Office of Minnesota Information Technology Services (MNIT)

**2019
EVALUATION REPORT**

Program Evaluation Division

OFFICE OF THE LEGISLATIVE AUDITOR
STATE OF MINNESOTA

Program Evaluation Division

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Printed on Recycled Paper

February 2019

Members of the Legislative Audit Commission:

Legislation enacted into law in 2011 mandated the consolidation of state government information technology (IT) services. The legislative authors hoped that a more centralized approach would result in more effective, efficient services.

Nearly eight years later, we found that the consolidation is incomplete and agency satisfaction with the Office of Minnesota Information Technology Services (MNIT) is mixed. In the report, we discuss the merits of different structural options for Minnesota's IT services. We also suggest that the Legislature consider increasing its own role in oversight of state IT investment decisions.

Our evaluation was conducted by Joel Alter (project manager), Caitlin Badger, and Caitlin Zanoni. We received cooperation from MNIT and from various other state agencies.

Sincerely,

Judy Randall
Deputy Legislative Auditor

Summary

Key Facts and Findings:

- The Office of Minnesota Information Technology Services (MNIT) administers information technology (IT) services throughout state government, in response to a 2011 legislative mandate. (pp. 10, 19)

- Parts of the effort to consolidate state IT responsibilities in MNIT are complete, but others are still in progress. State agencies have divided opinions about the consolidation, and there is some confusion about which agencies should be subject to the consolidation. (pp. 22-28, 32)

- State agency satisfaction with MNIT is mixed. A majority of agencies are satisfied with the quality of IT services, but many are concerned about customer support and the cost of the services they receive. Agencies also expressed concern about MNIT's consideration of agency feedback. (pp. 40, 56-60, 89)

- The division of responsibilities between MNIT and state agencies is sometimes unclear. For example, it is not clear who makes decisions related to software application development and IT budgeting. (pp. 47, 52, 74)

- MNIT has not provided sufficiently timely information to help agencies develop IT budgets. (p. 46)

- MNIT has not exercised sufficient oversight of software development projects, including some duties mandated by state law. (pp. 69-70)

- MNIT has not provided the Legislature and state agencies with sufficient information on its performance. (pp. 83, 86)

- Some parts of MNIT's enabling statute are outdated or too broad. (p. 80)

- The Legislature's fragmented oversight of state government IT has not encouraged a strategic review of IT investments. (p. 84)

Key Recommendations:

- The Legislature and MNIT should work together to update MNIT's enabling statute. In addition, MNIT should clarify the division of responsibilities between itself and state agencies. (pp. 55, 82)

- MNIT should improve its oversight of software projects—for example, approving software projects and providing guidance for agencies initiating projects. (p. 77)

- The Legislature should clarify in law which agencies are subject to MNIT's authority for IT services. (p. 29)

- MNIT should provide agencies with information on IT service rates earlier in the budget process. (p. 46)

- MNIT should identify a set of measures that it can use consistently over time to assess and report on the performance of its core functions. MNIT should also measure and report on state agencies' satisfaction with the IT services they receive. (pp. 66, 84, 88)

- The Minnesota House and Senate should consider creating one or more information technology committees to foster improved oversight of state IT investments and projects. (p. 85)

The legislatively mandated consolidation of state government IT services remains a work in progress, and state agency satisfaction with MNIT is mixed.

MNIT has more than 2,000 employees and spent about $600 million in Fiscal Year 2018.

Report Summary

Information technology (IT) includes computer hardware and software, plus related support services. For more than two decades, Minnesota state government has moved toward more consolidated IT services. In 2011, the Legislature mandated the consolidation of IT employees, finances, and services under one agency.

The agency that administers state government executive branch IT services is the Office of Minnesota IT Services, or MNIT. MNIT has more than 2,000 employees, oversees many contractors, and spent about $600 million in Fiscal Year 2018.

MNIT provides services that are common to all agencies ("enterprise services") and unique to individual agencies ("agency-specific services"). About three-fourths of MNIT's employees are based in state agencies, providing agency-specific services; the rest work for MNIT's central office. In Fiscal Year 2018, 99 percent of MNIT's revenues came from state agencies—through charges or transfers to pay for services to those agencies.

Some parts of the legislatively mandated consolidation have been completed, while others have not.

Prior to the 2011 consolidation legislation, most state government IT employees worked for individual state agencies. Since that time, nearly all of these staff have become MNIT employees—paid and supervised by MNIT, and with standardized job classifications.

Following the consolidation, MNIT began a gradual transfer of responsibility for IT payroll and non-payroll expenses from agencies to MNIT. This has been completed in most agencies. However, the Department of Human Services' (DHS) non-payroll IT spending—which accounts for about 19 percent of total state IT spending—has not been transferred and is still under DHS's authority.

MNIT administers various enterprise services for all agencies, such as e-mail and network services. Agencies pay MNIT-determined rates for those services. However, some agencies still use certain IT services (such as data storage) provided by agency-based MNIT offices, rather than MNIT's centralized enterprise services.

The consolidation has resulted in some positive outcomes—for example, better positioning state government to combat cybersecurity risks and make bulk purchases of IT equipment or software. However, it is unclear whether the consolidation has improved the overall efficiency of state government IT spending. Also, state agencies expressed divided opinions about whether the consolidation has been, on balance, positive or negative.

There is some confusion about which agencies should be subject to the IT consolidation.

When the 2011 Legislature mandated the IT consolidation, it identified in statute some state agencies—such as the state retirement systems—that were not subject to consolidation. However, because the law did not specifically identify which state entities would be subject to consolidation, MNIT subsequently adopted a policy to clarify this. MNIT's policy exempted additional agencies from consolidation, such as constitutional offices, the Minnesota Housing Finance Agency, and the Metropolitan Council. We recommend that the Legislature clarify in law which agencies should be subject to MNIT's authority.

State agencies have mixed opinions about MNIT's services.

In our survey of top agency officials, 64 percent of agencies expressed satisfaction with the quality of MNIT's enterprise services and 83 percent expressed satisfaction with the technical quality of software application services provided by MNIT or its contractors. Nearly 90 percent of agencies were satisfied with MNIT's efforts to protect state information from security threats.

However, there were areas in which state agencies expressed considerable concern. For example, about half of agencies expressed dissatisfaction with the timeliness of MNIT's customer support for enterprise services. Also, many agencies are frustrated by what they perceive to be inaccurate IT invoices and time-consuming, redundant IT procurement processes.

A majority of agencies expressed dissatisfaction with the cost of MNIT's enterprise services. However, many agencies also told us they did not understand their IT invoices or the basis for MNIT's service rates. Studies by a private firm have shown that most of MNIT's enterprise service rates compare favorably with those of other states or private organizations.

MNIT has established some advisory bodies—such as a Financial Steering Team—that include representatives of state agencies. But agencies expressed mixed views about the adequacy of their opportunities to provide feedback to MNIT on its performance, and about MNIT's willingness to consider this input.

In general, smaller agencies that are not part of the governor's cabinet expressed greater dissatisfaction with MNIT than cabinet agencies. We recommend that MNIT ensure that all agencies have adequate opportunities to provide it with input about services or plans.

MNIT has not provided adequate oversight of state agency software development.

Studies have shown that software development projects in public and private organizations often do not succeed. An example in Minnesota state government was the unsatisfying release in 2017 of the system for processing vehicle license plates, registrations, and titles (MNLARS).

Various MNIT leaders—past and present—told us that MNIT's oversight of software projects has not been as rigorous or well developed as necessary. Project oversight has been inconsistent, occurring largely through agency-based MNIT offices. MNIT took some steps in 2018 to help MNIT leaders give attention to potentially risky projects.

MNIT has not fully complied with laws regarding project oversight. State law requires the MNIT commissioner to approve projects before they are undertaken, but such sign-offs have not occurred. MNIT has not developed standards for the architecture of state IT systems, nor for the independent audits required for large IT projects. In addition, MNIT has not always evaluated the performance of its professional/technical contractors, contrary to state requirements.

Also, the division of responsibilities between MNIT and state agencies is unclear for various IT services, including software development tasks. For example, there should be a clearer assignment of responsibility for decisions about whether to build or buy software, what testing (and how much testing) of the software to undertake, and how to determine whether the software is ready for release.

MNIT should take additional steps to help ensure that software development projects succeed.

MNIT should provide better information on its own performance to state agencies and the Legislature.

MNIT has not provided budget-related information to state agencies in a timely manner.

When state agencies prepare their biennial budget proposals, one component is the cost of enterprise IT services. MNIT did not submit its final proposal for its most recent enterprise service rates (for the Fiscal Year 2020-2021 biennium) to the Department of Management and Budget (MMB) for approval until October 31, 2018. However, individual state agencies were required by law to submit their agency budgets to MMB by October 15, 2018.

MNIT has tried to provide agencies with more timely information about enterprise rates, but agencies expressed frustration about preparing budget proposals without fully understanding these rates. We recommend that MNIT try further to provide rate information earlier in the budget process.

Also, about half of state agencies told us they do not know who (MNIT or the agency) is responsible for determining their agency's overall IT budget. MNIT has not developed formal policies related to IT budgeting, and the budgeting practices vary among agencies. There is a need for a clearer division of responsibilities.

Due to overly broad statutes and inadequate performance measures, it has been difficult to hold MNIT accountable for results.

When the 2011 Legislature mandated state IT consolidation, it did not adopt explicit goals for the consolidation. In fact, most of the statutes that today govern MNIT remain from the pre-consolidation era. Some of these statutes are outdated, or they outline a scope of responsibilities that is overly broad. We recommend that the Legislature—with MNIT's input—revise MNIT's enabling statute.

MNIT also should improve the way it tracks its own performance. The performance information MNIT has provided to the Legislature in its biennial budgets has been inconsistent and, in some cases, not outcome-based. MNIT's "service-level agreements" with individual agencies have identified measures for holding MNIT accountable, but MNIT has made limited information on these measures available to agencies.

The Legislature should improve its IT oversight and consider the merits of changes to MNIT's scope and structure.

To improve legislative oversight of state IT investment, the House and Senate should consider establishing IT committees (or a joint IT committee). This could help the Legislature set broad priorities for IT spending, rather than relying solely on the decisions of more narrowly focused budget committees. Also, this would provide a venue for discussion of cybersecurity risks and other IT policy matters.

Some legislators have proposed major structural changes—for example, to move the consolidated functions of MNIT to a different agency, or to return responsibility for some consolidated functions back to individual agencies. Such options deserve consideration and we discuss their merits, but we offer no recommendations.

In our view, the Legislature undertook IT consolidation with the best intentions. Yet it is difficult to judge the success of the consolidation at this time—due to the absence of clear goals, the continuing implementation of the consolidation, and MNIT's limited performance information. Furthermore, until MNIT more fully wins the confidence of its primary customers—state agencies—it will be hard to declare IT consolidation a success.
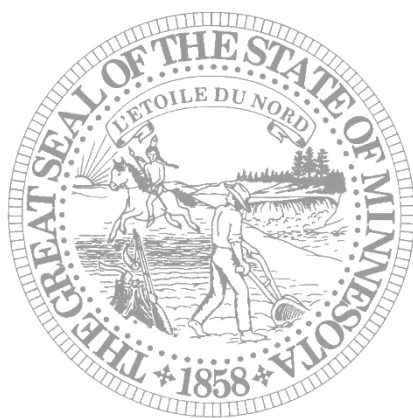
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Introduction

State agencies rely considerably on information technology (IT) services to effectively and efficiently fulfill their missions. When IT systems do not work as intended, this can cause problems for state employees, state agencies, and the citizens they serve. The problems that occurred when the Department of Public Safety released a new vehicle licensing and registration system (known as MNLARS) in July 2017 illustrated the risks posed when IT systems do not meet customer needs.

In 2011, the Minnesota Legislature mandated a consolidation of state IT services within a single agency. That agency—the Office of Minnesota Information Technology Services, or MNIT—now employs most of the state executive branch's IT staff. MNIT oversees a wide range of services, including services common to all agencies and those unique to individual agencies.

In addition to the MNLARS concerns mentioned above, state agencies have expressed concerns in recent years about the IT services they have received. As a result, in March 2018, the Legislative Audit Commission directed our office to evaluate MNIT. Our evaluation addresses the following questions:

- **Has the consolidation of IT services under MNIT resulted in clear, effective organization and oversight of executive branch IT services?**

- **How well has MNIT met the IT needs of the agencies, boards, and other executive branch entities that rely on its services?**

- **To what extent is the executive branch's process of budgeting for and funding IT services transparent and consistently applied?**

Part of our research assessed the status of the state's IT consolidation. We listened to legislative hearings from 2011 to better understand the rationale for the consolidation. In addition, we interviewed current and former MNIT staff and reviewed documents to help us assess the steps taken in subsequent years to consolidate IT personnel, finances, and services.

MNIT exists largely to provide IT services to other state entities, so a key part of our research was a survey of these entities. In September 2018, we sent a questionnaire to each agency, board, or commission that (1) MNIT said was subject to the consolidation and (2) received services directly from MNIT (rather than having those services provided by another state agency).[1] We asked one individual to respond on behalf of each organization, although the respondent could consult with others in the agency.[2] We received responses

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[1] We initially identified agencies that MNIT considered to be subject to consolidation based on MNIT, "Enterprise Information Security and Risk Management Applicability Standard," version 1.6, effective May 1, 2016. We excluded agencies that did not have their own administrative staff.

[2] We sent the survey to (1) the agency head or (2) the agency's preferred contact with our office regarding IT issues, as specified by some agencies in their earlier correspondence with our office.

from 99 percent of the surveyed agencies that receive services from MNIT.[3] The surveyed entities vary widely in the scope of their responsibilities; for example, some (like health licensing boards) are largely regulatory bodies, while others (like the Department of Human Services) have a wide range of duties related to policy development and implementation, fiscal management, regulation, and administration of direct services. Because of these differences in agency scope, we separately analyzed responses for agencies that were represented in the governor's cabinet (as of 2018) and those that were not. Officials from cabinet agencies represented 27 percent of survey respondents, while officials from noncabinet agencies represented the remaining 73 percent of survey respondents. Appendix A of this report lists the cabinet and noncabinet agencies we surveyed; in general, cabinet agencies tend to be larger and have a broader scope of responsibilities than noncabinet agencies.

To supplement our survey, we conducted interviews with 23 staff in 5 executive branch organizations, representing a mix of large and small agencies.[4] This provided us with an opportunity to discuss certain issues in greater depth than we could explore in our survey. In addition, we reviewed documents related to MNIT's services to each of these organizations, and we interviewed MNIT's chief agency-based official(s) for each.

We interviewed many members of MNIT's executive leadership team, as well as selected other MNIT employees. We also interviewed some legislators, legislative staff, former MNIT officials, and state executive branch budget officials. We solicited and received information from state government chief information officers in seven other states, using a structured questionnaire, to better understand their perspectives on IT organization, funding, and services.[5] We reviewed 30 agencies' budget requests for the Fiscal Year 2018-2019 biennium, and we reviewed academic literature related to selected topics, such as IT governance.

We analyzed data on MNIT expenditures and revenues from the state's accounting system for fiscal years 2016 through 2018.[6] To examine trends in the number of MNIT employees since the consolidation, we relied on data we obtained from MNIT.

There are several MNIT-related topics that we did not examine in depth. For example, we did not hire technical experts to assess cybersecurity practices or the quality of IT services provided to agencies. We did not compare the rates MNIT charges for its services to the rates of other organizations, although we reviewed two cost comparison reports commissioned by MNIT. We did not assess the accuracy of MNIT's bills to agencies or the adequacy of state government's IT procurement policies and practices, although we asked state agencies for their perceptions about billing and procurement. In addition, we did not

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[3] We received responses from 71 of the 72 agencies to which we sent surveys. The nonrespondent was a small agency that had recent turnover in its lone administrative positions. We sent the survey to two other agencies, but each initially told us it did not receive services from MNIT or have a service-level agreement with MNIT, so we did not require either to complete the survey. One of these agencies later told us that it does, in fact, receive MNIT services.

[4] The agencies were the Department of Human Services, Department of Public Safety, Bureau of Mediation Services, Minnesota Council on Disability, and the Board of Examiners for Nursing Home Administrators.

[5] The states we contacted were Colorado, Michigan, New York, Ohio, Tennessee, Texas, and Utah.

[6] We limited our review of MNIT financial data to three recent years due to questions about the consistency and reliability of data from the years immediately following the 2011 consolidation.

review services that MNIT makes available to local governments or private organizations, MNIT staff qualifications, or the appropriateness of MNIT's funding levels.

This report is organized into seven chapters. Chapter 1 provides background on MNIT's organization, staffing, duties, and funding. Chapter 2 discusses the history and status of the 2011 IT consolidation, as implemented by MNIT. Chapter 3 discusses issues related to IT funding, costs, and budgeting. Chapter 4 discusses MNIT's services to agencies, the division of responsibilities between MNIT and state agencies, and agencies' satisfaction levels with MNIT services. Chapter 5 evaluates the adequacy of MNIT's oversight of agency-based software development projects. Chapter 6 discusses the extent to which the Legislature and state agencies have opportunities and information that allow them to oversee MNIT. We provide recommendations for legislative or agency action throughout the report, but Chapter 7 presents options the Legislature could consider if it wishes to reexamine the structure of state government's IT services.

Chapter 1: Background

The Office of Minnesota Information Technology Services (MNIT) is a state agency that delivers information technology and telecommunications services to Minnesota executive branch state agencies and other government entities. This chapter describes what is meant by "information technology" (IT) and reviews MNIT's current organization, staffing, duties, and finances.

KEY FINDINGS IN THIS CHAPTER

- **MNIT's IT services are intended to address needs that are (1) common to all executive branch agencies and (2) unique to individual agencies.**

- **About three-fourths of MNIT employees work for MNIT offices located at state agencies other than MNIT, while the remaining employees work for MNIT's central office.**

- **MNIT receives nearly all of its funding from the state agencies that use its services.**

What is Information Technology?

Minnesota law provides the following definition for "information and telecommunications technology systems and services":

> All computing and telecommunications hardware and software, the activities undertaken to secure that hardware and software, and the activities undertaken to acquire, transport, process, analyze, store, and disseminate information electronically…[including] all proposed expenditures for computing and telecommunications hardware and software, security for that hardware and software, and related consulting or other professional services.[1]

This definition suggests that information and telecommunications technology is not restricted to tangible IT items such as desktop computers or monitors but also extends to supporting activities. Services, staffing, and expenditures to support information and telecommunications technology are therefore part of state government IT and telecommunications.[2]

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[1] *Minnesota Statutes* 2018, 16E.03, subd. 1(b).

[2] Although state law jointly defines information technology and telecommunications technology, these two components refer to different systems and services. Broadly, information technology relates to computing and the storage and management of data. Desktop computers and other hardware are an example of information technology. Telecommunications, or telecommunications technology, refers to the transmission of information through wired or wireless networks. Telephones are an example of telecommunications technology. Throughout this report, we refer to information technology and telecommunications as "IT."

State agencies, boards, councils, and commissions rely on information technology to fulfill their responsibilities.

State agencies use certain IT and telecommunications items, such as telephones, computers, and e-mail, as part of their daily activities.[3] For example, MNIT reported that:

- Customers send and receive over three million e-mails through MNIT each week.

- About 100 organizations use MNIT's telephone services.

- More than 35,000 state agency customers have desktop computers managed by MNIT.

Agencies also depend on specialized software applications to support their key business operations. Some agencies with diverse business needs have hundreds of software applications. For example, the Minnesota Department of Transportation (MnDOT) had over 500 software applications as of April 2017 to manage the state's transportation systems. MnDOT's "511" application, for example, provides travelers with up-to-date information about road conditions, such as vehicle crashes, road closures, and inclement driving weather.

> **Software Application**
>
> Custom developed or purchased software that performs one or more of an agency's business processes or functions.
>
> **— MNIT Definition**

Other agencies with a more narrow business focus may rely primarily on a single application. The state's health licensing boards, for example, use electronic licensing software applications to support their main business activities. Minnesota health professionals use this software to submit applications for occupational licensure and pay license fees.

Staffing and Organization at MNIT

In July 2018, MNIT had a total of 2,338 full-time-equivalent (FTE) employees.[4] Below, we discuss how these employees are organized within MNIT, recent MNIT staffing trends, and IT leadership.

Organization

MNIT's organization is divided between a central office and multiple offices based at state agencies. The MNIT central office provides (1) overall IT leadership and administrative support and (2) services that are common to executive branch state agencies.[5] For example,

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[3] We use the term "state agencies" in this report to refer to state executive branch organizations, including agencies, boards, councils, and commissions that receive services from MNIT.

[4] A "full-time-equivalent" employee is an employee who works 40 hours each week (or 2,080 hours each year). One employee who works 40 hours each week is counted as 1.0 FTE. An employee who works 30 hours each week would therefore be counted as 0.75 FTE.

[5] MNIT's central office also provides certain services to other non-state agency organizations, such as county or city governments.

the central office administers MNIT human resources and finances, and it provides MNIT help desk support to state agencies. MNIT's offices located at state agencies mostly work on IT services unique to individual agencies, such as customized software applications to meet agencies' business needs.

About three-fourths of MNIT employees work for MNIT offices located at state agencies other than MNIT, while the remaining employees work for MNIT's central office.

The number of MNIT staff working for MNIT's offices at state agencies varies widely. MNIT's largest office is based at the Department of Human Services (DHS), with over 700 MNIT employees as of July 2018; almost one in three MNIT staff worked for MNIT's office located at DHS. On the other hand, some agencies do not have any MNIT staff assigned to their agency and rely instead on support from MNIT's central office, and some share MNIT staff with other agencies. These agencies may have limited IT needs or limited financial resources to support on-site MNIT staff.

In July 2018, nearly one in three MNIT employees worked for its office at the Department of Human Services (DHS).

MNIT central office
25%

MNIT office at DHS
32%

MNIT offices at other agencies
43%
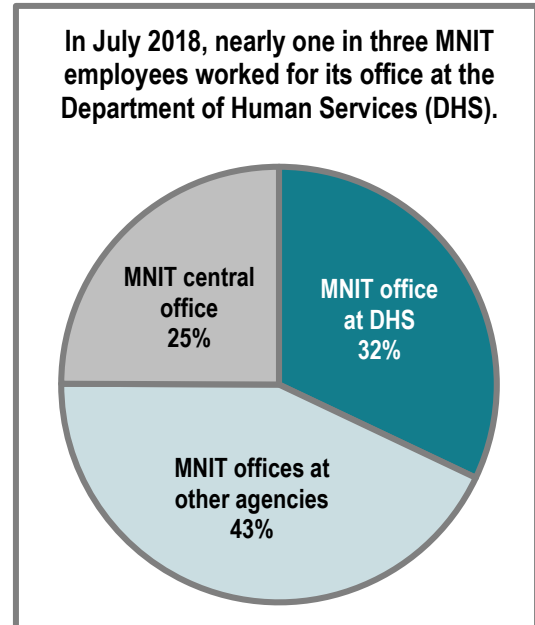
Staffing

MNIT fulfills its duties using a combination of its own employees and professional contractors. MNIT's mix of employees and contractors varies over time, depending on the types of projects state agencies have undertaken and the skills needed for those projects. MNIT does not track the number of individuals working as IT contractors, but later in this chapter we discuss MNIT's expenditures for contracted services.

MNIT's total number of employees increased by about 13 percent from July 2015 to July 2018, with increases concentrated in certain MNIT offices.

Exhibit 1.1 shows changes in the number of MNIT employees at the MNIT central office, the MNIT office at DHS, and MNIT offices at other agencies from July 2015 to July 2018. MNIT's overall staffing increase was primarily due to staffing increases at MNIT's central office and MNIT's office located at DHS. MNIT staff increased by 47 percent at MNIT's central office during this time period, and staff at MNIT's office based at DHS increased by 24 percent.

MNIT reported that there are two main causes for the increase in employees at these offices. First, MNIT has extended its common services provided by the central office to additional state agencies. This has resulted in transfers of MNIT staff responsible for these services from offices based at state agencies to the MNIT central office. Second, the increase in MNIT staff based at DHS is due largely to recent projects to upgrade or modernize DHS's older IT systems. MNIT officials told us that, aside from the transfers of agency IT staff to

Exhibit 1.1: There were staffing increases in MNIT's central office and Department of Human Services (DHS) office between July 2015 and July 2018.

Employees
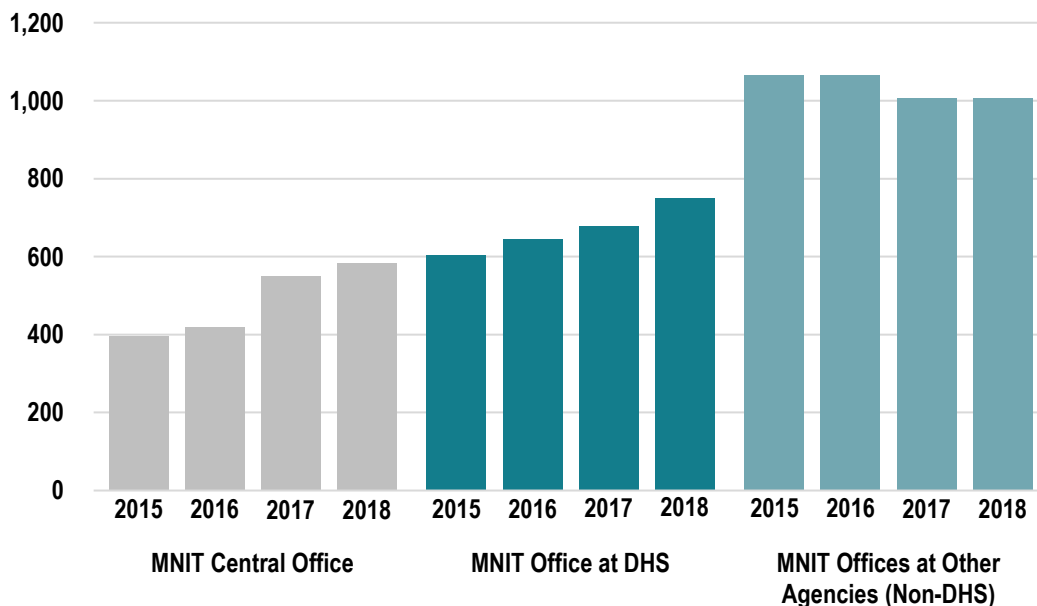
NOTE: Data reflect the number of MNIT employees at a given point in time (the first week of July each year).

SOURCE: Office of the Legislative Auditor, summary of MNIT information.

the MNIT central office to help with the implementation of MNIT's common services, changes in the number of MNIT staff at individual agencies (such as DHS) are driven by decisions made by leadership in those agencies.[6]

Leadership

MNIT is led by a commissioner, who serves as the state's chief information officer (CIO).[7] Each state has a chief information officer, who plays a role providing IT leadership for state government. In Minnesota, decisions by the chief information officer influence the IT activities of state agencies. For example, the commissioner may make decisions that affect which IT services state agencies use, the projects that agencies undertake, and whether agencies use vendors rather than MNIT services. The commissioner is responsible for

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[6] We did not conduct an analysis to determine whether MNIT's staffing is at an appropriate level.

[7] State law says, "The chief information officer must have experience leading enterprise-level information technology organizations. The chief information officer is the state's chief information officer and information and telecommunications technology advisor to the governor." (*Minnesota Statutes* 2018, 16E.02, subd. 1(a).)

setting the direction for state government IT, with the assistance of various governance bodies established by the commissioner.[8]

Similar to MNIT's overall organization, MNIT's leadership is divided between the MNIT central office and MNIT offices located at state agencies. MNIT has assigned responsibility for managing IT resources at state agencies to agency-based MNIT leaders.

Chief business technology officers (CBTOs) serve as leaders for MNIT's offices based at state agencies.

CBTOs are the primary liaison between MNIT and the state agencies that CBTOs serve. They work closely with agency leadership to manage IT services and budgets at the agencies. CBTOs help set the "future direction, goals, and priorities" for IT at agencies.[9] They have considerable latitude to make decisions about how to deliver agencies' IT services within the confines of the agency's available resources. CBTOs report to MNIT's executive leadership.

All agencies that are members of the governor's cabinet have a CBTO assigned to their agencies, but some of these agencies share a CBTO. For example, the Department of Education, the Office of Higher Education, and the Department of Commerce share one CBTO. In contrast, four CBTOs work exclusively with a single cabinet agency.[10]

Many noncabinet agencies do not have a CBTO assigned to their agency. For some of these agencies, MNIT has instead assigned a MNIT "IT director" to serve as a liaison to the agencies. An IT director conducts some of the same activities as a CBTO but focuses more on providing support rather than setting strategy for an agency's IT. This director does not report directly to MNIT executive leadership.

MNIT leadership has undergone several changes in recent years. For example, there have been three permanent MNIT commissioners since 2011, as shown by the box at right. MNIT has also reduced the total number of CBTOs in recent years from 21 in 2011 to 13 in 2019.[11] We discuss MNIT's agency-based leadership further in Chapter 4.

Recent MNIT Commissioners	
Carolyn Parnell	2011 – 2015
Thomas Baden	2015 – 2018
Johanna Clyborne	2018 – 2019
Bill Poirier (acting)	2019 – Present

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[8] MNIT currently has five governance teams that serve as advisory and decision-making bodies. An Executive Steering Team consisting entirely of MNIT officials addresses broad strategic issues and oversees the other governance teams. MNIT also has a Financial Steering Team, Services Team, Standards Team, and Strategy Team. We discuss these teams further in Chapter 6.

[9] Office of MNIT Services, Chief Business Technology Officer Position Description, June 2016.

[10] The agencies with a CBTO assigned to that agency alone are the departments of Corrections, Health, Management and Budget, and Transportation.

[11] Chief business technology officers were formerly called "agency chief information officers," but the position title was changed to CBTO in 2016.

MNIT Duties

MNIT's governing statute defines specific responsibilities that the office must fulfill. This section provides an overview of these duties. We discuss the adequacy of MNIT's authorizing statute in Chapter 6.

State law gives MNIT broad authority over state government's IT oversight, planning, service delivery, and business operations.

Oversight and Planning

Minnesota law states that MNIT is responsible for setting direction for Minnesota's IT services and projects and providing "oversight."[12] MNIT must "coordinate, review, and approve all information and telecommunications technology projects and oversee the state's information and telecommunications technology systems and services."[13] Aside from approval of IT projects, MNIT must provide or arrange for additional oversight of projects with costs over specified thresholds. For example, state law says projects over $1 million must offer "startup documentation" to MNIT before the projects can begin.[14] For projects over $5 million, MNIT must report on project performance in comparison with projected plans.[15] For projects over $10 million, MNIT must conduct or contract for annual independent project audits.[16]

By law, MNIT must create a master plan "for information and telecommunications technology systems and services in the state and its political subdivisions."[17] MNIT must present the plan to the governor and Legislature every two years.[18] In addition to the master plan, state law requires MNIT to participate in other planning-related activities, shown in the box at right.

Required MNIT Planning Activities

- Create a state IT master plan.
- Plan a secure transaction system for electronic government services.
- Plan the state's information infrastructure.
- Coordinate planning to ensure citizen access to government services.
- Plan the implementation of geospatial information systems.

In addition, the law directs MNIT to develop IT standards and policies and ensure compliance with them.[19] For example, MNIT has a policy for "incident management."[20] According to the policy, an incident may involve "an unplanned interruption to an IT

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[12] *Minnesota Statutes* 2018, 16E.01, subd. 1a.

[13] *Minnesota Statutes* 2018, 16E.03, subd. 2(2).

[14] *Minnesota Statutes* 2018, 16E.01, subd. 3(c).

[15] *Minnesota Statutes* 2018, 16E.01, subd. 3(d).

[16] *Minnesota Statutes* 2018, 16E.01, subd. 3(e).

[17] *Minnesota Statutes* 2018, 16E.03, subd. 2(1). The law also references an information technology "strategic plan" (*Minnesota Statutes* 2018, 16E.036(d)(1)), but it is unclear whether this is the same as the "master plan."

[18] *Minnesota Statutes* 2018, 16E.03, subd. 2(1).

[19] *Minnesota Statutes* 2018, 16E.03, subds. 2(3) and 2(6).

[20] Office of MNIT Services, Incident Management Policy, version 1.00, approved October 3, 2013.

Service or a reduction in the Quality of an IT Service."[21] MNIT's Incident Management Policy provides a standardized process for all MNIT employees when responding to incidents.

Systems and Services

State law requires MNIT to provide or contract for IT and telecommunication services to state agencies, as shown in Exhibit 1.2.[22] MNIT may choose the manner in which to provide these services. The law states:

> The chief information officer… must determine when it is cost-effective for agencies to develop and use shared information and telecommunications technology systems and services for the delivery of electronic government services. The chief information officer may require agencies to use shared information and telecommunications technology systems and services.[23]

Exhibit 1.2: State law says MNIT is responsible for 12 categories of services and equipment.

(1) State data centers;
(2) Mainframes, including system software;
(3) Servers, including system software;
(4) Desktop computers, including system software;
(5) Laptop computers, including system software;
(6) A data network, including system software;
(7) Database, electronic mail, office systems, reporting, and other standard software tools;
(8) Business application software and related technical support services;
(9) Help desk for the components listed in items (1) to (8);
(10) Maintenance, problem resolution, and break-fix for the components listed in items (1) to (8);
(11) Regular upgrades and replacement for the components listed in items (1) to (8); and
(12) Network-connected output devices.

NOTES: This list identifies systems and services MNIT must provide to state agencies, either directly or through a contractor. The law does not prevent MNIT from providing services related to information technology and telecommunications in addition to the items listed. State agencies must use these systems and services unless otherwise exempted from this requirement by MNIT's commissioner.

SOURCE: *Minnesota Statutes* 2018, 16E.016(a).

MNIT's IT services are intended to address needs that are (1) common to all executive branch agencies and (2) unique to individual agencies.

Enterprise services are those common to all state agencies. They are provided or arranged by staff who work for MNIT's central office, and all executive branch agencies must

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[21] *Ibid*., 20.

[22] *Minnesota Statutes* 2018, 16E.016(a).

[23] *Minnesota Statutes* 2018, 16E.01, subd. 3(b).

generally use these services.[24]   Examples of enterprise services are desktop computers, telephones, and e-mail. Services intended to ensure the security of state data and systems are also generally considered an enterprise service.

Agency-specific services (also called "local services") are those that meet agency-specific needs. They are provided by staff in MNIT's agency-based offices to the individual agencies these offices serve. Examples of agency-specific services are software application development, such as a project to replace the Department of Revenue's older sales tax calculator application with a new application. Services associated with software applications—such as support to address user problems and periodic software upgrades—are also part of MNIT's agency-specific service responsibilities.

MNIT may also provide IT and telecommunications systems and services to non-state agency entities, such as county governments or education providers. State law does not require that these entities use MNIT's systems and services. MNIT's website shows that non-state agency entities have access to a more limited menu of services than state agencies, including video and web conference services, telephone services, and wide-area network (WAN) services.[25]

Administrative Responsibilities

MNIT also performs various IT administrative functions, such as IT staffing, finances, and procurement.

Staffing

Minnesota law says that MNIT may hire employees and use contractors to fulfill the office's functions.[26] All state employees whose work primarily involves the services listed in Exhibit 1.2 are designated in law as MNIT employees, including staff who manage or provide administrative support for these employees.[27]

MNIT leaders told us that MNIT (rather than state agencies) has full responsibility to make certain IT staffing decisions and conduct staff oversight. For example, they said MNIT is responsible to decide which candidates to hire for open positions; they said MNIT is also responsible for supervising and reviewing the performance of MNIT staff, including staff based at state agencies. MNIT's agency-based leaders told us they sometimes involve agency officials in staffing decisions, such as hiring or employee performance appraisals.

Finances

MNIT is responsible for managing the finances of IT systems and services under its authority. State law establishes a MNIT Services Revolving Fund that MNIT may use to pay for services to MNIT customers. State agencies and other MNIT customers pay into

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[24] *Minnesota Statutes* 2018, 16E.016(c), states that MNIT may permit agencies to receive these services from "an outside vendor when the chief information officer and the agency head agree that a contract would provide best value."

[25] Office of MNIT Services, "Services for Non-Executive Branch Partners," https://mn.gov/mnit/services/non-exec, accessed April 4, 2018. The wide-area network is an information network connecting devices and servers across the state.

[26] *Minnesota Statutes* 2018, 16E.02, subd. 1(b); and 16E.01, subds. 2(1) and (4).

[27] *Minnesota Statutes* 2018, 16E.016(b).

the revolving fund, and MNIT is appropriated money from the fund to make IT expenditures.[28] Minnesota law also requires MNIT to establish a system of rates to charge for some services.[29] We discuss MNIT's finances in greater detail in the next section.

