



March 20, 2019

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Senators and Representatives,

Pursuant to Minnesota Statutes 16E.01 Subdivision 3 (f) and 16E.03 Subd. 2, please find attached two mandated reports from the Office of MN.IT Services.

The MNIT Enterprise Project Portfolio report details the portfolio of IT projects that MNIT Project Management Offices (PMOs) manage for executive branch agencies. It includes all 328 active projects as of end-of-November 2018. This report is intended to provide an enterprise view into the breadth, depth, and health of the executive branch IT project portfolio.

The 2019 update to the Minnesota IT Services Master Plan maps the strategies identified in the 2017 Master Plan to examples of strategic execution, highlighting the actions MN.IT performed in the past two years to deliver technology solutions for state government. This report serves to increase situational awareness of the work performed by MN.IT to generate highly-reliable and secure service for the State's executive branch.

Please let me know if you have any questions or would like additional information.

Sincerely,

A handwritten signature in black ink that reads 'William J. Poirier'.

William Poirier  
Acting Commissioner and State Chief Information Officer

Cc: Sen. Jim Carlson, Rep. Tony Albright, Rep. Nick Zerwas

658 Cedar Street, St. Paul, MN 55155



# MASTER PLAN

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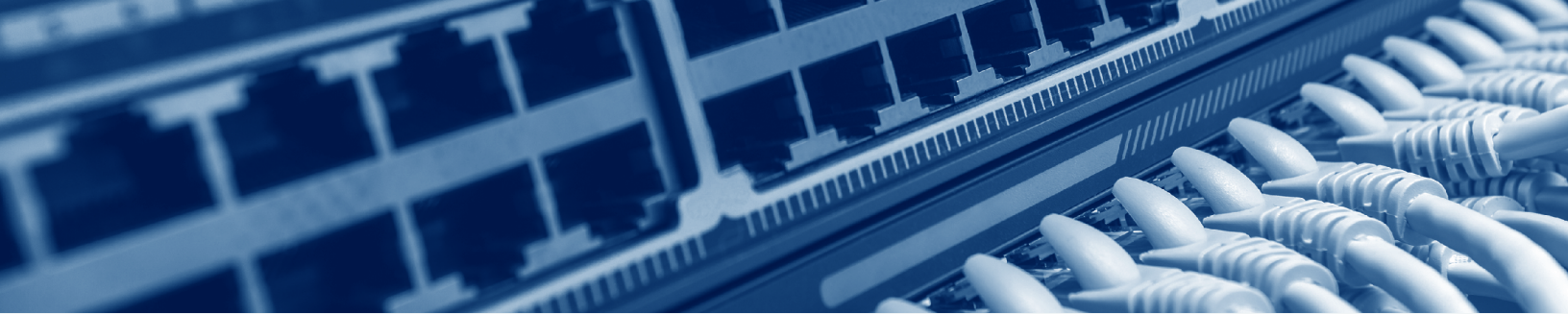
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# INTRODUCTION



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## Purpose

The State of Minnesota Information and Telecommunications Technology Systems and Services Master Plan is a high-level strategic document revised biennially for the Governor and the Minnesota legislature.

The purpose of this plan is to set the long term vision for technology strategy and help guide investments for the State of Minnesota’s executive branch agencies. Minnesota IT Services sets priorities based on the technology needs of the state’s programs and manages IT resources efficiently while maintaining the safety and integrity of the information in its care. The Master Plan is meant to serve as a strategic foundation that will help the agency set priorities, timetables and goals, and help leverage new investments for the greatest value.

The IT Master Plan is updated and presented at the beginning of each regular legislative session in odd-numbered years. This corresponds with the presentation of the state’s operating budgets and assures coordination between policy decisions and the investments in systems that enable and support implementation of business direction.

The plan is formulated with input from executive branch agency leadership and IT employees and management.



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## Methodology

The planning window for this Master Plan extended from January 2016 to October 2016 and involved information-gathering and input from a variety of stakeholders in executive branch information technology. Discussions and “listening sessions” were conducted in person to gather and validate input. This Master Plan was reviewed by the Technology Advisory Committee, a governance body established in statute and representing agency leadership, as well as representation from the private sector, state labor and local government.

