INFORMATION TECHNOLOGY

STATE OF MONTANA
STRATEGIC
PLAN

2018-2020

This document is prepared under the authority of the Montana Information Technology Act (MITA) of 2001. It is published biennially unless special interim plans become necessary (2-17-512, MCA).

Ron Baldwin
Montana State Chief Information Officer
November 28, 2017

Montana Strategic Plans for Information Technology (IT) are on Montana's official state website: MT.gov, State Information Technology Services Division (SITSD) at http://sitsd.mt.gov/Governance/IT-Plans.

If you have any questions or comments on this plan, please contact:
CIO Support Office
444-2700
DOASITSDCommunications@mt.gov

TABLE OF CONTENTS

MONTANA
SITSD

Photo Courtesy of David Kidd, e/Republic

MESSAGE FROM CIO

MISSION

Our mission is to provide secure, efficient, state-of-the-art information technology that empowers citizens and those that serve them.

VISION

Our vision is to be the enabling force that promotes citizen well-being and communities that thrive.

EDUCATION · **JOBS** · COMMUNITY · HEALTHCARE

STATUTORY IT PRINCIPLES

The majority of Montana's IT principles have roots in Montana's Information Technology Act. IT principles govern the decisions and operations of the state's IT community. They provide touch points and guidelines to ensure the correct decisions are being made, decisions that will provide the greatest value to Montana's citizens.

BE ACCOUNTABLE
Resources and funding will be allocated to the IT projects that contribute the greatest net value and benefit to Montana stakeholders.

MINIMIZE DUPLICATION
Unwarranted duplication will be minimized by sharing data, IT infrastructure, systems, applications and IT services.

SHARE OUR RESOURCES
Montana will use shared platforms and systems to minimize IT expenditures, improve service delivery, and accelerate service implementation.

IMPROVE BUSINESS
IT will be used to provide educational opportunities, create quality jobs, support a favorable business climate, improve government, protect individual privacy, and protect the privacy of IT information.

USE RESOURCES WISELY
IT resources will be used in an organized, deliberative, and cost-effective manner.

DELIVER SERVICES
IT systems will provide delivery channels that allow citizens to determine when, where, and how they interact with state government.

PROTECT PRIVACY, DATA, AND SYSTEMS
Mitigation of risks is a priority for protecting individual privacy, confidential data, and IT systems.

ACCOMPLISHMENTS TO BUILD ON

Saved the state over $1.6 million dollars as a result of Governor Bullock's executive order for IT convergence.

Increased the data analytics and business intelligence capabilities of the Montana Data Portal, data.mt.gov.

Implemented multi-factor authentication to further secure access to the state's mission critical systems and data.

Established a Mobile-First strategy. We develop all applications and websites using responsive design, formatted primarily for mobile devices and secondarily for desktop devices.

Implemented data loss prevention technology to add an additional layer of security for sensitive information maintained by the state.

Initiated a Voice over Internet Protocol (VoIP) initiative where all phones in the state will be integrated with advanced unified communications abilities.

Completed a migration to an enterprise content management system. This new system provides the state the capability to go completely paperless with enterprise scanning and workflow features.

Created the Montana Information Security Advisory Council (MT-ISAC) based on an Executive Order by Governor Bullock, dedicated to community outreach in cybersecurity.

Implemented mobile device management to secure the state's mobile workforce in a Bring Your Own Device (BYOD) world.

STRATEGIC GOALS

Our strategic goals guide us as we evolve and provide us with a clear vision of what we will accomplish. We continually evaluate enterprise information technology services through a formula of objectives to ensure that we implement value-added IT.

GOAL 1 • SECURE
ENHANCE INFORMATION SECURITY BY IMPLEMENTING STANDARDIZED BEST PRACTICES TO PROTECT SYSTEMS, ASSETS, AND DATA IN A COST-EFFECTIVE MANNER.

Objective 1.1
Develop and implement security standards, common controls, and best practices for information systems.

Objective 1.2
Enhance the enterprise information security training and awareness program.

Objective 1.3
Leverage the public-private partnerships established by the Montana Information Security Advisory Council (MT-ISAC) to enhance information sharing, outreach, and risk awareness. This will help protect information systems across the state.