Procurement

Minnesota law states that MNIT is responsible to "review and approve agency requests for funding for the development or purchase of information systems equipment or software before the requests may be included in the governor's budget."[30] The law further says that MNIT's review of "major purchases" should ensure that (1) the equipment follows state standards and guidelines for "information architecture," (2) the purchase "reflects a cost-effective policy regarding volume purchasing," and (3) the equipment is "consistent with other systems in other state agencies so that data can be shared among agencies," unless the agencies can provide reasons justifying inconsistencies.[31]

MNIT Finances

MNIT is a direct provider of many IT services, but it relies largely on funding from state agencies. MNIT charges agencies for the services it provides, and agencies budget for and transfer funds to MNIT for services rendered. This section provides a brief overview of MNIT's revenues and expenditures, and we discuss MNIT finances further in Chapter 3.

MNIT Revenues

MNIT's total revenues in Fiscal Year 2018 were around $460 million.[32] Most of these revenues are from either a rate system for enterprise services or direct cost billing for agency-specific services.

MNIT employs a rate system to recoup funds from the agencies that use its enterprise services. Every two years, MNIT develops rates that will be assessed for enterprise services and a few other service types. Enterprise rates are intended to reflect costs including: (1) the direct costs of a product, such as the purchase of desktop computers; (2) indirect costs, such as data storage shared by many users; and (3) overhead, such as general administrative support from MNIT's human resources staff.

For agency-based services, MNIT bills the affected state agency directly for all costs, including equipment, products, contractors, and related MNIT salary costs. State agencies pay for these charges via pass-through funding; this means that agencies receive funding from the Legislature and transfer these funds to MNIT after service delivery. State law

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[28] *Minnesota Statutes* 2018, 16E.14, subds. 1, 2, and 3.

[29] *Minnesota Statutes* 2018, 16E.01, subd 3(b).

[30] *Minnesota Statutes* 2018, 16E.04, subd. 2(b).

[31] *Minnesota Statutes* 2018, 16E.04, subd. 2(d). The law does not define what constitutes a "major purchase."

[32] For purposes of our financial analysis, "fiscal year" refers to "budget fiscal year." This means that we summarized revenues and expenditures based on the years in which their underlying appropriations occurred. Thus, for example, expenditures for Budget Fiscal Year 2017 may include expenditures that occurred in state fiscal years 2017 and 2018.

requires that agencies transfer the information technology portion of project costs to MNIT for agency-specific projects.[33]

MNIT receives nearly all of its funding from charges to or transfers from the state agencies that use its services.

Exhibit 1.3 shows MNIT revenues from all sources for fiscal years 2016, 2017, and 2018. Ninety-nine percent of MNIT's funding in Fiscal Year 2018 came from charges to agencies and agency transfers for services rendered. The proportion of MNIT revenues coming from agencies was similarly high in previous years (98 percent in Fiscal Year 2016 and 95 percent in Fiscal Year 2017).

99%

of MNIT's revenues in Fiscal Year 2018 came from charges to or transfers from state agencies.

Exhibit 1.3: MNIT's revenues and expenditures grew over the past three fiscal years.

Revenues (in thousands)	2016	2017	2018
Charges to MNIT customers (Agency and Enterprise)[a]	$328,553	$442,798	$456,780
Direct appropriations	2,526	3,965	2,642
Information and Telecommunications Account[b]	2,712	15,907	2,300
Other revenues	1,075	2,424	540
Total	**$334,865**	**$465,095**	**$462,263**

Expenditures (in thousands)	2016	2017	2018
Agency-specific services[c]	$371,320	$443,484	$428,568
Enterprise services[d]	86,431	94,287	154,936
Information and Telecommunications Account services	15,757	11,155	13,613
Total	**$473,507**	**$548,926**	**$597,117**

NOTES: This table only includes MNIT revenues and expenditures for executive branch state agencies that receive services from MNIT. During the years of our analysis, certain agencies continued to make IT-related expenditures from agency revenue sources that did not pass through MNIT. The exhibit includes these IT expenditures but does not include the underlying revenues for these expenditures. For purposes of our financial analysis, "fiscal year" refers to "budget fiscal year." Totals may not sum correctly due to rounding.

[a] "Charges to MNIT Customers" includes payments for enterprise services and transfers to MNIT for agency-specific services.

[b] Also known as the Odyssey Investment Fund, the Information and Telecommunications Account is a fund by which agencies may transfer unspent appropriations to MNIT in order to invest in IT projects for their agency or for MNIT as a whole. Revenues and expenditures for the Information and Telecommunications Account do not equal one another because agencies may transfer appropriations in fiscal years that are different than when spending occurs.

[c] "Agency-specific services" refers to agencies' directly purchased services, such as software applications, including associated employee and contractor costs.

[d] "Enterprise services" includes the costs to MNIT of providing enterprise computing and telecommunications services to customers, including associated employee costs.

SOURCE: Office of the Legislative Auditor, summary of MNIT information.

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[33] *Minnesota Statutes* 2018, 16E.0466, subd. 1(a).

MNIT receives limited revenues from General Fund appropriations from the Legislature. General Fund appropriations typically pay for items such as central office leadership services, some security services, and geospatial services. Less than 1 percent, or around $2.6 million, of MNIT's revenues for Fiscal Year 2018 came from General Fund appropriations to MNIT. MNIT receives its remaining revenues from the Information and Telecommunications Account Fund and other special revenue funds.[34]

MNIT Expenditures

MNIT's total expenditures in Fiscal Year 2018 were almost $600 million. Later in this section—after we review MNIT's largest categories of expenditures—we discuss why MNIT's spending exceeds its revenues.

Most of MNIT's expenditures are for agency-specific IT services, over which MNIT officials said they exercise little control.

About 72 percent of MNIT's expenditures in Fiscal Year 2018 were for agency-specific IT costs. This included expenditures for IT products and equipment, IT employee compensation, and payments to contractors. Of agency-specific expenditures in Fiscal Year 2018, about half was for costs related to agency employees.

MNIT leadership told us that, in practice, MNIT has no significant ability to control changes in agency-based MNIT expenditures. MNIT leaders said the number and focus of agency-based MNIT staff largely reflect the priorities set by those agencies' leaders.

The next largest expenditure category in Exhibit 1.3—"enterprise services"—reflects the costs (including MNIT labor) of providing enterprise services to state agencies. This category accounted for about one-fourth of MNIT's expenditures in Fiscal Year 2018. A final spending category was expenditures from the Information and Telecommunications Account, with around 2 percent of all IT spending in Fiscal Year 2018.

MNIT's total spending increased from Fiscal Year 2016 to Fiscal Year 2018 by 26 percent.

The increase in expenditures came both from the costs of providing enterprise services and agency-specific services to state agencies. Agency-specific spending increased by 15 percent from Fiscal Year 2016 to Fiscal Year 2018, which MNIT stated is largely due to agency system upgrades. As noted above, MNIT leaders said they have little control of agency-based MNIT spending.

Enterprise service spending increased by 79 percent during this three-year period. According to MNIT, this increase reflected the extension of more enterprise services to additional agencies. Specifically, some expenditures that once were agency-specific spending have gradually shifted to enterprise spending as MNIT has centralized certain services. It is unclear whether growth in enterprise service spending might also have

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[34] The Information and Telecommunications Account, also known as the Odyssey Investment Fund, is a fund by which agencies may transfer unspent appropriations to invest in state government IT projects. Special revenue funds have also been used to transfer funding to MNIT for systems such as the state's Criminal History System (which stores information on arrests and convictions, for example).

reflected changes in the amount of these services consumed or in the rates agencies paid for those services.[35]

Although both expenditures and revenues increased during this time period, MNIT had considerably higher spending than revenue. For example, there was a $135 million gap between MNIT's revenues and expenditures for Fiscal Year 2018. MNIT explained that, due to the phased consolidation of MNIT's finances during the years of our review (fiscal years 2016-2018), certain expenditures were recorded by agencies as IT spending for which MNIT did not receive revenues. For example, as we discuss in Chapter 2, a sizable portion of DHS's IT expenditures (totaling about $115 million in Fiscal Year 2018) have not yet been consolidated into MNIT; in Exhibit 1.3, the revenues for these expenditures are not included in the revenue totals shown.

Another reason that expenditures were higher than revenues was the delay that occurred between when MNIT spent money and when it received payments for these services. Agencies reimburse MNIT following service delivery, and sometimes agencies do not make payments in a timely manner. To enable MNIT to cover expenses while it is waiting for agency payments, MNIT has received cash assistance loans from the Department of Management and Budget, and these loans are not reflected in the expenditures shown in Exhibit 1.3.[36] MNIT's cash assistance loans for fiscal years 2018 and 2019 totaled $110 million.

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[35] Some state agencies told us their enterprise service expenditures were affected by MNIT increases in certain enterprise service rates. However, we did not analyze the underlying causes of changes in MNIT's total enterprise expenditures for the three-year period shown in Exhibit 1.3.

[36] MNIT has received cash assistance loans from the department every two years. MNIT pays the loans back to the department with interest at the end of the two years; however, until the time of payback, the loans are not considered revenue and therefore were not included in our analysis.

Chapter 2: State IT Consolidation

The manner in which Minnesota's state agencies receive information technology (IT) services is quite different today from a decade ago, in part due to efforts to consolidate state IT under a single state agency—the Office of Minnesota IT Services (MNIT). The 2011 Minnesota Legislature passed an act consolidating the state's information technology under a single state agency.[1] This chapter discusses the history of Minnesota's IT consolidation, the current status of consolidation efforts, and some outcomes of the consolidation. We also describe the perceptions of the consolidation by state agencies whose information technology was consolidated under MNIT.

KEY FINDINGS IN THIS CHAPTER

- **The Office of Minnesota Information Technology Services is the result of two decades of evolution toward more consolidated state IT services.**

- **Parts of the IT consolidation have been completed, but other parts are still in progress.**

- **State agencies have divided opinions on whether the state's 2011 IT consolidation has been, on balance, positive or negative.**

National Context for IT Consolidation

Before we discuss Minnesota's 2011 consolidation of IT services, it is helpful to consider this action in a broader context. We reviewed research literature on the structure and oversight of IT in public and private organizations. We also solicited information on IT services from state agencies in seven states.[2]

There is no single preferred IT structure for all organizations, although there has been a trend toward consolidation of IT services in state governments.

The RAND Corporation examined different approaches to organizing information technology oversight in state governments.[3] RAND concluded that "effective IT governance at the state level can be achieved under widely varying structural and

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[1] *Laws of Minnesota* 2011, First Special Session, chapter 10, art. 4, codified as *Minnesota Statutes* 2011, 16B.99, 16E.016, 16E.036, 16E.04, and 16E.145.

[2] We obtained information from Colorado, Michigan, New York, Ohio, Tennessee, Texas, and Utah. We selected these states because their IT services represented: (1) a range of organizational and reporting structures and (2) varying degrees of consolidated IT. We also considered recommendations from an industry expert when selecting states for our inquiry.

[3] RAND conducted case studies in states that represented three models: (1) a central office vested with significant formal authority (Virginia, New York); (2) a central office that had authority in certain areas (policy, technical, operations) but worked closely with other agencies to implement certain aspects (budgeting, purchasing) of IT services (Pennsylvania); and (3) a central office that lacked formal authority but relied on communication, coordination, and coalition-building with other agencies (Illinois).

procedural arrangements."[4] Likewise, researchers Peter Weill and Jeanne Ross examined a mix of public and private organizations and concluded: "There is no single best model of IT governance."[5] Researchers Carla Wilkin and Robert Chenhall found that "there was consensus that effective [information technology governance] lay less in its structures and more in how the whole comes together through the dynamics of human behavior"—such as leadership, relationships, and commitment to change.[6]

The IT structure that is most appropriate may vary by situation. Some studies have identified factors—such as organizational culture or the extent of stakeholder involvement—that may affect the success of IT arrangements.[7] For example, research on information technology purchasing in manufacturing firms suggests that "[t]he best choice [centralization or decentralization] depends critically on the specific business context in which the IT will be deployed."[8]

According to the executive director of the National Association of State Chief Information Officers (NASCIO), all states have centralized or consolidated at least some of their state government IT, such as networks or cybersecurity.[9] Utah, for example, used to have data centers in individual state agencies but, through consolidation, now has only two data centers serving all agencies.[10] Texas has established a "technology purchasing cooperative" through which all state agencies purchase information technology hardware, software, and services using more than 700 centrally managed master contracts. The purchasing cooperative was intended to maximize savings by aggregating the buying power of multiple agencies, while avoiding the establishment of a centralized purchasing organization. The NASCIO director told us he has observed significant movement by states toward greater centralization of information technology in the past 10 to 15 years.[11] He said he would not characterize any state as being fully decentralized today.

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[4] Robert Anderson and others, *Effective Use of Information Technology: Lessons About State Government Structures and Processes* (Santa Monica, CA: RAND Corporation, 2003), 19.

[5] Peter Weill and Jeanne Ross, "A Matrixed Approach to Designing IT Governance," *MIT Sloan Management Review* (Winter 2005), https://sloanreview.mit.edu/article/a-matrixed-approach-to-designing-it-governance/, accessed November 14, 2018.

[6] Carla Wilkin and Robert Chenhall, "A Review of IT Governance: A Taxonomy to Inform Accounting Information Systems," *Journal of Information Systems* 24, no. 10 (Fall 2010): 134.

[7] Zyad Alreemy and others, "Critical Success Factors for Information Technology Governance," *International Journal of Information Management* 36 (2016): 907-916; Ruben Pereira and Miguel Mira de Silva, "IT Governance Implementation: The Determinant Factors," www.ibimapublishing.com/articles/CIBIMA /2012/970363/970363.pdf, accessed November 18, 2018.

[8] Kristina McElheran, "Decentralization Versus Centralization in IT Governance: It's Not As Simple as You Might Think," *Communications of the ACM* 55, no. 11 (November 2012): 28. Her research suggested that most multisite firms had centralized purchasing authority at some locations and decentralized authority at others.

[9] Centralization and consolidation are related concepts that often occur simultaneously. Centralization means that "decision rights involved in the acquisition, deployment, and support of technology belong to a central group reporting to a corporate executive." (Stephen Andriole, "Who Owns IT?" *Communications of the ACM* 58, no. 3 (2015): 52.) Consolidation refers to restructuring "areas that appear to be duplicative, overlapping, or fragmented." (U.S. Government Accountability Office, *Questions to Consider When Evaluating Proposals to Consolidate Physical Infrastructure and Management Functions* (Washington, DC, 2012), highlights page.) In this report, we use "consolidation" to mean both consolidation and centralization.

[10] Data centers house computer equipment, such as servers, routers, and firewalls.

[11] The executive director of NASCIO told us other states' consolidation efforts sometimes occurred through legislation, and in other cases, they occurred at the initiative of the executive branch (such as through executive orders).

Minnesota's IT Consolidation History

Minnesota's consolidation of IT services did not occur solely due to the actions of the 2011 Legislature. The process has been an incremental one, involving actions of both the executive and legislative branches. IT consolidation has been initiated and implemented by state leaders from both major political parties.

MNIT is the result of two decades of evolution toward more consolidated state IT services.

Key pieces of legislation along the path towards a consolidated state IT agency were (1) the creation of an independent IT agency in 2005 and (2) legislation that consolidated executive branch IT service provision in 2011.[12] The 2011 IT consolidation legislation transferred responsibility for IT systems and services—and the staff and assets that support them— from most state agencies to the Office of Enterprise Technology (OET), the name for Minnesota's state IT agency before MNIT. Over time, other steps toward consolidation occurred in the form of executive orders and actions by the executive branch IT agency. Exhibit 2.1 shows key changes in state IT services from 1996 to the present.

The 2011 consolidation law did not explicitly specify the expected outcomes of the IT consolidation, or establish measures to identify when expected outcomes had been achieved.

Although the 2011 consolidation legislation set deadlines for the transfer of certain IT responsibilities, the law did not explicitly state legislators' expectations about the outcomes of an IT consolidation.[13] Rather, the language in the law suggested that legislators: (1) expected "improvement" and "development" of IT systems and services, (2) considered the possibility of "savings resulting from the expansions or consolidations," and (3) wanted "best value" from IT service providers.[14] However, the law did not specify any measures to evaluate success toward the goals of improved services, cost savings, and efficient service delivery.

During committee hearings on IT consolidation bills in 2011, legislators expressed opinions about what the IT consolidation should accomplish. Authors of IT consolidation bills said they expected that IT consolidation would result in cost savings due to reduced duplication of systems and services; higher quality IT services in areas such as service desks; and greater security through consolidation of IT infrastructure, such as data centers. An author of a consolidation bill in 2011 stated:

> This bill simply takes the utility functions and attempts to optimize them....
> Hopefully having a common, well-controlled, secure, standardized platform

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[12] *Laws of Minnesota* 2005, chapter 156, art. 5, secs. 6-18 and 22-24, codified as *Minnesota Statutes* 2005, 16E.01, 16E.02, 16E.03, 16E.04, 16E.0465, 16E.055, 16E.07, and 16E.14; and *Laws of Minnesota* 2011, First Special Session, chapter 10, art. 4, codified as *Minnesota Statutes* 2011, 16B.99, 16E.016, 16E.036, 16E.04, and 16E.145.

[13] *Laws of Minnesota* 2011, First Special Session, chapter 10, art. 4, sec. 6. Appendix B lists deadlines from the 2011 legislation.

[14] *Laws of Minnesota* 2011, First Special Session, chapter 10, art. 4, secs. 2(a) and (c), codified as *Minnesota Statutes* 2011, 16E.016(a) and (c); and *Laws of Minnesota* 2011, First Special Session, chapter 10, art. 4, sec. 6(f).

Exhibit 2.1: Minnesota state government IT services have become more consolidated during the past two decades.

1996 Governor Carlson issues executive order establishing an Office of Technology Coordination to coordinate the development of education-related technologies.

1997 Legislature creates a central IT agency, the Office of Technology.

1999 Legislature places the Office of Technology under the Commissioner of Administration's supervision.

2003 Legislature authorizes the Department of Administration to identify opportunities for shared IT systems and services.

2005 Legislature creates an IT agency, the Office of Enterprise Technology (OET), consolidating the Office of Technology and the InterTechnologies Group.[a]

Governor Pawlenty issues two executive orders with IT components: (1) authorizing the Drive to Excellence Initiative to create shared IT services, plans, and standards; and (2) implementing a "one-stop shop" licensing system.

2006 OET completes enterprise e-mail project, consolidating 21 e-mail systems into 1 system.

2009 Legislature creates geospatial information systems office (MnGeo), which will later become part of OET.

2010 Legislature requires study regarding consolidation of state data centers.

2011 Legislature passes IT consolidation legislation, consolidating state executive branch IT functions and staff within one agency (OET).

2013 Legislature changes name of OET to Office of Minnesota Information Technology Services (MNIT).

[a] The InterTechnologies Group was an organization within the Department of Administration that provided telecommunications and computing services. The Office of Technology was responsible for technology policy and strategy, as well as delivery of services such as the state's online service initiative.

SOURCE: Office of the Legislative Auditor, based on State of Minnesota Executive Order 96-8, "Providing for the Establishment of the Office of Technology Coordination," May 24, 1996; *Laws of Minnesota* 1997, chapter 202, art. 3, secs. 7-17, codified as *Minnesota Statutes* 1997, 16E.01-16E.13; *Laws of Minnesota* 1999, chapter 250, art. 1, secs. 68-69, codified as *Minnesota Statutes* 1999, 16E.01-16E.02; *Laws of Minnesota* 2003, First Special Session, chapter 1, art. 2, secs. 58-59, codified as *Minnesota Statutes* 2003, 16E.01, subd. 3, and 16E.07, subd. 9; *Laws of Minnesota* 2005, chapter 156, art. 5, secs. 6-18 and 22-24, codified as *Minnesota Statutes* 2005, 16E.01-16E.14; State of Minnesota Executive Order 05-04, "Providing Direction to State Departments Regarding Information Technology Governance," April 4, 2005; State of Minnesota Executive Order 05-05, "Providing Direction to State Departments Regarding a 'One-Stop Shop' for Licensing," April 4, 2005; *Laws of Minnesota* 2009, chapter 101, art. 2, sec. 55, codified as *Minnesota Statutes* 2009, 16B.99*; Laws of Minnesota* 2010, chapter 392, art. 2, sec. 16, subd. 1; *Laws of Minnesota* 2011, First Special Session, chapter 10, art. 4, codified as *Minnesota Statutes* 2011, 16B.99, 16E.016, 16E.036, 16E.04, and 16E.145; and *Laws of Minnesota* 2013, chapter 134, secs. 21 and 30, codified as *Minnesota Statutes* 2013, 16E.01, subd. 1.

on which to do all those things will have a little bit higher chance of success, but this doesn't guarantee success across all IT ventures in the state or any other organization.[15]

MNIT did not receive additional appropriations to implement the 2011 consolidation, which placed constraints on MNIT's consolidation activities.

State law authorized MNIT to expand or consolidate services to the extent allowed by existing resources.[16] The law also stated that the MNIT commissioner may consolidate services "to the extent that savings resulting from the expansions or consolidations will pay for the costs associated with these activities."[17] One of the authors of the IT consolidation legislation said he expected that cost savings would fund many of the consolidation activities. The expectation for cost savings was apparently shared by the governor early in the aftermath of the consolidation legislation. In 2013, Governor Dayton proposed more than $7 million in General Fund reductions for OET/MNIT for the upcoming biennium, due to expected efficiencies and centralization of services.[18]

However, current and former MNIT leaders told us that, in practice, it was difficult for MNIT to use cost savings to pay for consolidation efforts. For example, a former MNIT leader said that MNIT could not use cost savings from renegotiated IT contracts because any savings remained with state agencies (which paid the reduced contract amounts that MNIT negotiated) and were not available to MNIT. A MNIT advisory committee met in 2012 and 2013 to discuss a mechanism to capture consolidation savings, but the mechanism was never developed. MNIT attempted to recoup funds from agencies in 2013 by requesting that agencies transfer unspent IT funds at the end of the fiscal year to a MNIT fund, but it is not clear that these funds were the result of savings from the consolidation. In any case, MNIT recaptured a relatively small amount at that time—less than $2 million— when compared with the agency's total spending in 2013.

MNIT and state agency leaders told us that the lack of new funding constrained the consolidation process, such as MNIT's efforts to develop centralized IT services and provide administrative support for the newly-consolidated agency. For example, the state's IT agency prior to the 2011 consolidation legislation did not have its own human resources (HR) department. Following the legislation, this agency had to seek funding from state agencies subject to the consolidation so that it could establish an HR office and serve its now-larger IT workforce.[19]

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[15] Representative Keith Downey, House Government Operations and Elections Committee hearing on H.F. 191, Redundant Technology Elimination Act, February 24, 2011.

[16] *Laws of Minnesota* 2011, First Special Session, chapter 10, art. 4, sec. 6(f).

[17] *Ibid.*

[18] State of Minnesota, *2014-2015 Biennial Budget, Office of Enterprise Technology* (St. Paul, January 2013), 4.

[19] OET received HR support from another state agency before 2011, and the Department of Human Services loaned OET its HR Director to establish OET's HR department when the IT consolidation legislation passed.

Status of the IT Consolidation

The 2011 IT consolidation legislation established deadlines for certain aspects of the consolidation.[20] This section discusses the progress in consolidating state agency IT employees, finances, and services under MNIT since passage of that act. We did not determine the extent of MNIT's compliance with the original legal deadlines; rather, we focused on the extent to which consolidation was achieved by the end of 2018—more than seven years after the consolidation legislation passed.

As context for our discussion, it is useful to consider the state of Minnesota's IT services prior to the consolidation legislation. Before 2011:

- IT staff were employees of the state agencies to which they provided services, with the exception of the IT staff based at the Office of Enterprise Technology (OET). OET staff provided limited services to state agencies. There were fewer than 400 employees at OET at that time.

- State agencies controlled IT finances for their own agencies, including payroll for IT staff, procurement of IT goods, and contracts with non-state vendors. IT costs were not necessarily tracked separately—rather, they may have been part of overall budgets, mixed with agency administrative expenses or program costs.

- State agencies generally decided how to provide IT services and systems for their own purposes. OET could require agencies to use shared services, but—in practice—it offered a limited number of such services prior to the 2011 consolidation. Agencies could rely on their own IT staff to provide IT systems and services, but agencies could also decide whether to contract with non-state vendors to address their IT needs.

Employees

The 2011 IT consolidation legislation stated that "[p]owers, duties, responsibilities, *personnel*, and assets relating to functions assigned to the chief information officer in Minnesota Statutes, section 16E.016, are transferred to the Office of Enterprise Technology from all other state agencies" (emphasis added).[21] The functions referenced in "section 16E.016" are those common systems and services that MNIT (then OET) was required to make available to agencies, as listed in Exhibit 1.2. Therefore, we define full consolidation of IT employees as:

> Transfer of all responsibilities associated with state agency IT employees to MNIT, including, but not limited to, hiring, training, providing policies or standards, supervising, reviewing performance, and providing compensation.

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[20] *Laws of Minnesota* 2011, First Special Session, chapter 10, art. 4, sec. 6. Appendix B lists deadlines identified by the 2011 legislation.

[21] *Laws of Minnesota* 2011, First Special Session, chapter 10, art. 4, sec. 6(a).

The transition of state government IT staff into MNIT is complete.

State agencies first transferred authority for IT staff to OET in 2011 through interagency agreements, but the legal transfer of IT staff occurred in 2012.[22] The transfer was delayed because of MNIT's need to determine—in consultation with state agencies—which employees should be considered IT staff and therefore be under MNIT's authority. A MNIT official told us there were initially over 300 state agency employees for which it was unclear whether they should remain state agency employees or be transferred to MNIT; this included employees with responsibilities related to both IT and other business functions.[23]

The transition of new MNIT employees' payroll expenses did not occur simultaneously with their legal transition to MNIT. Instead, payroll expenses for MNIT employees gradually transferred to MNIT between 2013 and 2016. For example, the Department of Corrections transferred payroll for 55 of its former IT staff to MNIT in July 2013, while the Department of Health transferred payroll for 124 IT staff to MNIT in July 2015. Thus, certain administrative responsibilities related to MNIT employees were not under the control of MNIT's central office staff until 2016.

IT Employee Consolidation into MNIT

2011	Agencies transferred IT staff authority to OET through interagency agreements.
2012	Agencies legally transferred IT staff to OET.
2013	Payroll transfer initiated for MNIT staff from select agencies.
2014	MNIT standardized project manager, business analyst, and quality assurance positions.
2015	
2016	Payroll transfer completed for all MNIT staff. MNIT standardized manager and supervisor positions.
2017	
2018	

At the time of the consolidation legislation, there were no standardized job classifications for IT employees across state government. Even though IT staff worked for MNIT after the legal transfer, employees who performed similar roles had differing job titles and levels of pay. In 2014, MNIT created a new series of standard classifications for certain IT employees, such as project managers and business analysts. MNIT standardized the classifications of IT supervisors and managers in 2016.

While IT employees are largely consolidated due to (1) the legal transfer of employees to MNIT, (2) the financial transfer of employee payroll to MNIT, and (3) the standardization of job classifications, MNIT still faces some challenges unifying the IT workforce. The transition to a consolidated MNIT has been difficult for many agency-based MNIT staff. According to MNIT and state agency leaders, some IT employees felt a stronger commitment to the agency they were previously part of than to MNIT. As one agency

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[22] A few IT employees from the Department of Public Safety (DPS) continue to work for that agency—instead of MNIT—per a management control agreement between DPS and MNIT. A DPS official told us that this agreement was needed to comply with federal law enforcement requirements.

[23] MNIT and state agencies ultimately determined that an employee should be transferred to MNIT if 60 percent or more of the employee's time was spent on IT-related activities.

Status of Employee Consolidation

MNIT has completed its employee consolidation through the transfer of legal authority for IT staff to MNIT, transfer of payroll for IT employees, and standardization of IT job classifications.

Less   More
Consolidated
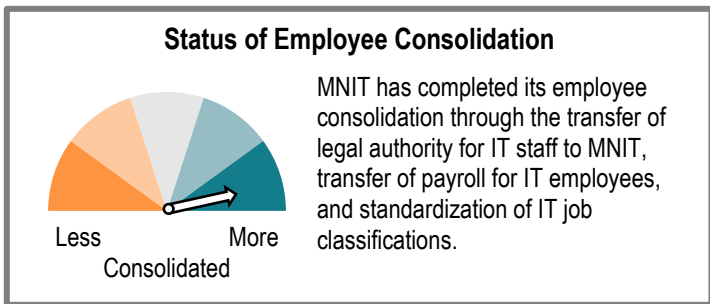
official told us, MNIT's effectiveness "is hampered by the fact that it is staffed, in great part, by long-term state employees still embedded in other agencies—agencies they served for decades before and to which they still tie their loyalties." A MNIT leader said this may be a problem if employees fail to follow MNIT's standards and directives, intended to benefit the state at large, in favor of those from the agency in which they are housed.

Given that this issue is still cited by MNIT and agency officials, it appears there is more work to be done to create a cohesive workforce.

Finances

The 2011 IT consolidation legislation stated that "the state chief information officer shall control and direct all information and telecommunication technology spending authorized under Minnesota Statutes, section 16E.016."[24] To reflect the broad list of systems and services identified by statute as subject to consolidation, we define full consolidation of IT finances as:

> Transfer of all IT-related spending from state agencies to MNIT, including payroll expenses (that is, costs paid to MNIT employees) and non-payroll expenses (that is, all other costs, such as procurement of goods or services and contracts with non-state vendors).

MNIT reported in 2015 that there were many issues that affected the consolidation of IT finances, including challenges related to billing, procurement, federal financial requirements, and more.[25] Due to these complexities, MNIT adopted a phased approach to financial consolidation. For example, MNIT consolidated non-payroll expenses for the

IT Finances Consolidation into MNIT

2011

2012

2013   Transfer of payroll costs initiated for IT staff who transferred to MNIT, and transfer of non-payroll costs initiated for select agencies.

2014

2015   Non-payroll transfer completed for all agencies except DHS.

2016   Payroll transfer completed for IT staff transferred to MNIT from all agencies.

2017

2018

Minnesota Department of Education in Fiscal Year 2015 and payroll expenses for that department in Fiscal Year 2016. Overall, MNIT began consolidating IT finances in Fiscal Year 2014 with the goal of concluding this process for all agencies in Fiscal Year 2017.

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[24] *Laws of Minnesota* 2011, First Special Session, chapter 10, art. 4, sec. 6(c). The systems and services MNIT is required to provide or arrange for state agencies, as identified in section 16E.016, are listed in Exhibit 1.2.

[25] Office of MNIT Services, *FY 2017 Central Rates* (St. Paul, 2015), 4.

The financial consolidation of IT spending into MNIT is not yet complete.

While MNIT has consolidated IT finances for most agencies, it has not yet consolidated the Department of Human Service's (DHS) non-payroll IT costs. DHS's non-payroll costs represent only a portion of one agency's IT expenditures, but these costs represent a large

Status of Financial Consolidation

MNIT has not completed its financial consolidation. About 19 percent of all state agency IT expenditures—related to purchasing and contracts at the Department of Human Services (DHS)—remain under DHS's oversight, rather than MNIT's.

Less   More
Consolidated

share of the state's overall IT spending due to DHS's size and overall IT budget. In Fiscal Year 2018, DHS's non-payroll IT expenditures—totaling about $115 million—accounted for about 19 percent of statewide IT spending.

MNIT's finance staff said that these non-payroll finances have not been consolidated due to DHS's concerns about how consolidating IT procurement will affect its business practices. DHS leaders told us that transferring non-payroll finances would generate too much additional work for their staff tracking IT expenses. Neither MNIT nor DHS provided a timeline in which they expect DHS's non-payroll expenses to be fully consolidated under MNIT.
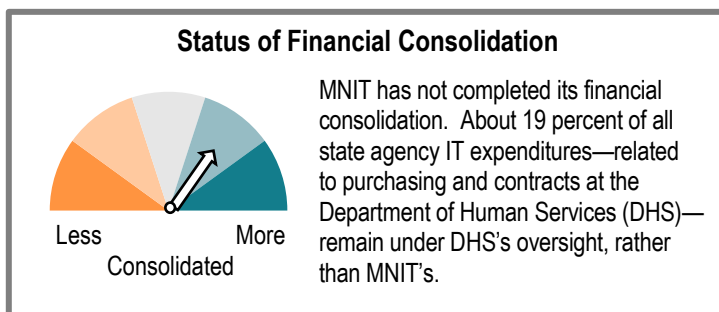
Consolidating IT spending was intended to provide financial benefits. First, consolidation could help the state more fully realize economies of scale in purchasing. For example, with consolidated finances, MNIT could have greater power when negotiating contracts with hardware and software providers. Second, financial consolidation could improve accountability by making the classification of financial transactions more consistent across agencies. Over time, better data could provide the executive and legislative branches with a clearer, more accurate picture of statewide spending. Until consolidation is complete, the state may be unable to fully maximize certain efficiencies, and it will remain more difficult for MNIT and legislative staff (including OLA) to assess IT spending in a consistent manner.

Services

The 2011 IT consolidation legislation stated that "[p]owers, duties, responsibilities, personnel, and assets relating to functions assigned to the chief information officer in Minnesota Statutes, section 16E.016, are transferred to the Office of Enterprise Technology from all other state agencies."[26] However, the law also said that the transfer of authority did not necessitate "expansion or consolidation" of IT systems or resources, and the law did not specify which services MNIT must provide as "enterprise services."[27] One interpretation of the law might suggest that the consolidation is complete when all IT systems and services are under MNIT's authority, regardless of whether MNIT offers "consolidated" services from a single provider within MNIT (as an enterprise service) or it offers services piecemeal through individual MNIT offices located at agencies. However, this definition

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[26] *Laws of Minnesota* 2011, First Special Session, chapter 10, art. 4, sec. 6(a). The systems and services from section 16E.016 are listed in Exhibit 1.2.

[27] *Laws of Minnesota* 2011, First Special Session, chapter 10, art. 4, sec. 6(f). Minnesota law does not use the term "enterprise services."

seems at odds with the intent of the law—as described earlier—to eliminate redundant services, provide higher quality services, and offer more security to state agencies.

MNIT officials have described service consolidation in ways that may appear to be conflicting. Some MNIT leaders have said Minnesota's IT consolidation is complete because all IT activities are under MNIT's authority. They have stated that MNIT is now "optimizing" its IT services, or transitioning to more centralized service delivery to increase efficiency and offer better value to state agencies. Meanwhile, other MNIT leaders have described the consolidation as ongoing.

Due to the lack of clarity in statute over what "consolidated" services means, we developed a definition that we think is close to the 2011 Legislature's intent:

> Transfer of IT services from state agencies to MNIT, to reduce duplicative or redundant services and to centralize provision of services when this would provide secure, high-quality services to agencies at best value to the state.

After the 2011 consolidation legislation passed, MNIT staff invested time addressing challenges to implementing service consolidation. MNIT had to (1) establish a common basis for defining services and costs, (2) redesign some technology on which services would rely, and (3) find ways to pay for new services or service expansions. For example:

- An agency might not have included overhead costs in its IT costs in the past, considering only the direct costs of a service and the payroll expenses for employees working on that service. MNIT's rates for consolidated services included overhead.

- MNIT provided network service prior to the consolidation, but network connections were to individual agencies. MNIT needed to redesign its network to better facilitate consolidated enterprise services.

- An agency may have not had adequate data storage and backup before the IT consolidation, so MNIT had to determine how to pay the initial costs of enhancing storage and backup capabilities.

Similar to MNIT's consolidation of finances, MNIT chose to use a phased approach for the service consolidation, expanding specific enterprise services to different agencies at different times.[28] For example, the Bureau of Mediation Services migrated to MNIT's enterprise service desk (or help desk) in August 2016, while the Department of Management and Budget began using the service desk in May 2017.

Some state agencies still receive certain services from MNIT's agency-based staff that are offered to other agencies as centrally provided, enterprise services.

Certain state agencies are still not using MNIT enterprise services, such as data storage, which are available to other state agencies. Several agencies—including large ones, such as the departments of Health and Public Safety—have been designated by MNIT as "future

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[28] MNIT reported that the incremental approach is particularly important at large agencies, which must consolidate their IT services, systems, and processes internally before full service consolidation into MNIT can occur.

wave" agencies, meaning they will be part of a later "wave" of consolidation.[29] For the "future wave" agencies, certain services are delivered either by agency-based MNIT staff or through a vendor; MNIT therefore might not be maximizing the intended benefits of central service provision, such as more cost-effective service delivery.

