



INFORMATION TECHNOLOGY



STATE OF MONTANA  
STRATEGIC  
PLAN





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Matt Van Syckle  
Montana State Interim Chief Information Officer  
March 1, 2018



Montana Strategic Plans for Information Technology (IT) are located at: <http://sitsd.mt.gov/Governance/IT-Plans>.

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# A MESSAGE FROM THE STATE CIO

Technology has changed our daily lives in how we interact with people, business, and government. We live in an online world that allows us to do a multitude of tasks from a phone, tablet, or computer. From buying groceries to making travel reservations to paying our bills, we have the ability to access services regardless of time and location. The ease of which mobile technology, including the devices and apps that run on them, have empowered consumers with choice in an unconstrained world that demands anytime, anywhere, any device accessibility. Government must strive to match these new online expectations by providing ever-greater levels of access to those services and data that citizens need.

The strategies outlined in this plan are designed to create the capability and capacity that support the implementation of government applications that meet these expectations within days and weeks as opposed to months and years. While self-service government will be essential to meet citizen expectations, we must accomplish this in an environment in which cyber threats are ever-increasing in impact and frequency. As we continue to increase the ability to access and use data, we will need to increase our ability to protect data at an equal pace.

It is with these expectations and challenges in mind that the following goals and objectives are a necessary guide for the State of Montana's investments in IT:

- Secure: Enhance information security by implementing best practices to protect systems, assets, and data in a cost-effective manner.
- Shared: Design and operate a shared and managed services environment.
- State-of-the-Art: Deliver state-of-the-art enterprise IT services to state and local government and the university system.
- Capacity: Implement scalable technologies that meet customer demand flexibly and rapidly, with minimal capital expenditures.
- Capability: Deploy capable technologies that provide essential functionality for a diverse and engaged customer base.
- Cost-Effectiveness: Leverage public-private partnerships to decrease the cost of state data center operations.

In summary, IT must allow government to serve citizens in the most secure and effective manner possible. To that end, the strategic goals and objectives set forth in this plan will help ensure that IT provides the maximum opportunity for government to provide secure, efficient, state-of-the-art IT that empowers citizens and those that serve them.

Sincerely,



Matt Van Syckle  
State of Montana Interim Chief Information Officer





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## MISSION

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

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## VISION

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





The majority of Montana’s IT principles have roots in Montana’s Information Technology Act. These 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.

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### 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, infrastructure, systems, applications, and 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](http://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.
-  Implemented 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.





Our strategic goals guide us as we evolve and provide a clear vision of what we will accomplish. We continually evaluate enterprise IT 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

Protect information systems across the state by leveraging the public-private partnerships established by MT-ISAC to enhance information sharing, outreach, and risk awareness.

### Objective 1.4

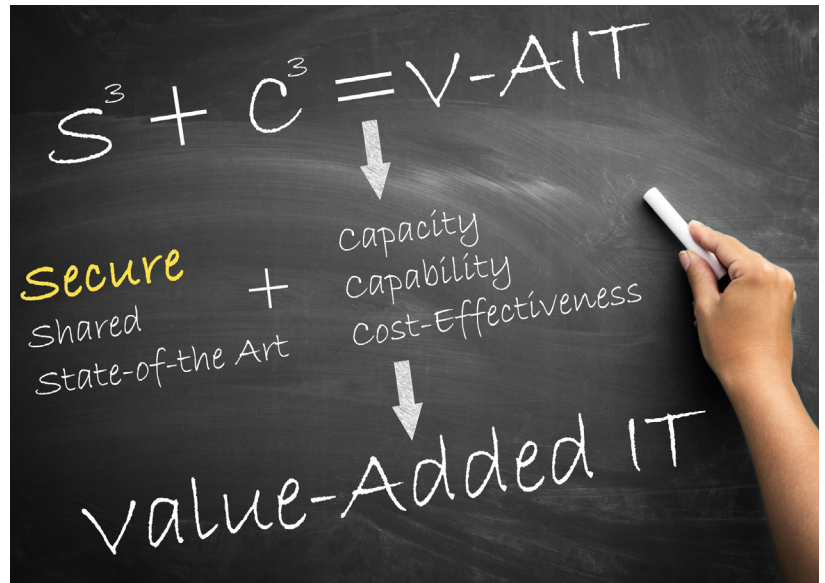
Develop the internal review and compliance program to provide data that proves efficient security controls or identifies security gaps to remediate.

