committee reviews projects under specific principles and guidelines. The guidelines provide that every project should include active involvement by senior management, project planning, opportunities for reengineering, and a focus on data management; should provide for public access; should fit with the statewide direction on open systems and with the statewide information resources management plan; and should address interagency/intergovernmental needs and project management. Each guideline identifies questions that the joint legislative committee asks agency personnel about projects. Examples of the types of questions are: What is the extent to which your agency director and management team have been involved in shaping this project? Can you demonstrate that this technology investment will simplify work, eliminate work steps, minimize handoffs, and integrate parallel activities? If this project is going to be for collecting data from your clients, will you be employing any novel methods to make it easy for them to enter data or provide it to you?

Organizational Structure of Information Services Division

The Information Services Division is a division of the Office of Management and Budget. The director of the Office of Management and Budget appoints the director of the division. As a result of the added responsibilities of House Bill No. 1034, the organizational structure of the division changed to include the planning, review, and coordination functions. Under the new structure, the director of the division is responsible for the information technology policy and planning functions of the division, and the assistant director is responsible for the day-to-day operations of the four major services divisions - administrative services, development/software services, computer support services, and telecommunication services. In addition, the Governor appointed the director of the division to the position of chief information officer.

Guidelines for State Agency Plans

In accordance with NDCC Section 54-44.2-10, the Information Services Division developed guidelines for agencies to follow in preparing information technology plans. Under the guidelines, a plan is required to contain an executive summary; a detailed description of each new system, major enhancement, or continuing project; information on each major system; an information technology inventory; and a comparison of the results of achieving goals to the projected outcomes in the previous plan and a comparison of actual project costs to estimates included in the previous plan. After the guidelines were ready for initial review, the division presented the guidelines to the committee for review and discussion.

The committee discussed whether agricultural commodity entities and occupational licensing entities should be required to prepare information technology plans. The major question was whether entities with limited information technology assets, e.g., one or two personal computers, should be required to perform comprehensive information technology planning. The committee discussed whether the factor to decide which entities should be excluded from information technology planning requirements should be whether the entity is funded through continuing appropriations or special funds. A problem with using either of those factors is that a number of major state agencies have continuing appropriations with respect to limited activities and a few major agencies are special fund agencies.

The committee recognized that any exclusion would not be supported by specific statutory exception. The committee determined that a way of resolving this issue until legislative action can be taken was to authorize a standard of reduced information technology planning for state agencies with limited information technology resources and requirements.

The committee discussed the extent of detail required for the "detailed list of information technology assets" required under NDCC Section 54-44.2-10. A list of every asset could result in several pages of inventory for some agencies, with questionable value for planning purposes. With respect to the detailed list of inventory, recognition also was made that some equipment cannot be easily allocated to one specific system because the equipment can be used with several systems, e.g., a legislator's notebook computer is used to access the bill status system, the legislator's automated work station system, the Lotus Notes system, and other legislative systems. Another concern was whether the detailed list required by NDCC Section 54-44.2-10, or the "information technology inventory, including the cost of the inventory" required by the legislative intent statement, should include software.

A question arose as to the value of projecting three to five years in advance because of the speed in which technology changes. It was determined that relatively good information can be obtained for many systems, but anyone who reviews these plans under an "audit" function must understand that technology changes, and these changes will affect plans accordingly.

Another concern was that existing systems may not fit into the new projects category and will not fit into the major system enhancements category unless major enhancements are planned. A suggestion was to provide for a miscellaneous system category in which agencies could place shared equipment and software and other "loose ends" not otherwise covered in order to account for all budget dollars.

Another concern was the requirement in the legislative intent statement that plans identify full-time equivalent positions when projecting annual costs by funding source. Many agencies do not allocate full-time equivalent positions to their information technology systems. A suggestion was to identify hours rather than positions because hours could be converted to full-time equivalent positions if necessary.

With respect to initial development of the plans, the January 15, 1998, deadline provided a very short timeframe for some agencies with major information technology systems. This date was seen as important in the future so state agencies would take their plans into consideration when preparing their budget requests. Of concern, however, was the possibility that the large users of information technology would need additional time for their first planning efforts.

In light of these concerns, the committee recommended that the guidelines provide a miscellaneous systems category be used to identify shared equipment and other assets not reported as projects or other systems, that the guidelines provide for full-time equivalent positions to be expressed in hours, and the Information Services Division allow certain agencies to submit preliminary

plans to meet the January 15, 1998, statutory deadline, as long as those agencies submitted the completed plans by February 15, 1998.

After the initial round of planning was completed, the division presented to the committee changes being considered for the guidelines for the next round of agency planning. Among the new requirements, an agency will be requested to provide a top level organizational chart, a technology staffing level schedule, a personal computer hardware replacement schedule, and the name of the agency contact, all for the purpose of aiding the division analyzing the agency's information technology plan. In addition, the division plans to develop an abbreviated plan process for small agencies and larger agencies without information technology projects, and require an agency to submit the strategic portion of its plan by the January 15th deadline and the budget portion of its plan when the agency's budget request is submitted to the Office of Management and Budget.

Planning Efforts and Observations

The committee received information from the Aeronautics Commission, Game and Fish Department, Department of Human Services, Job Service North Dakota, Land Department, Secretary of State, University System, State Board for Vocational and Technical Education, and Water Commission concerning their efforts during their information technology planning process. Representatives of these entities described their planning efforts and presented their observations concerning the process. Among the observations were:

- It is valuable to involve Information Services Division personnel in the planning efforts of the agency. A recommendation was to increase the degree of division support for assisting agencies in maintaining plans and in addressing future Internet needs.
- It is difficult to estimate two bienniums into the future before January of the current biennium. A recommendation was to reduce the detailed budget requirements because realistic detailed budgets are not available for more than a year or two in advance. Another recommendation was to change the focus from a question of how much, to a question of what is accomplished.
- It is costly to develop the agency plan through assigning current staff or contracting with others. A recommendation was to provide full-time planning staff to continue the process and funds for continuation of the process.
- It took substantial effort to revise existing information technology plans in light of the requirements of House Bill No. 1034. A recommen- dation was to merge this process into other planning and budgeting processes.
- The planning process under House Bill No. 1034 focuses on budgetary items rather than goals and strategies. A recommendation was that the process should become oriented toward strategic planning, with vision, objectives, and goals, rather than continue with the primary emphasis on budgeting. Another recommendation was to change the planning timeframe to coincide with the state's fiscal year for budgetary reasons.
- The reason for the development of statewide information technology standards appears to be volume buying rather than long-term vision or technology needs of specific agencies, and agencies will need additional funds to meet and maintain compliance with the standards.