It is unclear when all state agencies will receive all of MNIT's enterprise services. MNIT officials told us that future wave agencies will continue—at least into the upcoming biennium—to use servers, storage, and data centers provided by the MNIT office based at those agencies rather than through MNIT enterprise services. MNIT staff told us they do not know exactly when the agencies will receive these enterprise services; some future wave agencies reported to us that they expected to transition to certain services before or during the upcoming biennium.[30]

Status of Service Consolidation

MNIT has not completed its service consolidation. While MNIT has expanded its enterprise services, not all agencies receive them. Also, MNIT has limited central oversight of agency-specific services, so this oversight continues to be managed largely on an agency-by-agency basis.

Less   More
Consolidated
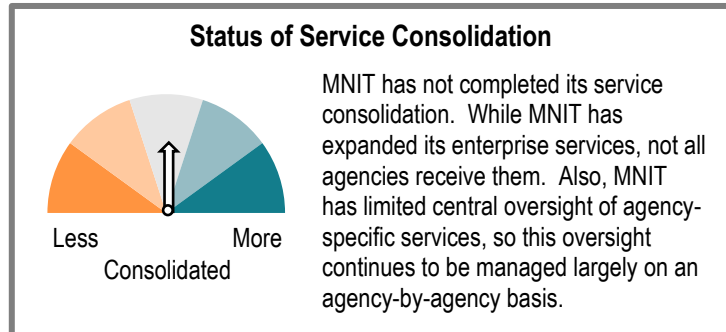
MNIT leaders told us that certain factors have slowed agencies' transition to enterprise services. In particular, MNIT said, the service consolidation has not been completed due to funding constraints. It was unrealistic, according to MNIT, to expect a large-scale transformation of state government's IT services without receiving upfront funding to help accomplish this. In addition, some agencies signed long-term contracts for data storage with service providers other than MNIT. To avoid paying for both the provider contract and for MNIT's enterprise services, these agencies will not transition to MNIT's data storage service until the contracts expire.

In addition, oversight of agency-specific services—similar to enterprise services—is not yet fully consolidated. Agency-specific services (such as software development) account for a large majority of MNIT's expenditures. Similar to the years before IT consolidation legislation passed, agency-specific services remain largely under the control of IT staff located at agencies (although these staff are now MNIT employees). As we discuss further in Chapter 5, MNIT provides limited central oversight of agency-specific services, and the practices of MNIT's project management staff within agencies vary.

Agencies Subject to IT Consolidation

During the early years following the consolidation legislation, some state agencies disputed whether their agencies—or certain technology in their agencies—should be subject to MNIT's authority. There is still a lack of clarity regarding the scope of the IT consolidation.

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[29] MNIT lists the following "[future] wave agencies" in the document that establishes its rates for enterprise services for fiscal years 2020-2021: Department of Commerce; Department of Revenue; Department of Health; Department of Public Safety; Department of Natural Resources; Department of Education; Minnesota State Academies; Perpich Center for Arts Education; Office of Higher Education; Minnesota Zoo; Public Utilities Commission; Architecture, Engineering, Land Surveying, Landscape Architecture, Geoscience and Interior Design Board; and Accountancy Board.

[30] One "future wave" agency informed us that it understood that certain services would transition to MNIT enterprise services in the upcoming biennium, but it did not know exactly when the remaining services would transfer.

There remains some confusion about which agencies should have their information technology under MNIT's authority.

The 2011 Legislature said that MNIT is responsible for providing or arranging IT systems and services to executive branch "state agencies," excluding certain agencies specified in law.[31] The MNIT statute defines "state agency" as "an agency in the executive branch of state government and includes the Minnesota Office of Higher Education"; the Minnesota State higher education system is exempted from this general definition of state agency.[32] The 2011 law did not provide a list of state agencies that must receive services from MNIT, and a MNIT official told us that MNIT could not find a definitive list of executive branch agencies for purposes of implementing the legislation.

In 2011, the Minnesota Office of the Attorney General prepared an analysis for OET that addressed whether certain entities should be considered "state agencies" for purposes of the consolidation law.[33] The Attorney General noted that the MNIT statute does not explicitly define the meaning of "an agency in the executive branch of state government." Based on a review of statutes and prior legal opinions, it said that the offices of state constitutional officers (governor, lieutenant governor, attorney general, secretary of state, and state auditor) "would not be considered 'state agencies' for purposes of the consolidation" provisions of statute.[34] The Attorney General said there was a legal argument for including the Minnesota Board on Aging in the consolidation. For two entities (the Minnesota Housing Finance Agency and the Department of Military Affairs), it said there were ambiguities about whether the entity should be subject to consolidation.

To address the lack of clarity about which agencies should be part of the IT consolidation, OET/MNIT could have (1) asked the Legislature to adopt clarifying language in statute or (2) adopted its own clarifying policies. In a 2012 report to the Legislature on the consolidation, OET recommended some statutory changes, but not to further clarify which agencies would be covered by the consolidation.[35] In 2014, MNIT reported to the Legislature that it was both feasible and desirable for MNIT to provide services to several agencies excluded from the consolidation by law; the report did not include a request for the Legislature to amend the law accordingly.[36] MNIT instead opted to adopt its own policy. The 2011 consolidation legislation said the MNIT commissioner—in consultation with the commissioners of the departments of Administration and Management and Budget—"has

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[31] *Laws of Minnesota* 2011, First Special Session, chapter 10, art. 4, sec. 2, codified as *Minnesota Statutes* 2011, 16E.016. The law exempted the following entities from consolidation: the Minnesota State Retirement System, Public Employees Retirement Association, Teachers Retirement Association, State Board of Investment, Campaign Finance and Public Disclosure Board, State Lottery, and Statewide Radio Board.

[32] *Minnesota Statutes* 2018, 16E.03, subd. 1(f).

[33] Michele Owen, Office of the Attorney General, memorandum to Kim Babine, Office of Enterprise Technology, *Your August 1, 2011 Fax Question—2011 Session Law Analysis*, August 12, 2011. The memorandum addressed whether the following entities should be subject to the IT consolidation: Board on Aging, Humanities Commission, Uniform Laws Commission, Housing Finance Agency, Department of Military Affairs, Metropolitan Council, constitutional offices, and Statewide Radio Board.

[34] *Ibid*., 7.

[35] Office of Enterprise Technology, *Legislative Report: Consolidation of Information Technology Systems and Services* (St. Paul, January 19, 2012).

[36] Office of MNIT Services, *Feasibility and Desirability of Entering Into Service-Level Information Technology Agreements Between MN.IT Services and Certain State Entities* (St. Paul, March 6, 2014).

final authority in determining the meaning" of that legislation.[37] MNIT conducted its own review of state law—with input from Minnesota legislative and executive branch officials—to assess whether an agency should be subject to the IT consolidation. MNIT developed a policy in 2016 that identified which executive branch entities were subject to (or not subject to) MNIT's oversight and the 2011 consolidation law. The policy lists 95 state agencies, boards, councils, and commissions that are subject to the consolidation.[38]

MNIT's policy excluded some entities that were not specifically exempted from the consolidation by Minnesota law. For example, MNIT excluded three cabinet agencies in the executive branch that are not otherwise exempt by law: the Minnesota Housing Finance Agency, Metropolitan Council, and Department of Military Affairs.[39] In addition, MNIT exempted the offices of Minnesota's constitutional officers from consolidation.

Also, some agencies that MNIT's policy says are subject to consolidation do not receive MNIT's services or do not have an agreement to receive services from MNIT. For example, the Minnesota Amateur Sports Commission's IT is subject to MNIT's oversight, according to MNIT's policy. However, a representative from the commission told us that it does not receive MNIT services. The commission informed us that it receives IT services from the National Sports Center.[40]

RECOMMENDATION

The Legislature should clarify which state agencies are subject to MNIT's authority for IT services.

The MNIT statute's definition of the term "state agencies" leaves room for interpretation. To provide greater clarity about the scope of MNIT's authority, the Legislature should—in consultation with MNIT—amend state law to further specify which agencies are subject to the state government IT consolidation mandated in *Minnesota Statutes*, Chapter 16E. If the Legislature believes that some agencies that MNIT exempted from consolidation—such as the constitutional offices or certain cabinet agencies—should be included in the consolidation, this should be specified in statute. Furthermore, MNIT should review the status of agencies, such as the Minnesota Amateur Sports Commission, that MNIT's policy says are subject to consolidation but that receive no services from MNIT.

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[37] *Laws of Minnesota* 2011, First Special Session, chapter 10, art. 4, sec. 6(g).

[38] MNIT is included as one of the state agencies subject to the IT consolidation. We list all state agencies MNIT says should be consolidated in Appendix A.

[39] In its 2011 memorandum, the Office of the Attorney General said there is ambiguity about whether the Minnesota Housing Finance Agency should be considered a state agency; it said that OET might consider asking the Legislature for a clarification in law. Regarding the Metropolitan Council, the Attorney General said—based on a review of statutes—that the council is "unlikely to be considered a 'state agency'" for purposes of the IT consolidation. The Attorney General noted that the Department of Military Affairs is designated in law as a department of state government, but it said there are legal and practical considerations in determining whether this department should be subject to the IT consolidation.

[40] A MNIT official later told us that the commission was excluded from the consolidation per a decision made by former MNIT leaders.

Consolidation Outcomes

The status of IT consolidation efforts is more complete in some areas than others, but there have been some tangible outcomes resulting from the IT consolidation. In this section, we describe areas in which key progress has been achieved and areas in which the impacts of the consolidation are unclear. We also discuss state agencies' overall experience with the IT consolidation.

State IT Service Outcomes

As noted earlier, the 2011 consolidation legislation represented one step in the consolidation process, but earlier statutory and management changes also contributed to greater consolidation in Minnesota's information technology services. Our discussion of achievements below is not limited to outcomes that occurred as a result of the 2011 legislation.

In several areas, such as IT security, the state's information technology consolidation appears to have contributed to important advances.

First, a consolidated approach to information technology appears to have better positioned Minnesota state government to combat cybersecurity risks. Threats to information security in Minnesota state government have grown more sophisticated and common. It makes sense for specialized staff at MNIT to play leading roles in identifying and mitigating potential risks, rather than relying entirely on each agency to do so on its own. Security-related policies comprise a majority of MNIT's information technology policies, and most of the current security policies took effect in 2015 or later. MNIT first developed an information security strategic plan in 2016, which specified annual and five-year strategies to address security risks. MNIT established protections for its wide-area network used by all agencies; previously, agencies could use wide-area network connections from multiple providers, resulting in a patchwork of security provisions. MNIT also created a Security Operation Center to monitor state systems for security threats. In addition, MNIT began providing agencies with "scorecards" that rate agency security practices against MNIT benchmarks.

> **Examples of MNIT's Information Security Strategies**
>
> - Build secure software applications in state agencies.
> - Educate state employees about cyber risks.
> - Use strategic partnerships to improve security.
> - Respond to security incidents faster.
>
> **— Information Security Strategic Plan (2018)**

Second, MNIT has reduced the total number of state government data centers. Data centers house computer equipment, such as servers, routers, and firewalls. These centers were previously located throughout state agencies in what were described as "non-standard, inadequately secured, sometimes physically dangerous facilities."[41] According to MNIT, the number of state data centers has decreased from 49 in 2010 to 16 today. The square footage of these centers has decreased from 74,781 in Fiscal Year 2010 to 25,848 today. MNIT hopes that such reductions will better protect the state's information systems

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[41] Office of Enterprise Technology, "State IT 2011 Accomplishments" (December 5, 2011).

equipment and data, reduce the risk of service disruptions, and save money that could be reallocated for other purposes.

Third, it appears that consolidation has allowed the State to take advantage of economies of scale—for example, through bulk purchasing of equipment, and through negotiation of more advantageous contracts or licensing agreements that apply to multiple agencies. State law says that MNIT shall review major purchases of information systems equipment to ensure that the purchases reflect "a cost-effective policy regarding volume purchasing."[42] In 2013, for example, MNIT negotiated a license pricing arrangement with IBM so that the state of Minnesota could be charged based on actual mainframe usage. MNIT estimated that this arrangement would reduce licensing fees paid to IBM by at least $240,000 per year.

State IT Finance Outcomes

MNIT is in a better position today than in 2011 to report on total statewide IT expenditures.[43] A MNIT official told us that his efforts to sum statewide IT spending shortly after the 2011 consolidation were very arduous, in part because agency-based IT spending had not been documented in a consistent way prior to the 2011 consolidation. Since then, MNIT has taken steps to more consistently categorize IT-related costs.

The extent to which the consolidation has affected the overall efficiency of state IT spending is unclear.

MNIT maintains that IT consolidation has created financial efficiencies that have helped save or avoid IT expenditures. MNIT reported $27 million in savings through 2014, for example, as a result of better state contracts for software and IT licenses, as well as the consolidation of state data centers. MNIT staff also told us that consolidation can help agencies to avoid "soft costs," such as the time an agency staff person might spend trying to figure out how to complete an IT procurement request.

While MNIT claims that IT consolidation has been financially beneficial, various factors make it difficult to determine conclusively the impact IT consolidation has had on statewide IT spending. First, IT spending data from before the consolidation were unreliable, making it difficult—if not impossible—to determine a definitive baseline for state government spending on IT prior to consolidation. Before the IT consolidation law passed, the responsibility for managing IT spending data fell to each state agency, and MNIT told us there were inconsistencies in the way agencies classified expenditures. For example, one agency might classify a position as IT-related that another agency might classify as a business function.

According to MNIT, challenges related to the reliability of financial data persisted into the first several years of consolidation as well. For example, for at least one fiscal year post-consolidation, MNIT partially relied on budgeted (not actual) expenditures to calculate statewide IT spending. Additionally, as we previously discussed, MNIT consolidated

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[42] *Minnesota Statutes* 2018, 16E.04, subd. 2(d)(2).

[43] However, as noted earlier, MNIT has not yet consolidated non-payroll IT expenses for the Department of Human Services, which makes it more challenging to calculate statewide IT spending.

agency IT finances in phases over several years. This meant that data inconsistencies endured until an agency's IT spending was fully financially consolidated under MNIT.

Additionally, MNIT's estimated cost savings may have been offset to an unknown degree by agency expenditures that are not readily tracked. For example, one agency told us it has incurred costs to backfill for positions that were transferred to MNIT after the consolidation. Other agencies told us it has become more labor-intensive for them to monitor agency IT purchasing and overall agency IT spending in recent years. In addition, some agencies have hired new business staff to manage the agency's relationship with MNIT—a role that was unnecessary before consolidation of state IT. We discuss some of these costs further in Chapter 4.

Finally, understanding the extent to which consolidation has been financially beneficial is difficult due to the ever-changing nature of IT. IT expenditures are a moving target; IT service costs and demands change regularly, as agency IT needs change and IT itself changes. Because of this, it is problematic to draw conclusions about the efficiency of consolidated IT based only on expenditure trends. Reductions (or increases) in total IT expenditures over time do not necessarily mean that the state has become more (or less) efficient in providing IT services.

Agency Opinions Regarding IT Consolidation

We administered a survey to MNIT's main customers—state agencies—and asked for their perspectives about IT consolidation.[44]

Agencies have divided opinions on whether the state's 2011 IT consolidation has been, on balance, positive or negative.

Forty-five percent of agencies responding to our survey said that the consolidation of IT into MNIT has been negative or very negative, 32 percent said it has been positive or very positive, and 23 percent said they did not know whether it was positive or negative.[45] As seen in Exhibit 2.2, noncabinet agencies generally viewed the consolidation less favorably than cabinet agencies. Noncabinet agencies made up 73 percent of our survey respondents.

These mixed reviews were also reflected in survey comments and in our discussions with selected agencies.[46] For example, some agency officials said consolidation has led to an improvement in cybersecurity. One state agency official responding to our survey said:

> The consolidation has raised the bar and expectations for our MNIT...team [located at the agency] and they are meeting or exceeding our service level expectations in all areas including application development and support, information security, and IT operations.

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[44] We sent surveys to 72 state agencies, boards, and commissions, and we received responses from 99 percent.

[45] Some agency officials said it is difficult to distinguish which impacts are specifically due to the IT consolidation. Some other respondents told us they had no experience with the state's IT services prior to the consolidation and could therefore voice no opinion.

[46] We conducted interviews with staff in five executive branch organizations: the Department of Human Services, Department of Public Safety, Bureau of Mediation Services, Minnesota Council on Disability, and Board of Examiners for Nursing Home Administrators.

On the other hand, some agencies said the consolidation weakened the understanding of agency business needs, contributed to less efficient or timely services, or increased IT costs. A state agency official responding to our survey said:

> The consolidation of IT services into MNIT has significantly reduced the ability of MNIT staff to know our business needs…. The consolidation of IT services decreases efficiencies, due primarily to the loss of MNIT's business specific knowledge and experience, and increases the costs of our agency to deliver services in a timely manner.

Exhibit 2.2: Agencies expressed mixed opinions about their experience with the IT consolidation.

Experience with the consolidation of IT services into MNIT

■ Very Positive ■ Positive ■ Negative ■ Very Negative ■ Don't Know

	Very Positive/Positive	Negative	Very Negative	Don't Know
Cabinet	42%	26%	11%	21%
Noncabinet	2% / 27%	29%	19%	23%
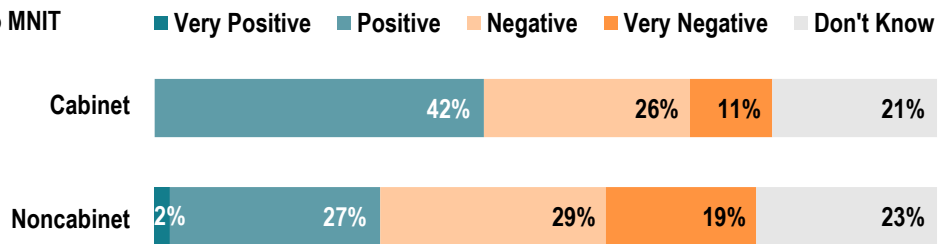
NOTE: We asked respondents to describe how the consolidation of IT services into MNIT has been, based on their organization's experiences.

SOURCE: Office of the Legislative Auditor, survey of executive branch agencies, 2018 (Cabinet *N* = 19, Noncabinet *N* = 52).

Chapter 3: IT Funding and Budgeting

From a financial standpoint, the state of Minnesota faces multiple challenges with regard to information technology (IT). Over time, agencies have become increasingly reliant on IT to provide services to Minnesota residents. At the same time, existing state IT systems continue to age. As a result, agencies face the potentially expensive decision to update or replace complex IT systems that are highly integrated with agency operations, or continue to use aging systems with the risk that these systems might fail.

Just as the state makes investments in physical infrastructure, it will be increasingly critical for Minnesota to strategically fund IT services and initiatives. In this chapter, we discuss the current approach to funding IT in Minnesota, satisfaction with and factors affecting the cost of services provided by the Office of Minnesota Information Technology Services (MNIT), and the degree to which the IT budgeting process is transparent to those involved.

KEY FINDINGS IN THIS CHAPTER

- **Minnesota's approach to funding IT constrains MNIT in some ways.**

- **The majority of agencies are dissatisfied with the cost of enterprise services, but many agencies do not fully understand for what they are paying.**

- **Most agencies are unclear about responsibilities for IT budgeting and say that MNIT has not provided timely information to budget for IT expenses.**

IT Funding

There are multiple potential approaches to funding state IT services. States typically fund IT services through a combination of sources, which may include direct appropriations, bonding, service charges, grants, and other sources. One approach is not inherently better than the others, and each approach's usefulness may depend on the situation.

The majority of states—including Minnesota—fund their state IT services at least partially through charges to state agencies.

As we mentioned in Chapter 1, MNIT receives nearly all of its revenue by charging state agencies for the services it provides.[1] For example, MNIT's total revenue in Fiscal Year 2018 was about $460 million, 99 percent of which came from charges to agencies and agency transfers for services rendered.

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[1] We use the term "state agencies" in this report to refer to state executive branch organizations, including agencies, boards, councils, and commissions that receive services from MNIT.

The approach with which MNIT charges state agencies for IT services depends on the type of service. For agency-based services, MNIT bills state agencies directly for their costs.[2] In contrast, MNIT uses a rate system to recoup expenses for enterprise services. Per statute, MNIT must develop these rates "in cooperation" with the commissioner of the Department of Management and Budget (known as MMB), who must ultimately approve them.[3] To develop these rates, MNIT uses a cost model that takes into account certain variables, such as demand for a given service and overhead costs. For the current rate package, MNIT developed rates with feedback from MNIT chief business technology officers and state agency chief financial officers. Ultimately, MNIT establishes a rate for each individual service.[4] For example, for Fiscal Year 2018, MNIT charged $58.30 per desktop computer per month for its standard desktop bundle, which includes a standard desktop computer, keyboard, and mouse; workstation management and protection; workstation support; and other support services.

MNIT is not unique in funding state IT services through charges to state agencies. In its 2011 survey of state chief information officers, the National Association of State Chief Information Officers (NASCIO) found that 80 percent of respondents reported that charges to service users were a source of revenue.[5] Like Minnesota, respondents said that these charges accounted for a significant share of their revenue. Respondents from states with fees for services reported that, on average, 71 percent of revenue came from charges to service users. To enrich our understanding of IT practices, we solicited information from statewide IT service providers in seven other states.[6] All of the states that responded to our inquiry told us they used some form of service charges as their primary funding source for statewide IT.

There are limitations on how much MNIT can recoup from agencies through services rates.

Certain legal requirements affect the total costs MNIT can recoup from state agencies through service rates. Federal regulations state that billing rates for shared services charged to federal awards "must be based on the estimated costs of providing the services."[7] Similarly, state policy directs state agencies to set billing rates for each service "as close to

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[2] For agency-specific IT services, MNIT bills agencies the exact cost of the service without any mark-up for overhead or other costs.

[3] *Minnesota Statutes* 2018, 16A.126, subd. 1; and 16E.18, subd. 6(a).

[4] MNIT has recently changed the way in which it packages its services. Instead of offering hundreds of different services, MNIT bundled some services into groups. MNIT has described this approach as providing "meals" instead of "ingredients." For example, instead of selling each component separately, one version of MNIT's "Enterprise Software Bundle" includes Microsoft Office, SharePoint, Skype, e-mail, and security awareness training.

[5] NASCIO—a professional organization representing IT executives from the states, territories, and District of Columbia—seeks to foster government excellence and promote the adoption of IT best practices and innovations. NASCIO, TechAmerica, and Grant Thornton, *A New C⁴ Agenda: Perspectives and Trends from State Government IT Leaders* (October 2011), 11-12. The report indicated that some states obtain funds from agencies through approaches other than service charges, such as "assessments" against agency IT budgets.

[6] We requested information from the following states: Colorado, Michigan, New York, Ohio, Tennessee, Texas, and Utah.

[7] 2 *CFR,* pt. 200, app. V, G (2014).

the break-even rate" for that service as possible.[8] In other words, MNIT may not charge agencies more (or less) than the estimated cost of providing any given service.

MNIT's efforts to innovate and improve enterprise services are somewhat constrained by the willingness or ability of state agencies to invest in these initiatives.

While charging agencies directly for services is a common approach to IT funding, the legal requirements discussed above limit to some degree MNIT's ability to fund its operations. Because these requirements prohibit MNIT from generating revenue in excess of costs, and MNIT has limited other sources of revenue, MNIT is constrained in its ability to fund major projects or initiatives—such as research and development, or continuous improvement efforts. Likewise, MNIT may have a difficult time justifying investments intended to benefit the operations of multiple agencies.

In order to pay for state IT initiatives, MNIT could ask agencies to pay for them directly through charges for agency-specific services. As an example, MNIT sought to strengthen cybersecurity capacity by increasing staff. To do so, MNIT staff said they asked agency executives to pay for cybersecurity staff that would be housed at their agencies. However, this approach is highly dependent on agency willingness to fund the initiative. MNIT told us their endeavor to increase cybersecurity in this way was largely unsuccessful because agencies did not want to incur the cost of paying for additional staff.

MNIT could also incorporate the cost of statewide IT initiatives into enterprise rates (with approval from MMB). For example, assume MNIT determines the state should purchase a new system to enhance cybersecurity for $10 million. MNIT could incorporate the full cost of that system into the service rates for that year, but doing so could increase the cost of IT services for state agencies. If MNIT instead chose to incorporate only 20 percent of the cost of the new system into the service rates, the rates would not increase as dramatically. However, in this case, MNIT would still have to find a revenue source for the remaining 80 percent of the system's cost.[9]

IT funding challenges are not unique to Minnesota. An official in Ohio's Office of Information Technology told us that Ohio created an IT Development Fund to make funds available for investment in new IT services.[10] Ohio officials said that, because the state's IT agency is funded solely by charging agencies for services rendered, the state was limited in its ability to undertake innovative, new applications and enterprise services.

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[8] Department of Management and Budget, Statewide Operating Policy 0108-01, *Internal Service Rate Approval*, issued July 1, 2011.

[9] MNIT has also made use of master leases to fund major IT initiatives, although there are limitations to their use. Master leases are loans typically used for equipment purchases—such as telephones, computers, and related equipment—with some opportunity to include limited services and software costs. Master leases reduce the burden of a one-time expenditure by spreading the costs over several years. However, by virtue of being a loan, the state also incurs interest costs it could avoid by making a purchase outright.

[10] Ohio's Information Technology Development Fund is used to pay for costs related to IT modernization. With approval from Ohio's director of the Office of Budget and Management, Ohio's Department of Administrative Services can charge all state agencies an information technology development assessment. This fee spreads the cost of new services across multiple agencies instead of relying on the first one or two users of the service to cover the full cost of development.

MNIT has recently attempted to address funding limitations—to some extent. For the Fiscal Year 2018-2019 biennium, MNIT's Financial Steering Team approved $1.5 million per fiscal year for unplanned, unspecified projects.[11] These one-time funds are paid for by all agencies receiving enterprise services as part of their enterprise service rates. MNIT is considering using these additional funds to improve security and assist agencies in meeting MNIT standards, among other projects.

While MNIT leadership told us that funding for unplanned, unspecified projects has enabled them to address some needs, staff said MNIT has somewhat limited ability to acquire these funds. For example, MNIT

> **MNIT Financial Steering Team**
>
> **Purpose**: Bring together state agency finance and MNIT leaders to advise on statewide IT financial policy and procedures.
>
> **Membership**:
>
> | MNIT | State Agencies |
> |---|---|
> | • Assistant commissioner of business operations
• Chief financial officer
• 3 chief business technology officers | • 3 "large agency" chief financial officers
• 1 "small agency" chief financial officer
• 2 MMB executive budget staff |

staff told us they requested funding for unplanned projects from the Financial Steering Team for the Fiscal Year 2017 rate package, but the request was denied.[12] Funding for unplanned, unspecified projects also was not approved for the Fiscal Year 2020-2021 biennium enterprise rate package. In addition, MNIT has to obtain approval for service rates from MMB, and MNIT said MMB can be reticent to approve requests that will result in increased rates.

Overall, while MNIT staff told us of some positive aspects of the state's current approach to funding IT services—that it meets federal funding requirements and helps to ensure agencies use IT resources responsibly, for example—many MNIT staff expressed to us concerns about the way the state funds IT. For example, MNIT told us that the current funding structure complicates IT-related business processes—such as billing—which has negatively affected MNIT's relationship with state agencies.[13] MNIT also told us that its near total reliance on state agencies for funding has impeded its ability to complete IT consolidation or broaden services in certain areas.

> "
> [T]he advancement of enterprise services statewide has been limited because of the lack of appropriation needed to effectively plan, implement, maintain, and support central services. The underfunding is especially apparent in the planning and implementation areas where the start-up costs are difficult for state agency budgets to absorb in rates.
>
> **— State Agency Official**

Some agencies also told us that funding levels have limited MNIT's ability to provide some IT services. To learn more about agency experiences with MNIT, we surveyed all executive branch agencies subject to MNIT's consolidation and conducted in-depth interviews with staff from five of those

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[11] As we discuss in Chapter 6, MNIT has established a number of governance groups that include representatives from MNIT and agencies receiving MNIT services.

[12] While MNIT is not required to obtain approval of rate packages from the Financial Steering Team, MMB staff told us they consider the team's recommendation. In addition, the Financial Steering Team includes two MMB staff members.

[13] We discuss agency satisfaction with IT-related business processes in Chapter 4.

agencies.[14] One survey respondent commented that the current funding model discourages investment in new technologies and limits state innovation. Another agency told us that MNIT's reliance on charges to agencies has left MNIT unable to resolve issues resulting from IT consolidation, such as the management of IT assets. However, while acknowledging challenges to the current structure, another state agency expressed reservations about changing the state's approach to funding IT. The agency representative cited concerns about implications for federal funding as well as the agency losing its ability to prioritize IT spending based on its specific needs.[15]

IT Costs

As mentioned in Chapter 1, total IT spending has increased in recent years. In Fiscal Year 2018, IT expenditures totaled nearly $600 million. While expenditures related to IT services for executive branch agencies broadly fall under two categories—agency-specific service expenses and enterprise (or shared) service expenses—we focus here primarily on the cost of enterprise services.

MNIT recently contracted with a private firm to evaluate how its enterprise rates compared to other state and private entities.[16] For the 2018-2019 biennium rate package, the contractor found that 90 percent of MNIT's enterprise services were "reasonable value" to "best value," as compared with state and private benchmarks.[17] According to this contractor, the value of MNIT's rates have improved over time. When assessing MNIT's enterprise service rates for Fiscal Year 2016, the contractor found that 70 percent of rates were "reasonable value" to "best value" as compared with state and private benchmarks.[18]

We were unable to examine trends in enterprise services expenditures for individual agencies for recent years. Each agency's gradual adoption of individual enterprise services means that increases in its enterprise costs may not actually reflect increased costs for the same level of service.[19] Instead, changes may merely reflect a shift in how those costs are categorized (from agency-based to enterprise-specific). While we could not measure the extent to which agency enterprise IT expenditures have changed over time, many agencies expressed serious concerns regarding IT costs, which we discuss next.

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[14] We sent surveys to 72 state agencies, boards, and commissions, and we received responses from 99 percent. We conducted interviews with staff in five executive branch organizations: the Department of Human Services, Department of Public Safety, Bureau of Mediation Services, Minnesota Council on Disability, and Board of Examiners for Nursing Home Administrators.

[15] Both MNIT and agency officials raised questions about the implications for federal funding of providing state IT appropriations directly to MNIT. For example, one official said that certain federal grants are dependent on agencies contributing matching funds, which might not be possible if funding for IT went directly to MNIT.

[16] MNIT contracted for an analysis of the enterprise service rates included in its Fiscal Year 2016 and 2018-2019 biennium enterprise rate packages.

[17] Science Applications International Corporation, "FY 2018-19 MNIT Rate Analysis" (PowerPoint presentation prepared for the Office of MNIT Services, January 2017). SAIC did not assess the quality of the service or service performance. "Reasonable value" was defined as comparable to most benchmarked rates, and "best value" was defined as significantly lower than the majority of benchmarked rates.

[18] Science Applications International Corporation, "FY 2016 MNIT Rate Analysis" (PowerPoint presentation prepared for the Office of MNIT Services, June 2016).

[19] We further discussed agency adoption of enterprise services in Chapter 2.

Satisfaction with the Cost of IT

Satisfaction or dissatisfaction with the cost of a service is not necessarily an indicator of the success of a service provider. Most people would prefer to pay lower electric bills, but their dissatisfaction with the price does not necessarily mean that the rates charged are unreasonable or that the quality of service is poor. Nonetheless, we heard frequent concerns from state agencies about the cost of IT services.

The majority of agencies reported that they were dissatisfied with the cost of enterprise services.

Over half (55 percent) of agencies responding to our survey said they were dissatisfied with the cost of MNIT's enterprise services.[20] Agencies expressed dissatisfaction with various aspects of the cost of enterprise services. For example, 54 percent of survey respondents were dissatisfied or very dissatisfied with opportunities to provide MNIT with input regarding the cost of enterprise services provided to their organization. Although MNIT has involved some agency chief financial officers in the rate-setting process, some agencies have been more involved in this process than others.

> "
> Costs have gone up and speed of response has gone down. We are, perhaps, too small to realize great cost savings, but we are also too small to continue to sustain IT cost increases.
>
> **— State Agency Official**

In addition, a few agencies told us that they were paying for IT services they could not use. For instance, one agency told us that—because MNIT bundles multiple services together in its rates—the agency now pays for various add-ons to the e-mail bundle that it is not permitted to use due to federal security requirements.

Other agencies expressed frustration that they receive conflicting messages from MNIT regarding IT costs. For example, one agency told us that MNIT quoted a price to maintain agency tablets ($0 per month) that was different from the price the agency was charged after they purchased the machines (about $79 per month), despite confirming the price with MNIT. Another agency told us that MNIT suddenly informed the agency that MNIT— instead of the agency—would provide cable television services, which changed the cost.

> "
> Being a small agency, many of the solutions that MNIT offers are very expensive and do not meet the needs of the agency.
>
> **— State Agency Official**

Noncabinet agencies, in particular, expressed concerns with the cost of MNIT services. For example, one survey respondent wrote, "As a small agency, the cost of simply maintaining PCs ($720 per year) is a heavy burden on our agency budget." Representatives of other smaller agencies told us that, while their agency would incur the full cost, their staff may not be able to take advantage of the full suite of MNIT services. For instance, one

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[20] Fifty-six percent of noncabinet agencies responding to our survey were dissatisfied or very dissatisfied with the cost of MNIT's enterprise services, while 53 percent of cabinet agencies were dissatisfied or very dissatisfied.

agency told us it needed an IT solution to help it communicate with stakeholders, but that the service MNIT proposed was more advanced than agency staff had the capacity to use.

Finally, a few agencies indicated dissatisfaction with the cost of MNIT services because they thought they could obtain IT solutions at lower prices than those charged by MNIT. For instance, one agency told us that, after switching in 2017 to phone services provided by MNIT, the cost for phone services

> [T]he one-size-fits-all approach to rates and service levels causes us to have to pay much, much more than we did before and only some of that is due to higher service levels. In some cases we end up with the same or lower service levels yet we're paying more.
>
> **— State Agency Official**

increased 97 percent for what the agency believed was approximately the same level of service and functionality. Another agency told us that the e-mail services it received prior to IT consolidation under MNIT were a fraction of the cost of MNIT's e-mail services.

There may be valid reasons why MNIT would require agencies to use certain services. For example, one application may be more affordable, but it may not be sufficiently secure from cyber attacks. Other services an agency receives today may cost more than in the past, but the services may be more robust or efficient. We did not investigate whether specific agency complaints had merit, so it is unclear the extent to which complaints were well-founded or the result of agency misunderstandings or miscommunication. However, regardless of the cause, such complaints erode agency confidence and satisfaction in MNIT as a service provider.

Many agencies do not fully understand key aspects of their IT costs.

While the majority of agencies were dissatisfied with the cost of enterprise services, we found that many agencies struggled to understand the basis for these costs. For example, MNIT's service rates affect each agency's enterprise IT costs and are the premise upon which agencies are billed. Yet, 61 percent of agencies responding to our survey said they did not understand how enterprise rates are established, and, as seen in Exhibit 3.1, noncabinet agencies were even less likely to understand. For instance, one agency

> The IT department is very obscure. We don't know much about it—what it provides, who provides it, when they provide it, or what the cost is.
>
> **— State Agency Official**

commented that the cost of e-mail services increased, because—as the agency understood it—e-mail is now a bundled service. However, agency representatives said they do not understand what services are in the bundle.

While many agencies do not understand the basis on which MNIT determines their IT bills, we found a majority of agencies also said they have difficulty interpreting these bills. Nearly 60 percent of survey respondents said the bills they receive from MNIT were not understandable. For instance, one survey respondent said that MNIT's bills contained many technical words that an average person could not understand. Another agency told us that MNIT includes in its bills miscellaneous human resources charges, and agency financial staff are never sure what those charges include. One agency told us the cost of IT services might seem more agreeable if they better understood for what services they were paying.

Exhibit 3.1: Noncabinet agencies are less likely than cabinet agencies to understand how MNIT develops enterprise rates.