### 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, including 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



# STRATEGY

## STRATEGIC GOALS

### GOAL 2 • SHARED

DESIGN AND OPERATE A SHARED AND MANAGED SERVICES ENVIRONMENT.

#### Objective 2.1

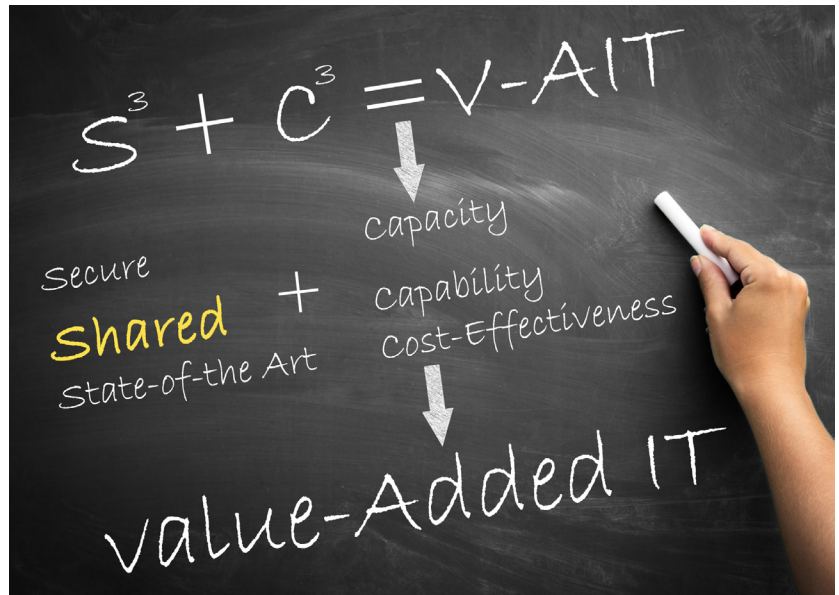
Expand agency abilities to manage users and devices within enterprise shared platforms, including Multi-Factor Authentication and Mobile Device Management (MDM).

#### Objective 2.2

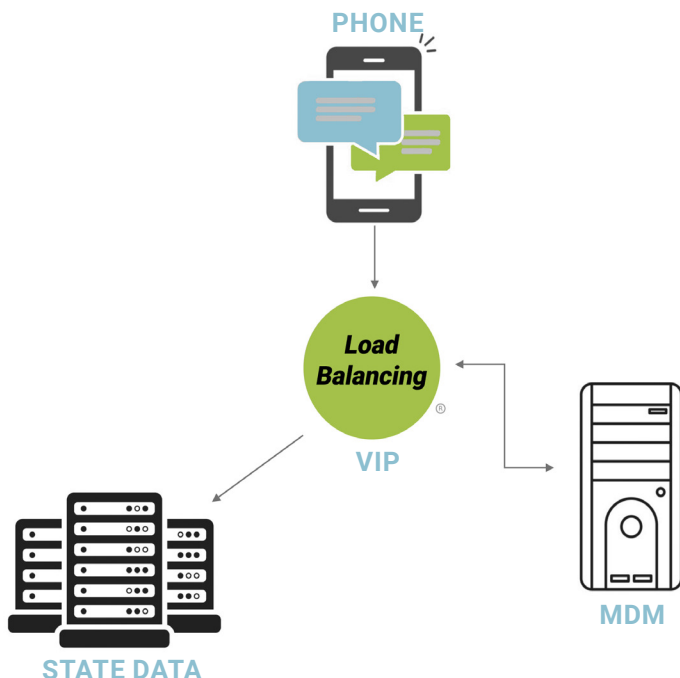
Implement Unified Desktop Workspace (UDW) to decrease environmental impact and improve security.