Plan Approval Process

Eighty state agency plans were submitted to the Information Services Division--19 of those plans were the "limited" scope plans submitted by the agencies with limited information technology assets. Under the review process, an agency submits its plan to the division, the division compares the plan against a checklist to ensure all required items are contained in the plan, and an individual is assigned to provide followup on any changes required to be made by the agency. Once revisions are made and the division approves the plan, the agency is requested to send a final copy to the Legislative Council. It is anticipated a plan will have four versions--the original plan, the budgeted plan, the appropriated plan, and the plan reflecting intermediate revisions.

Projects Identified in State Agency Plans

As of April 1998, the Information Services Division had identified 152 projects in state agency information technology plans. The projects were categorized as continuing, new, or major change projects, with cost estimates of $25,991,127 for the 1997-99 biennium, $40,629,727 for the 1999-2001 biennium, and $29,447,900 for the 2001-03 biennium. The division recommended to the committee that major projects should establish formal project management that includes the tools and benchmarks necessary to aid in reviewing project development. Also, funding for a feasibility study should be included with the funding for a project and there should be some type of discussion after the feasibility study is completed to determine whether a project should be initiated or continued.

The Information Services Division described a major benefit of the technology planning process as the inventory of the state's

technology requirements. The result is a list of all projects that agencies are requesting, and that list includes current projects necessary to continue projects started in this biennium and projects that are anticipated to start in the next two budget cycles. The division has been primarily a service bureau--providing support and services--and agencies may or may not have informed the division of major projects in the planning stages. With the detail provided by agency plans, the division now is informed of complete projects and plans for future requests for services.

As a result of reviewing all state agency information technology plans, the Information Services Division also can assemble information on funding being projected for hardware purchases. The division informed the committee that the division would prepare tables indicating the number of personal computers planned for purchase and the possibility of better planning for contracts to purchase hardware. Another benefit of compiling the information appears to be the discovery that projects may extend over four years, and there needs to be a review process to make sure that something of value is being received. One type of review process considered by the committee was a feasibility study before initiating a project and using that study to decide whether the project should proceed. This contrasts with using a feasibility study as the preliminary step for proceeding with a project.

Survey of Agencies With Approved Plans

Upon approval of an agency's plan, the Information Services Division requested the agency to complete a survey about the planning process. The survey included 16 questions, among which were the approximate cost for agency staff time and the hours involved in developing the plan, whether the agency used a consultant to prepare the plan and the cost of the consultant, and comments on the process. Sixty-six agencies responded to the survey.

Responses to the survey indicated that the total number of hours taken to complete the plans was 9,727. With respect to individual agencies, the hours ranged from 1 to 1,537, with an average of 203 hours per plan per agency. The total cost of agency staff time to complete the plans was estimated at $203,646. The cost to individual agencies ranged from $8 to $36,100 with an average cost of $4,333 per agency in staff time to complete the plans. Nine agencies hired consultants to assist in developing the plans at a total dollar value of $165,193. Sixteen agencies had an information technology plan before House Bill No. 1034 required such a plan.

With respect to benefits of and concerns about the planning process as described by survey respondents, the highest ranked benefits where the process allows a more proactive approach to implementing technology, it provides better information going into the budget process, and it forces the agency to gather information and analyze technology expenditures. The top three concerns expressed about the planning process were the learning curve required for the first effort, the project detail cost information required before completion of the requirements analysis, and the difficulty in breaking out information technology expenditures from other business requirements.

Consideration of Proposed Legislation

The committee considered a bill draft to revise several provisions that resulted from House Bill No. 1034 (1997). Agricultural commodity promotion groups and occupational or professional boards were excepted from the jurisdiction of the Information Services Division to eliminate the requirement that those agencies (with limited information technology assets) engage in comprehensive information technology planning. "Information technology" was redefined for purposes of clarity and the definition of "information technology services" was eliminated, which eliminates the current confusion between the definition of information technology and the definition of information technology services. The division was granted authority to review and approve additional network services not provided by the division in order to allow the division to ensure compatibility with state network requirements. "Detailed" was eliminated as the type of listing of information technology assets to be included in the plan in order to allow lists to be designed to provide relevant information. Information technology plans were to cover the current biennium and the next two bienniums rather than the next five years to better identify the periods desired. Telephone services were redefined as network services to cover voice, data, or video transmission regardless of whether transmission is through the public telephone network. The specific times for providing reports of coordination of activities were deleted to allow flexibility in determining when reports can be given. An additional requirement for the statewide plan was that the plan must emphasize long-term strategic goals and objectives. The current exclusion of institutions under the control of the board of higher education from compliance with statewide information technology policies and standards was limited to academic and research uses of information technology, and thus administrative uses were subjected to the policies and standards. Reports of noncompliance with statewide policies and standards were to be made to the Legislative Council or its designated committee, rather than to the Legislative Audit and Fiscal Review Committee, to provide for the reports to be made to the appropriate interim committee that has been assigned responsibility for information technology review. The confidentiality provision governing information the division receives from agencies was revised to allow the division to refer to the agency a request for access to information of that agency. This eliminated the difficulty the division, as custodian of the information, has in being a provider of information

without direct knowledge of which information is confidential and which information is appropriate for release. A new requirement was for the division, in consultation with the Legislative Council, to establish guidelines for an agency to use in determining whether an information technology project requires a feasibility study and analysis. The division, in consultation with the Legislative Council, was to prepare an analysis of the project and make a final determination as to whether the agency could proceed with the project. If the decision was not to proceed, funds appropriated for the project could not be expended without approval of the Office of Management and Budget after consultation with the Legislative Council.

The committee took no action on this bill draft because the revisions, to the extent appropriate, were included in another bill recommended by the committee, which is described under **Recommendations**.

Statewide Standards and Policies

Under NDCC Section 54-44.2-02, the Information Services Division is required to establish guidelines for acquisition of information technology services or equipment by executive branch agencies, except for institutions under the control of the Board of Higher Education. The division adopted *ISD Guideline G001-98*, which adopts the purchasing procedures of the Central Services Division of the Office of Management and Budget. In addition, the guideline includes procedures for purchasing or leasing information technology services. Under the guideline, all contracts or service agreements equaling or exceeding $25,000 must be sent to the division, and a letter of approval must be obtained from the division before proceeding with the contract or agreement.