My agency understands how MNIT develops enterprise rates

■ Strongly Agree   ■ Agree   ■ Disagree   ■ Strongly Disagree   □ Don't Know

Cabinet

5%	42%	37%	16%

Noncabinet

17%	40%	29%	13%
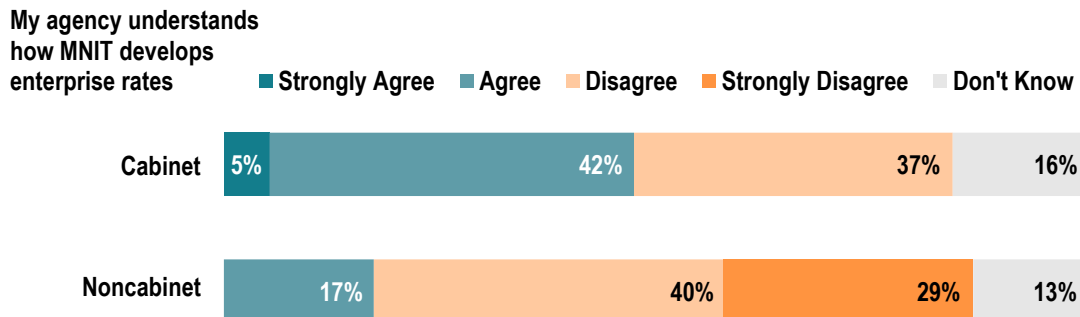
NOTES: We asked respondents the extent to which they agreed with the following statement: "My organization understands how MNIT's enterprise rates are established." Figures may not sum to 100 percent due to rounding.

SOURCE: Office of the Legislative Auditor, survey of executive branch agencies, 2018 (Cabinet *N* = 19, Noncabinet *N* = 52).

State agencies' concerns about enterprise rates and bills have been echoed by others. An outside evaluation prepared in March 2018 of MNIT's enterprise rate offerings found that, while the cost of MNIT's enterprise services was generally reasonable, the complexity of its rates remain "mid to high."[21] Even a MNIT official acknowledged that MNIT's bills to agencies—at least until recently—were unclear and provided little helpful information for agency executives to make informed financial decisions.

> " Within the last year or more, the MNIT charges have increased to astronomical monthly amounts. I believe this was also intended to increase services, but it is incredibly unclear what we are being billed for. Besides now having monthly charges for all computers, we also have fees listed on the bill such as "administrative fees"...for what? We do not know.
>
> — **State Agency Official**

There may be many factors contributing to agencies' dissatisfaction with the cost of IT services. MNIT staff provided us with several examples of its efforts to educate agencies about the basis for IT costs, yet the lack of agency understanding about IT costs indicates MNIT has not—at a minimum—done a sufficient job. If agencies do not understand their IT services and respective costs, it is likely that they will remain unhappy with the cost of IT.

Factors Affecting the Cost of IT

The cost of IT services can be affected by a multitude of variables. For example, an agency may choose to develop a new application or may decide to increase the number of IT staff serving the agency, thereby increasing its expenses. Agency IT expenditures may also change as a result of adjustments to enterprise services rates, which result in increases or decreases to the costs of everyday IT services, such as e-mail or data hosting.

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[21] Science Applications International Corporation, "2018 Service Description Analysis" (PowerPoint presentation prepared for the Office of MNIT Services, March 2018).

Multiple factors affect how much agencies pay for enterprise services. Agencies and MNIT control some of these factors, but not others.

Below, we discuss how the cost of IT may change as a result of agency decisions, MNIT decisions, and outside factors beyond either an agency's or MNIT's control.

Agency Decisions Affecting IT Costs

According to MNIT, agencies are best able to influence enterprise costs for their agency through two variables: (1) the "service levels" they select and (2) the amount of each service they actually consume. For many services, MNIT has developed tiered service levels so that agencies can choose to receive more or less comprehensive services. For example, MNIT's standard desktop computer service includes a desktop replacement every five years. However, an agency may choose to pay more for a higher service level that includes desktop replacements every two years instead of five.

Service level tiers provide agencies with some ability to control their enterprise IT expenses, although this control is sometimes limited. In the case of desktop computers, for example, while an agency can choose to replace desktops more frequently, an agency that wants to replace its desktops less frequently—every seven years instead of five, for example—is not permitted to do so.[22] For some services, agencies can only reduce enterprise costs to a certain degree through their selection of service levels.

According to MNIT, the second way for agencies to reduce enterprise IT costs is by adjusting the amount of the service consumed. For many enterprise services, MNIT bills agencies based on the amount of service they use. For example, MNIT charges agencies for telephones and laptops based on the number of each used by the agency.

However, there are practical limitations to the degree to which agencies can reduce the volume of IT services consumed. Agencies may find it necessary to have one laptop or desktop computer per staff person and may feel unable to further reduce the number of workstations as a way to manage IT costs. In addition, in our in-depth conversations with one agency, staff told us they have difficulty estimating the amount of service they use now or will use in the future. If agencies do not understand the amount of IT services they use, it will be difficult for them to make adjustments to control IT costs.

Finally, while an agency's decisions can—to some extent—drive how much the agency spends on its enterprise IT services, one agency's decision could also affect how much other agencies pay for IT services. Because MNIT establishes service rates based in part on the estimated volume of use, decisions made by one agency to use (or not use) a specific enterprise service can affect the cost of what other agencies pay for that service. For example, MNIT has continued to provide several agencies with a non-cloud-based SharePoint service with the expectation that those agencies will eventually migrate to the cloud-based option used by most state agencies.[23] As more agencies migrate to the cloud-based option, fewer agencies remain to share the costs of the alternative. If in the future only a few agencies continue to use the alternative service, MNIT predicts the cost of this service will increase significantly.

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[22] MNIT told us they require agencies to replace laptops no more than once every five years due to security needs and the costs associated with supporting outdated technology.

[23] SharePoint is a service that is often used as a document or content management tool or to set up an intranet.

MNIT Decisions Affecting IT Costs

MNIT decisions have also affected how much agencies spend on IT. For example, MNIT has chosen to provide IT services at levels different than those used by some agencies before consolidation. MNIT staff told us that, prior to consolidation, certain agencies had significantly underinvested in IT. For example, some smaller agencies used to purchase IT equipment only if there were unspent funds available at the end of a biennium. This meant agencies could keep IT costs low—agencies sometimes reported budgeting less that $5,000 per year for IT—but according to MNIT, some of their IT systems were unreliable, difficult to support, or insecure. IT costs have likely increased for some agencies as MNIT has established expectations that require some agencies to make larger investments in their IT equipment and services.

MNIT has also made some discretionary changes to enterprise service rates outside of the formal rate-setting process.[24] For example, in 2018 MNIT stopped charging a 13 percent mark-up for certain IT items—such as software purchased by MNIT on the agency's behalf—thereby decreasing charges to agencies for those goods.[25] MNIT has made other changes in an effort to simplify and provide greater transparency into its services. For example, in 2018, MNIT reduced its number of telecommunications services and changed some service descriptions. MNIT said it made these changes partly to provide greater clarity in response to customer feedback. As part of these adjustments, MNIT decreased rates for certain telecommunications services and increased the cost of some one-time telecommunications charges.

Other Factors Affecting IT Costs

Finally, some changes to IT costs have been the result of factors or requirements largely outside of an agency's or MNIT's control. In 2015, the Office of the Legislative Auditor found that MNIT did not meet federal and state legal requirements in developing its enterprise service rates; MNIT used billing rates that significantly overcharged for some enterprise services and undercharged for others.[26] At that time, MNIT staff reported reticence to set break-even rates for each service because of the impact the changes would have on agency budgets. MNIT explained that, historically, some larger agencies effectively subsidized the cost of IT for smaller agencies. In addition, some larger agencies were covering the costs of IT leadership—such as a MNIT chief business technology officer—for smaller agencies. Despite these concerns, MNIT executed rate changes that put it in compliance with federal requirements.[27] According to MNIT, some of the changes to enterprise costs—particularly for smaller agencies—are a result of these efforts.

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[24] As of November 2018, MNIT reported making four adjustments to enterprise service rates outside of the formal rate-setting process for the 2018-2019 biennium rates. One of these adjustments was solely in response to federal requirements, while MNIT initiated at least elements of the remaining three.

[25] MNIT marked up these items because it did not have a billing code through which it could charge agencies the direct cost of the product or service. The need for a new billing code resulted from changes to the structure of enterprise service rates in the 2018-2019 biennium.

[26] Office of the Legislative Auditor, Financial Audit Division, *Office of MN.IT Services, Billings for Shared Information Technology Services* (St. Paul, 2015), 5 and 7.

[27] MNIT's Fiscal Year 2018-2019 enterprise rates were the first to break even for each enterprise service as legally required.

In addition, as part of federal requirements, MNIT must review service costs at least annually.[28] If MNIT discovers instances in which it is over- or under-recovering for services, it must make corrective adjustments.[29] This can also result in mid-biennium changes to IT costs. For example, MNIT discovered a rate imbalance in March 2018, and, at the recommendation of the Financial Steering Team, made a mid-biennium rate adjustment for the Fiscal Year 2019 enterprise rates. For any agency using the affected services, these adjustments either increased or decreased agency IT costs.

Finally, enterprise service rates are determined using estimates, and estimates almost always have some degree of error. Further, the speed with which IT innovations occur make it challenging to predict costs and agency desires into the future. While MNIT says it continues to refine its rate-prediction model, which should improve the accuracy of rates over time, it is reasonable to continue to expect MNIT to need to make periodic rate adjustments to meet federal requirements.

RECOMMENDATION

MNIT should ensure that agencies understand the IT services they receive and the cost drivers behind them.

We recommend that MNIT increase its efforts to ensure that agencies understand what is included in their IT services and how much their services cost. As part of these efforts, MNIT should also help agencies to better understand how they can adjust service volumes and tiers to change the cost of agency IT services, as well as help agencies to better understand and anticipate fluctuations in IT costs.

MNIT recently launched a business analytics tool that may provide agencies with an opportunity to interactively monitor their IT costs for the first time. MNIT officials told us they hope this tool will increase transparency around IT costs, help agencies to better understand their IT spending, and help agencies make strategic IT service decisions. The impact of this new tool is unclear at this time, but we encourage MNIT to assess the degree to which agencies find it helpful.

IT Budgeting

In order to develop a budget, agencies must have an idea of how much a good or service will cost. Because enterprise rates outline how much an agency will be charged for enterprise IT services, they provide critical information for agencies as they develop IT budgets.

MNIT has been striving to make improvements to the rate-setting process. For example, to more closely align with state and agency budgeting practices, MNIT shifted from an annual to a biennial enterprise rate-setting process beginning in the Fiscal Year 2018-2019 biennium. Despite these changes, we found that challenges pertaining to IT budgeting persist.

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[28] 2 *CFR,* pt. 200, app. V, G (2014).

[29] There are four ways MNIT can adjust for over- and under-recovering, including (1) cash rebates for the federal share of the adjustment, (2) credits to the amounts charged to the individual programs, (3) adjustments to future billing rates, or (4) adjustments to allocated central service costs. MNIT staff told us that, historically, MNIT has met federal requirements by either providing rebates to agencies or paying back the federal government. 2 *CFR,* pt. 200, app. V, G (2014).

MNIT has not provided agencies with IT budgeting information in a timely manner.

For the Fiscal Year 2020-2021 biennium rate package, MNIT did not submit its final enterprise services rate package proposal to MMB for approval until October 31, 2018; yet, by law, agencies were required to submit their budgets to MMB by October 15.[30] This means that agencies were trying to develop a budget without definitively knowing what IT services would cost. Similarly, for the 2018-2019 biennium rate package, MNIT did not submit a proposed rate package to MMB until September 15, 2016, and MMB did not approve the rate package until late November 2016. Again, enterprise service rates were not finalized before agency budgets were due.

While agencies did not definitively know the cost of enterprise services before October 15, 2018, MNIT took some steps to provide agencies with budgeting information prior to the deadline. For example, for the Fiscal Year 2020-2021 biennium rate package, MNIT made available "impact statements" (through its new business analytics tool) for each agency in mid-September. These statements estimated how much agencies could expect total enterprise-related costs to change based on MNIT's proposed rates. However, it is not clear that all agencies had access to these impact statements.[31] In addition, MNIT's central office instructed chief business technology officers to meet with agency staff to discuss enterprise IT costs, but, for many agencies, these meetings took place less than three weeks before agency budgets were due to MMB.

Agencies indicated to us they have been unsatisfied with aspects of IT budgeting. For instance, 59 percent of agencies responding to our survey said they were dissatisfied with the information they receive from MNIT in order to budget for IT expenses.[32]

> "
> My agency has been using [an IT application] since 2015. Last year MNIT told the agency it was going to rework how the agency paid for it. Until this week, I did not know how much I had to budget for [this]…expense. My budget is due in two weeks.
>
> — **State Agency Official**

Many agencies told us they have not received sufficiently timely information in order to budget for IT. For example, for agencies that have to get their budgets approved by boards, we heard that MNIT's schedule makes it difficult to do so. An official from another agency said, "[T]he timing of rate packages allows no reasonable time to actually plan and budget for a biennium."

RECOMMENDATION

MNIT should provide agencies with information on IT enterprise service rates earlier in the budget process.

MNIT's rate-development process is a lengthy undertaking. For example, MNIT began preparing the 2020-2021 biennium rate package in November 2017, and it submitted rates

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[30] *Minnesota Statutes* 2018, 16A.10, subd. 2.

[31] According to MNIT, chief business technology officers currently have discretion to decide who can access the business analytics tool, and they may not have granted access to agency staff. As we discussed in Chapter 1, chief business technology officers oversee agency-specific IT operations and act as the primary liaison between MNIT and state agencies.

[32] We conducted our survey of state agency officials in September 2018, before agencies submitted their Fiscal Year 2020-2021 biennial budgets to MMB.

to MMB for approval in October 2018. We commend MNIT for soliciting input from state agencies in the rate-setting process and for more closely aligning that process with the state budgeting process.

However, it is important that agencies receive finalized enterprise rates in a more timely manner. This will be particularly important until rates stabilize. As more agencies adopt MNIT's enterprise services, and as the rate-setting process and MNIT's service portfolio evolve and mature, rates may continue to fluctuate. This makes it harder for agencies to use one year's enterprise IT costs to predict future IT costs. Thus, to budget for IT, agencies need to know in advance the rates they will be paying.

IT Budgeting Responsibilities

In addition to having sufficient information to budget for IT services, it is important that MNIT and agencies understand their respective responsibilities with regard to the IT budgeting process. Every two years, agencies produce budgets for consideration by the governor and Legislature. As part of these requests, agencies must budget for operating costs, such as building maintenance, salaries, and information technology.

While agencies are ultimately responsible for submitting their budgets to MMB for inclusion in the governor's budget, MNIT also plays a role in the development of the IT portion of agency budgets. For example, statutes require MNIT to recommend IT projects for inclusion in the governor's budget.[33] In addition, before requests may be included in the biennial budget, the law requires MNIT to review and approve agency requests for funding for the development or purchase of IT equipment or software.[34] While statutes outline these specific budgeting responsibilities for MNIT, other aspects of MNIT's role with regard to agency IT budgets are less clear.

The division of responsibilities between MNIT and state agencies for IT budgeting is not sufficiently clear.

State agencies indicated there is a lack of clarity about IT budgeting responsibilities in multiple areas. For example, about half of survey respondents said they were not clear or only somewhat clear about who (MNIT or the agency) is responsible for determining their agency's

> There is a lack of clarity as to who is responsible [for IT budgeting]. I believe our agency ought to be, but MNIT has involvement in this as well. It is unclear who is the final authority….
>
> **— State Agency Official**

overall IT budget amount. In addition, about half of agencies responding to our survey said they were not clear or only somewhat clear regarding who (MNIT or the agency) is responsible for determining how their agency's IT budget will be spent. As seen in Exhibit 3.2, we found cabinet agencies were more likely to understand IT budgeting responsibilities than noncabinet agencies.

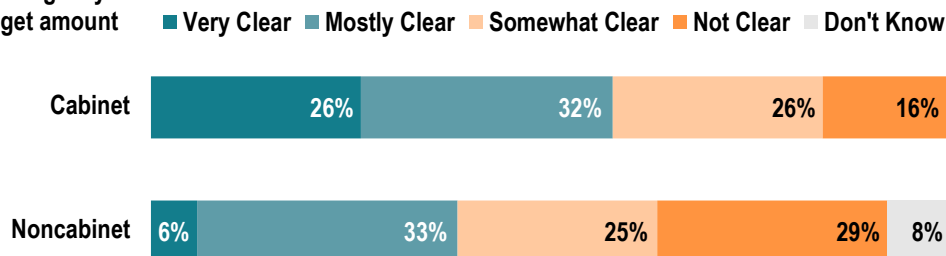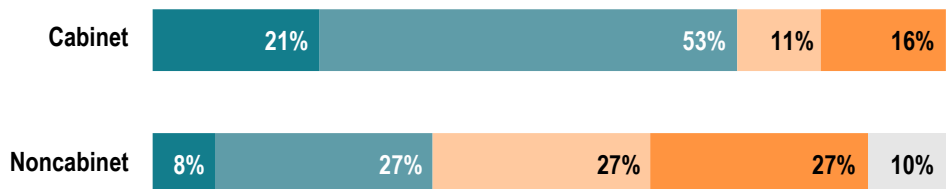[33] *Minnesota Statutes* 2018, 16E.01, subd. 3(a)(2).

[34] *Minnesota Statutes* 2018, 16E.04, subd. 2(b). To facilitate MNIT's review, MMB has stated that it provides MNIT with information about all agencies' budget requests that will have an "IT impact." MMB said it typically consults with MNIT to determine which requests will have such an impact, but there do not appear to be specific criteria.

Exhibit 3.2: Noncabinet agencies are less likely than cabinet agencies to think responsibilities pertaining to IT budgeting are clearly delineated.

Determining the agency's overall IT budget amount

■ Very Clear   ■ Mostly Clear   ■ Somewhat Clear   ■ Not Clear   ▫ Don't Know

Cabinet	26%	32%	26%	16%
Noncabinet	6%	33%	25%	29%	8%

Determining how the IT budget for the agency will be spent

Cabinet	21%	53%	11%	16%
Noncabinet	8%	27%	27%	27%	10%

NOTES: We asked respondents the extent to which it was clear who (MNIT, the agency, or a combination thereof) is responsible for the activities listed above. Surveyed individuals who did not provide a response are not included in the figures above. Figures may not sum to 100 percent due to rounding.

SOURCE: Office of the Legislative Auditor, survey of executive branch agencies, 2018 (Determining the agency's overall IT budget amount: Cabinet *N* = 19, Noncabinet *N* = 52; Determining how the IT budget for the agency will be spent: Cabinet *N* = 19, Noncabinet *N* = 51).

MNIT has not developed formal policies or standards related to IT budgeting, and we found that IT budgeting practices varied by agency. For example, one agency reported that it was not involved in IT budgeting at all, and that MNIT's agency-based leadership simply told the agency how much the agency would spend on IT. Another agency told us that the MNIT chief business technology officer and agency leadership worked together to develop an IT budget for the agency, while yet another agency said that MNIT's primary role in IT budgeting is to forecast IT costs while the agency develops the budget.

Sometimes agency staff and MNIT staff assigned to support the agency characterized their roles related to IT budgeting differently. For example, one agency told us that MNIT proposed budget numbers to the agency without consultation, and the agency felt MNIT was driving the IT budgeting process. In contrast, the chief business technology officer assigned to support the same agency described the IT budgeting process as a "partnership" between MNIT and the agency.

In Chapter 4, we discuss other areas in which there was a lack of clarity regarding other IT-related responsibilities. We provide recommendations there for clarifying IT-related responsibilities.

IT Budgeting Transparency

Ultimately, agency budget requests—including any IT funding requests—are included in the governor's biennial budget. The governor's budget is submitted to the Legislature, and the Legislature makes appropriations decisions. We reviewed budget requests included in the Fiscal Year 2018-2019 biennial budget for a sample of 30 agencies to learn more about agency requests for IT funding. The governor's budget is a key document that may inform the Legislature's funding decisions—including decisions related to IT needs—but we often found it difficult to identify and understand IT funding requests in that document.

Many IT-related funding requests in the governor's biennial budget lack clarity and transparency.

For many biennial budget requests, it was clear that the request included an IT component; for many others, it was not clear. For example, in the 2018-2019 biennial budget, the Department of Human Services (DHS) requested funding for enhancements to Minnesota's Adult Abuse Reporting Center. In its request, DHS specifically described its IT needs and the total cost to meet those needs in a designated "IT Related Proposals" section.[35] In contrast, several agency requests described increasing IT costs as part of the rationale for needing increased funding, but it was not clear that the request was actually to support IT needs. For instance, as part of its rationale for needing an operating budget adjustment, the 2018-2019 budget for the Council on Asian Pacific Minnesotans said, "Other operating costs, like rent and lease, fuel and utilities, and IT and legal services also grow." However, the budget *proposal* did not specifically reference IT needs and said only that the request is to "cover expected and anticipated employee compensation growth…."[36]

Also, funding requests related to IT sometimes conflated enterprise and agency-specific costs, making it difficult to determine which IT expenses were driven by the agency and which were related to MNIT rates. For example, in the 2018-2019 biennial budget, the Department of Corrections (DOC) requested funding to maintain current information technology services. In the request, DOC said: "The MNIT@DOC IT unit is responsible for application development and support of over 150 applications used by DOC staff…."[37] Given that the request referred to IT staff based at the agency as well as applications used by the agency, one could reasonably infer that the request was to support agency-specific— not enterprise—IT needs. Yet further in the proposal, DOC said that the increase in funding was necessary to provide funds for "rate increases for services currently provided through MNIT."[38] This language instead seemed to imply the agency was requesting funding to cover enterprise IT costs.

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[35] State of Minnesota, *2018-2019 Biennial Budget, Human Services* (St. Paul, January 2017), 63-65, https://mn.gov/mmb-stat/documents/budget/2018-19-biennial-budget-books/governors-recommendations -january-2017/human-services.pdf, accessed September 26, 2018.

[36] State of Minnesota, *2018-2019 Biennial Budget, Council on Asian Pacific Minnesotans* (St. Paul, January 2017), 5-7, https://mn.gov/mmb-stat/documents/budget/2018-19-biennial-budget-books/governors -recommendations-january-2017/asian-pacific-minnesotans-council.pdf, accessed September 26, 2018.

[37] State of Minnesota, *2018-2019 Biennial Budget, Corrections* (St. Paul, January 2017), 14, https://mn.gov /mmb-stat/documents/budget/2018-19-biennial-budget-books/governors-recommendations-january-2017 /corrections-department.pdf, accessed September 26, 2018.

[38] *Ibid*.

Finally, many agency budget requests did not fully specify what share of a given request was for IT costs compared to other project costs. For example, in the 2018-2019 biennial budget, the Department of Health (MDH) requested funding for services related to home visits for pregnant and parenting teens. In its request, MDH clearly identified an IT component—specifically the "purchase and ongoing maintenance of a new statewide data collection and reporting system"—but it failed to identify how much the system would cost to develop or maintain.[39] Because the IT component is included as part of a larger funding request, including expenses such as salaries, grants, and staff training, it is impossible for decision makers to discern the IT costs.

Legislators need straightforward information related to IT funding needs and proposed IT investments statewide. Decision makers must have a clear and transparent view into IT-related budget requests so that they can monitor and prioritize IT needs across the state.

RECOMMENDATION

MNIT—in consultation with the Department of Management and Budget—should ensure that IT-related funding requests by all agencies clearly identify IT costs in a consistent manner.

We recommend that MNIT ensure that agencies clearly identify whether a funding request includes an IT component and specify the total cost of the IT components for any given request, including maintenance costs for IT projects. This clarity will help decision makers better identify the impact of budget proposals. It is likewise important that decision makers understand whether IT funding requests are to pay for enterprise IT services, for which agencies have a more limited ability to control their expenses, or for agency-specific services, over which agencies have greater latitude.

We do not provide specific recommendations as to how agencies should describe IT funding needs in the biennial budget. However, MNIT should aim for greater consistency in agency budget requests so that decision makers can understand and compare requests across agencies. We also recommend that MNIT produce a biennial report on statewide IT-related funding requests to provide legislators with a comprehensive view of IT needs and priorities across the state.

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[39] In the MDH request—and many others—we observed that funding requests do not describe ongoing IT maintenance costs for a given project. State of Minnesota, *2018-19 Biennial Budget, Health* (St. Paul, January 2017), 11-13, https://mn.gov/mmb-stat/documents/budget/2018-19-biennial-budget-books/governors -recommendations-january-2017/health-department.pdf, accessed September 26, 2018.

Chapter 4: MNIT Provision of IT Services

The consolidation of information technology (IT) services in 2011 represented a significant shift in the responsibility of providing and overseeing IT services from state agencies to the Office of Minnesota Information Technology Services (MNIT).[1] Instead of individual state agencies ensuring that IT services meet their own needs, MNIT became responsible for providing enterprise and agency-specific IT services to meet the needs of all agencies subject to consolidation. In this chapter, we discuss the extent to which MNIT and agency IT-related responsibilities have been clearly delineated and how satisfied agencies are with the IT services they receive.

KEY FINDINGS IN THIS CHAPTER

- **The division of responsibilities between MNIT and state agencies is sometimes unclear.**

- **Agency satisfaction with MNIT's services is mixed. A majority of agencies expressed satisfaction with the quality of IT services, but many said they are frustrated with customer support and other IT-related processes.**

Division of Responsibilities

Effective IT service delivery requires clear lines of authority. As stated by a leading researcher in the IT field, the governance of information technology services requires "systematically determining who makes each type of decision (a decision right), who has input to a decision (an input right), and how these people (or groups) are held accountable for their role."[2] Likewise, according to an international IT firm,

> Making sure decision rights are clearly defined is critical to resolving a myriad of issues related to strategy, standards, monitoring and change introduction…. Too often, a lack of clarity on who owns the decision rights and lack of visibility to support those decisions in these areas leads to value destruction in the delivery of IT services.[3]

Some parts of MNIT's authorizing statute clearly articulate responsibility for information technology services. For example, as discussed in Chapter 1, state law gives MNIT

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[1] We use the term "state agencies" in this report to refer to state executive branch organizations, including agencies, boards, councils, and commissions that receive services from MNIT.

[2] Peter Weill, "Don't Just Lead, Govern: How Top-Performing Firms Govern IT," *MIS Quarterly Executive* 3, no. 1 (March 2004): 3.

[3] CGI Group, *IT Governance and Managed Services: Creating a Win-Win Relationship* (2017), 3-4, https://www.cgi.com/sites/default/files/white-papers/cgi-it-managed-services-and-governance-white-paper.pdf, accessed November 30, 2018.

authority to establish enterprise services on behalf of all agencies.[4] The law also says MNIT "shall establish reimbursement rates" and provides a list of "information technology systems and services to state agencies" for which MNIT is responsible.[5] The list includes state data centers, servers, desktops, laptop computers, data networks, e-mail, and other specified services. The law says MNIT may allow an agency to obtain these services from outside vendors, but only if the contractor would provide "best value" and could meet MNIT standards.[6]

While the statutes provide important guidance, MNIT still has discretion about the way and degree to which it involves state agencies in service delivery. For instance, for the services MNIT must provide or arrange for, the law does not describe whether MNIT or the agency is responsible for outlining the business needs and technical specifications of the services.

The overall division of responsibilities between MNIT and state agencies is sometimes unclear.

> **MNIT is responsible for purchasing certain IT goods and services, while agencies are responsible for purchasing others.**
>
> Sample of IT goods and services
>
> | MNIT | State Agencies |
> | --- | --- |
> | • Personal and laptop computers | • Mobile devices, such as tablets |
> | • Videoconferencing equipment | • Cell phones |
> | • Servers | • Cable TV |
> | • Software purchases and ongoing licenses | • Flash drives |
> | • Computer and telecommunications equipment repair | • Digital cameras |
> | • Lease of IT space | • Lease and maintenance agreements on copiers, printers, and scanners |
> | • Business data subscriptions | • Some computer-related accessories |

Through our survey of executive branch agencies and in-depth conversations with agency staff, we found that ambiguity persists about who has decision-making authority over certain aspects of IT service delivery.[7] Only 42 percent of agencies we surveyed said that the overall division of responsibilities between MNIT and agencies is "very clear" or "mostly clear." Some agencies appear to better understand the division of responsibilities than others; respondents from cabinet agencies were more likely to say that IT responsibilities were clear than respondents from noncabinet agencies, as seen in Exhibit 4.1.

As part of MNIT's responsibilities, statutes require MNIT to review and/or approve certain IT purchases.[8] In response to these requirements, MNIT produced a list of IT items agencies must procure through MNIT, and a list of IT-related items that MNIT does not procure.[9] For example, MNIT will procure laptop computers and servers, but the agencies are responsible for purchasing cell phones and mobile devices.

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[4] *Minnesota Statutes* 2018, 16E.01, subd. 3(b).

[5] *Minnesota Statutes* 2018, 16E.01, subd. 3(b); and 16E.016(a).

[6] *Minnesota Statutes* 2018, 16E.016(c).

[7] We sent surveys to 72 state agencies, boards, and commissions, and we received responses from 99 percent. We also conducted interviews with staff in five executive branch organizations: the Department of Human Services, Department of Public Safety, Bureau of Mediation Services, Minnesota Council on Disability, and Board of Examiners for Nursing Home Administrators.
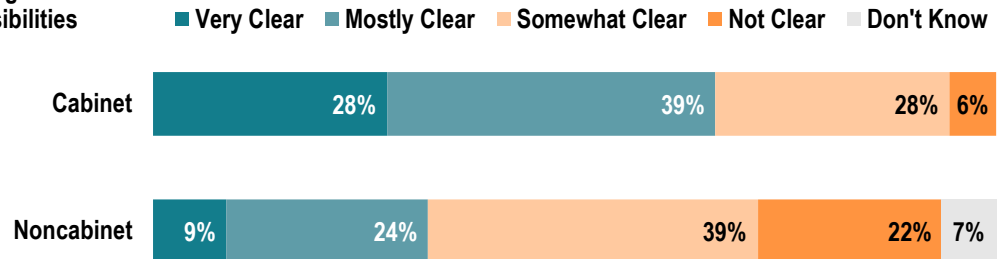
[8] *Minnesota Statutes* 2018, 16E.01, subd. 3(a)(2); and 16E.04, subds. 1 and 2.

[9] Department of Administration, "Policy 24 MNIT Services Authority for IT Purchases and Contracts," effective January 7, 2014.

Exhibit 4.1: Agencies reported mixed responses when asked whether, overall, there is clear division of responsibility between MNIT and agencies.

Overall clarity regarding division of responsibilities

■ Very Clear   ■ Mostly Clear   ■ Somewhat Clear   ■ Not Clear   ■ Don't Know

Cabinet

| 28% | 39% | 28% | 6% |

Noncabinet

| 9% | 24% | 39% | 22% | 7% |

NOTES: We asked respondents to assess, overall, the clarity in how responsibilities are divided between MNIT and state agencies for IT activities. Surveyed individuals who did not provide a response are not included in the figures above. Figures may not sum to 100 percent due to rounding.

SOURCE: Office of the Legislative Auditor, survey of executive branch agencies, 2018 (Cabinet *N* = 18, Noncabinet *N* = 46).

However, about one-quarter of agencies responding to our survey indicated it is unclear or only somewhat clear which technology items—such as printers or software applications—are MNIT's responsibility and which items are the responsibility of the agency. Even among some agencies that said responsibilities were generally clear, we saw evidence of confusion. For example, a couple of agencies that thought responsibilities were clear told us that they thought printers were MNIT's responsibility; according to MNIT's documentation, printers are the agency's responsibility.

In addition, several agencies commented that MNIT staff appear, at times, to interpret IT responsibilities differently. For example, a staff person in one agency told us that agency-based MNIT staff sometimes disagree with MNIT central office staff

> It can be confusing whether we need to go through MNIT to obtain [IT] items or if we are able to get items on our own. Seems like it depends on who you talk to.
>
> **— State Agency Official**

about which products or services are within MNIT's scope of responsibilities; this confusion wastes agency time. Another agency commented that they have received conflicting information from MNIT staff about how to undertake IT projects and make related procurements. They said this results in a "lot of wasted time and resources completing processes [and] forms that were not utilized."

MNIT's "service-level agreements" (SLAs) with individual state agencies do not clearly distinguish MNIT and agency responsibilities.

As part of the 2011 IT consolidation legislation, MNIT was required to enter into an SLA with each state agency by July 1, 2012.[10] State law said the agreements "must specify the services to be provided and the charges or cost allocation for these services."[11] This language was not codified. While MNIT's current statute contains several references to its service-level agreements with agencies, it does not define the term or specify comprehensively what these agreements should address.

While statute does not provide much guidance regarding the content of SLAs, MNIT has attempted to outline some IT-related responsibilities in these documents. For example, the current SLA template has sections on "MNIT Services Roles and Responsibilities" and "Agency Roles and Responsibilities." Yet, the SLAs have not comprehensively addressed the roles of MNIT and agencies for various tasks. For instance, the agreements provide virtually no discussion of responsibilities for software development.

In addition, the legal status of SLAs has been uncertain, making it unclear as to whether agencies have formally agreed to the responsibilities currently outlined in those documents. MNIT's most recent revision to the SLAs occurred in October 2018.[12] Prior to the 2018 SLAs, most agencies chose not to sign these documents. For example, one agency told us the language in the SLA was too vague and there were many issues it did not address, so the agency chose not to sign it. Another agency official told us she had concerns about her agency's ability to afford the SLA requirements. In our view, unsigned SLAs do not truly represent "agreements" between MNIT and the affected agencies.

MNIT legal staff told us: "2018 is the first year that MNIT will require a signature on the SLAs." It is worth noting that MNIT's statutes do not explicitly authorize MNIT to "require" agency approval—through signature—of the SLAs. According to MNIT, several agencies still had yet to sign their 2018 SLAs as of December 2018.[13]

While SLAs have the potential to be a clarifying tool, some agency officials told us they have not found SLAs to be helpful documents or ones they use regularly. Officials from one agency, for example, said their agency is too large to be able to sufficiently capture roles and responsibilities in the SLA. Another agency official told us her staff did not have the resources or technical ability to understand the terminology used in the agency's SLA. Another agency commented that, while the SLA should be a document that provides clarity about IT services, it is instead "superficial fluff."

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[10] *Laws of Minnesota* 2011, First Special Session, chapter 10, art. 4, sec. 6(b).

[11] *Ibid.*

[12] Initially, MNIT intended to renew SLAs with agencies each year. In practice, MNIT has revised the SLAs about once every three years since the consolidation legislation. At the time of our evaluation's survey of state agency officials and discussions with state agency staff, the previous version of the SLA (revised around 2015 for most agencies) was the version with which agencies were most familiar, although some agencies were in negotiations with MNIT over the SLA developed in 2018. In addition to reviewing some past SLAs, we reviewed components of the SLA developed in 2018.

[13] As of December 2018, the agencies that had not signed their SLAs were the Minnesota Board of Water and Soil Resources, and the departments of Administration, Employment and Economic Development, Human Services, Public Safety, and Revenue.

RECOMMENDATION

MNIT should clarify the division of responsibilities for various IT activities.

Overall, MNIT has taken limited steps to systematically clarify responsibilities related to IT. MNIT has developed a set of IT policies and standards applicable throughout state government, but most of these address specific areas such as cybersecurity and geospatial data. In instances where MNIT has tried to clarify responsibilities—by establishing a list of who is responsible for various IT items or by listing responsibilities in SLAs, for example— some confusion remains.

We recommend that MNIT clarify which IT-related activities are the responsibility of state agencies and which are the responsibility of MNIT. MNIT should undertake this effort in consultation with the agencies it serves to ensure that both MNIT and agency expectations are considered. As part of this effort, MNIT should further clarify which technology items are under MNIT's oversight and which are the responsibility of state agencies. While better identifying roles and responsibilities likely will not resolve all conflict, it may help to increase the efficiency with which IT activities are completed and help both MNIT and state agencies hold each other accountable.

Service Delivery

The ability of state agencies to fulfill their missions and serve the needs of Minnesotans depends significantly on IT services. Technology permeates daily agency activities; for example, on any given day, a state employee may access the Internet, use e-mail and phone services, use various software applications, and save work products to servers or other locations. Agencies also rely on technology to provide services to state residents. For example, deputy registrar offices around Minnesota use Department of Public Safety software to issue vehicle titles and registrations, and the Board of Medical Practice has a database that enables physicians to renew their credentials electronically.

Minnesota has received consistently high grades from a national organization that examines state government IT practices. That organization—the Center for Digital Government— draws on the expertise of IT practitioners and scholars. As shown in Exhibit 4.2, the center has consistently given Minnesota state government "A-minus" or "B-plus" grades in recent years, even predating Minnesota's IT consolidation.[14] These grades have a subjective element, but it is still noteworthy that the center has generally ranked Minnesota among the upper tier of states in its IT practices.

