State of Montana Information Technology Board

March 6, 10:00 – 12:00
Room 152 – State Capitol

Welcome and Introduction of Board Members (10:00 – 10:10)

- Welcome members, Sheila Hogan, Chairperson
- ***ACTION ITEMS****
  - Review and Approve December minutes
- State CIO Comments

Business (10:10 - 11:00)

- CIO's Vision for Montana.gov Portals – Ron Baldwin and Audrey Hinman (25 minutes)
  - Data
  - Business
  - Transparency

- Electronic Records Management- Anita Bangert and Tammy LaVigne(10 minutes)
  - RFI Results
  - HJR2 Status

Business (11:10 – 11:50)

- Broadband/Connectivity – Kris Harrison (45 minutes)
  - Network Briefing
  - Video Capacity
  - Infrastructure

- State Data Centers – Irv Vavruska (20 minutes)
  - Current Infrastructure
  - NW Energy Incentive (Phase update)

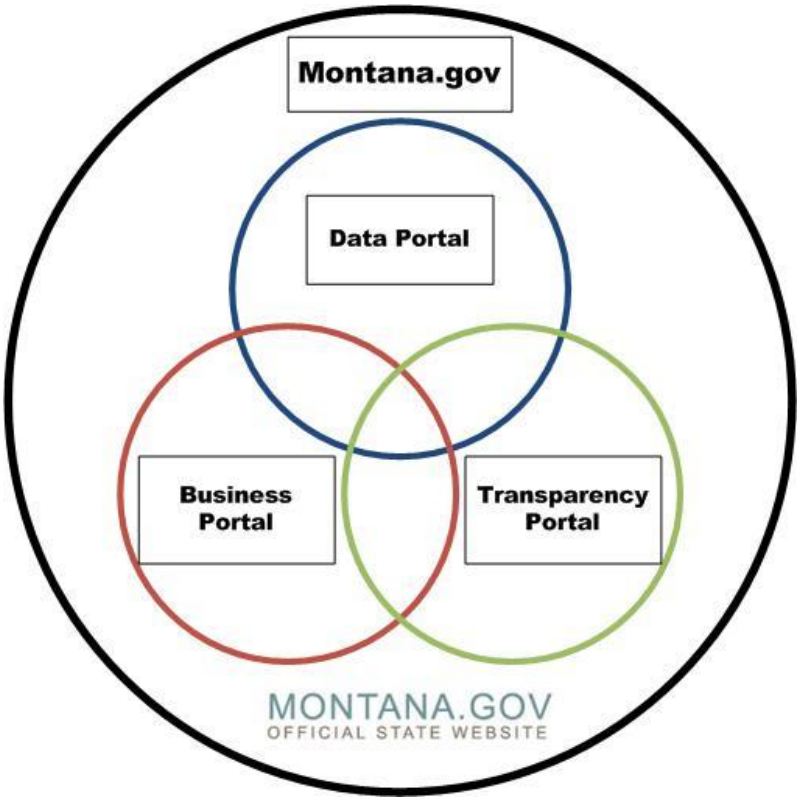
- The Road Ahead/Suggested Topics – Board Members/Open Forum
  - IT Enterprise Management
  - GIS Enterprise Licensing Agreement
  - Social Media
  - Security
  - Mobile Devices

Adjournment (11:50 – 12:00)

- Next Meeting – June 12
- Public Comment
- Adjourn

Notice: The Department of Administration will make reasonable accommodations for persons with disabilities who wish to participate in the ITB public meetings or need an alternative accessible format of this notice. If you require an accommodation, contact the Department of Administration no later than six business days prior to the meeting of interest, to advise us of the nature of the accommodation that you need. Please contact Tammy LaVigne at (406)444-2589 or email tlavigne@mt.gov

State CIO's Vision for Montana.gov Portals



Current Transparency Portal

On February 1, 2013, Governor Bullock expanded the use of Montana's eGovernment web portal to include transparency: http://transparency.mt.gov. This site will continue to be enhanced as time and resources allow.

Business Portal

The business portal concept has been around for many years and several states have successfully implemented their portals. The best way to structure a business portal is to integrate the services into one interface for the customer. However, providing links to existing business services is another option.

Data Portal

The data portal is a central location customers can visit to gain access to approved data sets, generally through web services or application programming interfaces (API's). The data can be provided in multiple formats and can be used however the customer desires. A popular use for a data portal is for custom developed mashups, which are applications that combine data from multiple sources to create new services.

data.mt.gov

Your path to the data you need

Meeting the Needs of Citizens and Businesses

The State of Montana is committed to providing our citizens and businesses access to public data to promote transparency and accountability of state government. The Montana Data Portal is the path to public data.

Meeting the Needs of State Employees

The State of Montana is committed to breaking down the barriers between state organizations. The Montana Data Portal provides data sharing opportunities for business intelligence, analysis, correlations, charting, graphing and trending between data sets from multiple state organizations providing decision makers information previously not available. Data is provided securely to authorized parties.

Objectives:

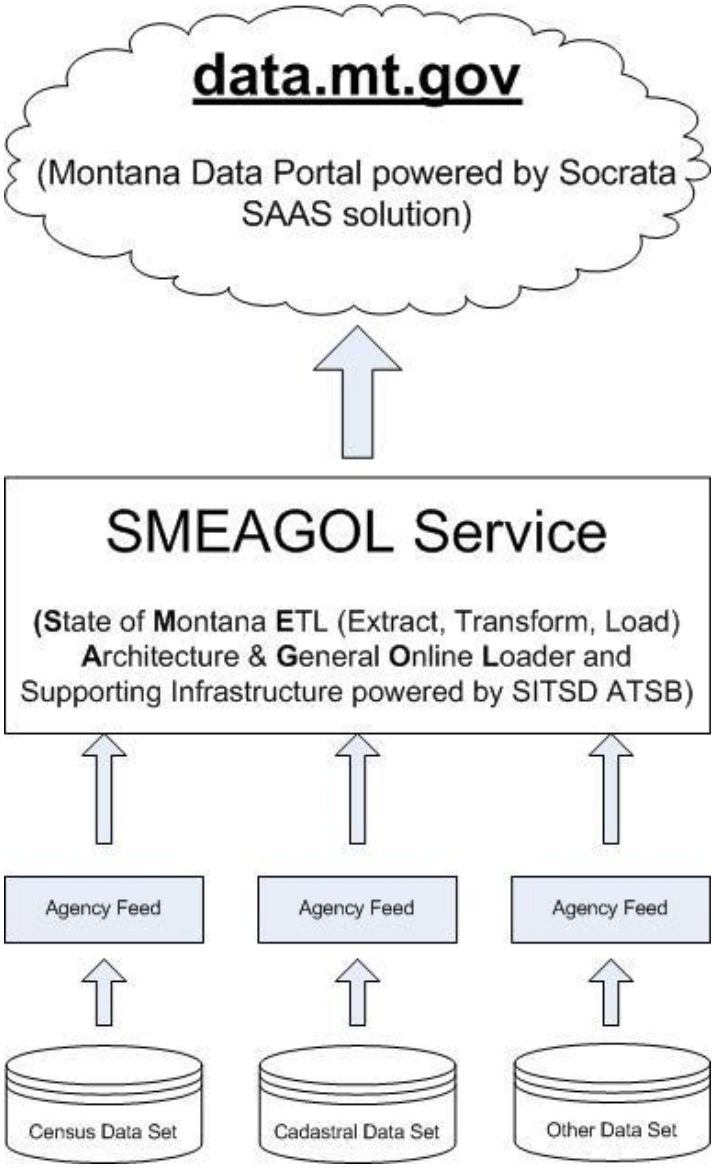
- **Increase state government transparency**
- **Enable better decision making through data analysis**

- **Modernize the way Montana uses and shares information**
- **Make data easy to find, explore, use, and visualize**
- **Enhance the way state organizations interact with their customers**
- **Information generated can be displayed on any website or application**

data.mt.gov

Your path to the data you need

Technical Architecture



SMEAGOL Service

The following components and functionality make up the SMEAGOL service that is provided by the Application Technology Services Bureau (ATSB) in SITSD.