Under NDCC Section 54-44.2-09, the Information Services Division is required to develop, in consultation with the Legislative Council, standards and policies for information technology development. The division established a standard and policy review group, and each agency was encouraged to designate one individual to represent the agency in this group. The review group reviewed, discussed, and evaluated proposed standards. Attendance ranged from 30 to 70 people per meeting. The goal of standards and policies development was to provide a base on which to establish a common statewide information technology directive.

One concern raised was the relationship of higher education to the Information Services Division. The specific question was the exclusion of the institutions of higher education from mandatory compliance with statewide information technology policies and standards. At issue was the workability of excluding higher education from complying with policies and standards, but statutorily requiring the division to report noncompliance to the Legislative Audit and Fiscal Review Committee. This apparent contradiction appeared to be resolved by including higher education in the initial planning process in developing the policies and standards.

Each standard consists of three components--strategy, policy, and the standard. Strategies are points identifying the intent or preferred environment of the standard; policy is the statement of policy used to implement the strategies; and the standard is the specific requirements supporting the policy. As of September 8, 1998, the Information Services Division had adopted these standards:

- Operating systems.
- Network services.
- Application development.
- Data management.
- Security.
- Office automation.
- Document imaging.
- Video conferencing.

The statute allows the Information Services Division to grant exceptions to compliance with the standards. This procedure is recognized in the standards through a procedure allowing an agency to receive an exception. That agency, however, has to address that exception in its next (year 2000) information technology plan. Committee members urged the division to limit the number of exceptions, because if several agencies or a few large agencies receive exceptions, the purpose of statewide standards has been weakened.

Statewide Information Technology Plan

Under NDCC Section 54-44.2-10, the Information Services Division is to prepare a statewide information technology plan based on the information technology plans prepared by state agencies. By necessity, the statewide plan could not be developed until all agencies had completed their information technology plans. Throughout the interim, the division reviewed with the committee

the composition proposed for the statewide plan. As described to the committee, the statewide plan will include an executive summary and information technology vision statements; a description of technology infrastructure; identification of issues and recommendations; a description of 1997-99 accomplishments; agency information technology plan summaries, which will include system goals and objectives and spending projections; agency project summaries, which will include project description, benefits, and costs; boards and commissions summaries; and reports on coordination meetings with counties, cities, and higher education.

The information technology vision statements are:

- State government should be customer-focused (technology should be convenient and include use of e-commerce, videoconferencing, voice response, and Internet applications and should involve one-stop shopping, the state web site, integrated applications, and a single user interface).
- State government should be efficient (technology should provide faster processing through automating manual processes, automating recordkeeping, and redesigning current processes and should include faster and better informed decisionmaking through decision support systems, geographic information systems, and training of workers).
- State government should be well-managed (technology requires getting the most from scarce resources through technology planning, implementation of standards and best practices, project management, human resources development, and asset management that addresses hardware and software replacement schedules, tools for automation, and alternative configurations).
- State government should provide leadership for developing a shared infrastructure (a single statewide area network that allows for flexible, evolutionary expansion can provide information technology that benefits many and redistributes or levels costs).

The final plan is scheduled to be printed by November 30 and will be distributed to interested parties and will be available on the division's web site.

Statewide Network Inventory and Assessment Requirements for a Statewide Network

Under its charge to study emerging technology and its impact on the state's information technology system, the committee observed that a major need for information technology is the ability to communicate. Current government information technology trends are increased Internet usage, electronic interface with citizens, and increased demand for efficiency, new technology, quality of service, and multimedia capabilities. To support public access to government information over the Internet, infrastructure issues need to be addressed. Experience in other states shows that a centrally and cost-effectively supported infrastructure will reduce agency and citizen access costs.

Current Statewide Network

The current statewide network was initiated in 1982, when district offices of the Department of Transportation were connected to the department's central office. In 1984 the Higher Education Computer Network was integrated into the network and the North Dakota Information Network was created to jointly manage the network. North Dakota was the first state with combined state government and higher education networks. In 1985 the network was extended to all counties to provide connectivity between county social service boards and the Department of Human Services.

In 1991 the network's backbone was converted to digital facilities, and the Interactive Video Network (IVN) was implemented on these new digital facilities. In 1992 the North Dakota Information Network selected AT&T's Software Defined Network (SDN) long-distance voice services and North Dakota became an earlier adopter of virtual private network technology, which is now used by most states and large businesses for long-distance service. The rate is determined by the total committed aggregate of minutes of state government and higher education. The rates for state government are nine cents per minute for credit card and 1-800 service, five cents per minute for instate long-distance service, and 10.5 cents per minute for out-of-state long-distance service. The contract is used by higher education and is available to counties, cities, and school districts, and each customer group is billed separately by AT&T. In 1994 the North Dakota Information Network committed as the anchor tenant for U S West to establish a statewide frame-relay network. This contract converted the existing private network to a router based frame-relay network. The rates remained the same as under the private network, and businesses now use frame-relay service, which is an indirect economic impact of the state contract. Current use of this service is by state government with 22 percent, large business with 52 percent, and small business with 26 percent. North Dakota was second only to Nebraska in having statewide frame-relay services.

In 1994 the North Dakota Information Network provided Internet access from the state network and Northwest Network

(NWNET) was selected as the Internet service provider. North Dakota was an early adopter of state government access to the Internet.

In 1996 all buildings on the Capitol grounds with the exception of the Governor's residence were connected with fiber optic cable; and in 1997 state government entered a partnership with Montana Dakota Utilities for fiber optic cable connection of 10 state government buildings in Bismarck to the Capitol.

State agencies and counties, colleges and universities, and elementary and secondary schools all use the same physical network equipment and transport facilities. Thirty-four counties are tied to the statewide network. The difference between these users is that state government needs to protect certain information data bases, and thus uses a firewall. In comparison, the higher education computer network needs open access for over 20,000 students and North Dakota School Net has a common customer base to support.