While such grades of state IT agencies deserve consideration, it is also important to consider the opinions of state agencies—the main customers of MNIT's services. Below we discuss whether agencies feel MNIT understands their business needs and the degree to which agencies are satisfied with MNIT's enterprise and agency-specific IT services.

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[14] The center's website has few details about how states are graded, so we spoke with the center's director about this process. Each state is graded by a "judge" who was once a state chief information officer, and the grade assigned to a state is based partly on a survey completed by the state's executive branch IT agency. The grade can also reflect qualitative assessments by the judges—for example, based on additional information provided by the agency under review. http://www.govtech.com/cdg/digital-states/.

Exhibit 4.2: A national IT organization has rated Minnesota state government IT favorably in recent years.

State Ratings	2010	2012	2014	2016	2018
Grade Assigned to Minnesota	B+	A-	B+	B+	A-
States Graded above Minnesota	4	2	8	10	5
States Graded below Minnesota	37	42	31	30	37

NOTES: The Center for Digital Government describes itself as "a national research and advisory institute on information technology policies and best practices in state and local government." It evaluates the information technology practices of state governments every two years.

SOURCE: Office of the Legislative Auditor, analysis of Center for Digital Government ratings; Center for Digital Government, "Digital States," http://www.govtech.com/cdg/digital-states/, accessed November 30, 2018; and Center for Digital Government, "About the Center for Digital Government," http://www.govtech.com/cdg/about/, accessed November 30, 2018.

While we did not investigate whether specific agency complaints had merit, and we recognize that agency comments could be the result of miscommunication or misunderstanding between MNIT and the agency, they nonetheless influence an agency's satisfaction with MNIT's services.

Agency Business Needs

MNIT says that it plays a significant role in supporting agency business practices. For example, MNIT's master plan for IT states that MNIT will "evaluate business needs …and work to ensure that diverse business needs can be addressed through enterprise strategies."[15] MNIT leaders likewise emphasized to us the importance of having IT services that support business practices. For example, one agency-based MNIT official told us that an exemplary IT agency should provide solutions for business needs that result in quality services, customer satisfaction, and business value.

Only about one-half of state agencies said that MNIT understands their business needs.

Our survey of agency officials identified room for improvement in MNIT's ability to meet agency needs. Only 49 percent of agencies responding to our survey agreed or strongly agreed that MNIT understood their business needs. As seen in Exhibit 4.3, cabinet agencies said MNIT understands their needs at a higher rate than noncabinet agencies; only 39 percent of noncabinet agencies felt MNIT understood their business needs.[16]

Many agencies said that MNIT's lack of understanding of agency business needs has negatively affected their operations. For instance, one survey respondent said that, in some

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[15] Office of MNIT Services, *Master Plan 2017-2022* (St. Paul, undated), 7.

[16] As we discuss later in this chapter, noncabinet agencies often do not have IT staff housed within the agency. MNIT told us their understanding of agency needs is "greatly enabled" by the presence of agency-based IT staff.

cases, MNIT has (1) made decisions about IT projects without considering agency priorities and (2) designed applications to meet MNIT's needs rather than the agency's. A few agencies told us that time spent by agency staff educating MNIT about agency business needs has impacted the time agency staff have to perform their regular duties. Another agency said that a recent purchase of laptop computers by MNIT did not meet the agency's needs.

> " It is critical that the IT staff that work on agency-specific applications be fully aware of an agency's business operations and needs. I had to spend a considerable amount of time in the run up to—and during the early part of—the legislative session trying to educate a MNIT manager newly assigned to [our agency] in the intricacies of our business operations and the software applications that we contract with our vendors to provide.
>
> **— State Agency Official**

Exhibit 4.3: Noncabinet agencies are less likely than cabinet agencies to think MNIT understands their business needs.

MNIT understands agency business needs
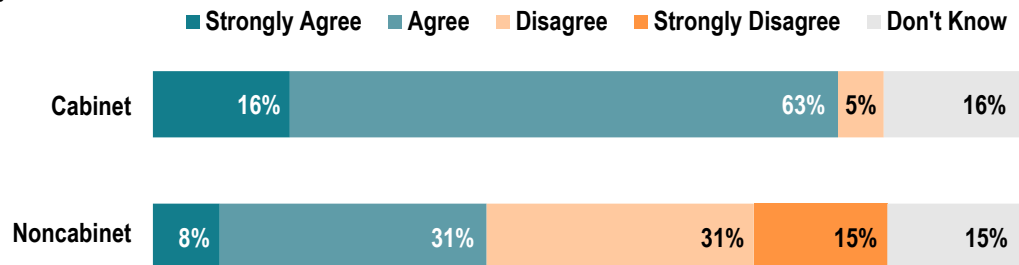
■ Strongly Agree ■ Agree ■ Disagree ■ Strongly Disagree ■ Don't Know

	Strongly Agree	Agree	Disagree	Strongly Disagree	Don't Know
Cabinet	16%	63%	5%		16%
Noncabinet	8%	31%	31%	15%	15%

NOTE: We asked respondents to indicate the extent to which they agreed with the following statement: "MNIT understands your organization's business needs."

SOURCE: Office of the Legislative Auditor, survey of executive branch agencies, 2018 (Cabinet *N* = 19, Noncabinet *N* = 52).

Enterprise Services

Enterprise services are a backbone of state government IT, including services such as e-mail, telephones, and networks. Because enterprise services are available to all agencies, and many agencies are effectively required to use these services, it is important that they be of high quality.

Nearly two-thirds of state agencies said they are satisfied with the quality of MNIT's enterprise services, but agencies expressed considerable frustration with MNIT's customer support for these services.

In our survey of executive branch agencies, 64 percent of respondents said they were satisfied or very satisfied with the quality of MNIT's enterprise services. When expressing satisfaction with the quality of MNIT enterprise services, agencies often mentioned core IT services, such as phones and computers.

> "
>
> I do think that MNIT does a good job of providing true enterprise services such as equipment, the state e-mail system, …phones, office productivity software, etc.
>
> **— State Agency Official**

Almost

90%

of survey respondents were satisfied with MNIT's efforts to protect state information and websites from external threats.

Agencies responding to our survey were also largely pleased with MNIT's enterprise efforts in the area of cybersecurity. Nearly 90 percent of agencies responding to our survey said they were satisfied or very satisfied with MNIT's efforts to protect state information and websites from external security threats. One agency commissioner told us he did not think his agency would be able to provide the level of security MNIT provides and that he can "sleep better at night" knowing someone else is looking after cybersecurity. A survey respondent said that MNIT provides her agency with a higher level of service than the agency had prior to IT consolidation, especially in the area of security.

While the majority of agencies expressed a favorable view of enterprise service quality, not all feedback was positive. Several agencies, for example, told us MNIT does not provide sufficient notice of IT changes. For example, one survey respondent commented that MNIT will sometimes make "technical changes in the system that affect operations without notifying the agency of the activity." Many agencies also expressed concern about the cost of enterprise services, as we discussed in Chapter 3.

Despite general satisfaction with the quality of MNIT's enterprise services, agencies expressed considerable frustration with customer support. As seen in Exhibit 4.4, about one-half of survey respondents said they were dissatisfied or very dissatisfied with the response time of MNIT's enterprise customer support, while 42 percent of respondents were

> "
>
> MNIT does not provide updates on issues in a timely and consistent manner. On more than four occasions, we have submitted a ticket at least two weeks in advance of the start date for a new employee, and MNIT staff have not set up the work station by the time the employee arrived. Establishing voice mail for a new employee has frequently been delayed, sometimes for up to a week.
>
> **— State Agency Official**

dissatisfied with the communication from MNIT's enterprise services customer support staff. For example, one respondent said it took MNIT six weeks to shut down IT services for an intern after the conclusion of her internship. Another survey respondent said it took approximately six months to receive the computers the agency ordered, despite multiple follow-ups by the agency. Many agencies expressed frustration with MNIT's efforts to update them on the status of requests or issues.

Exhibit 4.4: Agencies expressed split opinions about the customer support they receive from MNIT.

Customer support   ■ **Very Satisfied** ■ **Satisfied** ■ Dissatisfied ■ **Very Dissatisfied** ■ Don't Know

	Very Satisfied	Satisfied	Dissatisfied	Very Dissatisfied	Don't Know
Response time	4%	45%	38%	11%	1%
Communication with agency staff	7%	45%	34%	8%	6%
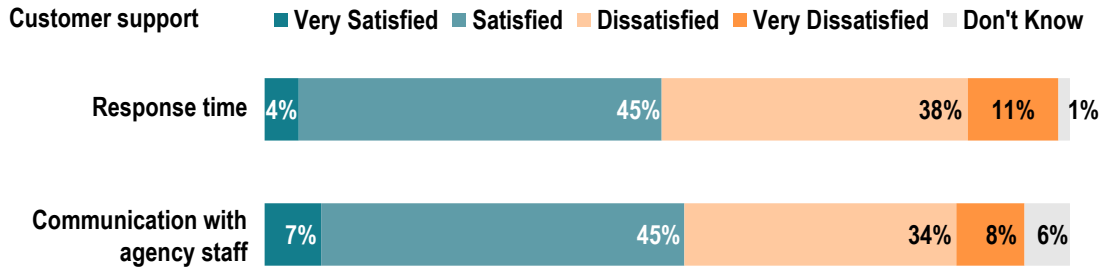
NOTES: We asked respondents to indicate how satisfied they were with MNIT's customer support for enterprise services in the past two years with regard to the factors listed above. Figures may not sum to 100 percent due to rounding.

SOURCE: Office of the Legislative Auditor, survey of executive branch agencies, 2018 (*N* = 71).

> It has not been unusual to be contacted about an issue many days or even weeks after a "ticket" is put in. Much of the communication in relation to support services is in the form of auto responses generated electronically and is often not helpful.
>
> **— State Agency Official**

Agencies also reported a lack of clarity about how to resolve IT issues. MNIT provides a "ticketing system" through which state employees can report IT issues, request changes, and order services. However, many survey respondents described frustration with MNIT's ticketing system, especially what they perceived to be a lack of transparency. For example, one agency said it is difficult to find on MNIT's website information about where to submit a ticket. Other agencies expressed a lack of clarity about where within MNIT to direct their inquiries. For example, one respondent questioned whether she was supposed to use MNIT's service desk or desktop support for assistance with an IT issue. Another agency official told us that it is not clear which MNIT staff handle any given IT issue, and he does not know who to follow up with if problems persist.

Weak customer service not only erodes agency faith in MNIT as a service provider, but it can negatively affect agency operations. For example, one survey respondent said that slow customer service has delayed staff from performing their duties and decreased overall productivity. Another agency said it developed informal workarounds to get issues resolved quickly because MNIT's response to ticket requests had been so slow. Other agencies reported devoting significant agency staff time to managing IT issues.

> Entering a ticket feels like throwing something down a dark well.
>
> **— State Agency Official**

Agency-Specific Services

Agency-specific IT services—such as software applications or databases tailored to an agency's needs—play a critical role in the business operations of an agency. Agencies may

acquire these services through various approaches, such as purchasing a product "off-the-shelf," working with a contractor, or using MNIT staff directly. For example, the Minnesota Council on Disability contracts through an outside vendor for its database. In contrast, the Department of Public Safety used a combination of MNIT staff and contractors to develop its motor vehicle licensing and registration system.

Agency Satisfaction

Overall, we found agencies were more satisfied with the quality of agency-specific IT services than with enterprise services. We heard favorable comments from agencies about various aspects of agency-specific services, including technical quality and communication.

The majority of state agencies were satisfied with the quality of agency-specific IT services.

Eighty-three percent of agencies responding to our survey said they were satisfied with the technical quality of application-related services provided by MNIT or its contractors.[17] One survey respondent said her agency is very satisfied with the technical aspects of its applications and appreciates MNIT's efforts to "push the vendors to improve the products as well." Another said, "Several organizational applications are receiving good support and quality. The MNIT...staff…are flexible, hardworking, and sincere."

In addition, about three-quarters (73 percent) of agencies responding to our survey were satisfied with their ability to customize applications to suit their agency's needs.[18] One survey respondent said MNIT staff housed at his agency

> " We have a great working relationship with our agency IT staff. They have built a number of systems and applications that serve our needs and the needs of our customers.
>
> **— State Agency Official**

"have done an amazing job of working with our agency, ensuring that our needs fit into new applications, and fixing issues as they arise." Another respondent commented that MNIT staff "follow through on quality, cost, and customization" of application-related services.

Agencies also generally expressed higher levels of satisfaction with communication related to agency-specific IT services than enterprise services. Seventy-eight percent of agencies responding to our survey said they were satisfied or very satisfied with the clarity of communication they receive from MNIT staff assigned to their agency. One respondent said, "The IT staff that serve our agency communicate clearly and effectively." Another said that MNIT staff housed at the agency "provide a high level of communications about local services." In addition, about three-quarters of respondents to our survey said MNIT usually or always provides their agency with sufficient notice if MNIT has needed to make changes to agency software applications.[19]

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[17] This total excludes agencies that said this question was not applicable ($N = 58$).

[18] *Ibid* ($N = 55$).

[19] *Ibid* ($N = 58$).

While many agencies responding to our survey were satisfied with agency-specific applications and communications, a few agencies said that agency-specific MNIT staff are sometimes constrained by MNIT's central office in meeting agency needs. For example, one respondent thought its agency-based staff would like to do more for the agency, but that their authority to do so is limited by MNIT's central office. Another respondent said the agency's MNIT liaison is hesitant to make decisions for fear that MNIT's central office will disapprove.

> " The board is pleased with staff assigned to the health-related licensing boards. They would like to do more for us, but they are limited by MNIT Central. For example, individuals are only cleared for certain tasks. They do not have access to service all functions we need.
>
> **— State Agency Official**

A majority of agencies were satisfied with their current software applications, but a few agencies expressed some reluctance to use MNIT for future application development. For example, one agency leader told us she did not trust MNIT to custom-develop applications for their agency, so the agency chose to contract (through MNIT) with a vendor for those services instead. Another official said his agency would be hesitant to use MNIT to develop an application because of concerns about MNIT's "inability to deliver a workable solution" and the likely cost of such a solution.

Other Issues

In addition to providing enterprise and agency-specific IT services, MNIT plays an important role in several business aspects of IT, such as IT leadership and strategic planning, procurement, and billing. These processes also play a critical role in the success of IT service provision and agency satisfaction with MNIT services.

Agency-Level IT Leadership

As we discussed in Chapter 1, chief business technology officers (CBTOs) oversee agency-specific IT operations; they provide agency-level leadership and direction and act as the primary liaison between MNIT and state agencies. They are typically involved in IT budgeting, strategic IT planning, the oversight and coordination of service delivery, and the management of IT staff.

Several agencies commented about the importance of strong agency-based IT staff, particularly those in leadership positions, such as CBTOs. For example, one agency commissioner told us the degree to which MNIT understands his agency's business needs is largely a

> " [The agency's] existing relationship is strong with the currently assigned CBTO. This strong working relationship with the CBTO is the foundation for the agency's overall satisfaction with MNIT services since consolidation.
>
> **— State Agency Official**

function of his agency's CBTO. Another agency leader told us it would be difficult to budget for IT expenses if not for the assistance of the agency's IT leadership.

The extent of agency-level IT leadership varies, especially among noncabinet agencies.

While all agencies that MNIT considers subject to consolidation are assigned an IT leader—either a CBTO or IT director—the number of agencies assigned to a given leader varies.[20] For example, one CBTO is responsible for overseeing IT for the Department of Transportation alone, while another CBTO is responsible for overseeing IT for 19 health licensing boards, 2 other noncabinet agencies, and the Pollution Control Agency. Another individual is responsible for overseeing IT for 15 noncabinet entities—including boards, councils, and commissions—such as the Minnesota Council on Disability and the Gambling Control Board.

Some agencies—particularly the smaller, noncabinet agencies—indicated that the number of agencies served by one IT leader is too high to meet agency needs.[21] One survey respondent commented that the agency's IT leader is hard-working but has to prioritize competing requests among multiple agencies. Another agency told us that its IT leader tries to meet agency needs but has too many responsibilities and too few staff.[22]

> We work closely with our CBTO, however, they have a large portfolio to oversee which results in inconsistent or inadequate oversight.
>
> **— State Agency Official**

A number of survey respondents—all noncabinet agencies—were unable to identify their IT liaison at all. In total, 14 percent of respondents to our survey (20 percent of noncabinet respondents) did not know who their CBTO (or IT leadership equivalent) was. Given that CBTOs act as the primary liaison between MNIT and the agency, we are concerned that some agencies cannot identify that individual. This raises questions about the level of IT support those agencies receive.

> We surveyed all of the employees and have no idea who the CBTO is. That is damning.
>
> **— State Agency Official**

On the other hand, agencies who could identify their IT leader largely viewed the leader favorably. Eighty-five percent of survey respondents who knew their IT leader said the agency's relationship with its CBTO (or IT leadership equivalent) was good or excellent. Survey respondents described their CBTO using terms such as "excellent," "accessible," "responsive," "supportive," and "committed." Even many noncabinet agencies that desired greater support from their IT leadership said that their working relationship with the IT leader was good.

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[20] While CBTOs oversee IT for many agencies, 15 noncabinet boards, councils, and commissions are instead overseen by an IT director. The IT director conducts some of the same activities as a CBTO, but not all. For example, according to MNIT, the IT director—unlike a CBTO—does not facilitate any strategic IT planning and does not report directly to MNIT executive leadership.

[21] In 2015, the Legislature required MNIT to report on the number of people holding a position equivalent to a CBTO and plans to reduce that number. In response, MNIT reduced the total number of CBTOs from 21 in 2011 to 13 in 2019. *Laws of Minnesota* 2015, chapter 77, art. 2, sec. 85.

[22] The agency said, for example, it tries to work with IT leadership to determine the IT items it needs to purchase, but the procurement process can take months.

MNIT staff told us that it is challenging to provide IT services to smaller, noncabinet agencies, due to their more limited budgets. Agencies are supposed to pay MNIT for all IT staff based at the agency, including the CBTO or other IT leadership. However, some smaller agencies are unable to afford agency-based IT support. Also, noncabinet agencies may not have IT staff housed within the agency who can resolve agency-specific software issues. In some cases, this leaves the IT leader as the person providing "catch-all" support for various agency needs. A MNIT official told us they have struggled to provide smaller agencies with the level of IT services and leadership those agencies desire at a price the agencies can afford.

Due to the important role played by agency IT leaders, MNIT should carefully consider the adequacy of IT leadership support in individual agencies. We recognize that MNIT's ability to provide IT leadership to agencies is affected by each agency's ability or willingness to pay for these services, and that MNIT must consider agency workloads when making CBTO assignments. We recommend later in this chapter that MNIT more effectively assess agency satisfaction with IT services. MNIT should use this feedback to help it determine the adequacy of IT leadership staffing levels, especially for smaller, noncabinet agencies.

IT-Related Business Processes

In addition to providing IT leadership, enterprise services, and agency-specific services, MNIT plays a role in IT-related business processes, including the procurement of and billing for IT-related goods and services. In 2016, MNIT's Procurement and Asset Management Improvement Workgroup prepared a report describing challenges pertaining to several IT-related business activities.[23] The report noted that aspects of IT procurement and billing processes became duplicative and labor-intensive for state agencies following the 2011 consolidation legislation. We found that agency concerns identified in the workgroup's report persist today.

Many agencies are frustrated by what they perceive to be inaccurate IT invoices and redundant and time-consuming IT-related processes.

A significant share of agencies noted issues with MNIT's billing process, commenting that understanding bills and resolving errors can require significant staff time. Forty-four percent of agencies responding to our survey disagreed or strongly disagreed that MNIT's billing statements are accurate, although some survey respondents said the accuracy of MNIT's bills have improved in recent years. One agency representative told us she spends hours deciphering MNIT invoices and identifies incorrect

> " Billing statements have been inaccurate and it has taken months, multiple tickets, and multiple people to get items corrected.
>
> **— State Agency Official**

items on each invoice (such as being billed for something another agency received). Many agencies responding to our survey said that it takes considerable time for MNIT to correct billing errors, once detected. MNIT staff told us they are aware there have been challenges

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[23] In 2016, MNIT's Financial Steering Team directed this workgroup to identify ways to improve IT procurement. The workgroup conducted several focus groups with state agency staff. Office of MNIT Services, *IT Procurement Process Improvement* (St. Paul, June 29, 2016).

related to IT billing, but they do not track the frequency with which agencies report inaccuracies or the percentage of bills that are, in fact, incorrect.[24]

Several agencies also commented that MNIT's billing process is not timely, and that this can jeopardize outside funding and adversely affect an agency's ability to keep its books. For example, staff in one agency explained MNIT's billing process delays payments, sometimes up to three or four months for a given purchase. Staff in some agencies told us that such delays affect their ability to close out state and federal finances at the end of a fiscal year. In addition, some survey respondents said delays can jeopardize grants or federal funding.

> " [Procurement] is the most frustrating and time consuming aspect of IT consolidation. From end to end, it entails fully redundant processes…. Any IT purchase results in two purchase requests and two purchase orders—for the same good or service. In order to pay monthly MNIT invoices, the agency had to create a complex crosswalk to specifically map the billed good or service back to specific funding…strings from which the purchase request originated. Each month's invoices take days or weeks to crosswalk.
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> **— State Agency Official**

Agencies also expressed frustration with redundant processes related to IT procurement. MNIT and state agencies use separate—although essentially the same—systems to track IT procurements. These systems are not integrated; agencies enter information for their IT procurement requests in one system, and MNIT enters the procurement information in a separate system. Several agencies said these redundancies slowed IT procurement or that the IT procurement process was too slow in general. For example, one agency said the current process causes them to wait weeks or months for MNIT to finalize IT purchases or contracts. These delays affected the agencies' ability to get work done.

Agencies also expressed frustration about a lack of transparency regarding IT procurement. For example, agencies cannot track the progress of their requests and may struggle to connect their purchases to the appropriate funding source when paying IT bills, because they generally do not have access to MNIT's procurement system.[25] One agency said that, because it cannot monitor the status of procurement requests, staff spend a significant amount of time following up with MNIT to track the status of their purchases.

Agencies said that issues with the procurement process can also create tension with vendors. For example, one agency told us it never knows if MNIT has paid agency vendors, or whether MNIT verified that the vendors did the agreed-upon work before paying them. A different agency complained about an instance in which MNIT did not pay a vendor, and another said MNIT sometimes pays vendors incorrectly and the agency gets caught in the middle.

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[24] MNIT collects information on credit and debit requests; however, according to MNIT staff, credits and debits are not always indicative of a billing error. Agencies typically request credits or debits when IT services were not stopped as requested, when IT bills were applied to the wrong internal agency customer, or to meet internal audit requirements, for example.

[25] For example, one agency we spoke with described creating its own system to track IT purchases so that it can know what purchases were made for particular divisions of the agency. Tracking IT expenses at that level is important for the agency to be able to provide the federal government with sufficiently detailed purchase information for federal grants; MNIT's system does not provide this detail, according to agency staff.

Overall, while a couple of agencies noted positive aspects of consolidating IT business activities—such as not having to negotiate contracts and getting better deals—several agencies said that any efficiencies have been offset by redundancies. In addition, a few agencies told us they employ staff to help them manage the agency's relationship with MNIT and ensure that agency needs are fulfilled. For example, one agency employs a "business solutions officer," whose role is to work with MNIT. A representative from that agency told us she did not think this position would exist if not for IT consolidation under MNIT. Likewise, a representative from a smaller agency told us that the agency is seeking funding for an employee who spends about 40 percent of her time on MNIT issues; these are salary costs the agency did not incur prior to consolidation, the representative said.

RECOMMENDATION

MNIT should improve the processes for IT-related procurement and billing.

The ability of agencies to acquire and pay for IT goods and services is fundamental to supporting their IT needs. When the systems and processes that facilitate these activities do not function efficiently or transparently, agencies may be negatively affected. To ensure that any changes MNIT makes to these systems do not have unintended consequences, MNIT should make changes in consultation with a diverse array of state agencies and regularly measure agency satisfaction with any changes.

MNIT staff told us they are aware that IT procurement and billing processes still need improvement and are in the process of implementing changes. For example, MNIT recently consolidated multiple separate procurement groups under a single director of procurement. MNIT also told us they plan to convene two new governance groups—including one for procurement. Additionally, per MNIT, the procurement governance group and the Financial Steering Team plan to review further the remaining 2016 workgroup recommendations. We encourage MNIT to continue efforts to improve business processes.

Discussion

Agency satisfaction is one factor of many that are important to consider when MNIT evaluates the quality of IT services. At times, competing factors must also be considered. For example, to improve the security of IT systems, MNIT may need to implement processes or requirements that agencies find frustrating. Similarly, agencies may wish to implement "cutting edge" IT solutions that, in MNIT's view, are not cost-effective. At other times, MNIT may need to weigh the interests of the state at large against an individual agency's desires.

Nonetheless, MNIT's primary role is that of a service provider to state agencies. Thus, agency satisfaction should be a critical performance measure. However, since the 2011 consolidation of IT under MNIT, MNIT has conducted only two customer satisfaction surveys of state employees (in 2014 and 2017.)

MNIT leadership told us that there are many factors that impact customer satisfaction with IT services. For example, MNIT said agency satisfaction with IT costs may depend on the extent to which agencies understand the true cost of IT services, and how the quality of current services compares with past services. In addition, MNIT told us that successful software application development requires input from both MNIT and the sponsoring

agencies, and there can be factors that affect agency satisfaction with software that are beyond MNIT's control. Agency satisfaction may also be affected by the competing factors we mentioned above. We acknowledge these challenges, but we believe it is important for MNIT to understand and consider information regarding agency satisfaction with IT services.

RECOMMENDATION

MNIT should more frequently measure and report on agency satisfaction with its performance.

To achieve excellence as a provider of services, MNIT must understand how its customers view its services. To do so, MNIT should more frequently measure agency satisfaction with both enterprise and agency-specific IT services, as well as IT-related business functions, such as billing and procurement. MNIT should consider the results when establishing statewide IT strategies and priorities. MNIT should also regularly report on agency satisfaction with IT services to the Legislature (for example, in biennial budget proposals or the biennial master plan) and to state agencies.

Chapter 5: MNIT Oversight of Software Development Projects

Most employees of the Office of Minnesota Information Technology Services (MNIT) work at individual state agencies, often on activities related to the development, procurement, or maintenance of software.[1] According to state law, MNIT's commissioner is responsible for providing or entering into contracts for "business application software and related technical support services."[2] In addition, MNIT is required by law to evaluate and approve information technology (IT) projects before state agencies undertake them.[3] In this chapter, we evaluate the adequacy of MNIT's oversight of software projects.

KEY FINDINGS IN THIS CHAPTER

- **MNIT has not provided sufficient oversight of state agencies' software development projects, including some oversight mandated by law.**

- **MNIT has not provided agencies with sufficiently clear guidance about the division of responsibilities for software development.**

- **MNIT has recently taken some promising steps with the intent of improving project oversight.**

Risks Posed by Software Projects

Software applications can be critically important to organizations' daily operations. These applications affect the ability of the organization to serve its customers or the public. Software decisions can be expensive, and the consequences of poor decisions can be significant.

Software development projects represent a significant risk in public and private organizations because many do not succeed.

Two private organizations have—over many years—examined and reported on the extent of IT project success and failure worldwide. Their findings have included the following:

- According to data collected by the Standish Group, 29 percent of software projects in Fiscal Year 2015 were "successful"—that is, they were delivered on time, on

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[1] We use the term "state agencies" in this report to refer to state executive branch organizations, including agencies, boards, councils, and commissions that receive services from MNIT.

[2] *Minnesota Statutes* 2018, 16E.016(a)(8).

[3] *Minnesota Statutes* 2018, 16E.03, subd. 3.

budget, and with a satisfactory result.[4] By Standish's account, 19 percent of projects "failed"—meaning the projects were canceled before they were completed, or they were completed but not used. The remaining projects (52 percent) were completed but did not achieve all the intended measures of success. Standish has reported that large, complex projects are much more likely to fail or encounter problems than small ones, and government projects are more likely to struggle than private ones.

- According to data collected by McKinsey & Company, large software projects (those exceeding $15 million) ran 66 percent over budget and 33 percent beyond the scheduled completion time, on average, while delivering 17 percent fewer benefits than predicted.[5] McKinsey reported that 17 percent of IT projects "go so bad that they can threaten the very existence of the company."[6] McKinsey's surveys of business executives found that four general factors accounted for most failures:

  1. Missing focus (unclear objectives or lack of focus on business needs)

  2. Content issues (technical complexity or changing business requirements)

  3. Skill issues (lack of staff skills or lack of alignment among team members)

  4. Execution issues (unrealistic schedules or inadequate planning)

In Minnesota, two recent state government projects have demonstrated the potentially widespread consequences of inadequate software applications:

- **MNsure enrollment system:** When the state of Minnesota initiated a state health insurance exchange in 2013, significant technical problems frustrated consumers trying to enroll online in health insurance. The new system had missing and broken functionality. The enrollment process was time-consuming and confusing, despite having been marketed as "simple." State agency staff, health insurers, and counties had to process many enrollments manually, resulting in lost time and resources.[7]

- **MNLARS:** The state of Minnesota implemented a new system in July 2017 for licensing and registering motor vehicles, but the system failed to meet

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[4] The Standish Group, "CHAOS Report 2015," https://www.standishgroup.com/sample_research_files /CHAOSReport2015-Final.pdf, accessed November 14, 2018. The Standish Group provides research and services related to IT investment planning, and it collects data on about 5,000 software projects yearly.

[5] Michael Bloch, Sven Blumberg, and Jürgen Laartz, "Delivering Large-Scale IT Projects On Time, On Budget, and On Value," (McKinsey & Company, 2012), https://www.mckinsey.com/business-functions/digital -mckinsey/our-insights/delivering-large-scale-it-projects-on-time-on-budget-and-on-value, accessed November 7, 2018. McKinsey's report covered 5,400 IT projects the company had reviewed as of 2012. McKinsey & Company provides management consulting on various issues (including IT).

[6] *Ibid.*

[7] Office of the Legislative Auditor, Program Evaluation Division, *Minnesota Health Insurance Exchange (MNsure)* (St. Paul, February 2015). The report said there was limited use of state government's information technology experts in the development of the enrollment system, which may have contributed to its problems. In part, this reflected the fact that the Legislature passed statutory language that exempted MNsure from much of MNIT's authority.

expectations.[8] At the time of the initial release, MNLARS lacked some basic functions, such as the ability to transfer a specialty license plate to a different vehicle. The system's initial inability to connect with the National Motor Vehicle Title Information System contributed to long waiting times for titles. Today, the state of Minnesota has spent about $100 million on MNLARS, and the system still does not operate as it was intended.[9]

MNIT has acknowledged that weak oversight and decision making on IT projects can pose important risks. In a policy document it adopted in 2016, MNIT said: "Many organizations' project portfolios suffer from too many marginal projects for the limited resources available, ineffective project prioritization, and indecisive go/no-go decisions. The end result is project delays and higher than acceptable project failure rates."[10] As illustrated in a recent report on the MNLARS problems, software projects can encounter problems as a result of either technical decisions (for example, related to the adequacy of software coding and testing) or "business" decisions (for example, related to how well an agency documents the business requirements for which the software will be designed).[11]

Problems with software releases (such as MNLARS) have contributed to a lack of confidence among state agencies in MNIT's ability to ensure success. In a recent summary of its project oversight activities, MNIT said: "There is a lack of trust between MNIT and its stakeholders regarding our ability to manage our portfolio of projects; successfully deliver large projects; and fulfill our legislative mandate for project oversight."[12]

Adequacy of MNIT's Oversight

To evaluate MNIT's oversight of software projects, we reviewed statutory provisions and examined MNIT's compliance with them. We interviewed current and former MNIT officials. We looked at MNIT's policies and guidance related to software application projects, and we solicited opinions from state agency staff regarding the clarity of responsibilities in software projects.

Overall, MNIT has not provided sufficient oversight of agency software application development.

Various MNIT leaders—past and present—told us that MNIT's oversight of agency software application projects has not been as rigorous or well developed as necessary. For example, MNIT's first commissioner (who left the agency in 2015) told us that, by the time she left, MNIT's role in agency-based software development was perhaps "a quarter" of the way toward where it needed to be. MNIT's second commissioner (who left the agency in

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[8] MNLARS stands for Minnesota Licensing and Registration System. The project started in 2008, when the Legislature initially authorized a funding source for MNLARS.

[9] For an examination of reasons for the unsuccessful release of MNLARS, see Office of the Legislative Auditor, *Special Review: Factors That Contributed to MNLARS Problems* (St. Paul, February 2019).

[10] Office of MNIT Services, "Project Portfolio Management Policy," effective July 1, 2016.

[11] Office of the Legislative Auditor, *Special Review: Factors That Contributed to MNLARS Problems* (St. Paul, February 2019).

[12] Office of MNIT Services, "Project and Portfolio Management," undated Powerpoint presentation from late 2018.

2018) told us: "[Software development] wasn't where I wanted it to be when [I] left, flat out." When asked if MNIT had adequate policies for software development, he said no. A former MNIT executive agreed that standards for software development were inadequate, describing MNIT's software development practices as "the wild west." Yet another former MNIT executive said, "100 percent, yes," when asked whether MNIT needs to improve its oversight of software application development.

In addition, MNIT's oversight of software projects has been inconsistent. MNIT's chief business technology officers and agency-based project management offices review software projects in their respective state agencies, and MNIT's central office exercises broad oversight of these activities. MNIT staff told us that there have been differences in the practices of its agency-based project management staff, and it has been challenging for the central office to ensure consistency. A MNIT policy states: "[P]roject management maturity and expertise varies between MNIT offices. This inconsistency may result in poor project management and dissatisfied stakeholders."[13]

Statutory Compliance Issues

State law says that the MNIT commissioner shall "coordinate, review, and approve all information and telecommunications technology projects."[14] By law, agencies may not undertake a project without such approval.[15] In addition, the law says that state agency project leaders "must demonstrate that [projects with expected costs of over $1 million] will be properly managed" and provide MNIT with regular updates on the status of these projects.[16]

MNIT has not complied with some statutory requirements related to information technology project oversight.

First, a 2018 financial audit by our office found that MNIT did not adequately oversee IT projects funded by the state's Information and Telecommunications Account (sometimes called the "Odyssey Fund").[17] The Legislature created this account in 2006 "for the purpose of defraying the costs of personnel and technology for activities that create government efficiencies."[18] State agencies may transfer appropriations left at the end of a biennium into this account, and the funds may be used—subject to MNIT's oversight—for statewide or agency-specific IT projects. Our audit found that MNIT "generally did not comply with significant legal requirements, including Minnesota statutes and [MNIT's]

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[13] Office of MNIT Services, "Project Portfolio Management Policy," effective July 1, 2016.

[14] *Minnesota Statutes* 2018, 16E.03, subd. 2(2).

[15] *Minnesota Statutes* 2018, 16E.03, subd. 3. In addition, subd. 4 says: "The evaluation procedure must assess the necessity, design and plan for development, ability to meet user requirements, accessibility, feasibility, and flexibility of the proposed data processing device or system, its relationship to other state data processing devices or systems, and its costs and benefits when considered by itself and when compared with other options."

[16] *Minnesota Statutes* 2018, 16E.01, subd. 3(c). MNIT staff told us that, in practice, MNIT reviews and tracks all projects with costs exceeding $25,000; in late 2018, MNIT told us there are 375 projects in state government at a given time.

[17] Office of the Legislative Auditor, Financial Audit Division, *Minnesota Information Technology Services— Information and Telecommunications Account, Internal Controls and Compliance Audit, July 2014 through February 2018* (St. Paul, August 16, 2018).

[18] *Laws of Minnesota* 2006, chapter 282, art. 14, sec. 9, codified as *Minnesota Statutes* 2006, 16E.21, subd. 1.

own policies and procedures."[19] MNIT did not adequately ensure that agencies properly planned these projects, and it did not adequately monitor projects to ensure that they met project timelines and produced project deliverables.