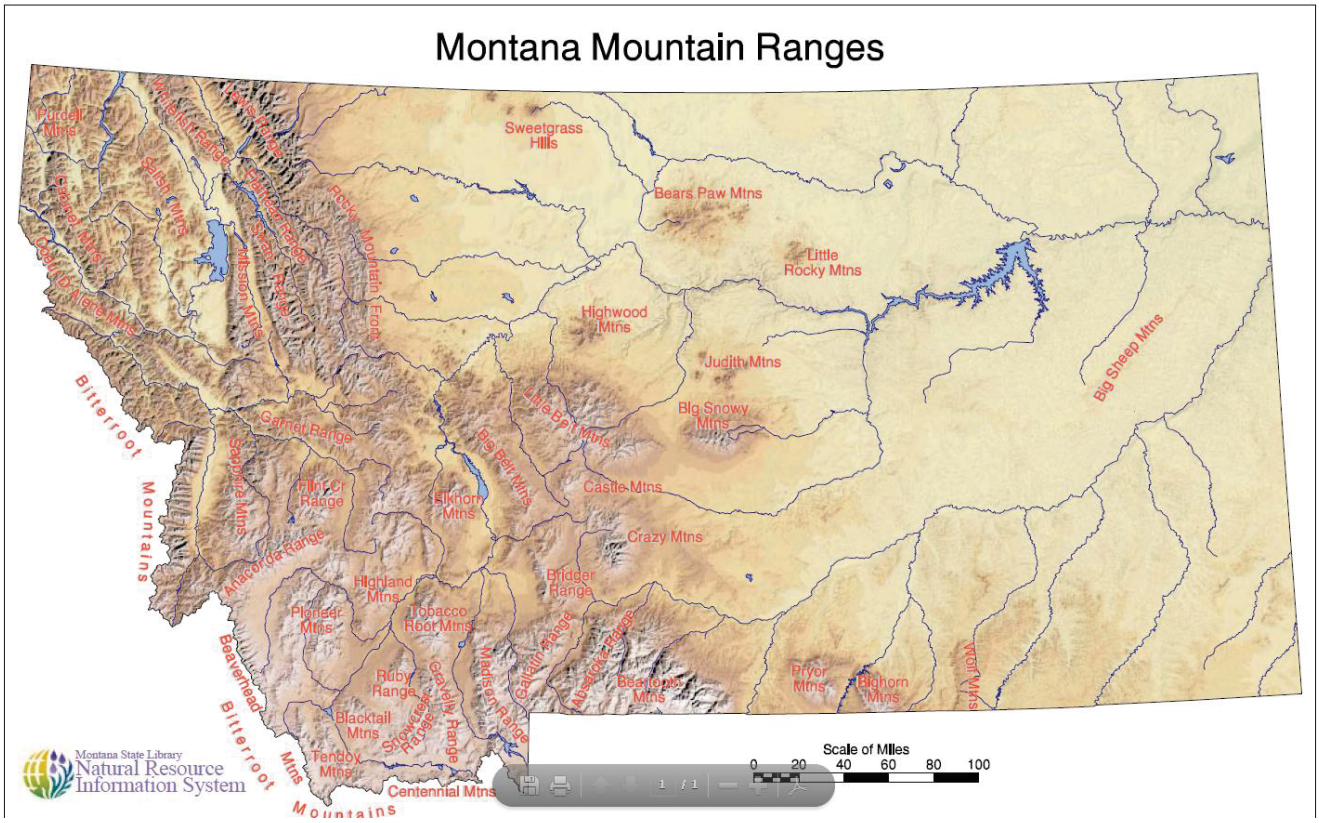
- Directs the data push of data sets into the portal; this will facilitate the migration to another tool and reduces the overall effect of a change in direction away from Socrata
- Automation of the collection of data from data sets across the State
- Application programming interfaces (APIs) provided by Socrata
- Monitoring tools for monitoring the health and well-being of all aspects of the portal
- Control M scripts, other scripts, and applications as needed; all held in ATSB's source control
- Documentation
- Knowledge base for support questions

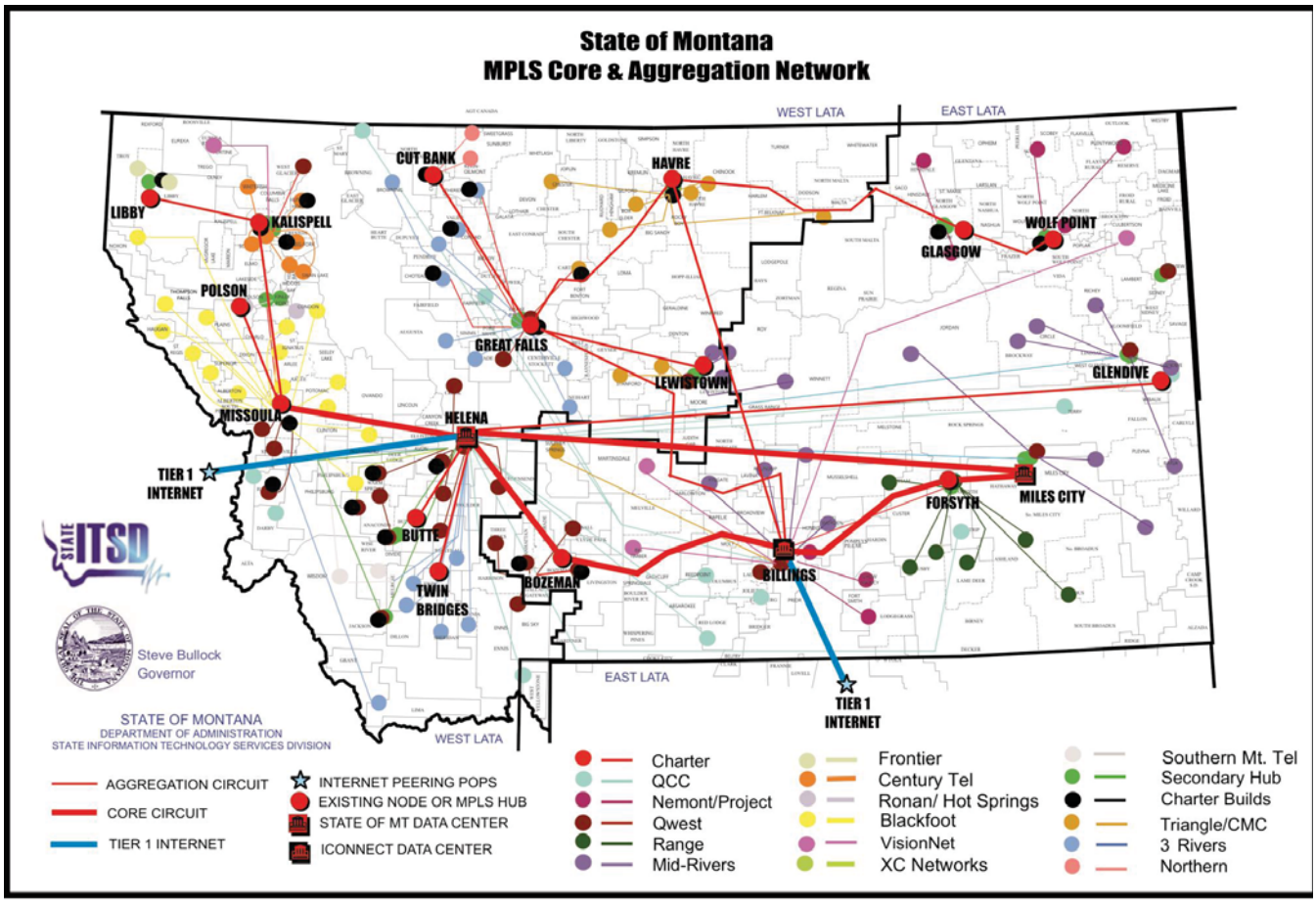
Feedback and Assistance needed from the Information Technology Board

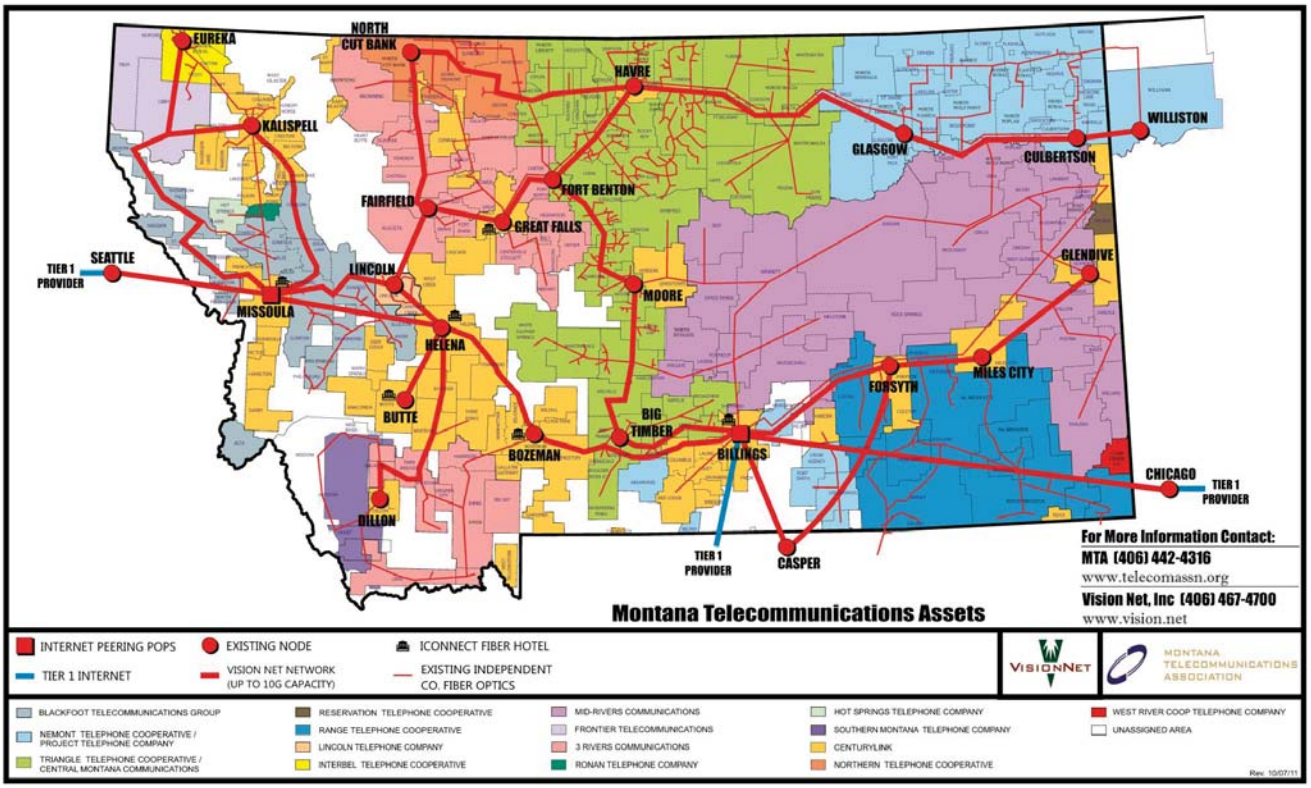
1. **Identifying data sets for the portal and prioritizing them**