A major need for state government was described as the need to make current applications web enabled to achieve maximum benefit of the wide area network and public access. Government has a lot of information available on the Internet but very little self-service government access, e.g., ability to apply for licenses. One suggestion was to conduct an inventory of applications to determine those that can be modified with minimal investment. Challenges to the current network were described as including the impact of free resources or discounts provided by vendors to higher education, the impact of grant funding that causes different types of software requirements, the impact of federal agencies that require certain types of software, new technology (which is slow to come to a small state), and the fact that development is reactive--in response to requests.

Statewide Telecommunications Report

The committee determined that current state network resources needed to be analyzed before determining whether any change in the state network should be made. On recommendation of the committee, the Legislative Council contracted with Inteliant for an inventory of all current networks used for voice, data, and video communications. This inventory was viewed as the first step in analyzing the needs and potential for providing common networks. The goal of the entire project was to help the state to deploy its statewide network to meet current needs and anticipate future needs.

The *Statewide Telecommunications Report* presented by Inteliant consisted of 20 sections comprising 290 pages including maps, charts, and appendices. The project focused on the pieces of the statewide network which would need to be considered if major changes are made to the ways that data and voice are transmitted from one location to another. Information was gathered by personal interview, review of inventory reports, phone calls, and completion of questionnaires. This information is viewed as a starting point for deploying new telecommunications capabilities within the state. After the committee received the report, the next step was to decide whether to develop recommendations and a strategic plan for upgrading North Dakota's telecommunications infrastructure.

Strategic Telecommunications Plan

The committee determined that continual improvement of the statewide network will allow government employees to communicate through internal wide area networks to accomplish their work easier and faster and can result in lowering postage and phone costs, transferring information more quickly and securely, and providing information through the Internet. States with advanced infrastructures can support services such as telecommuting, distance learning, virtual universities, and telemedicine. With such an infrastructure, the question is whether there should be a broad policy supporting public access to government information over the Internet. A modern infrastructure could provide citizen access and the free exchange of government information throughout the state, with the potential benefit for economic development by having an advanced telecommunications infrastructure to attract and retain desirable business. This infrastructure would not be the statewide network but would result from the state contracting for a level of service the state requires, and contractors providing service greater than the state level and the excess capacity would be available for private sector use, e.g., the statewide frame-relay service contracted by the state in 1994 resulted in a service primarily used by business.

On recommendation of the committee, the Legislative Council contracted with Inteliant to conduct detailed research of five other states that are implementing creative new approaches to upgrading telecommunications, develop a set of recommendations for North Dakota for implementing similar changes to get similar or superior results in North Dakota, develop a workplan defining the timeframe for implementing the recommendations, and provide a cost-benefit analysis of the recommendations. Basically, this contract was a quick-followup approach to the inventory by looking at states that have implemented innovative approaches, looking at the mistakes they have made, looking at what North Dakota has, and determining how North Dakota's system can be made better.

The *Strategic Telecommunications Plan* presented by Inteliant resulted from reviewing the development of communication networks in five states - Arizona, Kansas, North Carolina, Oklahoma, and Washington. The plan described the following trends that encourage states to take a different approach to the distribution of information among their agencies and to their citizens:

- The need to encourage economic development in the state through the use of a high-speed statewide communication network.
- The increased demand by citizens and companies for improved government services at decreased costs.
- The increased demand by citizens and companies for better access to government information using the Internet.
- The technologies and mediums used to provide high-speed communications are changing very rapidly but are merging to provide all services over one set of fiber, cable, or radio.
- The need to ensure that government services are provided at the most cost-effective level possible.
- The increased demand for high-speed data, voice, and video communications.

Based on the best practices of the states reviewed, the plan presented these recommendations:

- Establish a statewide communications infrastructure agency for all telecommunications planning, selection, implementation, and management for all state agencies, higher education, and public schools.
- Establish the director of the agency as the chief information officer for the state as a cabinet level position reporting directly to the Governor.
- Establish a state communications infrastructure board that includes representatives from the three branches of government, private enterprise, and local government with the overall responsibility to approve standards and policies related to network technologies in the state.
- Mandate that the agency develop a business plan defining rate plans, missions, goals, policies, transition plan, business objective, measurements, and general procedures.
- Establish a group within the agency for improving personnel productivity and workflow processes for customers.
- Establish a technology development fund to establish the statewide network and to evaluate emerging technologies and implement common, shared components for users of the network.
- Require each entity that uses the statewide network or is a user of agency services to file a strategic information technology plan.
- Establish a project quality assurance process to provide an independent assessment of the status of major projects.
- Create a division within the agency to plan and administer access to state information primarily through the Internet.

The plan provides a framework for proactively deploying technology. The recommendations establish the authority for a centrally managed statewide network with clearly defined accountabilities for communications within the state. Cost information in the plan compared the networking costs in fiscal year 1998 per workstation in North Dakota ($1,240), North Carolina ($1,000), Kansas ($790), and Oklahoma ($240). The committee received initial cost estimates, with the caveat, actual costs cannot be determined until these factors are determined: the actual design of the network, the sites for interactive video, and the rate of migration to the new network. The initial estimated costs assumed that it would take six years to convert to the new network. The estimates contained in the plan were $6.1 million additional expense during the 1999-2001 biennium; $2.6 million additional expense during the 2001-03 biennium; $3.6 million savings during the 2003-05 biennium; and $12.5 million savings during the 2005-07 biennium. Costs are expected to be lower under the plan because of purchasing leverage, improved technologies, economies of scale, and consolidated administration. At the last meeting of the committee, Inteliant presented a workplan for developing fiscal note information detailing the initial funding for the statewide communications infrastructure agency (the Information Technology Department) and implementation of the *Strategic Telecommunications Plan*. This information is expected to be available during the 1999 legislative session.

The committee solicited comments from the elected state officials and 13 major state agencies with respect to the plan. Testimony expressed support for a statewide communications agency because the Information Services Division currently is responsible for the wide area network used by state government and higher education; appointment of a chief information officer as a cabinet level position, which has been done for the last two years; development of a strategic business plan, as long as the plan includes all information technology and not just wide area networks, the plan identifies the organizational structure of the agency, and the plan identifies the strategies for improving personnel productivity and workflow processes; development of information technology plans by users of the statewide network; and establishment of a project quality assurance process to provide an independent assessment of the status of major projects. Questions were raised over the feasibility of requiring public schools to participate in the statewide network; establishing a board that did not include an elected state official as a required member and limited state agency representation to "major" state agencies, and the chairman of which was appointed by the Legislative Council chairman rather than by the Governor; and establishing a board at the operations level rather than at a policy (advisory) level, which involves another entity in information technology decisionmaking (especially if the committee were to recommend creation of a statutory Legislative Council Information Technology Committee). Questions were also raised over the lack of estimated costs or potential savings for establishing a personnel productivity and workflow processes improvement group, a technology development fund, the project quality assurance process, and a separate entity within the agency to plan and administer access to state information primarily through the Internet. A specific concern related to the need to identify the costs to implement the plan, and the need to understand what the service demands are in the state. Support was expressed, however,

for any improvement that would result in a technology network, especially between state agencies and county offices that share information with one another, which would provide economical communication services. Finally, a question was raised about the speed of implementing this change before seeing the benefit of the provisions of House Bill No. 1034 (1997), e.g., strategic planning, project management quality assurance, and project coordination.