Objective 1.4
Develop the internal review and compliance program to provide data that proves efficient security controls or identifies security gaps to remediate.

Objective 1.5
Develop automated processes in continuous monitoring and risk management to identify threats, gain efficiencies, and overcome resource limitations.

Objective 1.6
Perform a cybersecurity cost analysis for the state of Montana, which would include investment recommendations.

"Representing local government as a council member for MT-ISAC provides the forum to share and learn with information security professionals who support a variety of businesses. The emphasis on information security supplements the City's [Kalispell] small IT department. MT-ISAC provides resources in the form of policies and best practices that can be shared across Montana local government."

-Erika Billiet
Information Technology Director
City of Kalispell

STRATEGIC GOALS

GOAL 2 • SHARED

DESIGN AND OPERATE A SHARED AND MANAGED SERVICES ENVIRONMENT.

Objective 2.1
Expand agency abilities to manage users and devices within enterprise shared platforms, including Multi-Factor Authentication and Mobile Device Management.
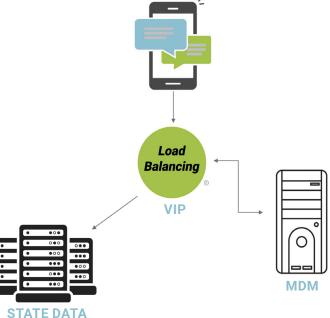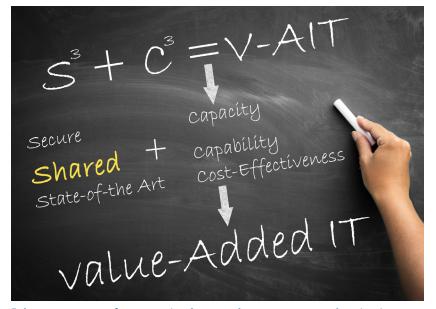
Objective 2.2
Implement Virtual Desktop Infrastructures (VDI) to decrease environmental impact and improve security.

Objective 2.3
Leverage and expand public-private partnerships to decrease the cost of state data center operations.

$$S^3 + C^3 = V\text{-}AIT$$

Secure
shared
State-of-the Art

capacity
capability
Cost-Effectiveness

value-Added IT

MOBILE DEVICE MANAGEMENT (MDM) TRAFFIC FLOW

PHONE

Load Balancing

VIP

MDM

STATE DATA

"The Department of Revenue implemented RSA 2 Factor Authentication to all employees and contractors in the agency in 2014. RSA is an added layer of security for our computer network. Just like accessing an ATM where a user needs two forms of ID ...an ATM "card" and a "pin", DOR employees log in with their network "password" AND a "passcode" generated by a FOB issued to all employees. The implementation and use of this added layer of security in DOR has been a great success.

We also support and encourage the use of personal mobile devices for employees who use these devices to enhance productivity or who are required to use a mobile device in conjunction with their job duties. Using a personal mobile device is cost-effective and, through the use of Mobile Device Management (MDM), effectively secures state data and resources at the same time. Users are responsible for securing their personal mobile device so that others cannot use it inappropriately to access state data. MDM is required on all mobile devices that access state email. The utilization of state provided mobile device management has been successful in DOR."

-Tim Bottenfield
Chief Information Officer
Montana Department of Revenue

5.2

STRATEGIC GOALS

GOAL 3 • STATE-OF-THE-ART
DELIVER STATE-OF-THE-ART ENTERPRISE IT SERVICES TO STATE AND LOCAL GOVERNMENT, AND THE UNIVERSITY SYSTEM.

Objective 3.1
Leverage and deploy technologies that provide a modern experience for citizens and employees that access governement data and services.