2. **Spreading the word, help advertising, garnering support**

Network Services Overview
Kris Harrison – NTSB Bureau Chief
State ITSD




State of Montana
MPLS Core & Aggregation Network
WEST LATA
EAST LATA
LIBBY
KALISPELL
POLSON
CUT BANK
HAVRE
GREAT FALLS
LEWISTOWN
GLASGOW
WOLF POINT
GLENDIVE
MISSOULA
HELENA
TIER 1 INTERNET
BUTTE
TWIN BRIDGES
BOZEMAN
BILLINGS
FORSYTH
MILES CITY
TIER 1 INTERNET
Steve Bullock
Governor
STATE OF MONTANA
DEPARTMENT OF ADMINISTRATION
STATE INFORMATION TECHNOLOGY SERVICES DIVISION
AGGREGATION CIRCUIT
CORE CIRCUIT
TIER 1 INTERNET
INTERNET PEERING POPS
EXISTING NODE OR MPLS HUB
STATE OF MT DATA CENTER
ICONNECT DATA CENTER
Charter
QCC
Nemont/Project
Qwest
Range
Mid-Rivers
Frontier
Century Tel
Ronan/ Hot Springs
Blackfoot
VisionNet
XC Networks
Southern Mt. Tel
Secondary Hub
Charter Builds
Triangle/CMC
3 Rivers
Northern


EUREKA
NORTH CUT BANK
HAVRE
KALISPELL
GLASGOW
CULBERTSON
WILLISTON
FORT BENTON
FAIRFIELD
GREAT FALLS
TIER 1 PROVIDER
SEATTLE
LINCOLN
MOORE
GLENDIVE
MISSOULA
HELENA
FORSYTH
MILES CITY
BUTTE
BIG TIMBER
BOZEMAN
BILLINGS
CHICAGO
TIER 1 PROVIDER
DILLON
TIER 1 PROVIDER
CASPER
For More Information Contact:
MTA (406) 442-4316
www.telecomassn.org
Vision Net, Inc (406) 467-4700
www.vision.net
Montana Telecommunications Assets
INTERNET PEERING POPS
TIER 1 INTERNET
EXISTING NODE
VISION NET NETWORK (UP TO 10G CAPACITY)
ICONNECT FIBER HOTEL
EXISTING INDEPENDENT CO. FIBER OPTICS
VISIONNET
MONTANA TELECOMMUNICATIONS ASSOCIATION
BLACKFOOT TELECOMMUNICATIONS GROUP
NEMONT TELEPHONE COOPERATIVE / PROJECT TELEPHONE COMPANY
TRIANGLE TELEPHONE COOPERATIVE / CENTRAL MONTANA COMMUNICATIONS
RESERVATION TELEPHONE COOPERATIVE
RANGE TELEPHONE COOPERATIVE
LINCOLN TELEPHONE COMPANY
INTERBEL TELEPHONE COOPERATIVE
MID-RIVERS COMMUNICATIONS
FRONTIER TELECOMMUNICATIONS
3 RIVERS COMMUNICATIONS
RONAN TELEPHONE COMPANY
HOT SPRINGS TELEPHONE COMPANY
SOUTHERN MONTANA TELEPHONE COMPANY
CENTURYLINK
NORTHERN TELEPHONE COOPERATIVE
WEST RIVER COOP TELEPHONE COMPANY
UNASSIGNED AREA
Rev. 10/07/11

Philosophy & Approach

- ✓ Efficient
- ✓ Secure
- ✓ Continuity
- ✓ Scalable
- ✓ Standards Based
- ✓ Customer Focus
- ✓ Industry Leader

Network Infrastructure Quick Facts

- SummitNet provides connectivity to approximately 22,000 devices at over 600 locations (228 Converged)
- Provides a private MultiProtocol Layer Switching (MPLS) network with Quality of Service (QOS)
- Provides a secure converged network that supports prioritized Voice, Video, & Data Services

Network Infrastructure Quick Facts

- Physically redundant 10Gb/s core network with 10Gb/s and 1Gb/s distribution links
- Core sites include Missoula, Helena, Bozeman, Billings, and Miles City
- Internet POP's in Helena and Billings using diverse carriers
- Standard remote site WAN access speeds are between 1.5Mb/s and 5Mb/s
  - Frame-relay & DSL sites offer cost effective speeds 56Kb/s to 1.5Mb/s
- 802.1x Authentication is implemented across the entire enterprise & authentication is required for network access

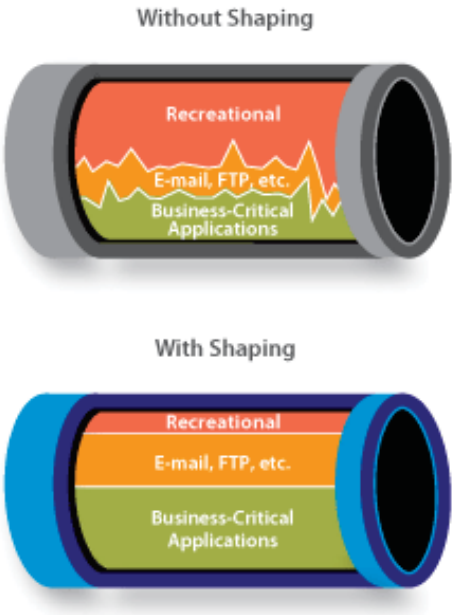
Traffic Shaping (QoS)

Traffic Shaping allows time sensitive traffic such as voice or video to have a higher priority through the network, thus ensuring functionality.

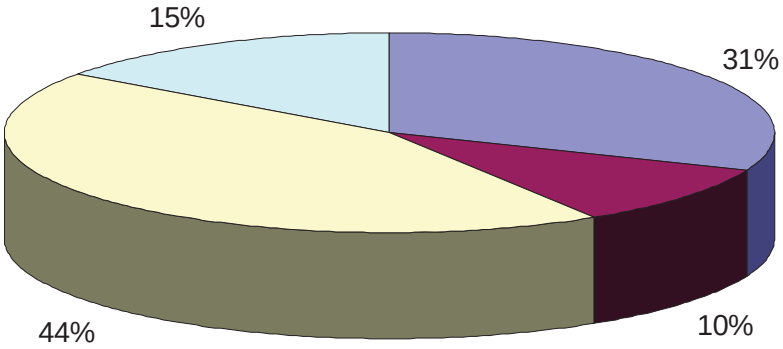
This is accomplished by:

- Limiting the amount of data any one application is allowed to consume on the WAN
- Lowering the priority of non-business data i.e. downloading of content from the Internet.