The committee determined that the feasibility of a statewide network depended on participation by as many entities as possible. Under the current network, participation by political subdivisions is voluntary. The committee determined that if a county, city, or public elementary or secondary school desires access to a wide area network, that access should be through the statewide network in order that all public entities would benefit from economies of scale resulting from the statewide network. Even though inclusion of public schools would add 231 school districts, with 500 school buildings, to the user pool, this was seen as an important component to obtain efficiencies of scale.

The committee solicited comments from representatives of organizations representing counties, cities, and schools with respect to inclusion in the network. Testimony indicated support for state and local partnerships and recognition of the importance of technology infrastructure to economic development efforts. Although the need for a high degree of coordination and compatibility was recognized for certain areas, e.g., human services and judicial services, requiring this type of relationship was viewed as removing current flexibility in performing local functions. Representatives of North Dakota School Net described arrangements that cooperation has made in providing Internet access service to member schools, and low-cost Internet access relationships being developed between schools and local cable or independent telephone companies. Most of the testimony expressed concern over the effect mandated participation in the state network would have on the substantial investment in computer networks and service delivery and the special, low-cost relationships developed for obtaining network services. Concern also was expressed over costs that could be incurred in meeting state standards imposed as a condition for participating in the state network.

The committee discussed the necessity for creating a board with the responsibility for approving the business plan, statewide information technology standards, and the statewide information technology plan. Reporting to another entity was not seen as unduly burdensome, especially because the consolidated relationship legislators would have with the agency (the board would have the substantive review powers the Legislative Council had under NDCC Section 54-35-15). With respect to the composition of the board, the committee determined that the Governor's appointees should not be limited to representing "major" state agencies. The committee also determined that legislative involvement is important, and the chairman of the Legislative Council should designate the chairman of the board. Also, the committee determined that actual participation by the ex officio members is important, and those members should not delegate these responsibilities to others.

Y2K Compliance Efforts Background

The Y2K problem refers to the difficulty computer processors will have in recognizing the year 2000. In the early years of writing computer programs, data storage space and processing power were very costly items and programmers commonly used two digits, rather than four, to represent the year, i.e., 99 rather than 1999, to save space and power, and the practice continued by tradition in later years. The problem is the unknown consequences when 1999 (99 for processor purposes) turns over to 2000 (00 for processor purposes). The question is whether 00 will be recognized as 2000 or some other date, e.g., 1900. Another date recognition question arises because 2000 is a leap year (even though a century year, which are not leap years unless they are divisible by 400). This Y2K problem will affect computer hardware, software, and embedded chips (microprocessors contained in a variety of equipment). The recognized procedure for determining Y2K compliance is a five-step process involving awareness, assessment, renovation (with necessary prioritization of systems), validation (testing), and implementation.

The Information Services Division is responsible for software residing on the mainframe processing unit (enterprise server) and has been addressing Y2K problems for the past four to five years. As of September 15, 1998, the division had completed 84 percent of Y2K compliance effort required for activities under its responsibility, and the work was proceeding at approximately four percent per month. Although the division's efforts have been proceeding on schedule, concern was expressed over the status of Y2K planning efforts by state agencies in general. Specifically, four areas of concern were:

- Those agencies that develop their own software programs.
- Those agencies that write their own software programs that access the division's enterprise server programs.
- Physical alarms and systems, e.g., heating systems, cooling systems, alarm systems, and security systems.
- Litigation issues, which are under risk management.

Because of the concern over agency inattention to the Y2K problem, the division converted its auditor position authorized under House Bill No. 1034 (1997) to a business analyst position in order to provide assistance on the Y2K project, and the division's disaster recovery staff member had also been assigned to the Y2K compliance effort.

Y2K Compliance Issues

The committee received extensive information concerning the potential impact failure of computer hardware, software, and embedded chips would have due to not being Y2K compliant, e.g., computer systems may crash, utility service may be interrupted due to embedded chips that fail or maintenance systems that shut down facilities because of "overdue" maintenance, health care facilities may not be able to provide care in intensive care units, emergency 911 systems may fail, transportation systems may fail, traffic control signals may not work, financial institutions may not be able to record or process financial transactions, and business in general may be severely disrupted. It was noted that some effects have already been experienced due to the "forward-looking" requirement of some computer applications, e.g., credit cards with expiration dates beyond January 1, 2000, have caused disruptions in checkout systems.

The committee solicited testimony from various segments of North Dakota's economy, including state agencies and state organizations representing counties, cities, utilities, financial institutions, and health care organizations. Generally, those entities or areas of the economy are aware of the Y2K problem and are becoming more active in informing their constituents of the need to initiate a Y2K assessment process or to increase their current Y2K compliance efforts. A common concern, however, was the exposure to liability for noncompliance, especially because of the cost of compliance and the difficulty of adequately funding these efforts.

The committee received a substantial amount of testimony describing concerns about public agencies and private businesses that were not aware of Y2K problems and thus were not making any Y2K compliance efforts. Individuals recommended a statewide Y2K assessment of agencies and schools, development of joint expertise and resources, establishment of milestones, and budgeting for these expenses; monitoring and assisting on critical infrastructure needs--electric utilities, water, and rural hospitals; providing public education and guidance; and providing for contingency planning.

Of special concern is the potential for business partners and suppliers to not be Y2K compliant, and how that would affect an agency or business that is Y2K compliant. The most common example is a utility in North Dakota that is Y2K compliant but utility service becoming disrupted in this state because the transmission grid fails due to cascading outages caused by a few major failures of out-of-state utilities.