The Master Plan fits into Minnesota IT Services’ planning activity that includes both long-term and short-term business and IT planning spread through the cycle of the state’s biennial budgeting process.



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## About Minnesota IT Services

In 2011, state law was amended to unify the management and delivery of state agency information technology services, systems, budgets and staff under Minnesota IT Services (then known as the Office of Enterprise Technology (OET)) and the leadership of the state's Chief Information Officer. This combined the former office of OET, which was responsible for setting IT direction, standards and policies for the state and managing oversight and compliance of those standards, with the other cabinet-level agencies. The Minnesota IT Services organization now encompasses over 2,200 staff and a \$450 million+ budget that is almost entirely funded through chargebacks for services and staff provided to executive branch agencies.

Utilizing a hybrid model of enterprise and locally-delivered services, MNIT seeks to maximize the buying power of the state and gain efficiencies through the delivery of shared, enterprise services and centers of excellence, while maintaining locally-dedicated teams who are embedded in state agencies where they can best deliver application development and software support.

Roughly half of MNIT's budget funds the purchase of tools and services from private sector technology providers, with MNIT acting as the centralized IT procurement entity for all state agencies. In addition, MNIT brokers the collective purchase of IT network services utilized by Minnesota cities, counties, school districts and higher education institutions. By harnessing the collective buying power of Minnesota government, MNIT eliminates duplication, reduces costs, and ensures high levels of service for government operations in all corners of the state.





# GUIDING PRINCIPLES

The following principles have been developed with MNIT's executive team and state leadership and, along with our governance structure, provide the strategic framework for Minnesota IT Services. These principles are reviewed regularly and help define how we do business.

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## Mission

We partner with Minnesota state agencies to deliver technology solutions that transform how government connects to provide services for the people of Minnesota.

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## Vision

**Partners in Performance** – We will become the true and trusted partners for all state agencies, using our knowledge to help further the work of government.

**Diversify our Workforce** – We will create a workforce that includes a variety of backgrounds, styles, perspectives, values and beliefs, and that is representative of the face of Minnesota.

**Moving Government Forward** – We will partner with private industry to empower our workforce to provide the best market solutions in a blended service delivery model.

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## Values

**Partner** – We work across our organization and with agencies to build partnerships that ensure success. Bringing together the business of state government and the complexity of technology, we provide solutions that benefit all Minnesotans.

**Deliver** – The pride we take in our work and the confidence we have in our expertise means we meet the promise of business value by delivering quality IT solutions on time and on budget.

**Transform** – We seek better ways to work. By combining the best of process and creativity, we continuously look for new ways to make government better.

**Connect** – We know our ultimate customer is any Minnesotan who needs our service to support themselves, their family and their work. We do not do IT for IT's sake; rather we work for those who depend on state services in their daily lives.



# FIVE YEAR STRATEGIES



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## IT Consolidation Background

Laws of Minnesota 2011, First Special Session chapter 10, article 4 mandates the consolidation of Minnesota executive branch information technology (IT) under the State Chief Information Officer (CIO.)