Traffic Shaping



Traffic Shaping for a 3Mb Site



Legend
31% 768K Video conference
10% Routing / Management
44% Internal State Traffic
15% Best-effort (Internet)

SUMMITNET Wireless Network

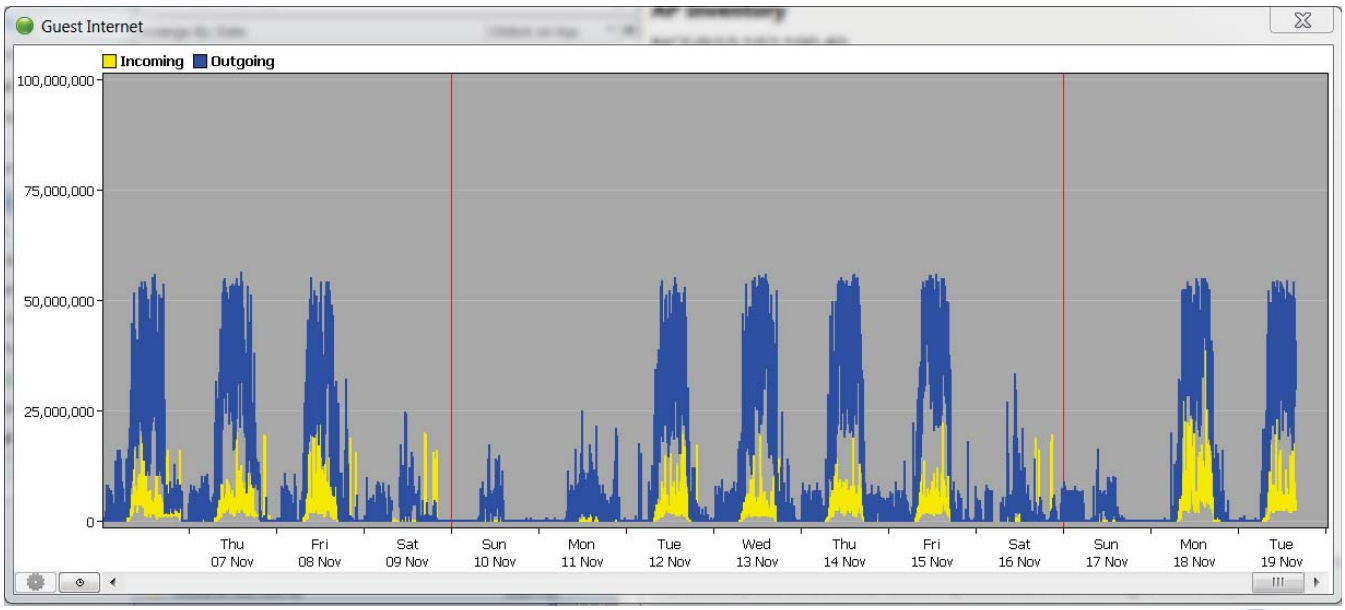
- ✓ Statewide Wireless Coverage
- ✓ Secure
  - ✓ Secure services utilizing 802.1X for Authentication, Authorization and Accounting
- ✓ Non-Secure (Sponsored Guest)
  - ✓ Recommended for guest access
  - ✓ Sponsored guest available to remote MPLS site
- ✓ Non-Secure (Open Guest)
  - ✓ Access is currently not restricted or inspected
  - ✓ Primarily on campus

SUMMITNET Wireless Network

- ✓ Future Strategy
- Mobile Device Authentication
- Cisco Application Visibility Control (AVC) - Ability to QoS Netflix, Hulu, Pandora, etc.
- ISE – Identity Services Engine combines NAC & RADIUS into one box
- MDM – Mobile Device Management
- MDM & ISE for device profiling, posture assessment/enforcement, authentication
- Dynamic VLAN assignments where possible
- 802.11n & 802.11ac – All new AP deployments are at least 802.11n
- AP density, channel re-use; proliferation of mobile devices
- Disable legacy 802.11b rates

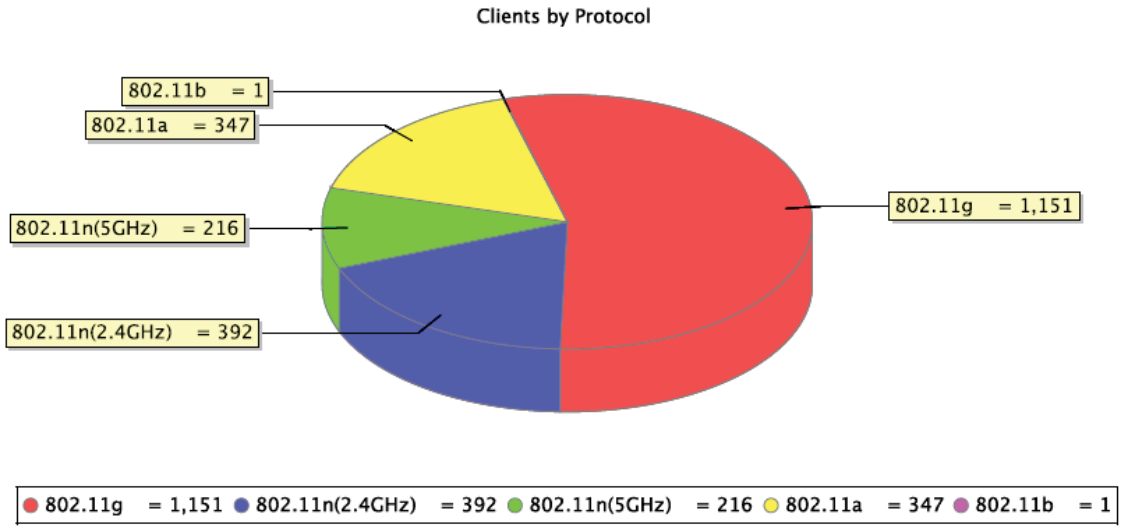
SUMMITNET Wireless Network

Snapshot of typical guest Internet bandwidth usage:

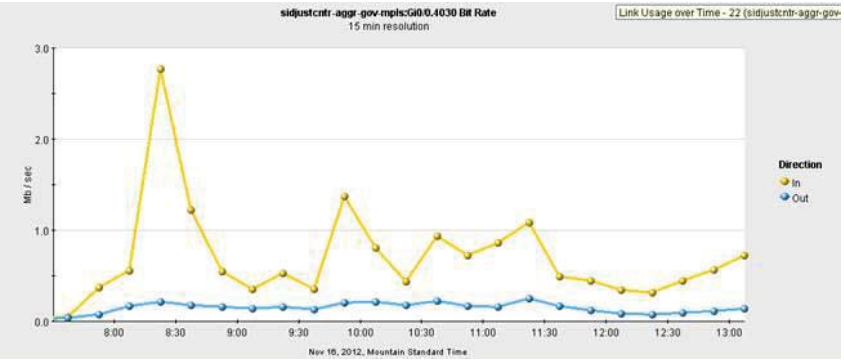


Wireless Metrics

- 509 AP's on the network
- 2200 Clients (average of 1700)



Monitoring tools



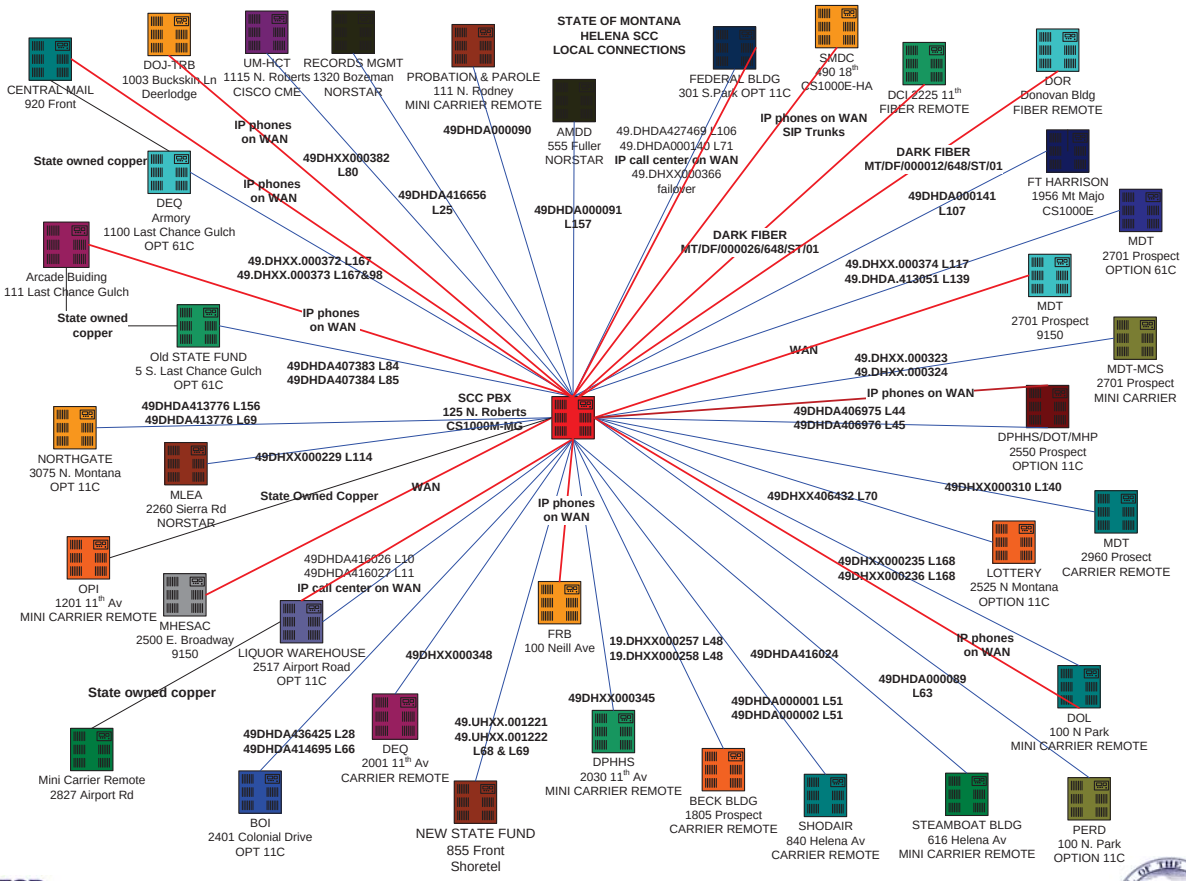
- Intermapper
- Cisco Prime Management Solution
- NetScout nGenius
- Wild Packets
- TAP Aggregation