The committee received information concerning the potential liability if state agencies are not Y2K compliant. Four states have passed legislation immunizing governmental entities from liability based on an error caused by a government computer, and several states have considered and are considering this type of legislation. With respect to contingency planning for increased litigation, testimony from the Attorney General's office indicated that the Y2K issue does not present a unique situation because the state is always faced with the possibility of extensive litigation. Tort claims against the state are viewed as the responsibility of the risk management fund, and contract claims against the state can be defended as other contract claims.

The committee also received information as to the potential impact Y2K compliance efforts could have on state revenues. A business has a variety of tax treatment options for handling Y2K costs, e.g., software development costs can be expensed annually as paid or depreciated over five years. Information indicated a worst-case scenario of a reduction of state corporate tax revenues of $1.4 million for 1999 and a reduction of $205,000 for subsequent years. With respect to individual income tax revenues, the estimates indicated a reduction of $450,000 in the first year and negligible impact in subsequent years. The reduction in financial institutions tax revenue was estimated at $200,000.

Y2K Impact Survey

Because of the concerns over the progress of state agencies in conducting Y2K compliance efforts, the Information Services Division sent a Y2K impact survey to 110 state agencies in March 1998. The primary purpose of the survey was to increase agency awareness of the potential for Y2K problems in agency computer systems. Ten agencies did not return the Y2K survey. Because only 22 agencies indicated they have a Y2K project, committee members were concerned that agencies may not be aware of the impact of the year 2000 on areas of agency operations other than enterprise server applications. Survey responses also indicated agencies were relying on the division's Y2K compliance efforts, agencies were considering the purchase of new equipment and software as a method of Y2K compliance, and agencies were not engaging in any business contingency planning. Business continuation plans are seen as crucial to ensuring that critical operations of an agency continue, regardless of whether the agency's Y2K compliance efforts have been successful.

Y2K Agency Assessment

Because of the results of the survey by the Information Services Division, the committee became concerned over the prospect of state agencies not becoming Y2K compliant in time to avoid disruptions in services or operations. On recommendation of the committee, the Legislative Council contracted with Inteliant to conduct a Y2K assessment of four state agencies. The purpose for the assessment was to conduct a spot check of specific agencies to provide information on whether agencies are on track with Y2K compliance efforts and to determine whether those agencies had business continuation plans. The contract provided for concentration on software, embedded chips, and contingency planning to determine whether the selected agencies have established processes to prepare the agencies for the year 2000. The agencies assessed were the Workers Compensation Bureau (because of its involvement with records and disbursements), the State Department of Health (because of its involvement with public health and safety), State Radio (because of its involvement with 911 emergency response services), and the State Hospital (because of health care concerns).

The *Y2K Agency Assessment* presented by Inteliant pointed out these strengths that will facilitate the Y2K process:

- Agency managers are aware of the need to develop methodologies to address Y2K issues.
- Agency personnel are knowledgeable in technology applications.
- Enterprise server applications are on track for Y2K compliance.
- The Information Services Division has provided training for agency personnel.
- Agency personnel are interested in receiving assistance.

As a result of the assessment, however, several concerns came to light:

- Each agency has created its own Y2K methodology.
- Lack of documentation could cause disruptions if personnel changes occur.
- Lack of a complete inventory of hardware, systems (including systems with embedded processors), equipment, facilities, and applications maintained by the agency or its contractors.
- Lack of a defined or documented test strategy.
- Lack of a documented contingency plan.
- Lack of consideration of Y2K impact on facilities.
- Lack of coordination of efforts to avoid unnecessary duplication.

The assessment began on July 20, 1998, and was completed on September 4, 1998. The *Y2K Agency Assessment* contained 11 recommendations, many of which were implemented during and after the assessment process. The recommendations, along with action taken with respect to the recommendations, were:

- Appoint a state Y2K director to provide leadership to ensure involvement by senior management in agencies. In September 1998 the Governor designated the chief information officer (the director of the Information Services Division) as the state government Y2K coordinator.
- Appoint agency Y2K directors to ensure accountability or responsibility for Y2K efforts is assigned to a senior management individual in each agency. In September 1998 the Governor sent a memorandum to all state agency directors pointing out that while the Information Services Division has a contact within each agency for Y2K compliance efforts, each agency should designate a senior management level individual to be responsible for Y2K compliance.
- Assess Y2K readiness across departments to ensure there are no surprises. The Information Services Division has assigned this responsibility to two staff members.
- Agencies should formalize their project management, testing, and contingency plans for their Y2K issues. The Information Services Division's Y2K web page *http://www.state.nd.us/isd/y2k/* contains a Y2K plan guideline to assist agencies with the planning process. The division also participates in meetings with state agencies and institutions regarding Y2K compliance efforts. The Governor's memorandum also set out the need for agencies to create a project plan consisting of assessment, inventory, remediation, and testing of potential Y2K issues as well as contingency plans for key business applications that support critical services; provided an agency Y2K reporting form, which is to be completed monthly and sent to the Information Services Division; and provided for certification of agencies completing their Y2K compliance projects.
- Continue to develop material available on the state Y2K web page to avoid duplication of effort and achieve the highest-quality processes. The web page has a Y2K project plan and additional information, and plans are to post additional information as appropriate, e.g., state agency Y2K compliance status.
- Establish public affairs programs to increase public confidence in the state's ability to mitigate Y2K issues.
- Educate and motivate the private sector to take steps to prepare for the year 2000.
- Require all vendors providing goods and services, including service contract renewals and equipment or facility leases, to provide written assurances that they comply with Y2K requirements. As of October 1, 1998, the State Purchasing Division started including a Y2K compliance statement on all purchase orders and requests for bids (vendors and bidders accept the Y2K compliance responsibility when signing the orders or submitting the bids) and the Facility Management Division has requested all agencies leasing space to contact the lessors for a Y2K certification letter.
- Review contracts to determine which party is responsible for Y2K compliance and include specific assignment of responsibility in contracts renewed before January 1, 2000. The Attorney General reviews many of the state's contracts

and now requires a Y2K compliance responsibility provision.
- Establish financial contingencies at the state and agency level, based on each agency's assessment and the overall risk of failure, and appropriate funds to the Emergency Commission to distribute as unforeseen emergencies arise due to Y2K complications.
- Ensure that legislators are cognizant of the potential impact of 1999 legislation on an agency's Y2K remediation efforts.