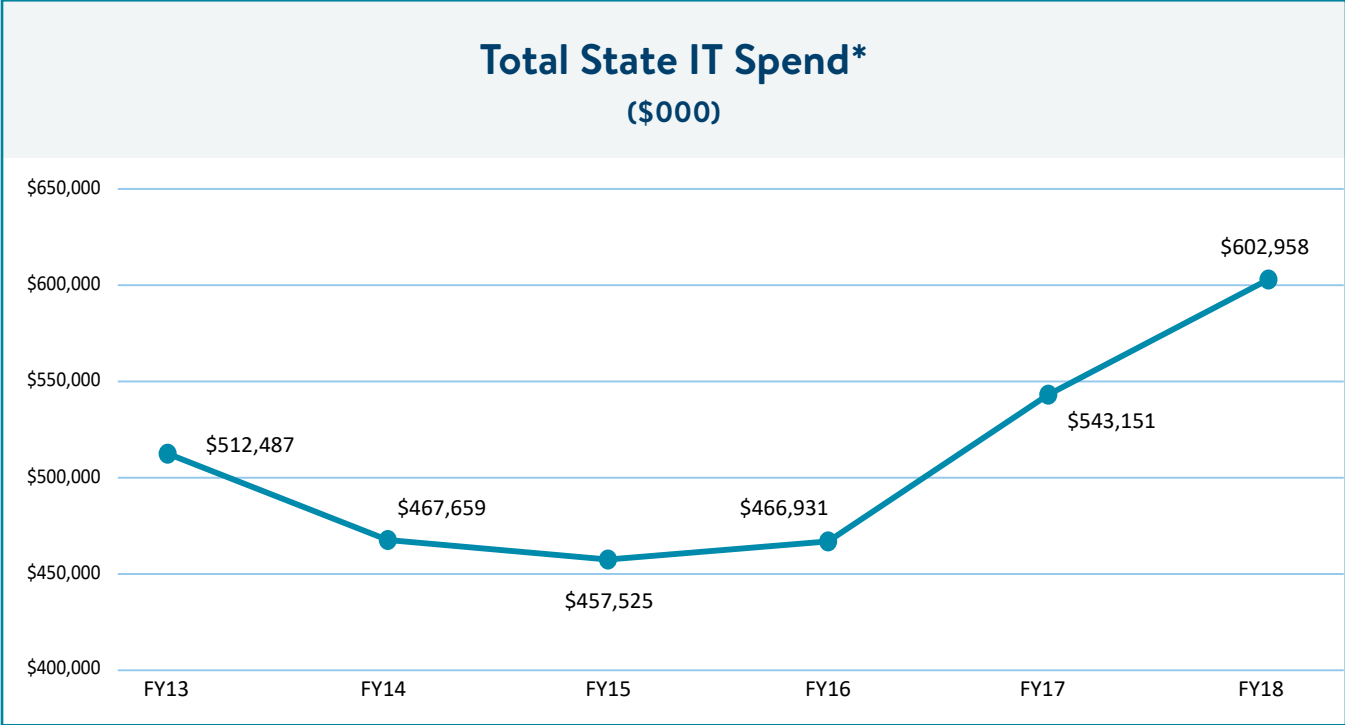
The intent of the Legislature and the Governor was to bring all the IT resources of the state under the authority and direction of a single entity in order to 1) increase accountability for the efficient and effective management of IT through a single view; 2) improve IT's effectiveness in meeting the business needs of state government and increase the potential for technology-driven improvements to government service; 3) foster collaboration and shared service opportunities; and 4) find and capitalize on opportunities for efficiencies.

The IT Consolidation Act called for:

*Powers, duties, responsibilities, personnel, and assets relating to functions assigned to the chief information officer... are transferred to the Office of Enterprise Technology from all other state agencies... by October 1, 2011, with the exception of state agency chief information officers which are transferred 30 days after final enactment. By July 1, 2013, the state chief information officer shall control and direct all information and telecommunication technology spending authorized under Minnesota Statutes, section 16E.016.2*

From the time the State of Minnesota began IT consolidation in late 2011 to the preparation of this report in 2017, the agency has achieved its primary goals: consolidating people, dollars and assets, delivering cost-savings and improving efficiency.

Minnesota IT Services has achieved full, 100 percent consolidation of staff and resources. Today, we have also achieved over 90 percent financial consolidation, and will, within the scope of this plan, achieve full 100 percent financial consolidation – allowing the state to begin to build centralized records of technology investments, as well as directly manage and monitor costs, anticipate needs and future volume demand.



\*Includes state agencies subject to consolidation

Since consolidation, MNIT has executed enterprise or multi-agency contracts to realize roughly \$90 million in cost avoidance, with savings accrued in agency accounts. Moving forward, MNIT will increase initial investment into enterprise infrastructure and optimize agency savings.

After successfully completing these foundational aspects of consolidating technology in Minnesota, we are now moving toward the true operating power that a consolidated IT organization can deliver for the enterprise. Looking forward, MNIT is moving its strategic focus towards the delivery of services. While we must continue to manage costs, we are also pivoting to become a more digital Minnesota, just like the private sector. As this digital transformation takes place, we have to be concerned with the safety and security of our information. We need to enhance the speed of our delivery, with a blend of internal and externally-procured services.