Second, MNIT has not complied with statutory requirements related to software project initiation by state agencies. State law says an agency may not undertake a project until (1) MNIT evaluates the project by examining topics specified in law (such as the project's necessity, feasibility, and costs/benefits) and (2) the MNIT commissioner gives written approval of the project.[20] However, MNIT has not developed procedures for formally evaluating proposed projects, and there is no formal sign-off on projects by the MNIT commissioner. MNIT staff told us that, as of late 2018, they were drafting policies that would comply with this statutory requirement; the requirement has been in the statutes for more than 20 years.[21]

Third, MNIT has not fully developed and implemented architectural principles for state agency software. In IT, the term "architecture" refers to the organization and structure of systems that provide a foundation for software. For example, the architecture of a software system may include the platform on which the system is built (such as Oracle or Microsoft SQL), the programming languages used by the software, the way data are stored, and the system's requirements for ensuring data security. State law requires MNIT to develop architectural principles that can be applied across a range of projects and systems. The law says:

> [MNIT] shall develop and establish a state information architecture to ensure…that state agency information and communications systems, equipment, and services do not needlessly duplicate or conflict with the systems of other agencies…. The development of this information architecture must include the establishment of standards and guidelines to be followed by state agencies. The office shall ensure compliance with the architecture.[22]

Several current and former MNIT officials told us that MNIT has either no software architectural standards or incomplete standards. MNIT hired an "enterprise information architect" in 2017 to, among other tasks, oversee "the development of appropriate architecture for applications, data, security, [and] infrastructure," and ensure that the architecture is "current, pertinent, and coherent."[23] However, MNIT leadership reassigned this individual in late 2017 to work over an extended period of time on the MNLARS project, so she has spent limited time on her broader architectural duties. Today, the architecture standards remain unfinished. MNIT established an internal "standards team"

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[19] Office of the Legislative Auditor, Financial Audit Division, *Minnesota Information Technology Services—Information and Telecommunications Account*, 13.

[20] *Minnesota Statutes* 2018, 16E.03, subds. 3 and 4.

[21] MNIT told us that it would be unreasonable for the commissioner to approve all IT projects, so it is considering a policy that "tiers" project approval responsibilities. However, MNIT said that even this approach would be unrealistic with MNIT's current funding levels.

[22] *Minnesota Statutes* 2018, 16E.04, subd. 2(a).

[23] Office of MNIT Services, Enterprise Information Architect Position Description, provided to OLA December 10, 2018.

that started meeting in 2018 to work on various standards-related issues, potentially including the architectural standards.[24]

Fourth, MNIT has not developed standards to be used during independent audits of state software development projects. State law requires MNIT to publish "project audit principles" for audits of large IT projects.[25] Such audits may help to identify weaknesses or deficiencies in project management or the technical design of software before a project is completed. A MNIT official told us that MNIT has not developed the statutorily required audit principles, although he expects MNIT to develop such standards after it implements a master contract in 2019 (discussed below) for external audits. Without clear standards or principles, however, there has been no assurance that project audits would address important issues that could prevent project failures.

Fifth, MNIT has not adequately complied with a law requiring it to evaluate its contractors. State law says that, upon completion of a professional/technical services contract over $25,000, state agencies that entered into the contract must submit to the Department of Administration a report that evaluates the contractor's work.[26] The department then posts this information to a public website, for the benefit of agencies that are considering using the contractors' services in the future. Having a record of prior performance can be valuable if past state contractors seek new state contracts.

MNIT spends a large amount of money on contracts for IT projects. We estimated that MNIT spent about $500 million for professional/technical contracts in fiscal years 2014 through 2018.[27] During that period, the dollar value of the contracts for which MNIT submitted an evaluation totaled $36 million, which represented 7 percent of MNIT's estimated contract expenditures during that period. While some of the contracts during this period may have been under $25,000 and not subject to the statutory requirement, it is likely that many of the required evaluations were not completed. Also, it is worth noting that MNIT staff submitted an unknown number of evaluations during the Fiscal Year 2014-2018 period under the name of the agency for which the project was being completed, which makes it difficult to conclusively determine the extent to which MNIT submitted evaluations of its own contracts.[28]

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[24] MNIT has developed a catalog of the software applications used by agencies throughout Minnesota government, partly to look for potential duplication or weaknesses in their architecture. However, this catalog was last updated in early 2017.

[25] *Minnesota Statutes* 2018, 16E.01, subd. 3(e). Projects with a total expected cost of more than $10 million must receive annual independent audits; according to subd. 3(d) of this statute, projects with a total expected cost of more than $5 million may be subject to such independent audits. These provisions applied to the Office of Enterprise Technology (MNIT's predecessor) when they were adopted in 2008.

[26] *Minnesota Statutes* 2018, 16C.08, subd. 4(c)(4).

[27] We had actual data on professional/technical contract expenditures for budget fiscal years 2016 through 2018. For budget fiscal years 2014 and 2015, we assumed that the professional/technical contract expenditures were equal to $92 million per year, which was the lowest yearly amount of the three years for which we had actual data.

[28] For example, a search for MNIT evaluations on the Department of Administration website for this period of time does not appear to show any that were related to the MNLARS project, even though MNIT entered into many contracts for that project. Upon further review, we noticed that some "Department of Public Safety" evaluations of MNLARS contracts were actually completed by MNIT staff; however, we did not see any MNIT evaluations of MNLARS contracts completed after February 2015.

MNIT's own policies for closing out projects may have contributed to the absence of contractor evaluations. A MNIT policy specifies actions that MNIT project managers should take when closing out a project, but it does not mention completion of contractor evaluations.[29] Likewise, MNIT's standard form for closing out projects does not mention contractor evaluations.

Clarity of Responsibilities

When public or private sector organizations acquire or develop software, they determine ways that IT can address organizational needs. This means there should be significant contributions from (1) the "business" (or state agency, in the case of state government projects), to identify and perhaps improve the business processes to which the software will be applied; and (2) technical experts, who know how to develop software architecture and code, and how to conduct appropriate tests of the technology.[30]

MNIT has not provided sufficiently clear guidance about project responsibilities to state agencies considering new software projects.

MNIT has two policies that address the management of software development projects.[31] Both policies state that their purpose is to clarify how information technology projects will be managed. However, neither policy directly addresses the two sides of a project (business and technical): how the two sides will interact, what will be their respective responsibilities, and which has authority to make key project decisions.

For example, the policies do not clarify the respective roles of MNIT and the agency in project oversight. MNIT's policies identify tasks that "project managers" must complete.[32] However, the policies do not define or clarify the meaning of "project managers," and software development projects (such as MNLARS) may have leaders on both the business and technology sides of the project.[33]

Also, MNIT has developed templates for preparing certain project-related documents, but it has not provided guidance on some key aspects of software projects.[34] For example, "user acceptance testing" is a key component of software development that helps determine whether the software will meet the needs of the requesting agency or the software's users. However, a state agency might not be familiar with this type of testing, particularly if it has not undertaken another software project recently. During the MNLARS project, the Department of Public Safety did not take sufficient steps to prepare for this testing. Consequently, MNIT entered into a contract amendment for $632,000 partly to have a private

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[29] Office of MNIT Services, "Project Portfolio Management Standard," effective July 1, 2016.

[30] Some people contend that there is no such thing as an "information technology project"—rather, that all such projects should be viewed as business projects that have a technology component.

[31] Office of MNIT Services, "Project Portfolio Management Policy," effective July 1, 2016, and "Project Portfolio Management Standard," effective July 1, 2016.

[32] The tasks are related to the preparation of project-related reports and documents.
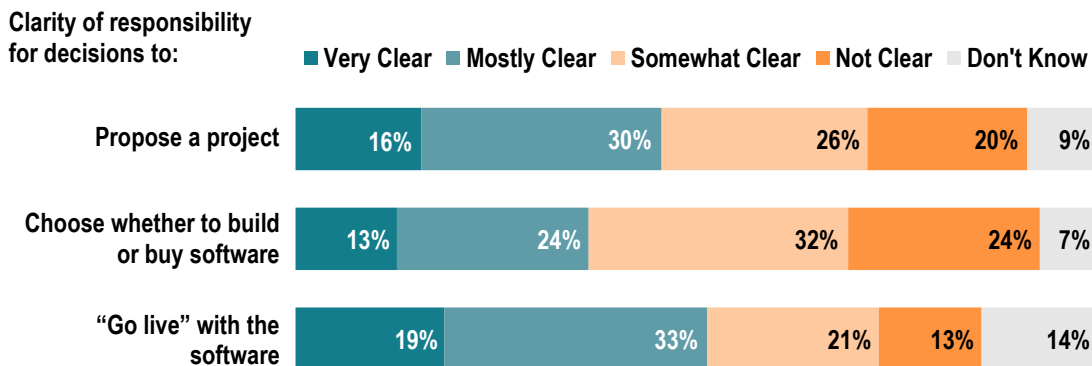
[33] In response to our questions, MNIT told us that the term "project managers" in its policies was intended to refer only to MNIT's managers.

[34] All MNIT staff have access to MNIT's project-related documents via the MNIT intranet. Staff in other agencies can use these documents, but only if they request access to this intranet site.

contractor manage user acceptance testing. Ideally, the Department of Public Safety would
have played a larger role in ensuring that the MNLARS software performed as expected.

In our survey of state agencies, many said the division of responsibilities between MNIT
and the agencies for various software development decisions is not very clear; see
Exhibit 5.1.[35] Noncabinet agencies expressed particular confusion about these roles.

Exhibit 5.1: Many agencies were unclear about which entity—MNIT or the agency—makes software development decisions.

Clarity of responsibility for decisions to:

■ Very Clear   ■ Mostly Clear   ■ Somewhat Clear   ■ Not Clear   ▫ Don't Know

Decision	Very Clear	Mostly Clear	Somewhat Clear	Not Clear	Don't Know
Propose a project	16%	30%	26%	20%	9%
Choose whether to build or buy software	13%	24%	32%	24%	7%
"Go live" with the software	19%	33%	21%	13%	14%

NOTES: We asked respondents to indicate the extent to which it was clear to their agency who (the agency, MNIT, or a combination thereof) was responsible for certain software development decisions, including (1) "proposing a project to replace or develop an IT application for your organization"; (2) "determining whether a new application for your organization will be developed in-house or through a contract with a vendor"; and (3) "determining when a new application for your organization will 'go live.'" Surveyed individuals who did not provide a response are not included in the figures above. Figures may not sum to 100 percent due to rounding.

SOURCE: Office of the Legislative Auditor, survey of executive branch agencies, 2018 (*N* = 70, 71, and 70, respectively).

The decisions we asked about in our survey are just a small sampling of the broader array of
decisions that must be made in a software development project. Exhibit 5.2 provides a
more complete list of areas requiring project decisions. For the most part, MNIT policies
do not provide a clear delineation regarding who—MNIT or the sponsoring agency—has
the lead responsibility for each of these decisions. In addition, top MNIT officials told us
that MNIT and agency responsibilities in software development are not clear, or that these
roles vary among agencies. Such ambiguity could contribute to confusion or unsuccessful
project outcomes. Likewise, agencies might not know the proper timing for these
decisions—for example, whether to modernize their business processes before or during
software development, or when to conduct various types of testing.

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[35] We sent surveys to 72 state agencies, boards, and commissions, and we received responses from 99 percent.

Exhibit 5.2: Agency-based software projects require a variety of decisions.

- Whether to undertake the project.
- What the scope (components) of the project should include.
- How the software being replaced will be retired (or incorporated into the new system).
- Whether to buy existing software, build the software from scratch, or some combination of the two.
- The extent to which the project will rely on private vendors vs. state employees.
- Whether to update or improve the business practices and processes for which the software will be developed.
- What standards the software should meet (architectural, security, etc.).
- Which governing bodies (and with what composition) should oversee the project.
- How to allocate project tasks between the business and technical sides of the project (and allocate the project budget accordingly).
- What software development methodology (for example, Agile vs. Waterfall) should be employed.[a]
- How to ensure that code developed for different parts of the project is consistent.
- How the software should be tested (types of tests, amount of testing, standards that should be met).
- How the software will be released (all at once vs. in phases).
- Whether the software is ready for release.

[a] "Agile" and "Waterfall" are two types of project methodologies. As an example of the differences in these approaches, Waterfall has traditionally involved identifying business requirements at the beginning of a software development project, and then software development teams have subsequently embarked on system design and testing to address these requirements. Agile is a less linear approach that identifies business requirements throughout the course of project development, and it uses teams in which technical staff work closely with representatives of the agency, business, or customer for which the software is being developed.

SOURCE: Office of the Legislative Auditor.

Recent Changes

Prior to 2018, MNIT upper management exercised limited oversight of individual software development projects. Around 2015, top MNIT management initiated monthly reviews of the three to five state projects that, at a given time, management believed most needed their attention—for example, because of their size or risk.

During 2018, MNIT took additional steps to improve oversight of agencies' large or risky information technology projects.

Starting in 2018, MNIT's Enterprise Program Management Office provided MNIT leadership—specifically, the MNIT Executive Steering Team—with project status information two times per

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MNIT Executive Steering Team

Purpose: Act as the key decision making body. Define the governance structure and oversee other MNIT governing teams.

MNIT Membership:
- Commissioner
- Deputy commissioner
- Assistant commissioner
- Chief technology officer
- Chief information security officer
- Executive IT director
- 4 chief business technology officers

month.[36] As of October 2018, there were about 200 such projects, mostly in the Department of Human Services. The Executive Steering Team also tracked a smaller "watch list" of about 20 projects that had been singled out for reasons such as their risk or visibility. In addition, for its meetings, the Executive Steering Team asked agency-level staff to lead "deep-dive" discussions of selected individual projects. The purpose of these reviews was to "ensure that [MNIT] commitments to business partners are realistic and achievable."[37] These actions provided MNIT leaders with a broader picture of ongoing projects than they had previously.

In late 2018, MNIT took another action intended to improve oversight of IT projects. MNIT issued a request for proposals for a master contract program in which vendors would conduct risk assessments, audits, and technical reviews of IT projects. Risk assessments and project audits have long been mandated in law for certain larger projects, but MNIT had often solicited vendors one project at a time. With a master contract program, MNIT wants to ensure that external reviews are prepared in a consistent manner, not at the discretion of MNIT staff for a single project.

In addition, MNIT hopes to use the master contract program for independent *technical* reviews of projects, not just project management reviews. In technical reviews, the vendor could assess whether the proposed or existing technology would be architecturally sound, meet business needs, and meet security standards, for example. There was no external technical review of the MNLARS software until after the software was released. MNIT hopes that the ability to get technical reviews of certain risky projects prior to release might prevent the types of problems that arose with MNLARS.

It remains to be seen whether these actions will help MNIT intervene in struggling projects more effectively, but they are important first steps. MNIT intends to implement the master contract program in early 2019.

Recommendations

MNIT has annually assembled and reported a comprehensive list of active projects with IT components within the state's executive branch, as required by state law.[38] But MNIT should provide more oversight and assistance to help ensure that software projects succeed.

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[36] The Executive Steering Team is MNIT's primary governing body and consists of the agency's senior leadership.

[37] Office of MNIT Services Executive Steering Team, "Enterprise Project Portfolio Review Charter," undated.

[38] *Minnesota Statutes* 2018, 16E.0466, subd. 2, requires MNIT to annually provide the Legislature with a "comprehensive project portfolio report" that identifies information—such as cost, status, and expected completion date—for each project. This requirement took effect in 2017, and MNIT has prepared reports in each of the past two years.
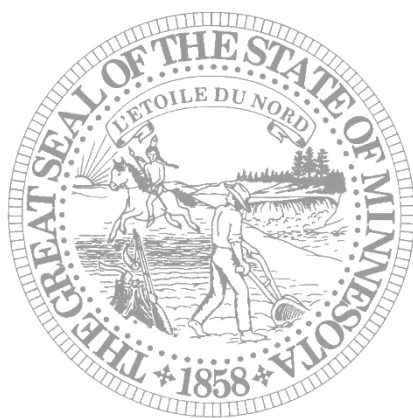
RECOMMENDATIONS

MNIT should improve the oversight of information technology projects by:

- **Fulfilling statutory requirements for the MNIT commissioner to approve agency-proposed projects, based on evaluation procedures developed by the commissioner.**

- **Developing and enforcing architectural standards for agency software.**

- **Developing principles for independent audits of projects.**

- **Developing guidance for agencies undertaking software projects that articulates the division of responsibilities between MNIT and the agencies, and that defines key steps and tasks in the process.**

- **Amending policies and practices to ensure that MNIT project managers submit evaluations of contractors at the completion of projects.**

MNIT should implement several of these recommendations because they are required by state law. In addition, the implementation of several requirements (IT architecture standards, audit principles, and evaluation procedures for new projects) may help MNIT to ensure that software projects are technically sound and well managed. If the 2011 legislatively mandated IT consolidation is to achieve consistency, economies of scale, and quality control in MNIT's software development activities, it will be important for MNIT to apply overarching policies and best practices to software development, rather than relying largely on project oversight by MNIT's agency-based staff.

Also, agencies that undertake software development projects would benefit from a MNIT "how-to" guide. For example, agencies may need help determining how to do user acceptance testing, and what resources will be required for this task. Agencies may also need help planning the sequence of events when implementing a software project, or determining how to judge whether software is ready to "go live."

MNIT staff told us that the agency's oversight of software development projects has been constrained by resources. We are concerned that MNIT's central office staffing for this function is minimal, and MNIT's dependence on its agency-based staff has not resulted in consistent oversight. MNIT central office staff said they have had limited capacity to monitor and enforce agency compliance with software development standards or determine whether projects' expected outcomes were achieved. We offer no opinion on the extent to which MNIT needs additional funding to fulfill its project oversight duties; between 2013 and 2018, the governor's proposed budgets have not included requests for additional funding for these MNIT activities. In Chapter 7, we discuss—without recommendation— the merits of various options for structural changes to state government IT oversight, including changes to software project oversight. These options range from giving responsibility to agencies to oversee their own software applications to keeping this responsibility with MNIT while increasing its funding for this purpose. If the Legislature retains in law the requirement for MNIT to oversee business application software, we think MNIT should more clearly distinguish its responsibilities from those of agencies, exercise careful scrutiny of large or high-risk projects, and provide assistance that helps state agencies successfully navigate their roles in the software development processes.

Chapter 6: Oversight and Accountability

In previous chapters of this report, we discussed the extent to which state agencies perceive that the Office of Minnesota Information Technology Services (MNIT) has provided value to their business operations. We also discussed MNIT's oversight of large or risky software projects. This chapter discusses the extent to which MNIT can be held externally accountable—by the Legislature that appropriates funds for information technology (IT) and by the customers that receive MNIT's services.

KEY FINDINGS IN THIS CHAPTER

- **Some parts of MNIT's authorizing statute are outdated or too broad, which may affect the Legislature's ability to hold MNIT accountable for results.**

- **The Legislature's oversight of state IT services is fragmented.**

- **MNIT has not provided the Legislature and state agencies with sufficient information on its performance.**

- **State agencies have mixed views about MNIT's efforts to solicit and consider agency feedback.**

Legislative Oversight of MNIT

Information technology services represent a major state expenditure, and they can affect the ability of state agencies to achieve their goals. The Legislature should exercise careful oversight of these expenditures and of MNIT. In this section, we examine the adequacy of (1) the statutes that govern MNIT, (2) the performance information MNIT has provided to the Legislature, and (3) the structure the Legislature has for overseeing MNIT and state government IT services in general.

Enabling Statutes

A state agency's enabling statutes establish the scope of the agency's authority. The statutes specify what activities an agency must or may perform; statutes sometimes specify activities that an agency may not perform.

In addition, enabling statutes can provide an important foundation for accountability and legislative oversight. Statutes may provide statements of purpose or goals that pertain to the agency as a whole or individual programs the agency administers. Statutes may also specify performance measures on which agencies must publicly report.

Some parts of MNIT's enabling statutes are outdated and excessively broad, making it challenging to hold MNIT accountable for results.

When the 2011 Legislature passed an act to consolidate state government IT services, it did so by amending the laws (*Minnesota Statutes,* Chapter 16E) that governed an existing executive branch agency: the Office of Enterprise Technology, or OET. Most of the OET statutes did not change as a result of the 2011 consolidation legislation; many dated back to the 1980s or 1990s.[1]

At the time of the 2011 consolidation, the Legislature did not adopt a new set of goals for OET. Rather, the Legislature retained the broad statement of "responsibilities" (see the box at right) that previously existed for OET. The 2011 Legislature largely *added to* the OET chapter of the statutes rather than replacing or revising existing language. For example, the Legislature added a section of statutes that outlined 12 categories of services and equipment that OET (later MNIT) would oversee, shown in the box on the next page.

MNIT Responsibilities

[MNIT] shall provide oversight, leadership, and direction for information and telecommunications technology policy and the management, delivery, accessibility, and security of information and telecommunications technology systems and services in Minnesota. The office shall manage strategic investments in information and telecommunications technology systems and services to encourage the development of a technically literate society, to ensure sufficient access to and efficient delivery of accessible government services, and to maximize benefits for the state government as an enterprise.

— Minnesota Statutes **2018, 16E.01, subd. 1a**

Today, some parts of the statute specify very broad—and arguably unrealistic—goals or duties for MNIT:

- The statutes say that MNIT shall manage investment in IT systems and services to "encourage the development of a technically literate society."[2] MNIT provides limited direct services specifically related to this goal, and it is unclear how MNIT would foster its implementation.[3]

- The statutes say that MNIT "shall provide oversight, leadership, and direction for information and telecommunications technology policy and the management, delivery, accessibility, and security of information and telecommunications technology systems and services *in Minnesota*" (emphasis added).[4] Although other portions of the MNIT statute specifically address MNIT's role in *governmental* (and sometimes private) information and telecommunications systems, a broad statement of MNIT responsibilities such as this one is potentially misleading. For example, the Minnesota Public Utilities Commission and Department of Commerce

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[1] The agency continued to be called the Office of Enterprise Technology for two years following the consolidation legislation; in 2013, the Legislature changed the name of this agency to MNIT.

[2] *Minnesota Statutes* 2018, 16E.01, subd. 1a.

[3] This language dates from 1997, before smartphones, tablets, fitness trackers, social media, and other applications widely contributed to a higher level of technical literacy in society.

[4] *Minnesota Statutes* 2018, 16E.01, subd. 1a.

are the chief agencies that regulate telecommunications and administer telecommunications programs in Minnesota.

MNIT Oversees:

- State data centers
- Mainframes
- Servers
- Desktop computers
- Laptop computers
- Data network
- Standard software tools, including database, e-mail, and office systems
- Business application software
- Help desks for the above components
- Maintenance and problem resolution for the above components
- Regular upgrades and replacement for the above components
- Network-connected output devices

— Minnesota Statutes **2018, 16E.016(a)**

- The statutes direct MNIT to develop "a master plan for information and telecommunications technology systems and services in the state and its political subdivisions."[5] As used in Minnesota law, the term "political subdivision" describes public bodies other than the federal or state government. While some MNIT activities can have direct implications for local government services, MNIT's master plans have focused on the state executive branch's information technology and telecommunications. In our view, it would be unrealistic for MNIT's plans to also encompass 87 counties, more than 850 cities, more than 300 school districts, and hundreds of townships.[6]

- The statutes direct MNIT to maintain a library of systems and programs developed by the state and its political subdivisions.[7] MNIT has an inventory of state agency software applications and projects.[8] However, a MNIT official told us the agency does not collect information on IT systems and projects for the state's hundreds of local governments, and we think it would be unrealistic for MNIT to do so.

- State law says a state agency may not propose or implement capital investment plans unless MNIT has reviewed "a plan for increasing telecommuting by employees who would normally work in the building" or the agency's statement describing why such a plan is infeasible.[9] This language dates from 1997, and it is unclear to us that agency telecommuting policies—which seem largely related to human resources practices—should be within MNIT's scope of responsibilities.

In addition, some portions of the MNIT chapter of statutes are obsolete. A sizable section of the chapter references North Star, which the MNIT statute calls "the state's official

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[5] *Minnesota Statutes* 2018, 16E.03, subd. 2(1).

[6] Similarly, *Minnesota Statutes* 2018, 16E.03, subd. 2(2), says that MNIT's commissioner shall "coordinate, review, and approve all information and telecommunications technology projects and oversee the state's information and telecommunications technology systems and services." The language does not clarify that these responsibilities pertain to projects, systems, or services within state government alone.

[7] *Minnesota Statutes* 2018, 16E.03, subd. 2(4).

[8] MNIT's inventory of software applications used by state agencies has not been updated since early 2017. In contrast, MNIT maintains an ongoing inventory of active software development projects.

[9] *Minnesota Statutes* 2018, 16E.05, subd. 3. The MNIT law does not define "capital investment plan"; presumably, it is a plan to make physical improvements in a state building.

comprehensive online service and information initiative."[10] However, a MNIT official told us that North Star has not existed by that name for many years. Another section of the MNIT statutes established an E-Government Advisory Council that would recommend "the priority of North Star projects and online government information services."[11] This section remains in Minnesota statutes even though the council expired, by law, in January 2017.[12]

Finally, it is worth noting that the MNIT chapter of statutes does not establish or require the development of agency-wide performance measures for MNIT.[13] MNIT—at its own initiative—monitors certain performance measures for its services, but the Legislature has not given MNIT direction in this regard.

RECOMMENDATION

The Legislature and MNIT should work together to clarify MNIT's authorizing statutes.

MNIT's authorizing statutes do not represent a strong tool for holding MNIT accountable. Some of the statutes are out-of-date or very broadly scoped, and the statutes do not provide much basis for assessing MNIT's performance. MNIT staff told us they have recognized a need for revisions to portions of the MNIT statute but have not made it a priority to develop proposals.

The Legislature should ensure that the statutes are up-to-date, provide MNIT with clear direction, and distinguish MNIT responsibilities from those of state agencies. Nonpartisan legislative staff conveyed concerns to us about the unclear nature of MNIT statutes, and legislators should engage these staff in the process of making revisions. Likewise, legislators should solicit suggestions from MNIT regarding possible changes to the statutes.

MNIT Performance Reporting to the Legislature

As noted in the previous section, the MNIT portion of state statutes does not require that MNIT report information on its own performance to the Legislature. However, state law requires state agencies to prepare performance-based budget plans, and the Department of Management and Budget provides direction to agencies for including this information in their budget proposals to the Legislature.[14] We reviewed the performance information MNIT presented in biennial budgets to the Legislature in 2013, 2015, and 2017; the

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[10] *Minnesota Statutes* 2018, 16E.07, and 16E.01, subd. 3(a)(5). The MNIT chapter of statutes uses the term "North Star" 31 times.

[11] *Minnesota Statutes* 2018, 16E.071, subds. 1 and 6.

[12] *Minnesota Statutes* 2018, 16E.071, subd. 8. MNIT staff told us that an E-Government Advisory Council never met because MNIT never entered into a contract to manage North Star nor levied a fee for this purpose.

[13] *Minnesota Statutes* 2018, 16E.18, subd. 1(b)(7), requires the MNIT commissioner to ensure that telecommunications services are acquired in a manner that "meets performance standards that are reasonable and necessary," but the law does not require reporting on such performance. In addition, *Minnesota Statutes* 2018, 16E.01, subd. 3(d), requires the commissioner to report on the performance of individual projects costing over $5 million regarding their time, scope, and budget. Finally, *Minnesota Statutes* 2018, 16E.036(d)(6), requires a Technology Advisory Committee to advise MNIT regarding performance measures in MNIT's service-level agreements with state agencies; the law does not specify whether these should be measures of MNIT's performance, nor does it require public reporting regarding these measures.

[14] *Minnesota Statutes* 2018, 16A.06, subd. 4.

Governor's most recent budget proposal was not yet public at the time we conducted our research for this evaluation.[15]

MNIT has not adequately reported to the Legislature on its own performance.

We observed that about half of the performance measures in MNIT's three most recent biennial budget proposals were reported for a single biennium rather than being continued over more than one biennium. For example, MNIT's budget proposal for the Fiscal Year 2014-2015 biennium included a measure of "Number of [software] applications shared by more than one agency"; however, MNIT did not include this measure in its budget proposals for either of the subsequent two biennia.[16] When an agency makes significant changes to its slate of performance measures over time, it may be more difficult for the Legislature to hold the agency accountable for performance. In addition, such changes raise questions about whether the agency has established a clear, consistent basis for tracking its performance.

MNIT has also not provided the Legislature with data on actual performance for some of the measures in its budget documents. In the example from the preceding paragraph ("Number of [software] applications shared by more than one agency"), MNIT's budget provided no historical or current performance data, nor targets for future performance. In the 2014-2015 biennial budget document, MNIT did not provide "previous" or "current" data for 6 of 15 performance measures presented; it gave no "current" performance data for 3 additional measures. In our view, it is not very helpful for agencies to include performance measures in biennial budget documents unless those measures are accompanied by data on actual or expected performance.

Some of the measures MNIT has included in its budget appear to be meaningful and useful, if tracked over time and accompanied by reliable data on actual performance. For example, MNIT has been trying to reduce the total number and square footage of "data centers" operated by the state of Minnesota, partly for efficiency and security reasons.[17] MNIT has regularly presented information in its budget proposals regarding data center trends, and we think this is reasonable.

On the other hand, we also observed that some of the measures MNIT included in its biennial budgets have not provided the Legislature with a clear basis for evaluating the agency. For example, MNIT's budgets have, at times, included information on the state of Minnesota's total number of e-mail boxes and total disk capacity. These are not measures of agency performance or outcomes, and the value of such measures in the budget process is unclear.[18]

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[15] Our analysis did not include performance measures that were presented in a biennial budget for a proposed "change item."

[16] Also, it is unclear what performance this measure is intended to indicate—specifically, whether it would be preferable to have more or fewer agencies sharing software applications.

[17] "Data centers" house computer equipment such as servers, routers, and firewalls.

[18] In addition, MNIT's customer satisfaction measures in the budget documents were potentially misleading. MNIT reported in two biennial budgets that a survey of individual customers showed that 97 percent of respondents were "very satisfied," "satisfied," or "somewhat satisfied" with MNIT services. But respondents to that survey were given a four-point rating scale, and grouping three of these categories together may have led legislators to think that satisfaction with MNIT was higher than it was. It would have been preferable for MNIT to either show the percentage of respondents in each satisfaction category or exclude "somewhat satisfied" responses from the reported aggregate percentage.

RECOMMENDATION

MNIT should identify a set of measures that it can use consistently over time to assess and report on the performance of its core functions.

MNIT has developed some useful performance measures, but it should adopt a more complete set of measures which it can track repeatedly over time. To the extent possible, MNIT should provide trend data on these measures—and perhaps targets for future performance—in its biennial budget documents. MNIT should also consider incorporating performance information into its statutorily required biennial master plans.

We also think there should be better options for MNIT to present legislators with not-public performance information, when necessary—for example, related to cybersecurity issues. For example, in the Fiscal Year 2018-2019 biennial budget, MNIT referenced a performance measure ("average vulnerability score for government computers") but did not provide data because MNIT concluded that this information—even in aggregate form—should not be disclosed publicly. In the next section, we discuss an option that would provide a venue for sharing such information with legislators.

Legislative Structure for Oversight

One possible outcome of the 2011 IT consolidation legislation was the ability to provide future legislatures with a comprehensive picture of state government IT spending. Likewise, consolidation could help the Legislature better assess the state's overall IT needs or priorities.

The Legislature's own oversight of state government information technology remains fragmented.

The Legislature has a piecemeal approach to reviewing IT expenditures and proposals. Executive branch budget proposals for IT projects are considered by individual House and Senate committees that oversee each requesting agency. State budget staff told us they are unaware of any documents that comprehensively show executive branch IT expenditures in detail. Also, increases in the costs of MNIT enterprise services may be addressed in individual agencies' budget requests, or they may be absorbed by those agencies' existing budgets. Thus, it may be difficult for the Legislature to systematically monitor overall changes in enterprise service costs.

The Minnesota Legislature has no committees—House, Senate, or joint—devoted to discussing state government information technology expenditures, needs, priorities, or progress in an overarching way. In contrast, 28 states had at least one House, Senate, or joint technology committee in 2017.[19] Some legislative and executive branch officials expressed to us a desire for a more broad-based legislative approach—to oversee the full range of IT expenditures in state government, or to develop a statewide IT investment strategy.

State government's backlog of IT work may argue for a more strategic approach to making these investments. MNIT's current master plan discusses the state's "accrued IT debt"—

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[19] We counted committees that had the word "technology" or "technologies" as part of their name.

meaning the accumulated need for IT upgrades to replace or update equipment and longstanding systems.[20] For example, the state has large human services systems—such as the MAXIS eligibility determination system—that have been in place for decades and play a key role in large public programs. Such systems can be difficult and expensive to maintain. In addition, the state has spent nearly $400 million since Fiscal Year 1996 on state government's shared business systems (such as the accounting and employee management systems), but the Department of Management and Budget does not have sufficient reserves to pay for necessary upgrades to these systems.[21]

RECOMMENDATION

The Minnesota House and Senate should consider creating one or more information technology committees.

The House and Senate could create their own IT committees, or they could create a joint committee. Joint committees typically do not have authority to pass appropriation bills or policy bills. However, a joint committee could make recommendations about the state's overall level of investment in information technology or help assess the priorities of proposed projects.

Whatever form the committee(s) might take, a primary purpose would be to ensure timely, strategic, and effective investment in state government IT systems. Such a committee could look at the "big picture" of state government IT needs, and it could try to ensure that the state wisely invests in the development and maintenance of critical IT systems. An IT committee would provide a place for legislators to discuss IT beyond the boundaries of a single information technology agency (MNIT) or the individual agencies that are seeking additional funding. Creating one or more IT committees would not replace the need to have careful oversight of MNIT by House and Senate standing committees.

An IT committee could also serve secondary purposes. For example, a committee could monitor the status of large or risky ongoing projects, or it could hold hearings to discuss the reasons that certain projects succeeded or failed. In addition, an IT committee could—as needed—hold not-public hearings in which MNIT could frankly discuss cybersecurity risks with legislators. This could help legislators understand the nature of security threats facing state government and perhaps develop strategies for responding.[22]

MNIT Accountability to Agencies

MNIT exists primarily to provide services to other state agencies and should be accountable to those agencies for its performance. Below, we discuss ways in which MNIT provides agencies with information on its own performance, and the degree to which it provides agencies with adequate opportunities for feedback.

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[20] Office of MNIT Services, *Master Plan 2017-2022* (St. Paul, undated), 14.

[21] Office of the Legislature Auditor, Financial Audit Division, *Department of Management and Budget: Shared Business Systems Cost Management* (St. Paul, October 2018), 6 and 11.

[22] While some cybersecurity discussions may need to take place in not-public settings, the Legislature should also have public discussions about the need for additional investment in cybersecurity strategies.

MNIT Performance Reporting to Agencies

As described in Chapter 4, MNIT has entered into "service-level agreements" with the state agencies subject to the state's information technology consolidation.[23] To better understand the services MNIT provides to agencies, we reviewed a sample of 23 service-level agreements established between 2012 and 2017. These agreements contain a combination of universal and agency-specific provisions. According to language that appeared in a majority of the agreements we reviewed, the agreements established "a set of expectations and warranties by which the individual agency customers…can measure service performance."[24] Most of the agreements contained MNIT's objectives and performance measures for service delivery in the relevant agency, and they discussed how this information would be reported.

For the most part, MNIT has not provided agencies with the information on its performance promised by its service-level agreements.

Exhibit 6.1 identifies service areas for which most of the service-level agreements we reviewed specified performance metrics or objectives, and it presents our conclusions about the performance information MNIT actually provided to agencies.

In our view, the service area in which MNIT's performance information was the most useful was related to information security. MNIT has provided individual state agencies with twice-yearly security risk scorecards. In these documents, MNIT provides goals and rates agency performance for various security-related topics, such as access control, security awareness and training, and incident response. The scorecards—which amount to measures of state agency and MNIT performance—are detailed and potentially helpful to the affected agencies.

In most of the other service areas shown in the exhibit, the performance information MNIT has provided to agencies has been spotty, at best. We asked MNIT to provide us with the performance information for two state agencies; in most cases, this information (1) was not regularly produced (in monthly or quarterly reports) or (2) did not align very closely with the measures or objectives specified in the service-level agreements. For example, MNIT told us that it can produce—upon request—agency-specific information about the timeliness of MNIT responses to service requests or reported incidents. However, MNIT does not have a website with agency-specific information on this topic for agencies to access directly. For all service areas, the agreements specified customer satisfaction objectives, but MNIT's only customer survey in recent years (2017) did not have questions that would allow MNIT to measure progress toward those detailed objectives.

MNIT entered into new service-level agreements with agencies starting in October 2018. Those agreements largely specify different service areas and performance measures than the previous agreements. Unlike the earlier agreements, the new agreements do not state how agencies will be able to access data showing actual performance on these measures, or how frequently MNIT will provide this information to agencies.

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[23] As noted previously, most agencies did not sign the agreements developed for the period prior to 2018, so the agreements were not officially in effect.

[24] The two 2017 agreements we examined did not contain a statement similar to those in the earlier agreements we reviewed.

Exhibit 6.1: MNIT has provided limited performance reporting to agencies regarding measures in service-level agreements (SLAs).