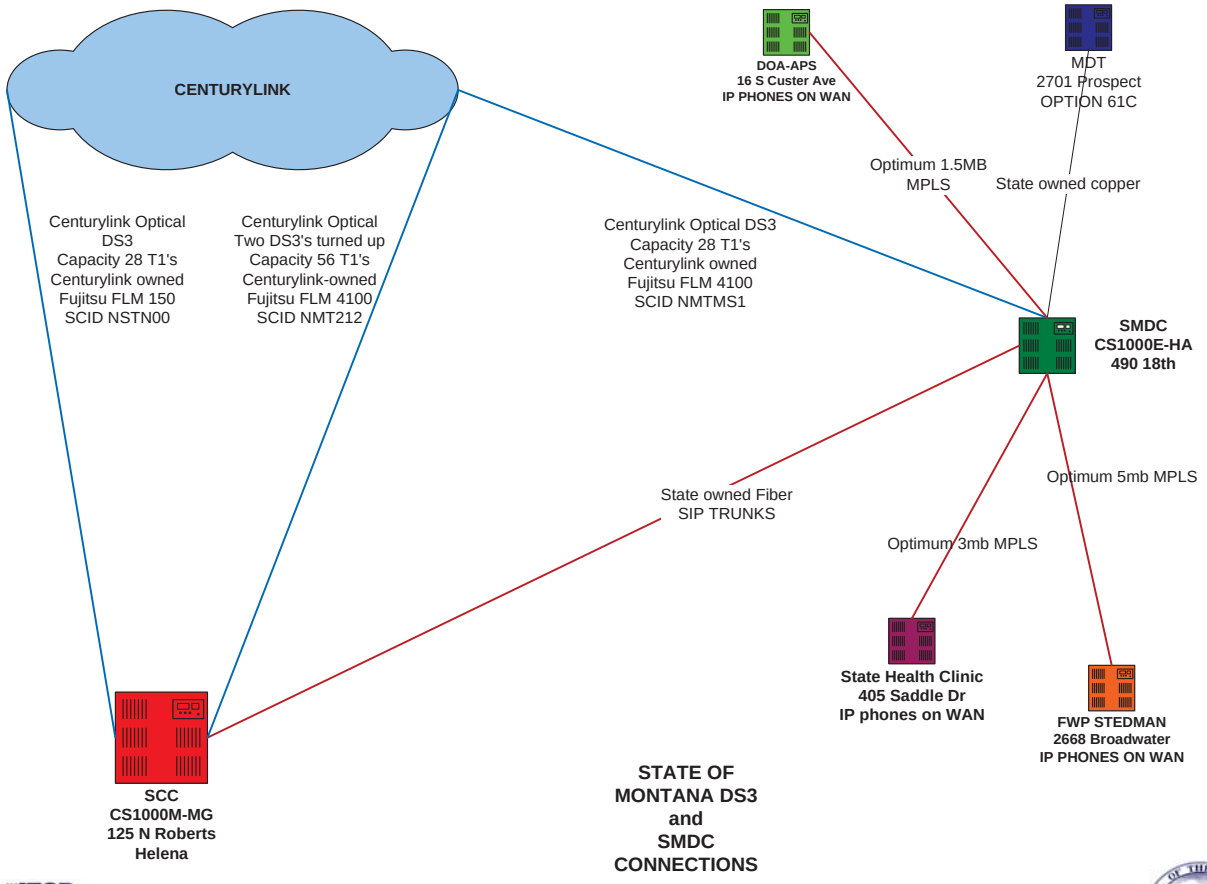
Security

- Rise in external threats
- Compliance
  - NIST
  - HIPAA
  - FISMA
    - Data Center Compliance
  - CJIS
- 802.1x

Enterprise Voice

- Provide service to 25,000 sets
- Helena & Billings switches
- Enterprise VoIP Strategy
  - Lync
  - Avaya
  - Cisco
- SIP Trunking
- DR Plan for VoIP