In order to improve cybersecurity and efficiency, Minnesota IT Services is beginning the process of planning for and investing in modernization for high-risk IT systems and developing an enterprise roadmap, with a focus on the modernization of Minnesota’s IT portfolio. Moving state government to modern infrastructure and cloud-based solutions is a fundamental necessity to building a digital government that is responsive to citizen needs and secure by design. Doing so will enhance state government’s ability to protect sensitive data, reduce costs, and deliver world-class services to the public.

It is the vision of the State CIO and agency leadership to not just gain the efficiency of combined services, but also to reform and improve the delivery of information technology through the tools afforded the executive branch through this legislation.





## Cybersecurity

Minnesota will be a leader among state government, charged with protecting data and applications against external and internal threats. Facing unprecedented challenges, information security is now our number one priority and the top priority for governors across the nation. Advanced attacks are becoming more sophisticated and more common, testing the limits of existing capabilities.

According to more than half of state security leaders in the U.S., an advanced attack will affect their organization in the next year. The pervasiveness of these threats means Chief Information Security Officers must quickly develop cutting-edge threat intelligence competencies.

### Strategies and Actions Taken

#### **Implement the security foundation.**

Minnesota IT Services has done extensive work to design a solid security foundation for the executive branch of state government. Work is now underway to implement that foundation, which includes a comprehensive Service Delivery Model, Policy and Standard Framework and an Information Security Strategic Plan.

*Actions taken:*

- MNIT developed cybersecurity risk scorecards to inform MNIT's business partners of the risks they accept inherently, by quantifying the vulnerabilities within their IT systems.
- MNIT unveiled its public 5 year Information Security Strategic plan in April 2018 laying out an effective strategy to reduce cybersecurity risk.

#### **Provide leadership to other levels, units, and branches of government.**

State leaders will need to partner much more effectively to address the increasing barrage of advanced and persistent threats. Minnesota IT Services hopes to serve as a thought leader to make all Minnesota government entities more secure.

*Actions taken:*

- During the 2018 election process, MNIT signed in a Memorandum of Understanding with the Minnesota Army National Guard to begin joint training exercises in cybersecurity monitoring and response.
- In April 2018, MNIT hosted a cybersecurity leadership lunch with legislators and government stakeholders to raise awareness about cybersecurity risks with policy-makers.

- The MNIT Security Operations Center (SOC) has begun a SOC Monthly Activity Report in response to increasingly alarming cyber attacks to increase situational awareness and share information to increase responsive capabilities.
- MNIT continued its partnership with the State of Minnesota Homeland Security and Emergency Management (HSEM) to extend network monitoring to county level networks and the three port cities: St. Paul, Minneapolis and Duluth. HSEM and MNIT collaborate on Threat & Hazard Identification and Risk Assessment (THIRA). Over the years, HSEM has allocated resources through the THIRA to bolster MNIT's network security efforts in the areas of incident and event monitoring and web content filtering for the majority of county level network connections.
- MNIT shares cybersecurity tools and resources across the Enterprise, such as a managed security service provider, to offer a more preventive cybersecurity solution to stop advanced threats and malware in endpoints.
- MNIT spearheaded public outreach and educational opportunities to state employees throughout Cybersecurity Awareness Month in October of 2017 and 2018.
- MNIT led a digital campaign combining social media and email efforts to warn state employees about cybersecurity threats and to inform them about the best way to report suspicious emails.

### **Improve Minnesota's cybersecurity workforce.**

Cybersecurity has a zero percent unemployment rate. Both public and private sector organizations are scrambling to attract and retain talent, but the pool of qualified candidates simply does not exist.

#### *Actions taken:*

- MNIT partnered with Metropolitan State University during the opening of their new training facility, the Cyber Range.
- MNIT continues to work with Metropolitan State University, sharing expertise and guidance to the MNCyber workforce training program.
- Over the past two years, MNIT recruited and retained top cybersecurity talent as interns and full time employees through the federal CyberCorps Scholarship for Service program.



## IT Leadership for our Partners

Building on IT consolidation, Minnesota IT Services is poised to transition into the next phase of IT maturity—moving beyond serving as an “order taker” fulfilling technology needs, to a leadership role. As a leader and partner, MNIT will provide State of Minnesota agencies with solutions that are targeted to solve business problems, while remaining focused on enterprise efficiencies and state agency partnerships. This model will leverage the state’s information technology portfolio, take into account industry best practice, and promote enterprise business and technology solutions to both solve business needs and maximize the benefits of shared services.