Service Area (and examples of services)	Frequency of MNIT Reporting Specified by SLA	OLA Assessment of Actual MNIT Provision of Data to Agencies on Performance Metrics Specified in SLA
Connectivity and Mobility (wireless access, virtual private network remote access, cellular service plans and devices)	Monthly	**Limited information**
Enterprise Unified Communication and Collaboration Services (e-mail; SharePoint; instant messaging; audio, video, and net conferencing)	Monthly	**Limited information**
Facility Services (IT equipment and services in common areas, conference rooms, training rooms, and laboratory areas)	"MNIT…will develop and support a…reporting process that reflects the needs and resources of the Agency"	**Limited information**
Geospatial Services (geospatial coordination, web services, professional services, and infrastructure hosting; Geospatial Commons)	Quarterly	**Some information available to agencies upon request or related to specific projects**
Security Services (security program management, identity and access management, incident response and forensics, training and awareness)	Nonpublic reports will be created "that meet business requirements"—no frequency specified	**Useful twice-yearly reporting**
Voice Services (telephone, 911 access, long-distance, private branch exchange systems, voicemail, call center infrastructure, interactive voice response)	Available on a website with secure log-in	**Limited information**
Web Management (web server management, website design, content management)	Monthly	**Limited information**
Workstation Management (operating systems, hardware, software, accessories, security)	Monthly	**MNIT provides information on agency hardware and software usage, but limited information on MNIT performance**

NOTES: This exhibit is based on a review of 21 service-level agreements that were developed in 2012 or 2015. We reviewed two service-level agreements—developed in 2017—that did not include most of the measures shown here. Also, the agreements we reviewed from 2012 did not include measures of geospatial services. The 2012 and 2015 agreements we reviewed also said, "Recurring service performance reports will be run against the service level targets" in the agreements and reported via a monthly dashboard that addressed availability, capacity, service support, and recoverability. The 2012 and 2015 agreements also set objectives for the timeliness of the MNIT service desk's response to incidents and service requests of various priority levels.

SOURCE: Office of the Legislative Auditor.

In other ways, the new service-level agreements provide an incomplete basis for accountability. First, the agreements establish performance targets for some, but not all, of the performance metrics they specify. The box at right provides examples of measurable performance targets from one of the 2018 service-level agreements we reviewed. The agreement described the measures shown as "local" measures, apparently meaning they were unique to that agency. But, for performance measures that appear to be common to all of the new agreements we reviewed— such as MNIT's response times to agency incident reports or service requests—the agreements do not set specific objectives for performance.

Examples of Performance Targets from One Agency's New Service-Level Agreement

- "On-call contacts" for software application projects should be fewer than 5 per month.
- Actual software application project costs should be within 5 percent of the project budget.

— From MNIT Service-Level Agreement with Department of Management and Budget, effective October 2018

Second, the performance measures are not always well defined. In a performance target shown in the box, for example, it is not clear which types of "contacts" would be included in the definition of "on-call contacts." In our view, it is important for MNIT and agencies to have common understandings of performance measures and performance objectives.

RECOMMENDATION

MNIT should develop a plan for communicating performance information to agencies related to the metrics identified in service-level agreements.

Service-level agreements represent an important contract between MNIT and the agencies it serves. The agreements articulate which services will be provided to agencies, and they should also establish measures and objectives that can be used to evaluate the adequacy of these services. MNIT should clarify for agencies how it will track performance on these metrics, and how agencies can access this information.

Agencies said they are largely unable to hold MNIT accountable if they are unsatisfied with MNIT's performance.

In our survey of state agencies, 68 percent of respondents said that their organization lacks sufficient recourse if MNIT's performance does not meet their expectations.[25] A few agency officials suggested to us that their only recourse is to withhold payment to MNIT if their agency is unsatisfied with MNIT services. But as one of these officials added: "In the current state, there is no accountability. We have no choice but to pay MNIT bills, even if work is not timely and substandard."

State law provides an opportunity for state agencies to use vendors other than MNIT for their basic IT services, but agencies have generally not pursued this option. The law says the MNIT commissioner "may allow a state agency to obtain [services specified in statute]

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[25] We sent surveys to 72 state agencies, boards, and commissions that receive services from MNIT, and we received responses from 99 percent.

through a contract with an outside vendor when the [MNIT commissioner] and the agency head agree that a contract would provide best value…under the service-level agreement."[26] The person who was MNIT commissioner during the period we conducted our evaluation told us that, during her tenure, no agency specifically requested authorization to use an outside vendor for these services. However, she added that MNIT sometimes enters into contracts on behalf of individual agencies. For example, MNIT has contracts that enable some individual agencies to obtain "cloud" services that meet these agencies' particular needs, even though MNIT provides similar services to agencies in other ways. The commissioner also said the departments of Human Services and Natural Resources have long held certain information technology contracts in their names, rather than in MNIT's name, although MNIT hopes to (at minimum) become formally designated as a partner in these contracts in the future.

While agencies have apparently seldom tried to enter into their own contracts for core IT services, it is worth emphasizing that agencies do not have a free hand to do so. As indicated above, the law says that agencies wishing to enter into such contracts cannot do so without MNIT's agreement.

Agency Opportunities for Feedback to MNIT

If agencies are to hold MNIT accountable for performance, they not only need performance information, but they also need opportunities to convey their feedback to MNIT. MNIT could solicit feedback in various ways—for example, through satisfaction surveys or by allowing agency representatives to participate in IT governance bodies.

MNIT's efforts to solicit and consider agency feedback on its performance have been mixed.

MNIT has provided opportunities for some agencies to participate on several of its governance bodies. MNIT's most recent master plan said that MNIT will use its "governance framework" to ensure that MNIT receives and incorporates feedback from state agencies. Exhibit 6.2 shows the five governance teams MNIT has established. Three of these teams have included—or will include—representatives of state agencies, while the other two consist entirely of MNIT staff.[27] Noncabinet agencies have been minimally represented on MNIT governance committees. Currently, there is only one representative from a noncabinet agency serving on a MNIT governance team; that individual was first invited to attend Financial Steering Team meetings in May 2018. These governance teams have no formal authority in law, but they can provide advice and perspectives to inform the decisions of MNIT executives.

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[26] *Minnesota Statutes* 2018, 16E.016(c). The law also says that the MNIT commissioner must require that agency contracts with outside vendors ensure that the systems and services comply with MNIT standards.

[27] There were state agency representatives on the Financial Steering Team and Strategy Team during 2018. The Services Team did not meet during 2018, but MNIT staff told us that it will be convened during 2019 and will include state agency representatives. MNIT staff told us that additional governance groups will be formed in the future to address issues such as procurement and asset management.

Exhibit 6.2: MNIT Governance Teams

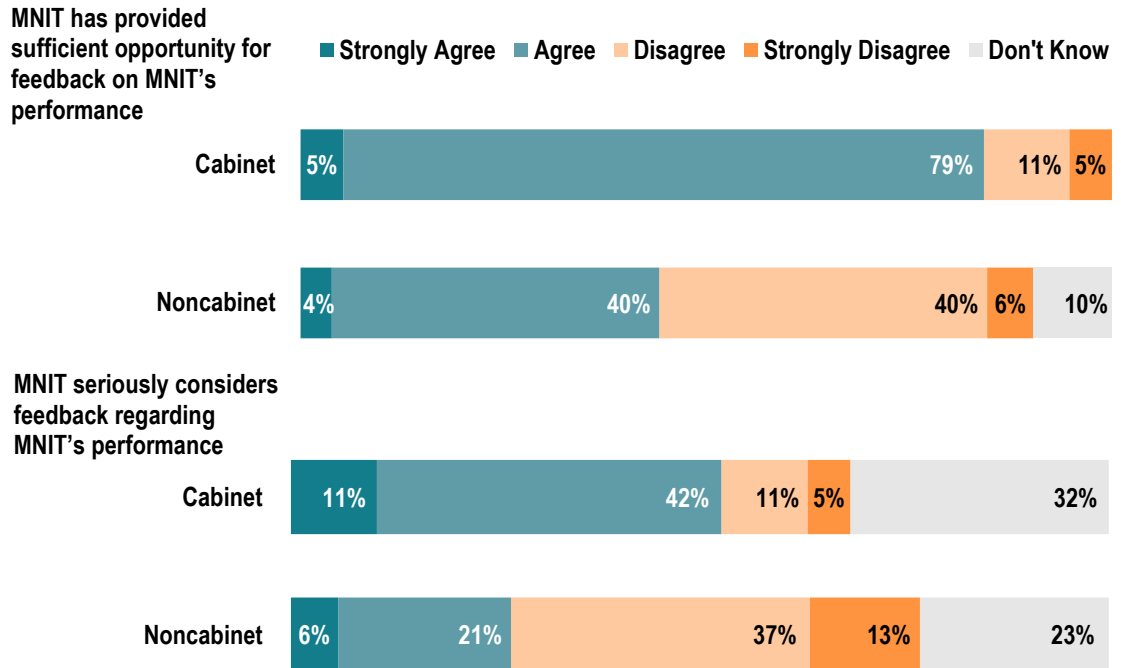| Governance Team	Purposes	Composition, as of late 2018
Executive Steering Team	• Make enterprise-wide decisions • Provide oversight and direction to other governance bodies • Direct sub-teams to manage specific IT operations • Establish a process for assigning issues and requests	Ten MNIT representatives
Financial Steering Team	• Budget and spend to enable IT operations in state government • Provide financial transparency • Maximize time for MNIT executives to make spending decisions	Five MNIT representatives, two MMB representatives, and five representatives of other state agencies
Services Team	• Oversee shared services • Define and select shared services in state government • Set delivery terms and performance standards for services	Seven MNIT representatives and a yet-to be determined number of representatives from other state agencies; none of the state agency members had been selected as of December 2018
Standards Team	• Align IT standards with business practices • Ensure consistency in standards and policies • Communicate standards to stakeholders	Seven MNIT representatives
Strategy Team	• Align MNIT investments with state agency business needs • Develop IT strategies to increase business value • Keep IT strategies updated	Four MNIT representatives and three representatives of other state agencies

SOURCE: Office of the Legislative Auditor, based on MNIT information.

MNIT has not conducted customer satisfaction surveys as often as it once intended. In 2013, MNIT said that it would conduct annual satisfaction surveys of its customers.[28] But since the 2011 information technology consolidation legislation, MNIT has conducted only two surveys of state employees (in 2014 and 2017).

In our survey of state agencies, we heard mixed opinions about agency opportunities to give comments to MNIT regarding MNIT's performance. Overall, about 55 percent of agencies responding to our survey agreed or strongly agreed that MNIT has provided sufficient opportunity for their organization to provide such feedback. As shown in Exhibit 6.3, cabinet agencies were mostly satisfied with their opportunities to provide feedback. In contrast, only 44 percent of noncabinet agencies agreed or strongly agreed that they had adequate opportunities for feedback.

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[28] State of Minnesota, *Fiscal Year 2014-2015 Governor's Budget Recommendations, Office of Enterprise Technology* (St. Paul, January 22, 2013), 9.

Exhibit 6.3: Noncabinet agencies expressed greater concerns than cabinet agencies about opportunities for feedback on MNIT's performance.

MNIT has provided sufficient opportunity for feedback on MNIT's performance

■ Strongly Agree ■ Agree ■ Disagree ■ Strongly Disagree ■ Don't Know

Cabinet 5% 79% 11% 5%

Noncabinet 4% 40% 40% 6% 10%

MNIT seriously considers feedback regarding MNIT's performance

Cabinet 11% 42% 11% 5% 32%
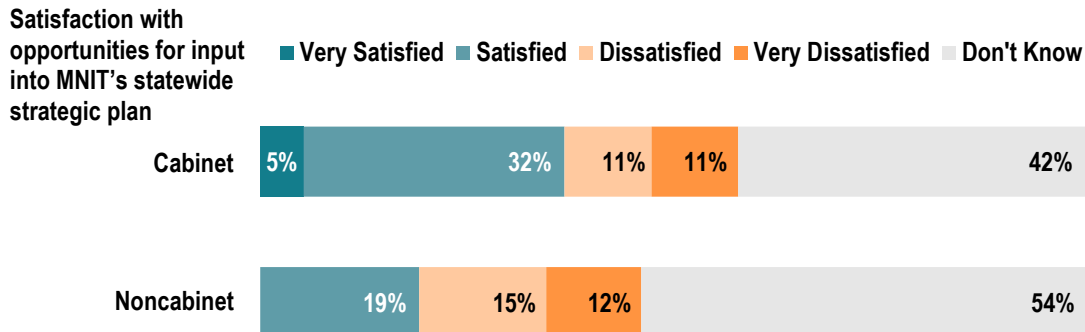
Noncabinet 6% 21% 37% 13% 23%

NOTES: We asked respondents—based on the experience of their agency—about (1) the extent to which they agreed that "MNIT has provided sufficient opportunity for your organization to provide feedback on MNIT's performance"; and (2) the extent to which they agreed that "MNIT seriously considers your organization's feedback regarding MNIT's performance." Figures may not sum to 100 percent due to rounding.

SOURCE: Office of the Legislative Auditor, survey of executive branch agencies, 2018 (Cabinet *N* = 19, Noncabinet *N* = 52).

We heard somewhat less favorable responses when we asked agencies whether, in their opinion, MNIT seriously considers their input. Overall, 34 percent of respondents agreed or strongly agreed that MNIT seriously considers their organization's feedback regarding MNIT's performance. Exhibit 6.3 shows the differing responses of cabinet and noncabinet agencies on this issue.

Agencies also expressed mixed opinions about their ability to provide input into the development of MNIT's statewide strategic plan. Overall, only about one-quarter of all agencies responding to our survey said they were satisfied or very satisfied with their organization's opportunities to provide input on the development of MNIT's statewide strategic plan. However, about half of all agencies responded "don't know" regarding their satisfaction. Our survey again revealed differences in the responses of cabinet and noncabinet agencies. As shown in Exhibit 6.4, cabinet agencies were more satisfied with opportunities to provide feedback on the strategic plan; 37 percent of cabinet agencies said they were satisfied or very satisfied, compared with only 19 percent for noncabinet agencies.

Exhibit 6.4: Few agencies expressed satisfaction with their opportunities for input into MNIT's strategic planning.

Satisfaction with opportunities for input into MNIT's statewide strategic plan

■ Very Satisfied   ■ Satisfied   ■ Dissatisfied   ■ Very Dissatisfied   ▫ Don't Know

Cabinet	5%	32%	11%	11%	42%

Noncabinet	19%	15%	12%	54%

NOTE: We asked respondents—based on their experience—whether they were satisfied with opportunities for input regarding "the development of MNIT's statewide strategic or master plan." Figures may not sum to 100 percent due to rounding.

SOURCE: Office of the Legislative Auditor, survey of executive branch agencies, 2018 (Cabinet *N* = 19, Noncabinet *N* = 52).

Finally, it is worth noting that a committee created by the Legislature to advise MNIT has provided some—but limited—opportunities for agency input. As part of the 2011 consolidation legislation, the Legislature created a Technology Advisory Committee for the purpose of advising the MNIT commissioner on the issues shown in Exhibit 6.5.[29] The committee consists of nine members: six from state executive branch agencies, and one each that represents counties, state information technology union employees, and private business.[30] Since its creation, state agency members of this committee have represented solely cabinet agencies.

Exhibit 6.5: Duties of Technology Advisory Committee

The committee shall advise the MNIT commissioner on:

- Development and implementation of the state information technology strategic plan.
- Critical information technology initiatives for the state.
- Standards for state information architecture.
- Identification of business and technical needs of state agencies.
- Strategic information technology portfolio management, project prioritization, and investment decisions.
- MNIT's performance measures and fees for service agreements with executive branch state agencies.
- Management of MNIT's revolving fund.
- The efficient and effective operation of MNIT.

SOURCE: *Minnesota Statutes* 2018, 16E 036(d).

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[29] *Laws of Minnesota* 2011, First Special Session, chapter 10, art. 4, sec. 3, codified as *Minnesota Statutes* 2011, 16E.036.

[30] All members except the county representative are appointed by the governor.

The committee's meetings have been infrequent in recent years. The committee met five times in MNIT's first full calendar year of operation (2012). Since then, the committee has met a total of 11 times over six years; the committee met twice in 2018. Thus, while this committee provides some opportunity for agencies to advise MNIT, the committee's infrequent meeting schedule and limited membership may constrain its effectiveness as a venue for agency feedback.
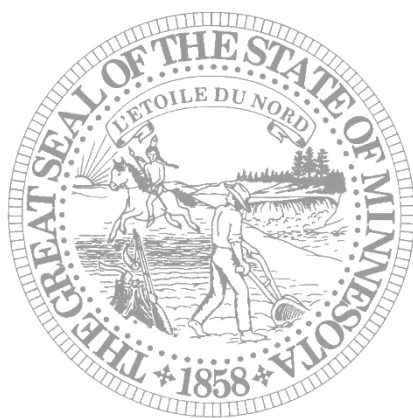
RECOMMENDATION

MNIT should ensure that agencies have sufficient opportunity to provide input to MNIT.

In general, MNIT should make greater efforts to solicit input from the state agencies it serves and to assure those agencies that their input will be considered. A majority of cabinet agencies—which tend to be the state's larger agencies and those with broad responsibilities—expressed satisfaction with their opportunities to provide input to MNIT on agency-based IT personnel decisions, IT procurement for their organization, and the acquisition of software applications for their agency. A minority of cabinet agencies expressed satisfaction with input opportunities related to enterprise services for their organization, these services' costs, and MNIT statewide strategic planning. Noncabinet agencies are often relatively small, but many have had concerns about the cost of MNIT's enterprise services. These agencies generally expressed lower levels of satisfaction with opportunities for input than cabinet agencies, and they need greater assurance that MNIT is hearing and heeding their concerns.

Some of the concerns from noncabinet agencies may reflect MNIT's limited staff presence in these agencies. Small agencies typically either have not been assigned a chief business technology officer, or they share such an officer with multiple other agencies. Within the limits of available funding, MNIT should consider whether agencies—especially smaller ones—have adequate opportunities to convey concerns to MNIT leadership. MNIT may be able to address these concerns by reconsidering its staffing allocations, providing noncabinet agencies with more opportunities to participate in MNIT governance groups, or by making more frequent efforts to solicit feedback (through surveys, for example) from state employees or agency representatives.

Chapter 7: Discussion

In the previous chapters, we offered recommendations for improving the Office of Minnesota Information Technology Services (MNIT) and the services it provides. We made these recommendations under the presumption that MNIT would continue to be the state's information technology (IT) agency, consistent with existing law. The law requires a consolidation of IT employees, finances, and services within this agency.

However, some legislators expressed disappointment with MNIT's performance in recent years. After the Minnesota Licensing and Registration System (MNLARS) had defects, slowdowns, and gaps in functionality upon its release in July 2017, some legislators questioned whether MNIT should exist at all. This chapter provides our observations on several general issues regarding Minnesota's IT consolidation, and it presents options for how IT services could be structured in Minnesota state government.

General Comments on Consolidation

In Chapter 2, we discussed the IT consolidation that has occurred in Minnesota over the past two decades. After a series of smaller steps by the executive and legislative branches, the 2011 Legislature mandated a broad IT consolidation under a single agency (the Office of Enterprise Technology (OET), later renamed MNIT). Below, we reiterate some of our earlier comments about the IT consolidation, supplemented by our findings and observations regarding MNIT.

What is the Status of Minnesota's IT Consolidation?

The 2011 Legislature mandated a consolidation of state government's IT employees, finances, and services under a single IT agency. However, the Legislature did not specify clear benchmarks for assessing when consolidation would be "complete." Some MNIT officials told us that IT services have been fully consolidated within MNIT; others told us that the consolidation process is ongoing.

As we discussed in Chapter 2, it would be difficult to describe the consolidation as complete until several issues are resolved. First, there continues to be uncertainty about which state agencies should be subject to the consolidation. Second, a large portion of the Department of Human Services' IT expenditures have not been consolidated within MNIT. This complicates the task of assembling statewide data on IT spending, and it could affect MNIT's ability to engage in bulk purchasing. Third, some of the agencies subject to consolidation are not yet receiving the full range of MNIT's consolidated IT services. Finally, there have been limited efforts to centrally consolidate MNIT's oversight of state government software development, despite the significant risks that failed projects present.

In sum, we continue to see the IT consolidation as a work in progress. Important steps have been achieved, such as the transfer of employees into a single agency and the development of uniform IT employee classifications. Still, some important aspects of the consolidation require additional attention before the consolidation can be deemed complete.

Was IT Consolidation a Good Idea?

The consolidation of IT services in Minnesota state government since the 1990s has reflected both legislative and executive branch initiatives. Executive branch administrations headed by both major political parties oversaw the initiation or implementation of IT consolidation. Likewise, 2011 legislation to consolidate IT employees and services in state government had chief authors in both parties and significant bipartisan support.[1]

State governments across the U.S. have been consolidating some or all of their IT services in recent years, according to the executive director of a national organization for state chief information officers. The purposes of these consolidations are not always clear; in Minnesota, for example, the Legislature did not explicitly adopt goals or performance measures when it mandated the consolidation of IT services. However, it seems reasonable to assume that consolidation aims for more strategic, cost-effective, and consistent investment in a service (IT) that is expensive and specialized, and which significantly affects state operations. Also, increased threats to information security in recent years have threatened the ability of organizations to protect their data, leading some people to suggest the need for a more centralized approach.

In our view, state policymakers undertook Minnesota's IT consolidation with the best intentions. The 2011 consolidation legislation was a plausible response to concerns about disjointed IT services in state government, and whether state IT services were providing good value at a reasonable price.

However, judging the success of the consolidation is difficult. As stated in the previous section, it is difficult to evaluate the success of IT consolidation when consolidation is not yet complete. Furthermore, it is hard to know whether the state has made different IT investments in recent years than it would have without MNIT, or whether the state's overall IT spending today is more efficient than it was previously. A state agency official responding to our survey said, "It is very difficult to estimate which challenges arise from consolidation and which arise from the rapidly changing IT needs of the state."

State agency officials expressed mixed views to us about the consolidation. Some have been disappointed by changes in IT services or costs, and some wish they could have more input into MNIT's decisions. Others expressed satisfaction with MNIT's efforts to address security risks, and many have been satisfied with the quality of MNIT's centrally provided services (but not necessarily with MNIT's customer service activities).

The failure of the MNLARS release raised questions about MNIT's effectiveness in overseeing the technical aspects of a critical software project. As part of the 2011 consolidation legislation, the Legislature made MNIT responsible for overseeing services related to state agencies' "business application software."[2] Many factors contributed to the

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[1] A House bill that included many of the IT consolidation provisions that were subsequently enacted by the Legislature during the 2011 special session passed the House by a 116 to 16 vote. (H.F. 191, 2011 Leg., 87th Sess. (MN).)

[2] *Laws of Minnesota* 2011, chapter 10, art. 4, sec. 2, codified as *Minnesota Statutes* 2011, 16E.016(a)(8).

unsuccessful release of MNLARS, but we concluded in a recent report that one of those factors was MNIT's inadequate oversight.[3]

Ultimately, MNIT's success will be judged by the Legislature and MNIT's customers in state agencies. Until MNIT demonstrates more clearly that its services have the confidence of the Legislature and MNIT's agency-based customers, it will be hard to declare IT consolidation a success.

Legislative Options for Structural Changes

During the 2018 legislative session, the Minnesota Senate discussed several bills that would have abolished MNIT.[4] One such bill (Senate File 3656) passed the Senate, but it was not enacted into law. Still, the discussions surrounding the bills revealed significant frustration with MNIT among some legislators.

> **We offer no recommendations for changes in the executive branch's organization of IT services, but the merits of such changes deserve legislative consideration.**

Below, we provide a series of options for changing (or not changing) the structure of IT services in the executive branch. The discussion presents arguments for and against significant structural changes. Such options could be considered individually or in combination.

In general, we think the Legislature should be cautious about changes that move the location of a particular function (such as IT services) to a different agency. There are multiple ways to structure state government agencies, and changes in organization should be considered when there is legislative dissatisfaction with an agency's performance. However, placing important state functions in one part of state government rather than another will not—by itself—guarantee that those functions will work better in the new location. In addition, structural changes are, by their nature, potentially disruptive to an agency's operations.

Option 1: Placing MNIT's Functions into an Existing State Agency

The 2018 Minnesota Senate bills referenced above would have abolished MNIT as an independent agency of the executive branch. Some of the agency's functions would have continued in a new Division of Information Technology in the Minnesota Department of Administration. Under the legislation, the state's chief information officer—who is now the MNIT commissioner—would have served at the pleasure of the Department of Administration's commissioner rather than being appointed by the governor. The legislation would have retained a requirement in current law for the chief information officer's appointment to be subject to approval by the Minnesota Senate.

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[3] Office of the Legislative Auditor, *Special Review: Factors That Contributed to MNLARS Problems* (St. Paul, February 2019).

[4] S.F. 2966, S.F. 3764, and S.F. 3656, 2018 Leg., 90th Sess. (MN). A companion bill to S.F. 2966 was introduced in the House (H.F. 4137, 2018 Leg., 90th Sess. (MN)), but it did not receive a committee hearing.

Exhibit 7.1 reviews possible reasons for (1) keeping MNIT as a separate agency or (2) placing its duties within a different agency.

Exhibit 7.1: Merits of Keeping MNIT a Separate Agency vs. Moving its Functions into the Department of Administration

Keep MNIT as a Separate Agency	Abolish MNIT and Move Certain Functions to the Department of Administration
• As a separate agency, MNIT is highly visible to state government agencies. Moving MNIT's functions to the Department of Administration would make IT services one part of a larger agency that is already responsible for a wide range of services.	• Placing MNIT functions within the Department of Administration would make the state's IT leadership subject to an additional level of oversight—from that department's commissioner—in addition to the continuing oversight of the governor.
• In a separate agency, the MNIT chief information officer serves at the governor's pleasure but otherwise is able to act with considerable independence.	• The Department of Administration has experience administering centralized services in parts of state government other than IT. For example, the department oversees state purchasing, state contracting, and state buildings, and agencies throughout state government rely on the department's processes and expertise in these areas.
• Keeping MNIT as a separate agency would avoid a potentially disruptive transition of employees and operations to a new agency.	

SOURCE: Office of the Legislative Auditor.

In our review of other states' information technology services, we saw examples of both approaches described above.[5] Examples of independent, stand-alone agencies include the Texas Department of Information Resources, the Colorado Governor's Office of Information Technology, and the Utah Department of Technology Services. In contrast, Ohio's Office of Information Technology is located in that state's Department of Administrative Services, and Tennessee's IT division is located in the state's Department of Finance and Administration.

Option 2: Giving Agencies Responsibility for Software Projects

The 2018 Senate bills referenced earlier proposed that the state chief information officer would continue—in the Department of Administration—to be responsible for certain core IT functions, such as state data centers, servers, e-mail services, and a data network. But, under the provisions of the bills, some services now classified by MNIT as "enterprise" IT services would have been provided "at the request of the agency" needing the service. Thus, it would have been up to the agency to determine which of the specified services it wanted.

Of the services for which the bills proposed to transfer decision-making responsibility to agencies, perhaps the most significant was "business application software and related

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[5] We reviewed information from Colorado, Michigan, New York, Ohio, Tennessee, Texas, and Utah. We selected these states because the states' IT services represented: (1) a range of organizational and reporting structures and (2) varying degrees of consolidated IT. We also considered recommendations from an industry expert in selecting states for our inquiry.

technical support services."[6] Agency-based staff comprise the majority of MNIT's employees, and many of these staff work on software applications. Under the 2018 Senate bills, agencies could still request to have MNIT work on software development, but the bills would have removed a requirement for all state employees working on business application software to be MNIT employees.[7]

In Chapter 5, we noted that MNIT currently provides limited centralized oversight of software application development. However, MNIT has considerable authority in statute to oversee software development, and MNIT leaders have expressed a desire to enhance MNIT's oversight in this area. Exhibit 7.2 reviews possible reasons for (1) keeping MNIT responsible for oversight of software applications or (2) giving each agency responsibility to oversee its software applications and decide how they will be developed, purchased, or maintained.

Exhibit 7.2: Merits of Having Responsibility for Software Application Oversight in a Central Office vs. in Each State Agency

Keep Software Projects as a Responsibility of a Central IT Agency	Give State Agencies Authority to Oversee Software Projects and Decide Who Should Work on Them
• Through centralized oversight, MNIT may ensure that software projects meet overarching IT standards and best practices. State agencies—especially small ones—may lack the technical and project management expertise to develop or oversee software projects in-house.	• Individual state agencies—not an overarching IT office—may be best able to determine which IT applications will meet their business needs and budget constraints. Such projects can be critically important to agencies' daily operations, so agencies would be in the "driver's seat." There can be questions about which entity (agencies or MNIT) has authority to decide who will build or purchase software for an agency, and this option would clarify that this decision resides with the agency.
• MNIT can intervene if it determines that agency-based software projects would be duplicative, inefficient, insecure, or risky to implement successfully.	
• With IT services under the supervision of a single office, it is easier for state officials to tally the state's total IT expenditures. If procurement of software development was solely an agency responsibility, a large share of IT expenditures would be made by dozens of individual agencies.	• Rather than having two agencies (MNIT and the affected agency) jointly making decisions about software projects, this option would give clear responsibility to the sponsoring agency.
	• Under this option, accountability for project results would clearly rest with the sponsoring agency, regardless of whether the project succeeds or fails.

SOURCE: Office of the Legislative Auditor.

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[6] Under the bills, other services would have also become the responsibility of the agencies, including desktop and laptop computers (including system software); standard software tools, including databases, office systems, and reporting tools; and network-connected output devices.

[7] The bills would also have deleted current statutory language that requires that legislative appropriations made to state agencies for IT projects be transferred to MNIT.

All software projects—regardless of who manages them—require a combination of subject matter expertise (for example, determining what business requirements will meet the needs of a state agency) and technical expertise (for example, determining how to construct system architecture and ensuring that coding is developed in a consistent manner). In Chapter 5, we said there is an unclear division of responsibility between state agencies and MNIT for software projects. A key question is whether this problem should be addressed by giving agencies responsibility for software projects, or by simply clarifying the respective project responsibilities of agency and IT staff.

In our contacts with seven other states, most said they favored at least partial consolidation of software oversight or development. For example, a Utah official said:

> Having development in one place has also helped with the review of projects to make sure the state is not building multiple applications doing the same thing, coordination of projects across multiple agencies, and optimizing the engagement model to make sure projects are good value to the State.

New York's IT agency employs all software application staff, but it tries to ensure close relationships with agencies sponsoring the software. A New York official said: "Parts of application development which may benefit from outside perspective can be centralized successfully, such as testing and quality assurance." Texas has not consolidated all application functions into its state IT agency, but a Texas official told us that an overarching "quality assurance team" (with representatives from several agencies) has authority to monitor projects over $1 million and intervene if they are not going well.

Option 3: Making Some Now-Centralized IT Services Optional

Option 2 would give agencies responsibility for deciding how to deliver one service (development and maintenance of software applications) for which MNIT now has statutory responsibility. But, as we noted in the discussion of Option 2, the Senate considered bills in 2018 that would have given state agencies responsibility for certain other services that are now overseen by MNIT. Under those bills, for example, agencies would have been given control over desktop and laptop computers, including decisions about how frequently those items receive upgrades or replacement.

Exhibit 7.3 reviews possible reasons for (1) allowing MNIT to retain responsibility for a wide range of core services that are commonly used by state agencies or (2) giving responsibility for more of these services to individual state agencies.

Legislators should consider whether individual state agencies—if given responsibility for certain IT services—would make wise choices. As noted in Chapter 3, many agencies have expressed dissatisfaction with the cost of MNIT enterprise services. If agencies would be tempted to cut corners on IT investments, this could have implications for data security or system functionality. MNIT has aimed to adopt standards and centralized services that will promote greater consistency in agency practices.

Exhibit 7.3: Merits of Keeping MNIT Responsible for All Core IT Services vs. Giving Responsibility for Some Services to Agencies

Keep MNIT Responsible for All Core IT Services	Give Agencies Responsibility for Some Core IT Services that are Now the Responsibility of MNIT
• According to MNIT, some agencies made limited investment in IT network infrastructure and security when agencies had greater authority to make IT decisions prior to the 2011 consolidation. MNIT has established standards for the frequency of equipment replacement to help ensure proper security and functionality.	• Under this option, individual state agencies would have responsibility to manage more investments in IT used by their employees, such as desktop and laptop computers. Arguably, agencies—rather than MNIT—are best able to determine which expenditures will meet agency business needs. Agencies might more effectively identify the amount and type of services they need, potentially avoiding unnecessary spending.
• MNIT believes that, as it progresses toward full IT consolidation, it can realize benefits from bulk purchases of IT hardware, software, network infrastructure, and cybersecurity products. MNIT also believes there are economies of scale associated with centralized engineering, delivery, monitoring, and management of IT services and assets.	• Some agencies have expressed dissatisfaction with the cost of MNIT's "enterprise services," which may compete with other business needs as agencies allocate their budgets. In addition, agencies say they have had limited recourse if they were dissatisfied with MNIT services. If certain IT services became optional, agencies could decide whether—or how frequently—to buy them.
• MNIT may be better equipped than individual agencies to assess the technical quality of IT services and their compatibility with other state systems.	
• With IT services under the supervision of a single office, it is easier for state officials to tally the state's total IT expenditures, and it may be easier to hold agencies accountable to performance measures.	

SOURCE: Office of the Legislative Auditor.

Most other states we contacted spoke in favor of having core IT services managed by a state IT agency. A Texas official said:

> It provides better cost control, leverages shared infrastructure, improves security and legacy [IT system] modernization…. This also improves accountability when dealing with the legislative branch as they have one agency to work with in clarifying technological issues or understanding program budgets.

Option 4: Allowing Agencies to Employ Certain IT Staff

When the 2011 Legislature passed an act that further consolidated state IT, it enacted statutory language that, in practice, made nearly all the state's executive branch IT staff employees of MNIT.[8] As a result, hundreds of IT staff that previously were employees of individual state agencies transitioned to being MNIT employees. MNIT and agency officials told us that agency IT staff who had worked for years for particular agencies sometimes found it difficult to see themselves as MNIT employees. Many of those staff—now MNIT employees—continued to be housed at their former agencies and have worked closely with those agencies.

Exhibit 7.4 reviews possible reasons to (1) keep all IT employees as MNIT employees or (2) have some IT-related staff be employees of the agencies in which they do their work.

Exhibit 7.4: Merits of Keeping All IT Employees in MNIT vs. Having Some Become Agency Employees

Keep All IT Staff as MNIT Employees	Allow Some IT Staff to be Employees of Individual State Agencies
• When IT staff are employees of dozens of individual state agencies, there can be inconsistencies in how they are supervised, how they do their work, and what expectations they must meet. In contrast, MNIT has implemented uniform job classifications and descriptions for IT employees throughout state government.	• IT staff often work closely with the agencies for which they provide services—to identify business needs and develop software responsive to those needs. Individual agencies may prefer to have those staff directly accountable to them, rather than to MNIT.
• Changing the employer of IT employees—for the second time in recent years—could be disruptive.	• IT staff employed by individual state agencies may be more familiar with the needs of those agencies, and they may be more invested in providing responsive, personalized services.
• Having all IT staff employed by MNIT can give MNIT flexibility to deploy individual staff to the agencies in which they are most needed.	
• With employment of all IT staff in one agency, MNIT may be better able to develop or obtain training for those staff.	

SOURCE: Office of the Legislative Auditor.

MNIT believes that it can be responsive to the needs of state agencies. However, individual agencies may want these employees to be part of their own staff for purposes of helping the agencies define and meet their business needs.

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[8] *Laws of Minnesota* 2011, chapter 10, art. 4, sec. 2(b), codified as *Minnesota Statutes* 2011, 16E.016(b). A small number of state executive branch agencies were excluded from the IT consolidation, and they can still employ their own IT staff.

Most other states we contacted said there are benefits to consolidating IT staff within a single agency. For example, a New York official said: "Consolidation of IT employees into one agency allows all employees to leverage all opportunities for career advancement, and ensures that necessary skills training is available to all." A Utah official said consolidation of employees "has been beneficial for oversight—same policies, procedures, standards for all IT employees."

Option 5: Maintain MNIT's Current Scope of Responsibilities

Another option is to keep MNIT's statutory responsibilities largely intact. MNIT would continue to be the employer of virtually all executive branch IT employees, and MNIT would oversee all core IT services to state agencies. This does not mean that MNIT employees would provide all IT services or conduct all software development. As permitted by current law, MNIT could enter into contracts for the provision of services (or allow agencies to do so). MNIT could work as a partner with state agencies to identify IT options (for example, assessing what types of case management software is available) or make IT decisions (for example, whether to build software from scratch or purchase it "off the shelf").