Objective 3.2
Implement Virtual Desktop Infrastructures (VDI) to decrease environmental impact and improve security.
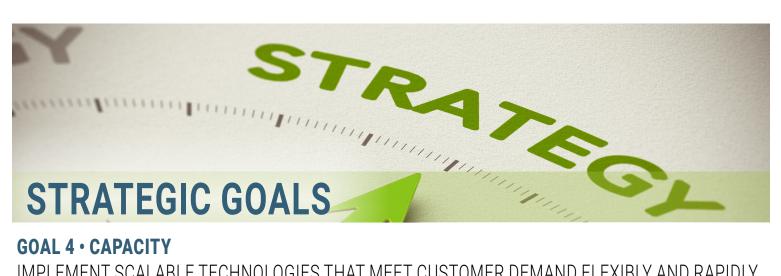
Objective 3.3
Implement unified communication technologies to increase flexibility, mobility, and productivity.

$$S^3 + C^3 = V\text{-}AIT$$

Secure Shared State-of-the Art + capacity capability Cost-Effectiveness → Value-Added IT

CONFERENCING
VIDEO
COMMUNICATIONS ENABLEMENT
Security
TELEPHONY
Survivability
Unified Communication Platform
SESSION MANAGEMENT
Scalability
INSTANT MESSAGING
SYSTEM MANAGEMENT
PRESENCE

THE UNIFIED COMMUNICATION PLATFORM FOR THE STATE OF MONTANA

- Intuitive system management from a single web administrative interface
- Single number reach and user experience across Montana state offices, branches, and on the go
- Dynamic allocation of bandwidth across the enterprise
- Multilayer security from core to end points
- Complete Redundancy and Virtualization options
- Scalable to 350,000 end points. Reduced hardware footprint
- Simplified deployment of multimedia collaboration applications
- Integration into business applications and processes

STRATEGIC GOALS

GOAL 4 • CAPACITY

IMPLEMENT SCALABLE TECHNOLOGIES THAT MEET CUSTOMER DEMAND FLEXIBLY AND RAPIDLY, WITH MINIMAL CAPITAL EXPENDITURES.

Objective 4.1
Increase the use of load balancing, Web Application Firewall (WAF), and the storage platform for redundancy, automatic failover, and failback. Continue to enhance our incident response and disaster recovery skills.

Objective 4.2
Create a workplace environment that promotes recruitment and retention.

Objective 4.3
Protect the systems the state hosts against the ever-increasing volume and sophistication of threats. Do this with state-of-the-art security tools. Continue to train state employees on security measures.

Objective 4.4
Use advanced tools that are accessible to the end-user to promote our business intelligence and data analytics.

Objective 4.5
Leverage the DevOps concept that emphasizes collaboration and communication. This will standardize application development, operation tools, and code development.
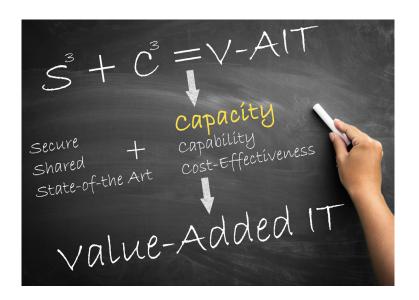
Objective 4.6
Promote enterprise content management and workflow solution to reduce the dependency on paper documents and manual processes.

Objective 4.7
Design and operate enterprise-class, on-demand storage, and computing.

Objective 4.8
Implement scalable network circuit solutions that increase bandwidth while reducing costs, and continue to increase network access and capacity into the state's data centers.

$$S^3 + C^3 = V\text{-}AIT$$

capacity

Secure
Shared
State-of-the Art

+

capability
Cost-Effectiveness

value-Added IT

Objective 4.9
Provide an enterprise unified communications suite that allows for increased, more efficient communications among stakeholders to fulfill business-critical functions.

"The Montana State Library (MSL) is one of the state's smallest agencies but, given the digital nature of our collections, we have a very large IT footprint, which includes many 10's of terabytes of data. We began to virtualize our IT architecture a number of years ago, so we were well prepared to pick up and move our IT environment quickly when the IT Convergence order was signed. The economies of scale gained through the convergence made costs affordable and we hope that additional cost savings will continue to be realized. The IT environment is stable and reliable and is working well to serve the thousands of users who use our collections on a regular basis."

- Jennie Stapp
Montana State Librarian

STRATEGIC GOALS

GOAL 5 • CAPABILITY

DEPLOY CAPABLE TECHNOLOGIES THAT PROVIDE ESSENTIAL FUNCTIONALITY FOR A DIVERSE AND ENGAGING CUSTOMER BASE.