### Strategies and Actions Taken

#### **Provide technology leadership and education to state agencies to improve processes and enhance decision-making.**

*Actions taken:*

- MNIT convenes an Executive Steering Committee meeting monthly, bringing together senior MNIT leadership with prominent Chief Business Technology Officers (CBTOs) to review and monitor MNIT’s portfolio of active IT projects. The Executive Steering Committee reviews mission critical and broad impact technology projects to proactively resolve issues and leverage important technology decisions for the Enterprise as a whole.
- MNIT expanded the Governance program in both function and partnerships with agencies under the guiding principle: to foster alignment between IT and our business partners and provide input into decision making across all MNIT. The goal of MNIT’s governance program is to facilitate agile, effective and transparent decision-making, which requires consistent and timely communications to stakeholders who may be impacted by IT decisions, allowing an avenue to learn about decisions and provide feedback.

#### **Create enterprise strategies around solutions and elevate business problems that share common technology solutions.**

*Actions taken:*

- MNIT and Department of Administration conducted a thorough Service Level Agreement project to update substantive content in the agreements with state agencies to include more services, service level objectives, and measurements. The SLAs serve as foundational agreements to elevate agency technology needs.
- MNIT has also made great strides in updating the application inventory that serves as the repository for enterprise technology. The application inventory is an authoritative source to address many requirements in managing applications, from inception to obsolescence.

- MNIT leads efforts as a Cloud service broker, to realize the advantages of cloud environments to quickly provisioning storage, application development and service delivery through prominent cloud service providers.

**Partner with agencies to use technology to connect with Minnesotans and provide better online government services.**

*Actions taken:*

- MNIT worked with the Department of Natural Resources (DNR), Metropolitan Council, and the Greater MN Regional Parks and Trails Commission to launch the MN Great Outdoors site – usable, mobile-friendly, accessible, and enjoyed by all Minnesotans and visitors to our state and regional parks and trails.
- This hunting season, hunters and wildlife researchers are using a new online application developed by state science and technology experts at Minnesota IT Services (MNIT) and the DNR to see whether or not the deer they harvested tested positive for Chronic Wasting Disease. The new online application also streamlines and increases government transparency to the process that hunters can use to track Chronic Wasting Disease. Since September, the online, public-facing application has received 11,216 unique views to the site, and it has processed 9,032 sample lookups. The application currently assists state wildlife experts in monitoring the 5,532 recorded Chronic Wasting Disease testing samples for the season.
- MNIT re-designed the state of Minnesota portal (mn.gov), featuring a powerful search engine that directly connects Minnesotans to the government resources they need.

**Implement data management strategies that help agencies to manage data as a strategic information asset.**

*Actions taken:*

- MNIT continues to mature data management strategies through several key leader engagements with state agencies, public and private organizations and other states working towards utilizing data appropriately and securely to improve business processes and policy objectives. Through technology portfolio management, the Enterprise Technology Management Process (ETMP) gives MNIT greater enterprise consistency and broader deployment across the Executive Branch. Additionally, the technology management process's objective is to bring broad awareness of the MNIT Technology Roadmap throughout the enterprise.

- MNIT was selected by the National Governor’s Association to participate on the project “Harnessing the Power of Data to Achieve State Policy Goals.” The focus of the project is to develop and implement strategies to address challenges in establishing methods for cross-sector data sharing and coordination. Through this project, MNIT may forge new partnerships to establish specific data sharing goals across agencies, develop infrastructure, governance models, legal agreements, and data formats, and establish evaluation strategies to assess existing resources, unmet needs, and programmatic vulnerabilities.