Y2K County Assessment

Testimony indicated that many counties had not completed a Y2K assessment. Of special concern was the unevenness between counties, especially with the potential impact on emergency 911 systems. On recommendation of the committee, the Legislative Council and the North Dakota Association of Counties contracted with Inteliant to assess one medium-size county--Stutsman--and one small-size county--Adams--to obtain a "snapshot" of Y2K readiness.

The *Year 2000 County Assessment* presented by Inteliant identified these strengths:

- Staff in both counties were willing to address the issues.
- The majority of counties statewide do not have a high level of complex automation in their operations.
- The relationship between counties and state agencies is strong and can simplify the process.
- Both counties have received strong support from their software vendors.
- Both counties do not have any huge Y2K issues.

The assessment identified concerns similar to the concerns identified from the assessment of the four state agencies, i.e., lack of common methodology, documentation, an inventory, a defined or documented test strategy, a documented contingency plan, consideration of Y2K impact on facilities, and coordination of efforts. In addition, county budgets for fiscal year 1999 were being prepared without the counties being far enough along in the Y2K process to establish solid figures for Y2K compliance.

The assessment recommended that each county should appoint a Y2K director, formalize Y2K planning, establish financial contingencies, require vendors to provide written assurances the vendor complies with Y2K requirements, review all contracts to determine which party is responsible for Y2K compliance, ensure coordination of Y2K efforts among county departments, and ensure county officials are cognizant of the impact of decisions on the county's Y2K remediation efforts. Because of a recommendation that the North Dakota Association of Counties establish a public affairs program, this assessment was seen as providing an impetus the North Dakota Association of Counties could use to urge counties to move forward with Y2K compliance efforts.

Recommendations

The committee recommends Senate Bill No. 2043 to establish an information technology department. The department would be responsible for all telecommunications planning, selection, and implementation for all state agencies and institutions, counties, cities, and public elementary and secondary schools. The bill also provides for transition of responsibilities of the current Information Services Division, which would be replaced by the new department. The department would be administered by a chief information officer appointed by the Governor. In addition, the bill creates an information technology board, consisting of four legislators appointed by the Legislative Council, seven members appointed by the Governor, the chief information officer, the commissioner of higher education, and the supreme court administrator. This board would be responsible for approving the business plan of the department, reviewing and approving statewide information technology standards and the statewide information technology plan, assessing major projects to ensure quality assurance, and reporting to the Governor and the Legislative Council on matters concerning information technology. The board could exclude from mandatory participation in the state network any county, city, or school district that demonstrates its current network services are more cost-effective than wide area network services available from the department. As a means to ensure network functionality, each entity using the network would have to comply with network standards and prepare an information technology plan. The bill substantially implements the recommendations contained in the *Strategic Telecommunications Plan* prepared by Inteliant. The main purpose of this bill is to provide the structure for consolidated telecommunications planning and implementation for all state agencies, higher education, counties, cities, and school districts into one department. The bill repeals the existing law providing for the Information Services Division and transfers the division's responsibilities to the department. The revisions to the provisions of House Bill No. 1034 (1997), which the committee considered separately from this bill, are also included in the new provisions establishing the department to the extent those revisions were relevant to the powers and duties of the department.

The committee recommends Senate Bill No. 2044 to establish a Legislative Council Information Technology Committee. The committee's duties would include establishing statewide goals and policy regarding information systems and technology, conducting studies of information technology efficiency and security, reviewing activities of the (newly created) Information Technology Department, and making recommendations regarding established or proposed information technology programs and information technology acquisitions. These duties are similar to the powers and duties of the Oregon Joint Legislative Committee on Information Management and Technology.

The committee recommends House Bill No. 1037 to limit state and political subdivision liability for failure to become Y2K compliant. The bill provides that the state is not liable for a contract or tort claim resulting from failure of computer hardware, software, networks, or processors to account for a date compatible with the year 2000 date change if the state has made a good-faith effort to make the hardware, software, networks, or processors Y2K compliant. The bill describes "compliant with the year 2000 date change" as including date structures that provide four-digit date recognition or interfaces that prevent noncompliant dates and data from entering or exiting any system. Thus, dates other than January 1, 2000, are contemplated as within the scope of the immunity provided by the bill. The bill also provides a similar immunity for political subdivisions with respect to a tort claim. Committee members expressed some concern over the requirement for a good-faith effort to be made, but without such a qualification members expressed the fear that entities would not implement or continue Y2K compliance efforts.

As a result of the assessment of state agencies, the committee requested the Legislative Council chairman to urge the Governor to direct state agencies to prepare business continuation plans to take effect if their efforts to become Y2K compliant were unsuccessful. Committee members viewed this request for gubernatorial action as support of the Information Services Division in its efforts to make agencies aware of potential Y2K problems. The Legislative Council chairman made such a request September 17, 1998, and the Governor issued a memorandum containing a number of directives to all state agencies on October 7, 1998.

The committee recommends that the executive budget include an appropriation subject to the approval of the Emergency Commission for distribution as unforeseen emergencies arise due to failure of state agencies to become Y2K compliant.

The committee recommends that state agencies and institutions monitor legislative actions that could affect their ability to complete Y2K compliance efforts, and notify relevant legislators and legislative committees of those impacts.

COORDINATION OF INFORMATION TECHNOLOGY SERVICES WITH POLITICAL SUBDIVISIONS

Under NDCC Section 54-44.2-02(5), the Information Services Division is to conduct meetings with political subdivisions to review and coordinate information technology services. The division, Association of Counties, and League of Cities formed a committee to review the coordination of technology between state government and political subdivisions. The committee met on February 19, July 15, and October 7, 1998. With respect to technology and those areas in which sharing is working: 27 counties are connected to the state network for e-mail, Internet, and state government access; counties and cities may obtain service under the state telephone long-distance contract; the division contracts with the North Dakota Association of Counties to provide technical support at county locations; and records management provides guidelines for counties and cities to use in the management of their records.