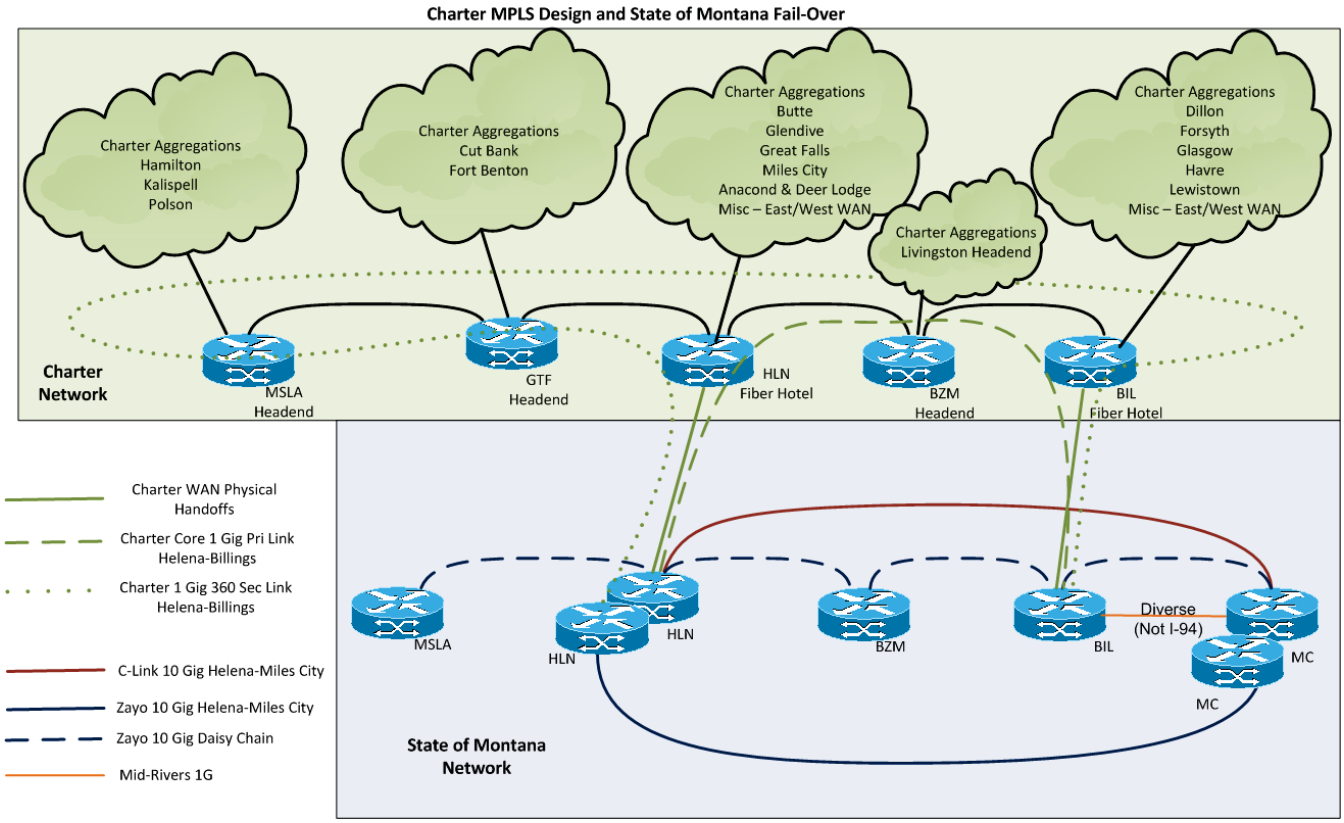
Disaster Recovery

- State of Montana Data Centers

SMDC

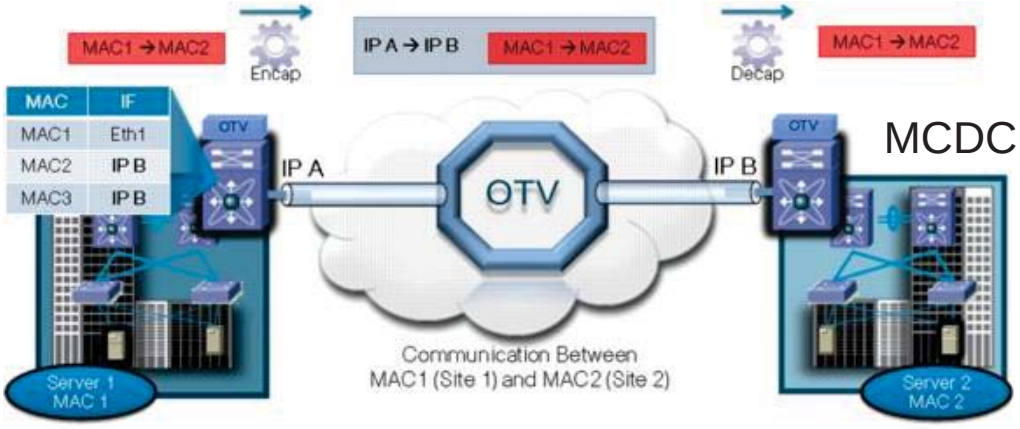
MCDC

- Geographically Distributed
- Redundancy
- Continuity of Government

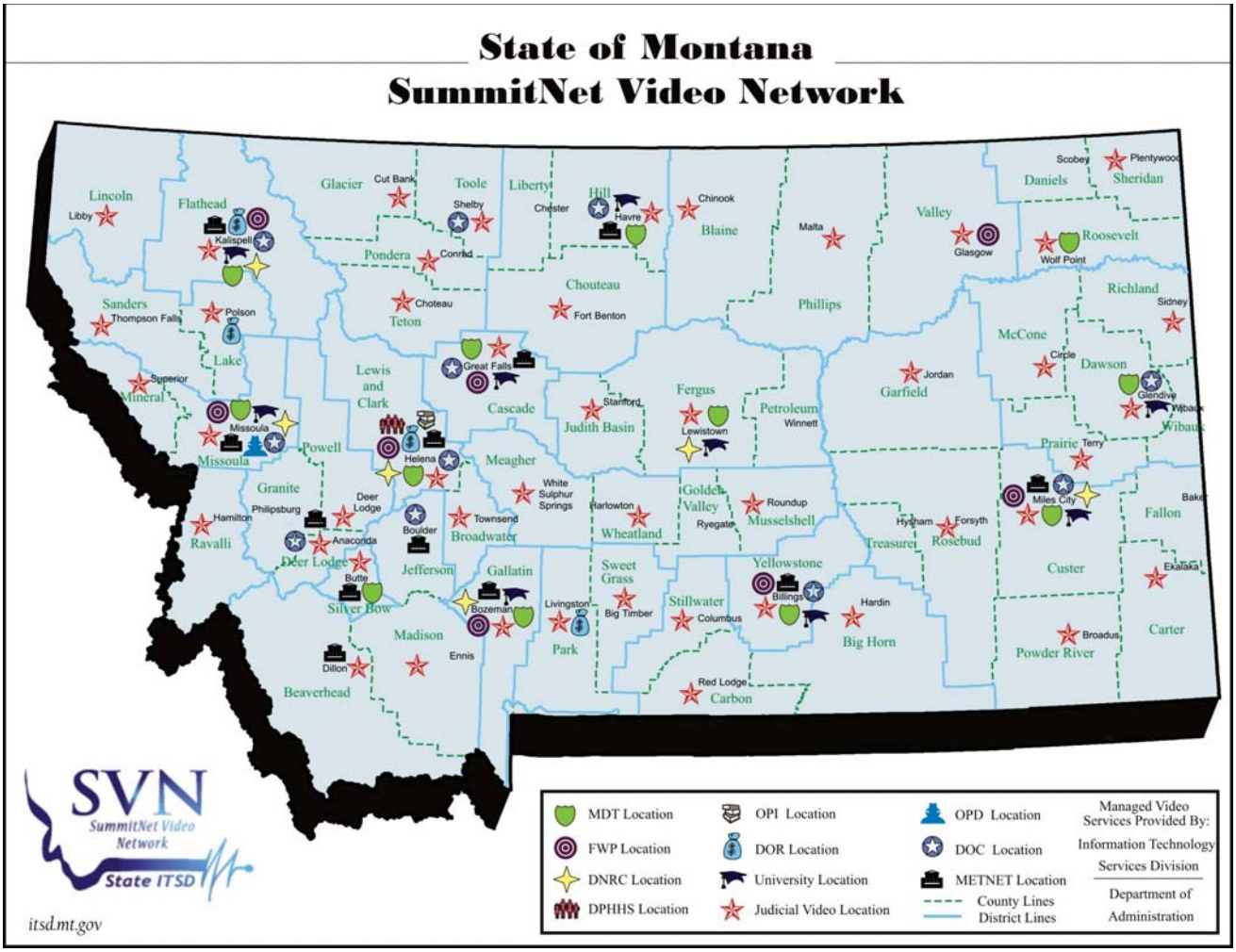


OTV

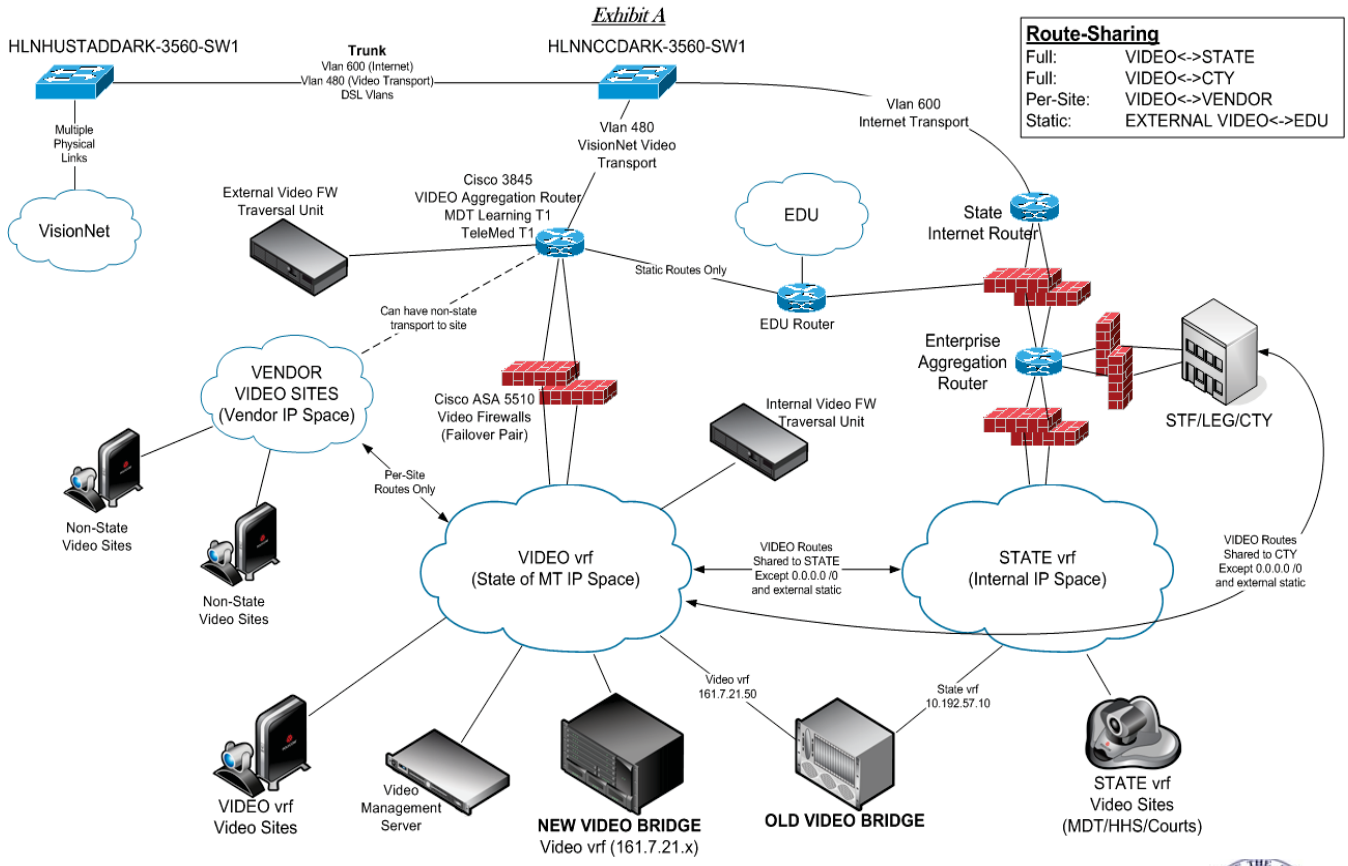
- Layer 2
- Transparent Workload Mobility
- Business Resiliency