**Harness the power of the State of Minnesota enterprise to reduce the time it takes to deliver solutions, leverage the economy of scale, and build on our shared experience.**

*Actions taken:*

- State agencies can get up and running fast with standard contracts for professional staff and IT products with significant savings using BUY.IT. MNIT’s BUY.IT program offers services to Minnesota state agencies or members of the states Cooperative Purchasing Venture (CPV) program to purchase standard IT hardware using specially designated state contracts, leveraging the combined buying power of Minnesota’s state agencies, local governments, educational institutions and other government entities.
- The Operational Services Optimization (OSO) Program has been a multi year campaign comprised of several projects and initiatives to define and implement Enterprise and Shared Services. The goal of this Program is to provide standardized offerings and operational processes for rates definitions, hosting and workstation management, LAN, WAN and Teleco services, Service Desk and Cloud hosting options. The OSO program served to mature the security and reliability of Enterprise Information Services delivered by MNIT for 70+ entities from agencies to commissions and boards.
- In the first six months of 2017, MNIT migrated the State of Minnesota to Microsoft Office 365 government cloud (O365). This included more than 38,000 Identity, Skype, Outlook, OneDrive, and SharePoint accounts and sites migrated on concurrent schedules. Office 365 uses the cloud-based user identity and authentication service Azure Active Directory (Azure AD) to manage users. In order to support authentication to O365 services, the State of Minnesota has 38,000 accounts in Azure AD.











## Smart IT Investments

The way that technology is purchased and delivered in government is changing rapidly as “Everything as a Service” (XaaS) cloud computing strategies become more common. These new models of service delivery also change how the government consumes, measures and pays for these services. “Infrastructure as a Service” (IaaS), “Platform as a Service” (PaaS), and “Software as a Service” (SaaS) offer many benefits to the enterprise. For example, the ability to scale and offer multi-tenancy allows resources and costs to be shared among agencies, and lets agencies choose how much of the service they need, and when to use it. As Minnesota invests in new technologies, we will look for the most efficient way to deploy them.

Minnesota IT Services has implemented a transformative delivery model that shifts the agency from a service provider model to a true partnership with each State of Minnesota agency. We will use our Governance Framework to ensure that feedback from agency leaders is incorporated into the services that we provide and that the cost of the service is transparent. Our partners will help us determine if a service should be delivered centrally for the enterprise, locally due to highly customized business needs, or through a third party. We will make smart IT investments that deliver quality services at a good value for the state.

 <p>Secure Services</p>	 <p>Connectivity</p>	 <p>End User Support</p>
 <p>Infrastructure as a Service (IaaS)</p>	 <p>Software as a Service (SaaS)</p>	 <p>Platform as a Service (PaaS)</p>

Services provided by Minnesota IT Services

## **Strategies and Actions Taken**

### **Provide the agility and transparency necessary for agencies to make and adjust IT investment decisions based on their business need.**

#### *Actions taken:*

- MNIT implemented the powerful data visualization and business analysis tool Microsoft Business Intelligence (PowerBI) for all state agencies to view billing details with greater detail, organization and ease of use. Power BI provides near real time billing information at customer's point of need.

### **Advance investment in IT for mission-critical systems and services.**

#### *Actions taken:*

- MNIT co-manages the state's IT procurement with the Office of State procurement. Eligible entities can purchase standard IT hardware, software, mobile devices, and accessible meeting services using specially designated state contracts that leverage the combined buying power of Minnesota's state agencies, local governments, educational institutions and other government entities.
- MNIT and DHS partnered with IBM to extend the use of a set of rational tools known as Collaborative Lifecycle Management (CLM) used for requirements management, software application enhancement tracking, defect management and source code control, and quality assurance management. The CLM team at MNIT DHS has been working to ensure these tools will be accessible to all CLM users. These materials were previously available only to DHS staff, but due to popular demand, the CLM team recently migrated all the content to a new O365 cloud-based SharePoint site so all MNIT staff and our business partners in the enterprise can access the Collaborative Lifecycle Management materials.



## Deliver for our Partners

We will be measured by how well we successfully deliver for the State of Minnesota and how well it is working for Minnesotans. We will deliver solutions with full IT life cycle management that are sustainable and take into account rapidly changing IT best practices. We will recruit and maintain a workforce that has the knowledge and skills to help implement Minnesota's technology vision.