HIGHER EDUCATION AREAS FOR COORDINATED INFORMATION TECHNOLOGY SYSTEMS

North Dakota Century Code Section 54-44.2-11 requires the director of the Information Services Division and the commissioner of the Board of Higher Education to meet each year to plan and coordinate their information technology systems and services and report their findings and recommendations to the Legislative Council. The report was presented to the committee in October 1998. According to the report, higher education and the division have agreed that each campus will complete an individual information technology plan; higher education will complete an abbreviated plan for grants, academic, and noncampus technology requirements; and higher education will coordinate planning efforts through a single point of contact. Current areas of cooperation are:

- The Interactive Video Network, which is used primarily to deliver instructional services and time is made available for state agencies.
- The Legislative Bill Tracking System, which was developed by the Information Services Division, the Higher Education Computer Network, and the Legislative Council to provide public access to information on measures under consideration by the Legislative Assembly.
- A single procurement contract for network equipment, which results in savings through combining volume for larger discounts.
- Single contracts for long distance, Internet access, and a private line backbone service between the cities of Bismarck, Fargo, and Grand Forks which allow the division and the Higher Education Computer Network to receive better pricing and result in a single vendor contact for each service.
- Compliance with the division's technology standards by institutions of higher education, even though institutions are exempted from mandatory compliance, as long as the standards can be implemented in the institutions' environment.
- Deployment by the division and the Higher Education Computer Network of the On-line Dakota Information Network (ODIN) to provide common library services.

Recommendations for future cooperative projects include a cooperative effort by the division and Mayville State University to create a project management training course for technology project managers; continuation of the cooperative effort by the division and the University System to design and cofund a statewide area network; and active involvement by the division in the project to reengineer the University System's administrative requirements.

DEVELOPMENT OF ELECTRONIC MAIL AND RECORDS MANAGEMENT POLICY FOR GOVERNMENTAL ENTITIES

Electronic records create many new concerns with respect to records management. Records in an electronic format are hardware and software dependent. With the move from enterprise server applications to personal and network computers, the risk of data loss increases. Also, most electronic information systems used to create, receive, and store records do not provide full records management functionality.

The committee reviewed North Dakota open records laws, records management requirements, federal law, and the relationship of other states' open records requirements to electronic mail policies. Under NDCC Section 44-04-18, unless otherwise specifically provided by law, all records of a public entity are public records, open and accessible for inspection during reasonable office hours. Section 44-04-17.1 defines a record as "recorded information of any kind, regardless of the physical form or characteristic by which the information is stored, recorded, or reproduced, which is in the possession or custody of a public entity or its agent and which has been received or prepared for use in connection with public business or contains information relating to public business." Section 44-04-17.1 further provides that a record includes preliminary drafts and working papers.

With respect to electronically stored records, Section 44-04-18 provides that access to an electronically stored record must be provided at the requester's option in either a printed document or through any other available medium. If no means exist to separate or prevent the disclosure of any closed or confidential information contained in a computer file, the computer file is not considered to be an available medium.

Because the definition of "record" appears to include electronically produced and stored information, electronic mail is subject to the constitutional and statutory provisions that require all records of public or governmental entities of the state or a political subdivision are public records that must be open and accessible for inspection. However, not all electronic mail may be considered to be a "record" that is subject to the open records requirement. If an electronic mail document in the possession or custody of a public entity or agent is of a personal nature and was not received or prepared for use in connection with public business or contains information relating to public business, the document does not fall within the definition of a "record" under Section 44-04-17.1. In addition, the North Dakota Century Code contains various exceptions to the open records requirements, including:

1. Public employee personal, medical, and employee assistance records (NDCC Section 44-04-18.1).
2. Records of law enforcement and correctional employees and records relating to confidential informants (NDCC Section 44-04-18.3).
3. Trade secret, proprietary, commercial, and financial information and information relating to economic development records (NDCC Section 44-04-18.4).
4. Records relating to the Legislative Council, the Legislative Assembly, the House of Representatives, the Senate, or a member of the Legislative Assembly if the records are of a purely personal or private nature, a record that is an attorney work product or is attorney-client communication, a record that reveals the content of private communications between a member of the Legislative Assembly and any person, and a record of telephone usage which identifies the parties or lists the telephone numbers of the parties involved (NDCC Section 44-04-18.6).
5. Active criminal intelligence information and criminal investigative information (NDCC Section 44-04-18.7).
6. Attorney work product (NDCC Section 44-04-19.1).

Under NDCC Section 54-46-05, the head of each executive branch agency must establish and maintain an active, continuing program for the economical and efficient management of the records of the agency, regardless of the form of the records. That section also requires agency heads to submit to the state records administrator schedules proposing the length of time each state record series warrants retention for administrative, legal, or fiscal purposes. Section 54-46-08 requires the administrator, after consultation with the official or department head concerned, the Attorney General, the State Auditor, and the state archivist to determine that the type or class of record has no further administrative, legal, or fiscal value before the final disposition of any type or class of record.

North Dakota Century Code Section 12.1-11-05 provides that it is a Class C felony if a public servant who has custody of a government record knowingly, without lawful authority, destroys the verity or availability of a government record. That section defines a "government record" as any record, document, or thing belonging to, or received or kept by the government for information or record, or any other record, document, or thing required to be kept by law pursuant to a statute that expressly

invokes the penalty in that section. Therefore, a public servant who destroys a public record, including electronic mail or a record that consists of preliminary drafts or working papers, could be subject to criminal prosecution, unless it can be shown the record was disposed of under an approved records management program.

Under these statutes, unless specifically exempted from the open records requirements, electronic mail in the custody of a public entity which has been received or prepared for use in connection with public business or contains information relating to public business is a public record and must be maintained in accordance with an agency's records management program. Generally, other states also treat electronic mail in the same manner as any other record.

The committee also received information from the Information Services Division, which formed an electronic records committee in March 1997 to develop guidelines for the management of electronic records. The electronic records committee included representatives of 34 state agencies. As a result of its meetings, the electronic records committee identified records management, security, legal, technical, archival, and administrative issues. That committee also reviewed many other organizations' products, including the National Archives and records administration entities in Wisconsin, Delaware, Florida, Utah, and Tasmania. As a result of its work, the electronic records committee developed electronic records management guidelines for use by state agencies. The guidelines cover electronic records management--creating electronic record systems, using electronic record systems, maintaining electronic records, disposing of electronic records, establishing a records management program, and security of electronic records. The guidelines are intended to provide guidance on effective management of electronic records to state agencies and county, city, and park district offices.

The Information Services Division distributed the *Electronic Records Management Guidelines* to state agencies and city, county, and park district offices to use in the management of their electronic records. The division's web page *http://www.state.nd.us/isd/Doc/erguide.pdf* also contains the guidelines.

Conclusion

The committee makes no recommendation with respect to the electronic records management guidelines developed for use by governmental entities.