Minnesota state government undertook a large-scale consolidation of IT services more than seven years ago, and it is worth asking whether this is the right time to reverse course. The consolidation process has been gradual and is not yet fully completed. This process— which involved the transfer of many employees to MNIT and the reconfiguration of many services—has been challenging at times. Changing course might also be challenging.

In 2011, there was bipartisan support for IT consolidation legislation. During hearings on consolidation bills, some legislators indicated they wanted to achieve efficiencies, improve the security of state government systems and data, reduce duplication among agency IT employees and services, and have greater consistency in the management of an expensive state asset (information technology). If these goals remain important today, the Legislature should consider whether it makes sense to revert to a more decentralized model.

Even if the Legislature decides to maintain MNIT's current scope of responsibilities, MNIT's performance should not remain the same. Our evaluation indicates that MNIT customers are not sufficiently satisfied with MNIT services. MNIT should provide more opportunities for agency input, and it must be more accountable to agencies—and the Legislature—for the services it provides. Furthermore, MNIT should make improvements in its oversight of software applications so that large-scale problems such as MNLARS do not happen again.

Option 6: Increase MNIT's Role and/or Funding

A final option would be for the Legislature to give MNIT a larger role in state government's IT operations. First, MNIT's role could be expanded through legislative clarification of MNIT duties. Our report has identified various areas in which the division of responsibilities between MNIT and state agencies is unclear. We encourage additional statutory clarification, which might or might not result in the assignment of new responsibilities to MNIT.

Second, the Legislature could consider expanding the MNIT central office's ability to properly oversee software projects. As noted in Chapter 5, this oversight has been limited, and MNIT has not complied with some statutory requirements related to project oversight. Inadequate oversight of software projects could increase the likelihood that some expensive, high-risk projects will fail, or will not meet the business needs of state agencies. According to MNIT, funding constraints have prevented MNIT from improving project oversight.

Third, the Legislature could make more of its IT appropriations directly to MNIT, rather than indirectly through agencies. Currently, nearly all IT appropriations go first to state agencies, and these agencies then transfer the funds to MNIT or purchase services from MNIT. MNIT officials believe that if the Legislature appropriated funding for core IT services directly to MNIT, this would reduce the administrative burden borne by agencies due to a complicated billing process.

MNIT has also questioned whether the current funding approach—in which most IT funding goes first to agencies—is appropriate for enterprise services. Specifically, MNIT believes state agencies lack an incentive to seek adequate funding for these services in the state budget process. According to MNIT, agencies may be less inclined to make budget requests for their core IT services—such as laptop and desktop computers for staff—than for competing budget needs that more directly address an agency's mission.[9]

MNIT also believes that inadequate funding levels have been an obstacle to fulfilling its existing responsibilities or addressing an expanded set of responsibilities.[10] For example, MNIT officials told us that funding constraints have prevented MNIT from completing the IT consolidation process. As noted above, MNIT also said funding constraints have prevented the MNIT central office from implementing the currently required oversight for state software projects. In addition, MNIT officials said they have been constrained by funding in their efforts to strengthen cybersecurity defenses in state government.

It is worth noting that MNIT's relatively limited amount of General Fund revenues is a reflection of both past legislative and executive branch initiatives. In several recent years, MNIT requested—and the Legislature did not approve—General Fund appropriations to support MNIT proposals to combat cybersecurity threats. In addition, for the 2014-2015 biennium, the governor proposed (and the Legislature supported) reductions in MNIT's General Fund revenues.[11] We did not assess the overall adequacy of MNIT's budget (or its General Fund revenues) for meeting MNIT's current responsibilities or possible new ones. If MNIT believes that it needs additional funding, it can make its case to the governor and Legislature through the state budget process.

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[9] On the other hand, some MNIT and agency officials raised questions about the option of providing IT funding directly to MNIT. For example, one official said that certain federal grants are dependent on agencies contributing matching funds, which might not be possible if funding for IT went directly to MNIT.

[10] We did not assess whether it would be appropriate or feasible for MNIT to recover the cost of expanded services through charges to agencies.
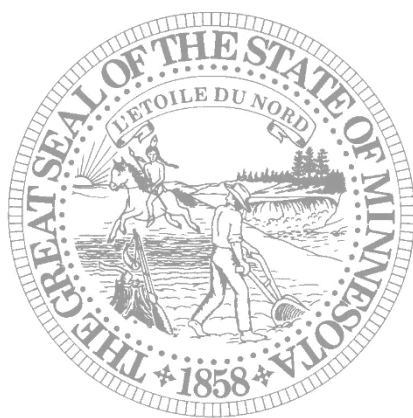
[11] State of Minnesota, *2014-2015 Biennial Budget, Office of Enterprise Technology* (St. Paul, January 2013), 4.

List of Recommendations

- The Legislature should clarify which state agencies are subject to MNIT's authority for IT services. (p. 29)

- MNIT should ensure that agencies understand the IT services they receive and the cost drivers behind them. (p. 45)

- MNIT should provide agencies with information on IT enterprise service rates earlier in the budget process. (p. 46)

- MNIT—in consultation with the Department of Management and Budget—should ensure that IT-related funding requests by all agencies clearly identify IT costs in a consistent manner. (p. 50)

- MNIT should clarify the division of responsibilities for various IT activities. (p. 55)

- MNIT should improve the processes for IT-related procurement and billing. (p. 65)

- MNIT should more frequently measure and report on agency satisfaction with its performance. (p. 66)

- MNIT should improve the oversight of information technology projects by:

    - Fulfilling statutory requirements for the MNIT commissioner to approve agency-proposed projects, based on evaluation procedures developed by the commissioner.

    - Developing and enforcing architectural standards for agency software.

    - Developing principles for independent audits of projects.

    - Developing guidance for agencies undertaking software projects that articulates the division of responsibilities between MNIT and the agencies, and that defines key steps and tasks in the process.

    - Amending policies and practices to ensure that MNIT project managers submit evaluations of contractors at the completion of projects. (p. 77)

- The Legislature and MNIT should work together to clarify MNIT's authorizing statutes. (p. 82)

- MNIT should identify a set of measures that it can use consistently over time to assess and report on the performance of its core functions. (p. 84)

- The Minnesota House and Senate should consider creating one or more information technology committees. (p. 85)

- MNIT should develop a plan for communicating performance information to agencies related to the metrics identified in service-level agreements. (p. 88)

- MNIT should ensure that agencies have sufficient opportunity to provide input to MNIT. (p. 93)

Surveyed Agencies

APPENDIX A

Throughout this report, we describe the sample of state agencies, boards, councils, and commissions selected to respond to our survey regarding the Office of Minnesota Information Technology Services (MNIT).[1] To select our sample, we began with MNIT's own list of agencies subject to the IT consolidation, and then we excluded certain agencies. We surveyed only agencies that had at least one staff person responsible for agency administrative functions, such as IT. To determine this, we (1) reviewed the agency's statutes to assess whether they authorized the agency to have a chief executive or administrator and (2) reviewed whether the agency's website identified an executive director or other administrator.

For this report, we sometimes analyzed survey responses based on whether the agency was in the governor's cabinet or not. Cabinet agencies typically have a broader range of responsibilities than noncabinet agencies; they also typically have higher IT spending and more MNIT staff assigned to the agency. All cabinet agencies have an agency-based MNIT leader called a chief business technology officer (CBTO) assigned to their agency. Below, we provide a list of cabinet agencies we surveyed in September 2018. We received survey responses from all of these agencies.

Exhibit A.1: We surveyed officials from 19 cabinet agencies that receive services from MNIT.

Bureau of Mediation Services
Department of Administration
Department of Agriculture
Department of Commerce
Department of Corrections
Department of Education
Department of Employment and Economic Development
Department of Health
Department of Human Rights
Department of Human Services
Department of Labor and Industry
Department of Management and Budget
Department of Natural Resources
Department of Public Safety
Department of Revenue
Department of Transportation
Department of Veterans Affairs
Office of Higher Education
Pollution Control Agency

SOURCE: Office of the Legislative Auditor.

[1] We use the term "state agencies" in this report to refer to state executive branch organizations, including agencies, boards, councils, and commissions that receive services from MNIT.

Noncabinet agencies typically have a narrower range of responsibilities and more limited IT resources. Some noncabinet agencies share a CBTO with other agencies and some instead work with an IT Director. Below, we provide a list of noncabinet agencies surveyed. We received survey responses that represented all but one of these agencies.

Exhibit A.2: We surveyed 53 officials on behalf of noncabinet agencies that receive services from MNIT.

Board of Accountancy
Board on Aging
Board of Animal Health
Board of Architecture, Engineering, Land Surveying, Landscape Architecture, Geoscience and Interior Design
Board of Assessors
Board of Barber Examiners
Board of Behavioral Health and Therapy
Board of Chiropractic Examiners
Board of Cosmetologist Examiners
Board of Dentistry
Board of Dietetics and Nutrition Practice
Board of Examiners for Nursing Home Administrators
Board of Marriage and Family Therapy
Board of Medical Practice
Board of Nursing
Board of Occupational Therapy Practice
Board of Optometry
Board of Peace Officer Standards and Training
Board of Pharmacy
Board of Physical Therapy
Board of Podiatric Medicine
Board of Private Detective and Protective Agent Services
Board of Psychology
Board of Social Work
Board of Veterinary Medicine
Board of Water and Soil Resources
Capitol Area Architectural and Planning Board
Commission of the Deaf, Deafblind, and Hard of Hearing
Council for Minnesotans of African Heritage
Council on Asian-Pacific Minnesotans
Council on Disability
Emergency Medical Services Regulatory Board
Environmental Quality Board
Explore Minnesota Tourism
Gambling Control Board
Governor's Council on Developmental Disabilities
Higher Education Facilities Authority
Indian Affairs Council
Minnesota Council on Latino Affairs
Minnesota Racing Commission
Minnesota State Academies
Minnesota Trade Office
Minnesota Zoo
MNsure

Exhibit A.2 (continued)

Office of Administrative Hearings
Office of Ombudsman for Mental Health and Developmental Disabilities
Office of Ombudsperson for Families
Office of the State Archaeologist
Perpich Center for Arts Education
Professional Educator Licensing and Standards Board
Public Utilities Commission
Sentencing Guidelines Commission
State Arts Board
Tax Court
Workers' Compensation Court of Appeals
Workforce Development Board

NOTES: Three individuals served as executive directors to two boards, so we sent a single survey to these executive directors to respond on behalf of both boards. The boards that provided joint responses were: (1) the Board of Examiners for Nursing Home Administrators and the Board of Optometry; (2) the Board of Podiatric Medicine and the Board of Dietetics and Nutrition Practice; and (3) the Board of Accountancy and the Board of Architecture, Engineering, Land Surveying, Landscape Architecture, Geoscience and Interior Design. We received survey responses from 52 of the 53 representatives surveyed from noncabinet agencies. One board that we surveyed, the Board of Occupational Therapy Practice, did not appear on MNIT's list of organizations subject to the IT consolidation because it was established after MNIT published this list. Another board appearing on MNIT's list but which has since changed is the former Board of Teaching—now the Professional Educator Licensing and Standards Board.

SOURCE: Office of the Legislative Auditor.

The agencies excluded from our survey sample but appearing on MNIT's list of agencies subject to the IT consolidation were—for the most part—advisory boards or councils whose administrative functions are overseen by another agency. For example, by law, the Department of Labor and Industry "shall provide necessary staff and administrative support to" the Construction Codes Advisory Council.[2] Below, we provide a list of agencies that we excluded from the survey.

Exhibit A.3: We did not survey 21 agencies that MNIT identifies as subject to the IT consolidation.

Advisory Council on Workers' Compensation
Apprenticeship Advisory Board
Assistive Technology Advisory Council
Board of Electricity
Board of High-Pressure Piping Systems
Combative Sports Advisory Council
Construction Codes Advisory Council
Health Professionals Services Program Committee
Medical Services Review Board
Minnesota Amateur Sports Commission
Minnesota Sustainable Communities Network

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[2] *Minnesota Statutes* 2018, 326B.07, subd. 3.

Exhibit A.3 (continued)

Occupational Safety and Health Advisory Council
Occupational Safety and Health Review Board
Office of Minnesota IT Services
Plumbing Board
Public Facilities Authority
Rehabilitation Review Panel
State Designer Selection Board
State Rehabilitation Council
State Rehabilitation Council for the Blind
Statewide Independent Living Council

NOTES: Although the Minnesota Sustainable Communities Network appeared on MNIT's list in 2016, this agency no longer exists and we excluded it from the survey. We excluded the Office of Minnesota IT Services from the survey, because we determined that it would be inappropriate to survey MNIT on its satisfaction with its own performance. There were also two agencies on this list we initially requested participate in the survey—the Minnesota Amateur Sports Commission and Public Facilities Authority—that indicated they either receive no services from MNIT or do not have an agreement to receive services from MNIT. Therefore, we excluded these agencies from our survey sample.

SOURCE: Office of the Legislative Auditor.

2011 Deadlines for Consolidation of IT Services

APPENDIX B

In Chapter 2 of this report, we discussed the status of the information technology (IT) consolidation mandated by the 2011 Legislature. We said that the consolidation of IT employees within the Office of Minnesota Information Technology Services (MNIT) is generally complete, but the consolidation of IT finances and services is still ongoing.

Below, we provide the deadlines that the 2011 Legislature established for completion of various consolidation-related activities.

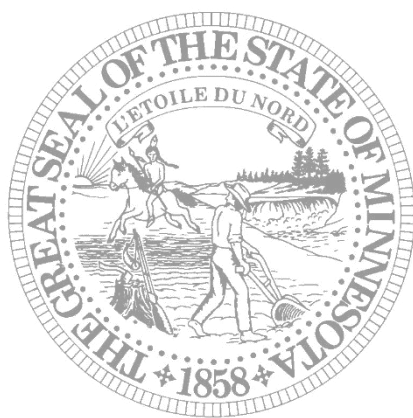### Exhibit B.1: The Legislature set deadlines for consolidation of state IT services that ranged from 2011 to 2014.

Deadline	Consolidation Activity Required by Minnesota Law
August 20, 2011	State agencies must transfer agency-based chief information officers to the Office of Enterprise Technology (OET).[a]
October 1, 2011	State agencies must transfer all IT systems and services, including staff and assets that support them, to OET.
January 15, 2012	OET must issue a report to the Legislature on statutory changes needed to implement the consolidation.
July 1, 2012	OET must develop and sign service-level agreements with state agencies subject to the consolidation legislation.
June 30, 2013	OET must expand, relocate, or consolidate IT services as desired by the agency.
July 1, 2013	State agencies must transfer all IT spending to OET.
July 1, 2013	The Department of Administration must transfer the state geospatial information system office to OET.
January 15, 2014	OET must issue a report to the Legislature on the feasibility and desirability of expanding the consolidation to state agencies excluded from the IT consolidation legislation.

NOTES: Governor Dayton signed the consolidation legislation into law on July 20, 2011. At the time the law was signed, the state IT agency was called OET, but it is now the Office of Minnesota IT Services (MNIT).

[a] Agency-based chief information officers are now called chief business technology officers.

SOURCE: *Laws of Minnesota* 2011, First Special Session, chapter 10, art. 4, secs. 6 and 7.

February 22, 2019

Judy Randall, Deputy Legislative Auditor
Office of the Legislative Auditor
Centennial Office Building
658 Cedar Street
Saint Paul, MN 55155

Dear Ms. Randall,

Thanks to you and your team for your dedicated work on this program evaluation of the Office of MN.IT Services (MNIT). Your evaluation offers a comprehensive look into the current state of consolidated IT services and highlights several challenges and opportunities that are critical in successfully delivering information technology services for state agencies and for Minnesotans. Using the guidance and recommendations that the Office of the Legislative Auditor provided in this report, Minnesota IT Services will continue to institute IT best practices through our ongoing business process transformation efforts, enhance communications with our business partners, and deliver improved IT services to our business partners.

We agree with the OLA's recommendations and provide our insights for those later in this response. Moving forward, the OLA's report revealed key areas in which we believe action is required to enable MNIT and the executive branch to work better, smarter, and more cost-effectively.

Billing and Rate Setting for Commodity IT Services
The two single biggest irritants to our customers are the billing and rate-setting processes related to MNIT's enterprise services offerings for commodity-type IT services. These two processes cost the agencies unnecessary time, money, and organizational energy. The inherent complexity of these processes creates confusion and frustration, which undermines business relationships with all of our agency business partners. ***Commodity-type enterprise IT services are a basic business need, just like the buildings we work in and the electricity we consume.*** Our current funding construct requires every agency, commission, board and council to separately fight for this basic business need alongside the mission-driven investments that directly support and serve Minnesotans. This ultimately costs Minnesotans more money and by its nature introduces more unnecessary risk. ***To that end, the State of Minnesota should explore alternative funding strategies to eliminate these barriers that distract our customers, cost extra taxpayer money, and impair MNIT's ability to provide superior customer service and satisfaction.***

Legislative Oversight
A legislative venue is needed where MNIT can engage in discussion about the build out and transformation of enterprise IT services on behalf of the entire executive branch. ***This would enable the legislature to get a more***

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comprehensive look at true enterprise service costs, provide a single agency to hold accountable for performance in this area, and enable transparency in the level of enterprise IT risk when funding level decisions are finalized in the budget. Such a venue would also help provide guidance to other committees on application modernization and application security investments in alignment with an overarching IT modernization and security strategy.

The Build-Out of Enterprise Services
Prior to 2011, most IT work was performed in a decentralized manner, with each agency supporting their own systems and services. Whether it was operating help desks or maintaining unique business software applications, each agency operated in their own way within a siloed, agency-based structure. There was limited use of shared services or centralized services, as each agency approached IT with only their unique needs in mind. Over decades, this led to the development of a patchwork of sometimes duplicative IT systems and services. It was this patchwork that MNIT inherited when the IT consolidation law was passed by the legislature in 2011. *To be clear, prior to 2011, the state had dozens of different approaches to network support, workstation management, and help desk services, and at times these services were not provided in a standard or disciplined manner.*

Since that time, MNIT has worked to centralize the delivery of commodity-type IT services by transitioning agencies to enterprise services where economies of scale and automation can reap significant efficiencies and cost avoidance. This move to centralization of core, commodity-type IT services is a universal trend across state governments. And because this strategy is steeped in data supporting the business case to improve service delivery at a more affordable price point, it is also ubiquitous in the private sector. *Through a combination of IT business process transformation and automation, centralization allows greater and greater volumes to be supported without the associated, incremental increases in costs.*

Because no upfront investment was made to support that centralization effort, centralization work has been done incrementally. Waves of agencies have been transitioned from a "local" to an "enterprise" service model to manage the development of the enterprise service support functions, ongoing customer service operations, and the architecture adjustments needed to meet the scaling needs of the state enterprise. *In short, the lack of investment funding forced MNIT to build the IT enterprise service functions on the backs of our customers funding and goodwill.* Specifically to this point, select agencies made investments on our behalf that benefitted the rest of the executive branch. We are about two-thirds of the way through that centralization work, with the final wave of agencies transitioning into laptop/desktop support and help desk services this upcoming biennium. Once fully consolidated, we expect to see rewards through further efficiencies and cost avoidance. We believe any effort to retreat from our current IT consolidation path to one that decentralizes commodity-type IT service delivery to every agency from our current organizational construct would be misguided and orthogonal to the direction both private industry and government has been heading for many years.

Project Management and Application Development
As opposed to commodity-type IT services that lend themselves to centralization, IT project management and application development must occur in an integrated manner alongside the business to ensure project outcomes meet unique agency business needs. As a result, MNIT pursued a hybrid approach that embeds staff within the walls of individual agencies. To be clear, the actual IT work related to unique software applications is

performed by MNIT staff within those agencies; however, the budget and prioritization decision-making authority rests with agency business leadership while collaboration and teaming occurs between the business side and the technology teams. This is not unlike the private sector or other government sector approaches.

The role of the state CIO and MNIT staff embedded within the agencies is to advise the business on the art of the possible in terms of time, budget, and project risk based upon the scope of each effort. ***Our independence enables us to ensure individual agency projects are interoperable with the state enterprise, don't impact other agencies in the state enterprise, and have the requisite cybersecurity "baked in" to applications to avoid breaches or data loss to nation-state actors and criminals.*** Our independence also allows us to flag high risk projects being considered or underway to senior executive branch officials or the legislature and enables us to advise agencies on how to approach big software development efforts that agencies may only engage in every 5, 10, or even 20 years. Our professional cadre can help the business to understand the importance of detailed business requirements, business process reengineering, planning, comprehensive testing, and contemporary software development best practices.

Part and parcel to this direct support and advice, the State CIO must also provide project oversight crucial to helping to avoid failures like the MNLARS rollout in 2017. The CIO must do this to ensure good stewardship of taxpayer dollars and meet CIO statutory obligations. Unfortunately, project oversight is an area in MNIT that has been significantly underfunded, given the volume of projects that are active across the executive branch – roughly 350 in total at any given time.

The OLA Special Review on the rollout of MNLARS highlighted how MNIT must strengthen its oversight of project management and agency-based software development efforts. ***We must provide greater assistance to agencies on the best practices for the management of software projects, including areas such as business process transformation, project governance, testing, stakeholder engagement, and the roles of project sponsors and champions.*** The Governor has submitted an investment request in the FY20/21 budget to address this shortfall and we look forward to working with the legislature to fund this initiative. That said, we believe our current project management and application development organizational reporting construct enables us to embed our teams within our agency partners walls while maintaining our independence, to ensure the state IT enterprise is viable, secure, and affordably sustained by taxpayer dollars.

The Office of the State CIO
Significant investment will be needed over the next 10 to 20 years – potentially billions of dollars – to modernize the State IT enterprise. ***Now is the time when strong leadership is required from the State Chief Information Officer to provide policy, governance, and a collaborative structure statewide as we tackle these big challenges in the future.*** High performing organizations in industry and government fully leverage their CIO organizations to shape contemporary business operations and provide the edge necessary to grow the customer base, enhance service offerings, and stay relevant to customers. This requires CIOs to have authority, resource, and influence with the executive team and boards they advise and support. They have a seat at the table and are welcomed by forward thinking leaders. It should be no different in Minnesota state government.

There is no doubt that MNIT has experienced significant challenges over the years due to suboptimal project leadership, poor orchestration, underinvestment, and the lack of clear agency policy. Because IT is very personal

in the daily routine, MNIT has also been forced to contend with the natural aversion to change that comes with the transformation of IT service delivery. None of these issues will be fixed by changing the reporting structure of MNIT. Subordinating MNIT and the State CIO under another agency will not solve the challenges facing MNIT today or tomorrow, and it may serve to reduce the influence of the State CIO at a time when that influence is most needed. It is my personal assessment that this is the moment when having a CIO as a cabinet-level official is most vital.

Minnesota IT Services will work diligently to continually improve IT service management, advance the business of managing information technology, and enhance the State's overall cybersecurity posture. We have more work to do to close the gap, further improve our processes, and provide timely and thorough financial information to our partners in state government. We are deeply committed to improving the customer experience for our business partners and transforming Minnesotan's digital experience with state government.

RESPONSES BY TYPE TO KEY RECOMMENDATIONS BY THE OFFICE OF THE LEGISLATIVE AUDITOR

Legislative

1. **The Legislature should clarify which state agencies are subject to MNIT's authority for IT services**.

We agree with this recommendation. Absent a consistent definition of "state agency" in Minnesota Statutes, MNIT sought advice from the Office of the Attorney General and made a good-faith effort to interpret the law as written. If MNIT's interpretation of the law deviated from the legislative intent, it would be helpful for the Legislature to provide greater clarity about the intended scope of the IT Consolidation Law.

2. **The Minnesota House and Senate should consider creating one or more information technology committees.**

We agree with this recommendation. Because of the dispersed nature of how funding for IT is appropriated through the committee process, there exists no venue where IT funding needs or IT funding strategy can be assessed holistically. The increased reliance on information technology within government – coupled with increasing risk levels related to cybersecurity threats and aging, legacy technology – requires strategic consideration and decision making that goes beyond the jurisdiction of a single budget committee. An information technology committee would provide a venue for a small group of legislators to gain valuable knowledge and expertise as it relates to state technology issues, challenges, and opportunities, enabling them to advise colleagues in other committees on budget requests before them. Such a committee would also support a stronger partnership across the legislative and executive branch, helping better shape and guide IT strategy for the State of Minnesota.

3. **The Legislature and MNIT should work together to clarify MNIT's authorizing statutes.**

We agree with this recommendation. Various aspects of Minnesota Statutes 16E should be updated to eliminate overly broad or outdated language, as well as to align the statute with inter-agency processes that have evolved over time. MNIT staff will work with legislative staff over the interim period to deliver recommended statutory changes ahead of the 2020 Legislative Session.

<u>**IT Service Management and Performance**</u>

1. **MNIT should clarify the division of responsibilities for various IT activities**.

We agree with this recommendation. As noted in the report, MNIT has sought to bring clarity to the division of responsibilities through the service level agreement process and the publishing of "Purchasing Policy 24 – Appendix N." MNIT will institute more frequent communication to agencies on existing policy and develop new policies to bring greater clarity as to the division of responsibilities for activities such as IT budgeting, IT project governance and decision-making, stakeholder engagement, and system go-live decisions.

2. **MNIT should more frequently measure and report on agency satisfaction with its performance**.

We agree with this recommendation. MNIT intends on issuing a statewide customer survey in the first half of 2019 and annually thereafter. The last statewide customer survey was produced in 2017. The feedback from the 2017 survey was shared broadly and also utilized for internal MNIT planning efforts to initiate organizational improvements such as the creation of the business relationship management group (CSM), the initiation of the billing and intake project, and a focus to enhance communications.

3. **MNIT should identify a set of measurements that it can use consistently over time to assess and report on the performance of its core functions.**

MNIT agrees with this recommendation. As noted in the report, while statute did not require the establishment of MNIT performance measures, MNIT independently initiated development of such measures in alignment with industry best practices. That said, reporting against these measures has not been consistent over time. We will review existing performance measures and explore adjustments that will yield more meaningful metrics that can be consistently tracked over time and regularly communicated to MNIT's state agency business partners and the legislature. We also agree with the OLA's recommendation that there should be a venue for MNIT to present legislators with non-public performance information related to cybersecurity issues.

4. **MNIT should develop a plan for communicating performance information to agencies related to the metrics identified in service-level agreements**.

MNIT agrees with this recommendation. See response to #3 above.

5. **MNIT should ensure that agencies have sufficient opportunity to provide input to MNIT**.

We agree with this recommendation. MNIT relies heavily on its Chief Business Technology Officers to act as the conduit for input from business partner agencies. For non-cabinet agencies who are often grouped in large number under the leadership of a single CBTO, it is clear that additional channels for input are needed. In addition, greater opportunities for dialog are needed between MNIT and non-cabinet agencies, to ensure it is clear that feedback is being incorporated in MNIT decision-making. We will reexamine the current approach to determine if additional or more direct modes of input from agency leadership will yield improvement in the level of satisfaction with opportunities to provide input. In addition, as part of our help desk ticketing system upgrade, MNIT will begin surveying customers on service tickets closed on the customer's behalf. This will provide another means for customers to offer immediate feedback on their satisfaction regarding a specific MNIT interaction.

IT Funding and Budgeting

1. **MNIT should ensure that agencies understand the IT services they receive and the cost drivers behind them.**

We agree with this recommendation. MNIT recognizes that gaps in understanding exist between MNIT and partner agencies – particularly non-cabinet agency partners – as to what MNIT's enterprise services include and what cost drivers result in enterprise service cost increases. MNIT has instituted several projects to bring greater transparency and plain language to service catalogs and service descriptions. For example, in 2018, MNIT implemented Microsoft's Power Business Intelligence (Power BI) application to bring data analytics capability to a more transparent billing process. MNIT builds monthly Power BI dashboards for agencies to view actual volumes and billed costs data at the agency and customer level. Another project, the Billing and Intake Project, seeks to improve clarity and understanding of the MNIT service portfolio. A number of additional improvements are already in progress, including improvements to MNIT's online intake portal and expansion of online service descriptions. Lastly, recognizing that non-cabinet agencies with limited budgets have struggled to afford dedicated MNIT staff who can assist the agencies in better understanding MNIT's services and related cost drivers, MNIT recently made a reporting to change for a large group of non-cabinet agencies to provide executive-level leadership that can help close the gap in understanding and communication. MNIT will continue to work to provide greater transparency to our business partners and achieve a shared understanding of the components of MNIT's enterprise services and the cost drivers behind them.

2. **MNIT should provide agencies with information on IT enterprise service rates earlier in the budget process**.

We agree with this recommendation. By its nature, the enterprise service rate process is long, complex, manpower-intensive and frustrating for all parties involved. That said, MNIT fully recognizes the importance of providing enterprise service rate information as early in the budget process as is realistic. Over several biennia, MNIT and MMB have worked to align the rate setting process with the biennial budget development process. While MNIT did begin the process on time in early April 2018 and provided individual agency budget impact information in September, we recognize that there was deviation from the overall planned timeline in calendar year 2018 that resulted in the full rate package not being delivered early enough in the process. MNIT will work to formalize volume and rate-setting processes and ensure compliance with planned timelines for rate-setting.

3. **MNIT – in consultation with the Department of Management and Budget – should ensure that IT-related funding requests by all agencies clearly identify IT costs in a consistent manner.**

We agree with this recommendation. We will work with MMB to develop further guidance for our partner agencies on how to isolate IT-related costs in their budget requests and consistently identify local versus enterprise drivers for IT cost increases.

4. **MNIT should improve the processes for IT procurement and billing.**

We agree with this recommendation. Over the course of the past year, several improvements have been made to the billing process arising from MNIT's Billing and Intake Project, and additional improvements and changes are expected in the coming year. These improvement focus around providing greater transparency, plain language, and ensuring that our customers are able to understand what they are being billed for and the services provided under each billing line. As to the procurement process, in early 2018, MNIT aligned all

procurement functions under a single executive leader and later that year hired MNIT's first procurement director to oversee the realigned procurement division. Ongoing efforts are in place to evaluate current procurement policies, practices, and roles, to determine a path forward so that MNIT's procurement practices provide meaningful value to our customers.

IT Portfolio and Project Management

1. **MNIT should improve the oversight of information technology projects by:**

- **Fulfilling statutory requirements for the MNIT commissioner to approve agency-proposed projects, based on evaluation procedures develop by the commissioner.**
- **Developing and enforcing architectural standards for agency software.**
- **Developing principles for independent audits of projects.**
- **Amending policies and practices to ensure that MNIT project managers submit evaluations of contractors at the completion of projects.**
- **Developing guidance for agencies undertaking software projects that articulates the division of responsibilities between MNIT and the agencies, and that defines key steps and tasks in the process.**

We agree with this recommendation. Our formal MNIT Project Initiation Policy is being finalized this month through the governance structure to codify the requirements for State CIO review, evaluation, and approval of IT projects. This policy provides the roles and responsibilities of the State CIO, CBTO, and Business Partner Agency Commissioner in regards to project governance. Additionally, it includes integration points to ensure compliance with statutory requirements for IT project approvals, financial controls, project risk management, and project audits.

The MNIT Standards Governance Committee is currently developing the policy for software and data standards. MNIT is in the final stages of contracting with vendors to establish a master contract program that will bring greater consistency in the approach to statutorily required project audits. This step will include developing standards based on industry best practices leveraging private-sector vendors.

Department of Administration policy requires the completion of contractor evaluations. In order to drive greater compliance with this requirement, MNIT procurement began more strictly enforcing the requirement in late 2018 with regular reminder and follow-ups to relevant staff as part of the contract closure process. Moving forward, this requirement will also be reflected as part of the MNIT ePMO project close-out process.

In light of some of MNIT's project management challenges, MNIT's Executive leadership identified project management as a priority functional area in which to focus training and development efforts. MNIT has developed a Strategic Training and Development Plan focused on project management. Within the next year, MNIT will develop a project management training program that will involve the creation of a three-tiered instructional learning curriculum for beginner, intermediate, and advanced project managers. Initially the program will provide a standardized process for Project Management Professional (PMP) training/certifications, increasing the knowledge, skills, abilities, and efficiency of MNIT project managers. The training program will continue to grow and expand to include development of other knowledge, information, competencies, and soft

skills that are needed to effectively perform project management and deliver better project outcomes. MNIT recognizes continuous training and development as a strategic objective to accomplish its mission.

MNIT has submitted a change item for FY20/21 requesting additional funding to bolster project oversight. This additional funding will enable MNIT to leverage the expertise of the private sector to further implement best practice structure and processes for oversight of agency-based application development and project management.

Sincerely,

William J. Poirier
Acting Commissioner and State Chief Information Officer
Minnesota IT Services

Forthcoming OLA Evaluations

Debt Service Equalization for School Facilities
MnDOT Measures of Financial Effectiveness

Recent OLA Evaluations

Agriculture
Agricultural Utilization Research Institute (AURI),
   May 2016
Agricultural Commodity Councils, March 2014
*"Green Acres" and Agricultural Land Preservation
   Programs*, February 2008
Pesticide Regulation, March 2006

Criminal Justice
Guardian ad Litem Program, March 2018
Mental Health Services in County Jails, March 2016
Health Services in State Correctional Facilities,
   February 2014
Law Enforcement's Use of State Databases, February
   2013
Public Defender System, February 2010

Economic Development
Minnesota Investment Fund, February 2018
Minnesota Research Tax Credit, February 2017
Iron Range Resources and Rehabilitation Board (IRRRB),
   March 2016
JOBZ Program, February 2008

Education, K-12 and Preschool
Early Childhood Programs, April 2018
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Standardized Student Testing, March 2017
Perpich Center for Arts Education, January 2017
Minnesota Teacher Licensure, March 2016
Special Education, February 2013

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*Preventive Maintenance for University of Minnesota
   Buildings,* June 2012
MnSCU System Office, February 2010
MnSCU Occupational Programs, March 2009

Energy
Renewable Energy Development Fund, October 2010
Biofuel Policies and Programs, April 2009
Energy Conservation Improvement Program,
   January 2005

Environment and Natural Resources
*Public Facilities Authority: Wastewater Infrastructure
   Programs*, January 2019
Clean Water Fund Outcomes, March 2017
*Department of Natural Resources: Deer Population
   Management*, May 2016
Recycling and Waste Reduction, February 2015
DNR Forest Management, August 2014
Sustainable Forest Incentive Program, November 2013

Government Operations
*Office of Minnesota Information Technology Services
   (MNIT)*, February 2019
Mineral Taxation, April 2015
*Minnesota Board of Nursing: Complaint Resolution
   Process*, March 2015
*Councils on Asian-Pacific Minnesotans, Black
   Minnesotans, Chicano/Latino People, and Indian
   Affairs*, March 2014
Helping Communities Recover from Natural Disasters,
   March 2012

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Office of Health Facility Complaints, March 2018
*Minnesota Department of Health Oversight of HMO
   Complaint Resolution*, February 2016
Minnesota Health Insurance Exchange (MNsure),
   February 2015
Financial Management of Health Care Programs,
   February 2008

Human Services
*Home- and Community-Based Services: Financial
   Oversight*, February 2017
Managed Care Organizations' Administrative Expenses,
   March 2015
Medical Assistance Payment Rates for Dental Services,
   March 2013
State-Operated Human Services, February 2013
Child Protection Screening, February 2012
Civil Commitment of Sex Offenders, March 2011

Housing and Local Government
Economic Development and Housing Challenge Program,
   February 2019
Consolidation of Local Governments, April 2012

Jobs, Training, and Labor
State Protections for Meatpacking Workers, 2015
State Employee Union Fair Share Fee Calculations,
   July 2013
Workforce Programs, February 2010
E-Verify, June 2009
Oversight of Workers' Compensation, February 2009

Miscellaneous
Minnesota State Arts Board Grant Administration,
   February 2019
*Board of Animal Health's Oversight of Deer and
   Elk Farms*, April 2018
Voter Registration, March 2018
Minnesota Film and TV Board, April 2015
The Legacy Amendment, November 2011

Transportation
MnDOT Highway Project Selection, March 2016
*MnDOT Selection of Pavement Surface for Road
   Preservation*, March 2014
MnDOT Noise Barriers, October 2013
Governance of Transit in the Twin Cities Region,
   January 2011

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OFFICE OF THE LEGISLATIVE AUDITOR
CENTENNIAL OFFICE BUILDING – SUITE 140
658 CEDAR STREET – SAINT PAUL, MN 55155