### Strategies and Actions Taken

#### **Excel at the execution and delivery of Minnesota's technology priorities.**

*Actions taken:*

- MNIT implemented a standardized tool to manage its portfolio of active technology projects across the state, SCIFORMA, which helps MNIT keep track of the projects and monitor progress accordingly.
- MNIT conducts training with agency project managers on the use and value of the project management tool, SCIFORMA.
- MNIT manages a wide array of projects providing status reporting as mandated by statute. All Legislative reports on MNIT's project portfolio are located in a single view on MNIT's public facing website.
- MNIT Enterprise Project Management Office (ePMO) is continually updating and improving portfolio reports to provide the Executive Steering Team, comprised of MNIT executive leadership and several Chief Business Technology Officers (CBTOs), with the project and portfolio information they need to proactively communicate portfolio health, help resolve issues, and remove roadblocks.

#### **In a fast-paced and quickly developing technology environment, ensure the State of Minnesota is in alignment with technology industry best practices and emerging developments.**

*Actions taken:*

- MNIT partnered with Minnesota Department of Health to utilize the power of Amazon Web Services to quickly migrate and operate applications in a cloud environment. More information on the successful AWS migration is available on MNIT's Communication page.
- The 2018 Digital States Survey was designed to highlight best and emerging technology practices that serve as models and/or can be shared across state borders. The survey recognizes these achievements and provides a common reference for all 50 states in the ongoing work of finding better ways to do the public's business. Minnesota participated in the survey, scoring an A- as one of 7 states in this excellent category.

- MNIT is currently upgrading Remedy OnDemand in alignment to the Information Technology Infrastructure Library industry standard. Customers will feel the increased capabilities and efficiencies in accelerated response to their issues and more reliable service delivery from MNIT's improvement to internal business processes. With the successful rollout of ITIL-centric Remedy upgrade, MNIT will better integrate IT strategy with business strategy and monitor, measure, and optimize services.

**Plan for the future of technology in Minnesota to ensure our state can succeed in the digital economy**

- MNIT Enterprise Project Management Office (ePMO) implemented a revised IT project addendum in the form of business case to better capture project benefits, success criteria, and phasing of project work to improve delivery of technology in the future. This form will provide critical data about IT project requests so that MNIT has better information to make decisions and recommendations for the governor's budget regarding information technology.

**Ensure the state's information technology workforce has the knowledge and skills to keep up with changing industry best practices, support the state's technology infrastructure and implement Minnesota's technology vision.**

*Actions taken:*

- MNIT partnered with MAPE and Governor Mark Dayton's office to launch the MNIT-MN Pathways ITS Trainee Program, intended to provide a pipeline of trained employees into entry-level positions with MNIT. In its first year, the program is expected to have two dozen participants.
- MNIT has utilized several technologies to intentionally cultivate this diversity. Within the 2,300-person agency, 37% of staff members are women, 22% are racial/ethnic minorities (with 4% not reporting), 7% are persons with a disability, and 6% are veterans (with 13% not reporting).
- MNIT has established a procedure to post information on its website about its application process and how candidates can best reflect their experience to ensure their qualifications are recognized in resume reviews. Also, MNIT is utilizing a tool within the enterprise software Recruiting Solutions to monitor applicant and interviewee pools.

**Ensure that technology is accessible and easy to use for business partners and for all Minnesotans***Actions taken:*

- MNIT follows the Minnesota State Accessibility Standard, ensuring that state employees are required by law to provide all users with equal access to information, including websites and web content, applications, systems and documents.
- Accessing Higher Ground is an annual accessibility and usability conference that streams a portion of their program online for [virtual attendance](#). MNIT's Office of Accessibility hosted the conferences' live sessions as a great opportunity to obtain free accessibility training. MNIT set the standard for social media accessibility by debuting captioned Facebook Live video during the Minnesota State Fair.
- MNIT's Office of Accessibility launched a monthly Accessibility-focused newsletter in 2018 through GovDelivery. The letter provides information, training opportunities, and guidance on digital accessibility to state agencies, the public, and interested parties.
- On October 22, 2018, the State of Minnesota unveiled a new website design for mn.gov, the State of Minnesota's online portal. The portal's new homepage design emphasizes a powerful search function that locates information and resources across a wide range of State of Minnesota websites. With more than 18 million total visits to mn.gov in 2017, and an average of 772,000 page views each day in 2018, mn.gov has been an important resource for Minnesotans looking to interact with state government online. The goal behind the redesign of mn.gov was to streamline those interactions and reduce the number of clicks it would take users to find relevant content.
- MNIT has conducted several training sessions annually to enhance training and individual development to include: GovIT Symposium trainings, MNIT Week, Inclusion Drives Innovation Training and Accessibility Training.