SMDC


State of Montana
SummitNet Video Network
Lincoln
Libby
Flathead
Kalispell
Glacier
Cut Bank
Toole
Shelby
Liberty
Chester
Hill
Havre
Chinook
Blaine
Malta
Valley
Glasgow
Daniels
Scobey
Plentywood
Sheridan
Roosevelt
Wolf Point
Pondera
Conrad
Chouteau
Fort Benton
Sanders
Thompson Falls
Polson
Lake
Choteau
Teton
Phillips
Richland
Sidney
McCone
Circle
Dawson
Glendive
Wibaux
Superior
Mineral
Missoula
Lewis and Clark
Great Falls
Cascade
Stanford
Judith Basin
Fergus
Lewistown
Petroleum
Winnett
Garfield
Jordan
Powell
Helena
Meagher
White Sulphur Springs
Prairie
Terry
Granite
Philipsburg
Deer Lodge
Boulder
Townsend
Broadwater
Harlowton
Wheatland
Golden Valley
Ryegate
Roundup
Musselshell
Miles City
Fallon
Baker
Hamilton
Ravalli
Anaconda
Deer Lodge
Butte
Jefferson
Gallatin
Sweet Grass
Big Timber
Yellowstone
Billings
Hysham
Forsyth
Treasure
Rosebud
Custer
Ekalaka
Silver Bow
Bozeman
Livingston
Stillwater
Columbus
Hardin
Big Horn
Carter
Madison
Ennis
Park
Broadus
Powder River
Dillon
Beaverhead
Red Lodge
Carbon
SVN
SummitNet Video Network
State ITSD
itsd.mt.gov
MDT Location
FWP Location
DNRC Location
DPHHS Location
OPI Location
DOR Location
University Location
Judicial Video Location
OPD Location
DOC Location
METNET Location
County Lines
District Lines
Managed Video Services Provided By:
Information Technology Services Division
Department of Administration

Judicial Video Network Users



Microsoft Lync Integration

- Microsoft Lync is now fully integrated with Polycom video bridge
- Include both H.323 (Polycom) endpoints and SIP (Lync) clients in same bridge conference
- Both platforms conference on-demand utilizing Polycom bridge Virtual Meeting Rooms
- Benefit:
  - Convenience
  - Ease of use
  - Leverage both services to save travel costs

Recording and Streaming in HD with Polycom RSS 4000

- Any video conference can now be automatically recorded & streamed in HD upon request
  - Live streaming
  - Archive streams
  - Download archive files (DVD, .mp4, .asf, raw)
  - Network playback on endpoint
- Links can be distributed via email or published to website
- Convenience – Eliminates the need to make local recordings on DVD or VHS

Future Projects

- ID Management Expansion
  - Cisco ISE
- Network Compartmentalization
- Enterprise DR plan for VoIP
- Agency Connectivity
- FirstNet

Questions

Kris Harrison
Bureau Chief, NTSB
Phone: 406-444-3344
Email: kharrison@mt.gov

State of Montana Data Centers Overview for ITB – March 6, 2014

SMDC - Helena

MCDC - Miles City

Today's Agenda

- Capabilities
- SMDC (Helena) & MCDC (Miles City)
- Unique Features
- Capacity
- Entities Leasing Space
- Benefits

SMDC Helena Rack Space includes

- Provided Chatsworth rack and ISO-Base
- Exclusive use of available rack space
- Passive physical system monitoring
- Video surveillance
- Electrical power
- Dual power source (if your equipment supports)
- Uninterruptable power supply (UPS)
- Emergency generator power backup
- Fire detection and prevention
- Environmental monitoring

SMDC Helena U Space includes

- All the same benefits as Rack Space but…
- Shared use of available rack space

SMDC Helena Unique Features

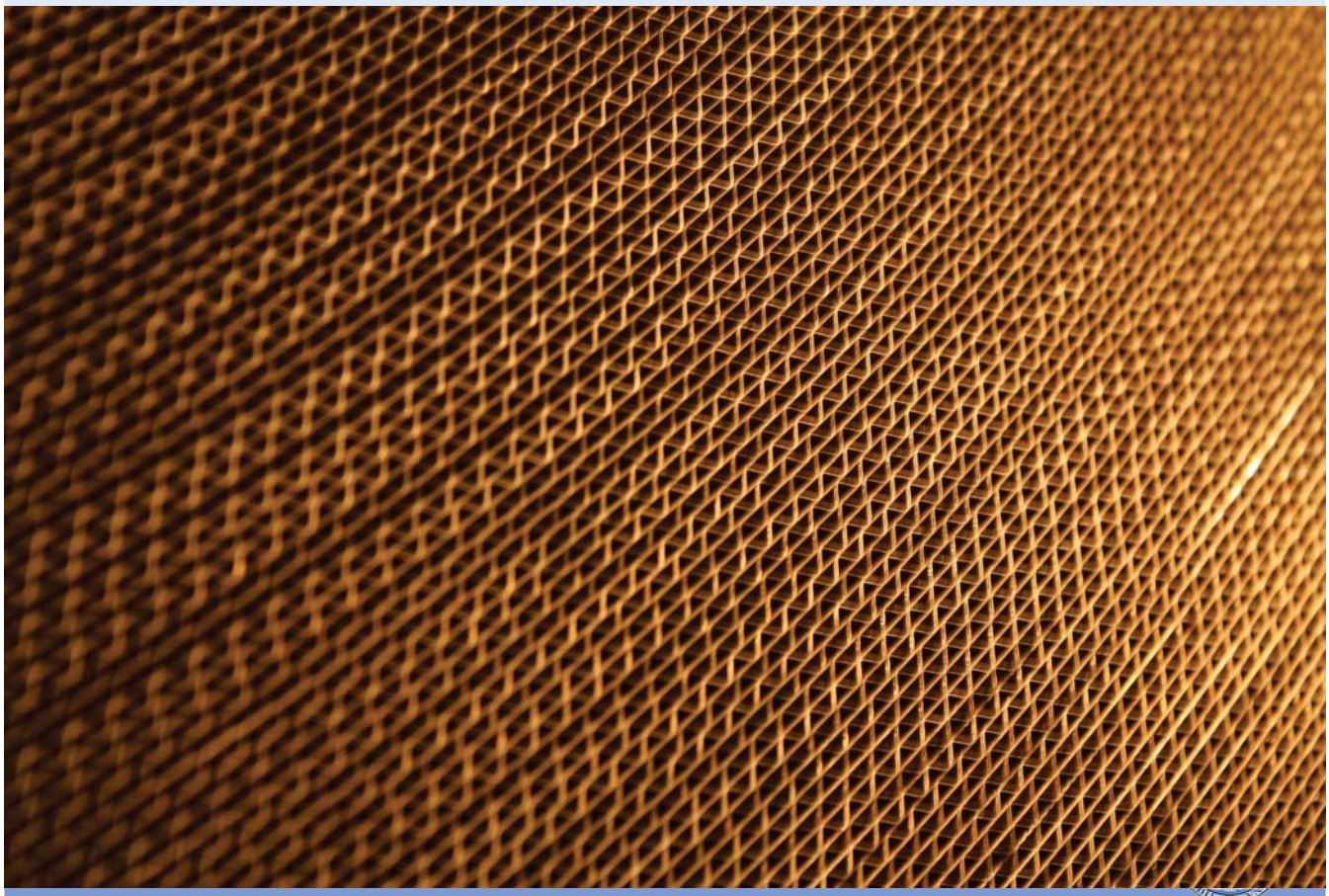
- Kyoto wheel cooling
- Isolated hot / cold air
- Electronically secured racks
- ISO-Base earthquake mitigation
- Personnel on-site 24 / 7 / 365
- Separation of power and network cabling
- Equipment must be front to rear cooling