#### Objective 2.3

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



### MOBILE DEVICE MANAGEMENT (MDM) TRAFFIC FLOW



"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



## 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

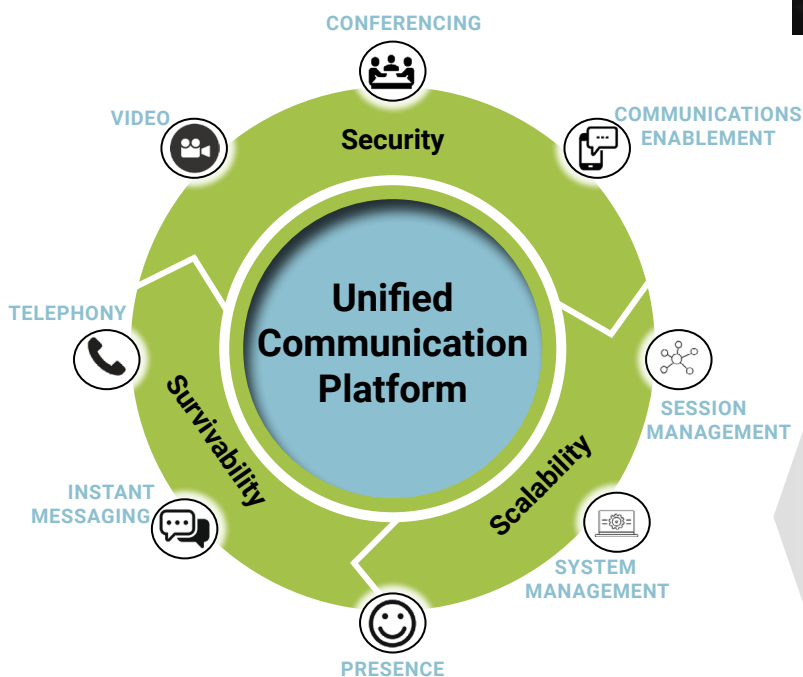
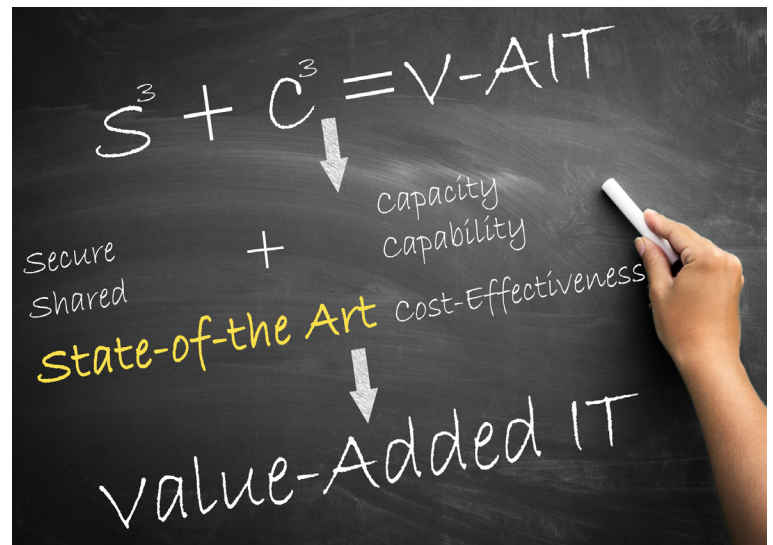
Leverage and deploy technologies that provide a modern experience for citizens and employees that access government data and services.

### Objective 3.2

Implement Unified Desktop Workspace (UDW) to decrease environmental impact and improve security.

### Objective 3.3

Implement unified communication technologies to increase flexibility, mobility, and productivity.



## 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

Enhance our incident response and disaster recovery skills by increasing the use of load balancing, Web Application Firewall (WAF), and our storage platform for redundancy, automatic failover, and failback.