# CHALLENGES & OPPORTUNITIES

The State of Minnesota faces significant economic, social and technological policy challenges in the next biennium and beyond that will influence its direction, goals and priorities for information technology. The following factors are areas of concern, but also of opportunity, for the State of Minnesota, and for Minnesota IT Services going forward.

Technology advances quickly, priorities shift, and new challenges constantly emerge. To be successful in achieving its mission of continuous improvement, efficiency, reliability and capability in information technology, the State of Minnesota will need to look beyond the imperatives of the moment and plan for the future. The purpose of this section is to share the early warning signs arising from our management of the state's technology portfolio, as well as to identify areas in which investment and strategy will be required to meet the intent of the law. MNIT's commitment remains to work, wherever possible, within the granted authority and partnerships to address them systematically.



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## Cybersecurity

The vast majority of cybersecurity priorities in this plan address shortcomings in executive branch defenses that have accrued from years of underinvestment. We are seeing increasing cyber-attacks on both state and federal government, and these attacks are growing in frequency and sophistication. Citizens expect government leaders to protect their data, regardless of whether it is in the custody of state or local government, other branches, constitutional offices, or higher education institutions. Citizens also expect government leaders to collaborate to use taxpayer resources judiciously, particularly in costly and high-risk areas like cybersecurity. As Minnesota IT Services works to build the cybersecurity capabilities that citizens expect, we also see an opportunity to extend these services and share threat intelligence with other government entities. We are calling this future opportunity the Minnesota Government Information Sharing and Analysis Organization, and we hope to begin its planning and development over the next five years. Given the cost of cybersecurity solutions, extremely high demand for talent and expanding threat landscape, the success of all Minnesota government entities will be incumbent on how well we share resources, tools, talent and information to address threats and protect the people of our state.



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## IT Modernization (accrued IT debt)

It is critical that Minnesota IT Services' leaders, state agency partners, and policymakers examine the impact of continued operations with aging legacy IT systems. These discussions must include the impact of aging IT systems on business operations and efficiency, information security, and the ability of state government to engage effectively with Minnesotans in the digital age.

In our efforts to build and manage the State of Minnesota's technology portfolio, Minnesota IT Services has found a substantial gap in agency technology environments, precipitated by disproportionate and disparate IT investments made by various agencies over the past few decades. Such discrepancies leave some state IT operations underfunded and thus unable to provide the most efficient and effective solution for Minnesotans. Of particular concern is the age of legacy systems and infrastructure in Minnesota, including some major systems upon which the public depends. A large amount of state IT equipment has completed normal life cycles and carries security and business continuity risks to operate. These assets need to be refreshed in order to maintain effectiveness and provide further efficiencies for state government. As systems reach the end of life or as new technologies that can improve government services become cost effective, the state will need to refresh and reinvest.

Before investing in modernization, Minnesota must fully understand the scale and scope of where this is occurring. It is important for all state leaders to recognize that modernization will carry significant costs.

As IT leaders, we hope to lead the state in investing strategically and wisely to ensure critical services are delivered, while constantly watching for opportunities to improve efficiency and reduce overall costs.

Minnesota has an opportunity to not only upgrade technology, but to revisit the whole process of how government conducts business and to find new ways to leverage existing technology and strategies to solve broader problems in our state.



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## Workforce

Building our technology workforce and finding innovative solutions to carry out the business of the state are key to Minnesota's success going forward. In the coming years, Minnesota will face major challenges to retain its quality workforce and attract new staff. The State of Minnesota also faces a major wave of retirements of highly proficient technical specialists in the near future. There are more jobs for skilled workers in the tech sector in our state than there are the people to fill them.

As we strive to build an agile and equitable workforce environment that attracts talented people and builds strong information technology careers, Minnesota must develop a recruiting model to train talent from entry level up and meet the challenge of a significant shift in our state workforce created by the retirement bubble.