Objective 5.1
Implement phase one of Data Center Infrastructure Management (DCIM) to improve service-provided capabilities and show available capacity for future growth. Mapping the rack environments will show equipment locations, network and power sources, and temperatures across the floor.

Objective 5.2
Facilitate and automate the IT Service Management (ITSM) tool throughout our enterprise operations.

Objective 5.3
Design and deploy IT-based telephony to promote unified communications that allow users to communicate real-time across multiple platforms.
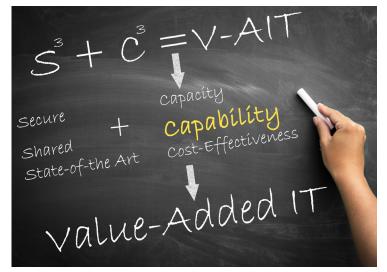

$$S^3 + C^3 = V-AIT$$

secure
shared
State-of-the Art

capacity
capability
Cost-Effectiveness

value-Added IT

Objective 5.4
Continue to advance firewall technology that provides greater network security and flexibility.

Objective 5.5
Exceed business and capability requirements for enterprise services. Implement dashboards that provide real-time views into operations and performances.

Objective 5.6
Expand digital forensics capabilities to include multiple Open Source (OS) platforms, mobile, and network capabilities.

Montana Named the Most Notable State Government Program, Project or Initiative by Government Security News (GSN) Magazine

SITSD and the State of Montana won the Governmennt Security News (GSN) 2016 Homeland Security award in the "Most Notable State Government Program, Project or Initiative" category.

Judging in this category was based on one or more of the following criteria:
• Development of successful strategy and increase in public safety
• Providing a notable solution to a recognized problem
• Reduction in cost and/or major increase in efficiency and effectiveness
• Decisive, successful action to respond to threat or emergency

"IT convergence has positively affected the IT operations of DPHHS. The ability to quickly restore and recover services in the case of disaster with the type of equipment used by the enterprise platform is a great upgrade for DPHHS.

IT convergence gives DPHHS a great capability upgrade."

-Stuart Fuller
Chief Information Officer
Department of Public Health and Human Services

STRATEGIC GOALS

GOAL 6 • COST-EFFECTIVENESS
LEVERAGE PUBLIC-PRIVATE PARTNERSHIPS TO DECREASE THE COST OF STATE DATA CENTER OPERATIONS

Objective 6.1
Enhance existing resources and identify new opportunities to provide additional shared services.

Objective 6.2
Deploy Software as a Service (SaaS) and Platform as a Service (PaaS), and existing systems over customized, ground-up solutions.

Objective 6.3
Continue to increase the energy, efficiency, and utilization of the state's data centers.

$$S^3 + C^3 = V\text{-}AIT$$

Secure Shared State-of-the Art + capacity capability Cost-Effectiveness → Value-Added IT

"Since 2012, the State of Oregon, Enterprise Technology Services (ETS) has received data center services from the State of Montana SITSD. This partnership enables Oregon to store a copy of our critical backup data in the Montana State Data Center in Helena. After successful completion of the project to get the backup data replicated, other efforts have ensued to establish the computing, security, storage, and network infrastructure necessary to provide disaster recovery capabilities for Oregon's most critical systems.

This partnership is unique nationally and has been recognized for innovation in Disaster Recovery by NASCIO. There are tremendous operational advantages to having another state be our data center partner, from operating under the same regulatory requirements, to sharing the same federal regional partners, to simply sharing ideas on how we operate our technology infrastructure. It is also much more cost effective for Oregon to partner with Montana as opposed to seeking commercial data center space. The business case estimated cost avoidance is in the neighborhood of ~$1 million per biennial budget cycle over the previous practice of utilizing private sector vendors.

The working relationship has been nothing short of outstanding. We have complete confidence in the data center services we receive. The people that we interact with on a regular basis exhibit a very high level of professionalism, attention to detail, and attitude of willingness to help."

-Bryan Nealy
Service Support Manager, Enterprise Technology Services
Oregon Department of Administrative Services