### 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 and continued training of 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 to standardize application development, operation tools, and code development.

### Objective 4.6

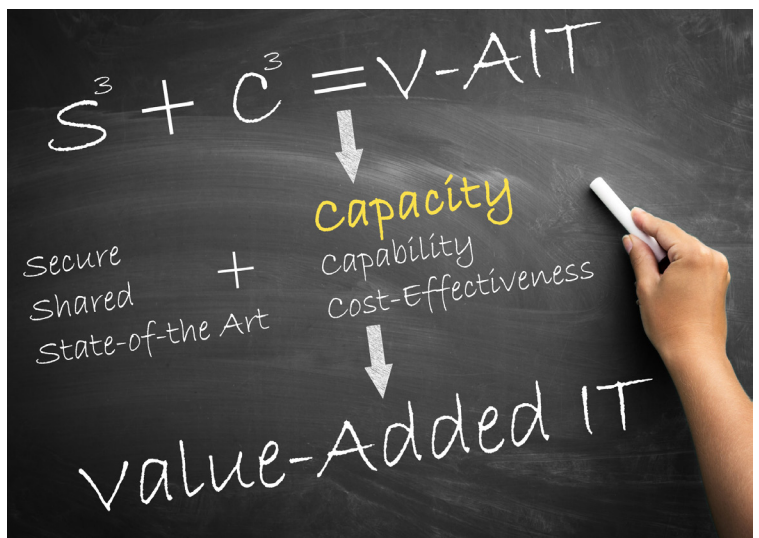
Promote enterprise content management and workflow solutions to reduce the dependency on paper documents and manual processes.

### 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.



### Objective 4.9

Provide an enterprise unified communications suite that allows for increased and 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**





## GOAL 5 • CAPABILITY

DEPLOY CAPABLE TECHNOLOGIES THAT PROVIDE ESSENTIAL FUNCTIONALITY FOR A DIVERSE AND ENGAGED 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 by mapping rack environments to show equipment locations, network and power sources, and temperatures across the data 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.



### 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 and 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.

**"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**



**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 Government 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.



## GOAL 6 • COST-EFFECTIVENESS

LEVERAGE PUBLIC-PRIVATE PARTNERSHIPS TO DECREASE THE COST OF STATE DATA CENTER OPERATIONS.

### Objective 6.1

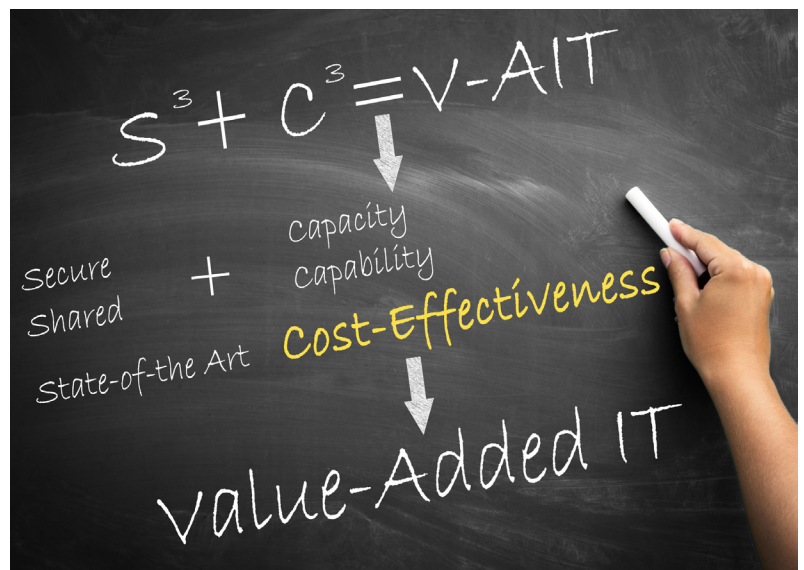
Enhance existing resources and identify new opportunities to provide additional shared services.

### 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.



"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



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