Unique Features - Kyoto Cooling

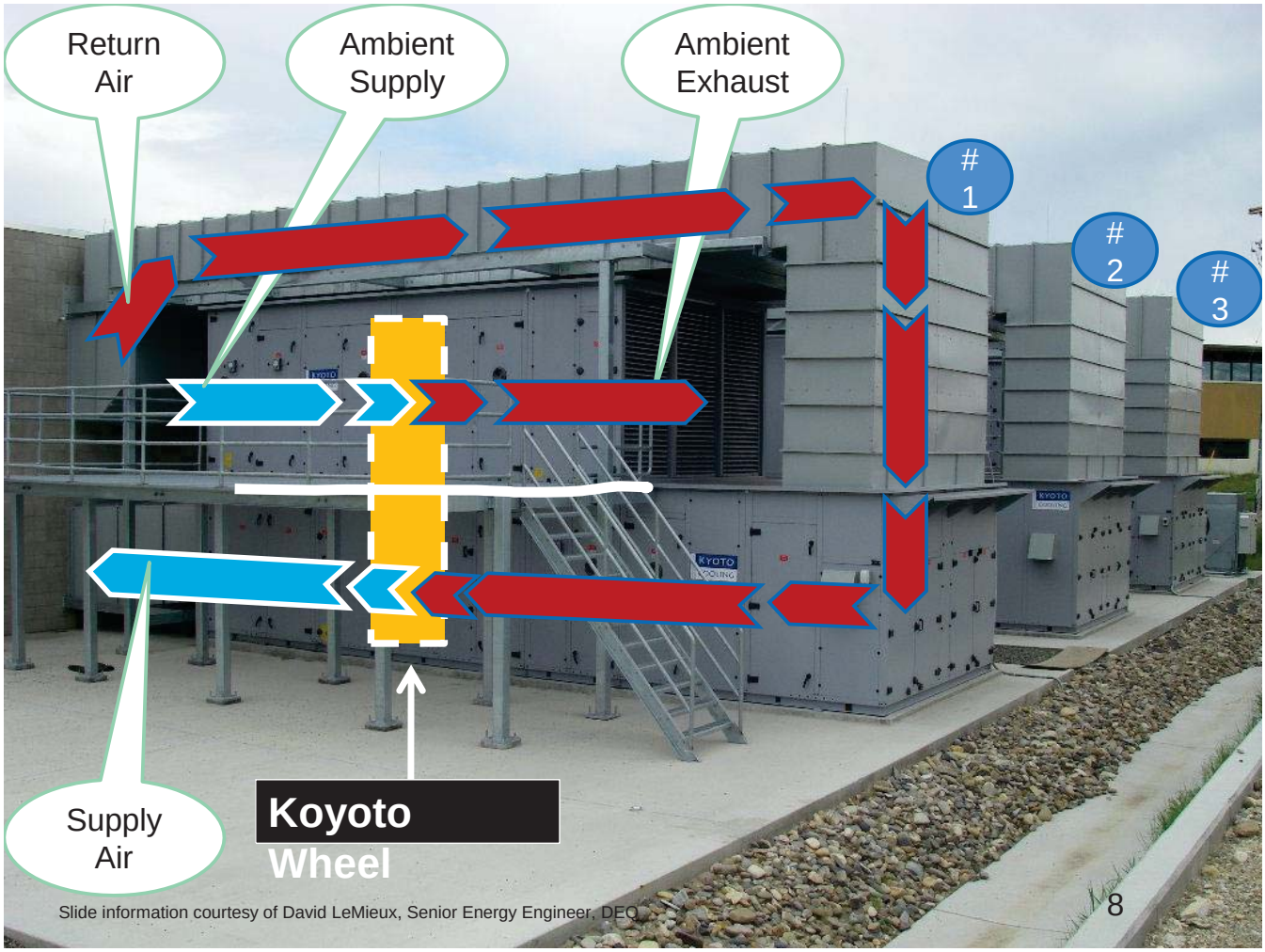
KYOTO COOLING®

>5 Acres Aluminum fin

Slide information courtesy of David LeMieux, Senior Energy Engineer, DEQ



Slide information courtesy of David LeMieux, Senior Energy Engineer, DEQ



Slide information courtesy of David LeMieux, Senior Energy Engineer, DEQ

Unique Features, ISO-Base

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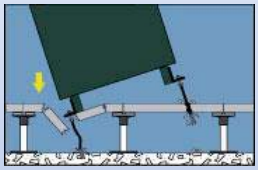
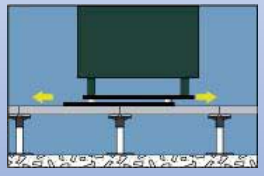




MCDC Miles City Rack Space includes

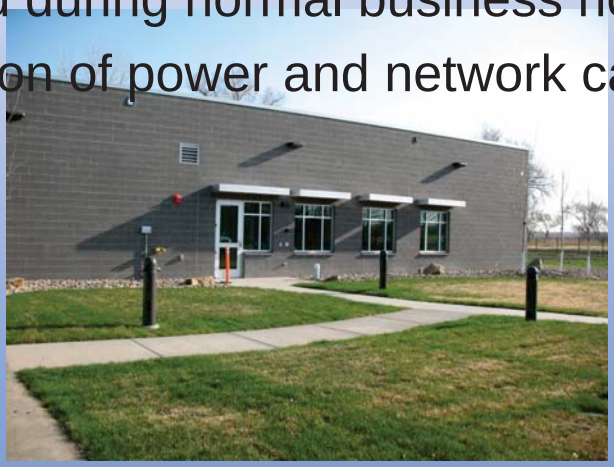
- SITSD provides rack
- Exclusive use of available rack space
- Video surveillance
- Electrical power
- Dual power (if your equipment supports)
- Uninterruptable power supply (UPS)
- Emergency generator power backup
- Fire detection and prevention
- Environmental monitoring

MCDC Miles City U Space includes

- All the same benefits as Rack Space but…
- Shared use of available rack space

MCDC Miles City Features

- Standard racks
- Conventional cooling
- Attended during normal business hours
- Separation of power and network cabling



Data Center Capacity

SMDC

- 190 maximum racks with current build capacity
- Currently leasing 96 racks, or 50.5% filled
- Total capacity if built out is 247 racks, or 38.9% filled

MCDC

- 96 maximum racks
- Currently leasing 44 racks, or 45.8% filled

Entities in the Data Centers

SMDC - Helena

- COR
- DEQ
- DLI
- DNR
- DOR
- FWP
- GOV
- HHS
- LEG
- MDT
- MSL
- OPI
- PSC
- SAO
- SOS
- STF
- DOA/MPERA
- DOA/SITSD
- DOA/TRS
- Montana Interactive
- State of Oregon

MCDC – Miles City

- DOR
- HHS
- MDT
- OPI
- PSC (soon, no date set)
- SOS
- STF (soon, no date set)
- DOA/SITSD
- Montana Interactive
- University of Montana

Benefits

- Physical Security
  - Intrusion Detection Fence, Anti-climbing Fence
  - Background Checks
  - Badge Access
  - Biometric Access
  - Rack Access
  - Security Cameras
- Security Monitoring
  - Firewall Activity
  - Intrusion Detection System
  - Virus/Malware Activity
  - Badge Access
  - Security Cameras

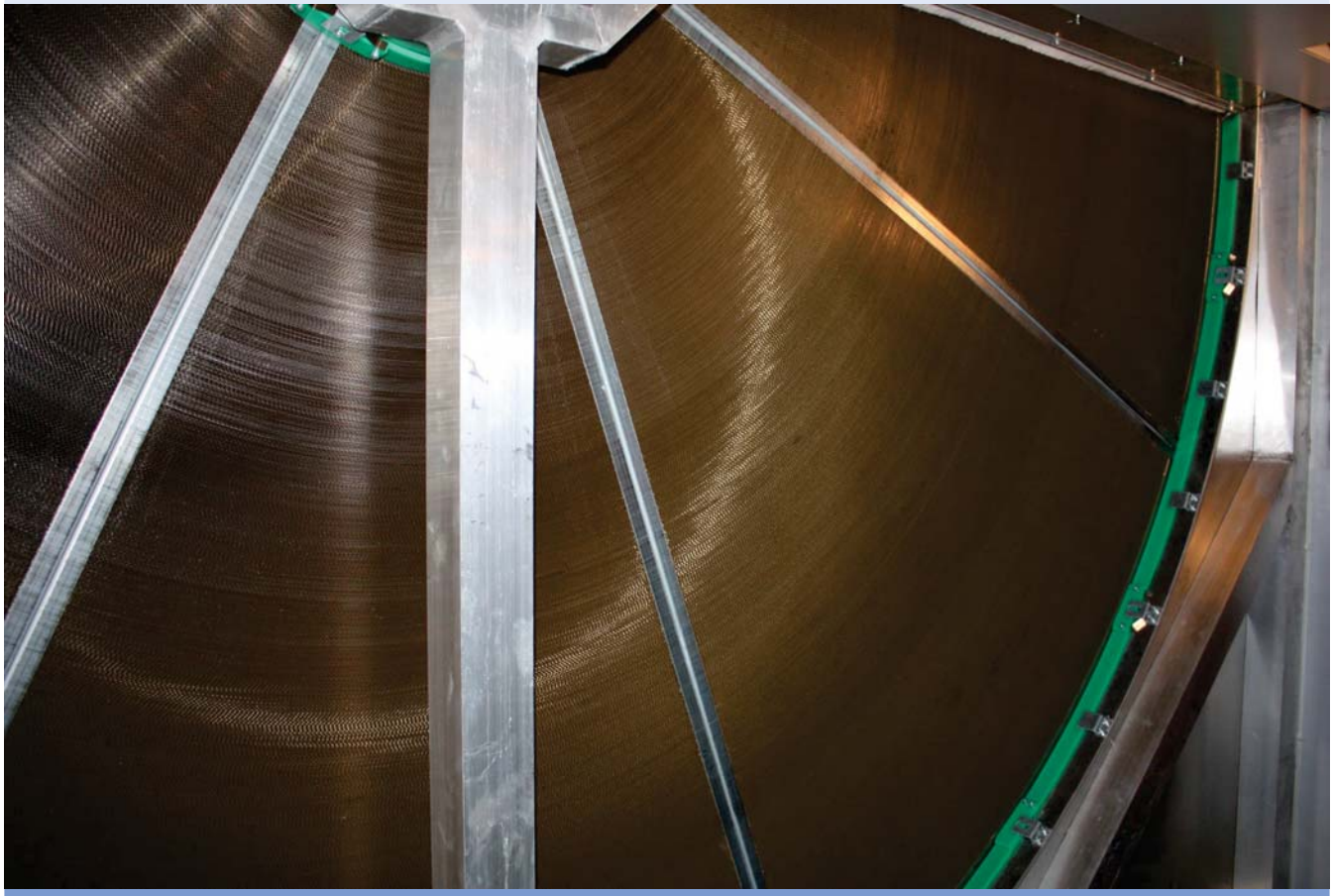
More Benefits

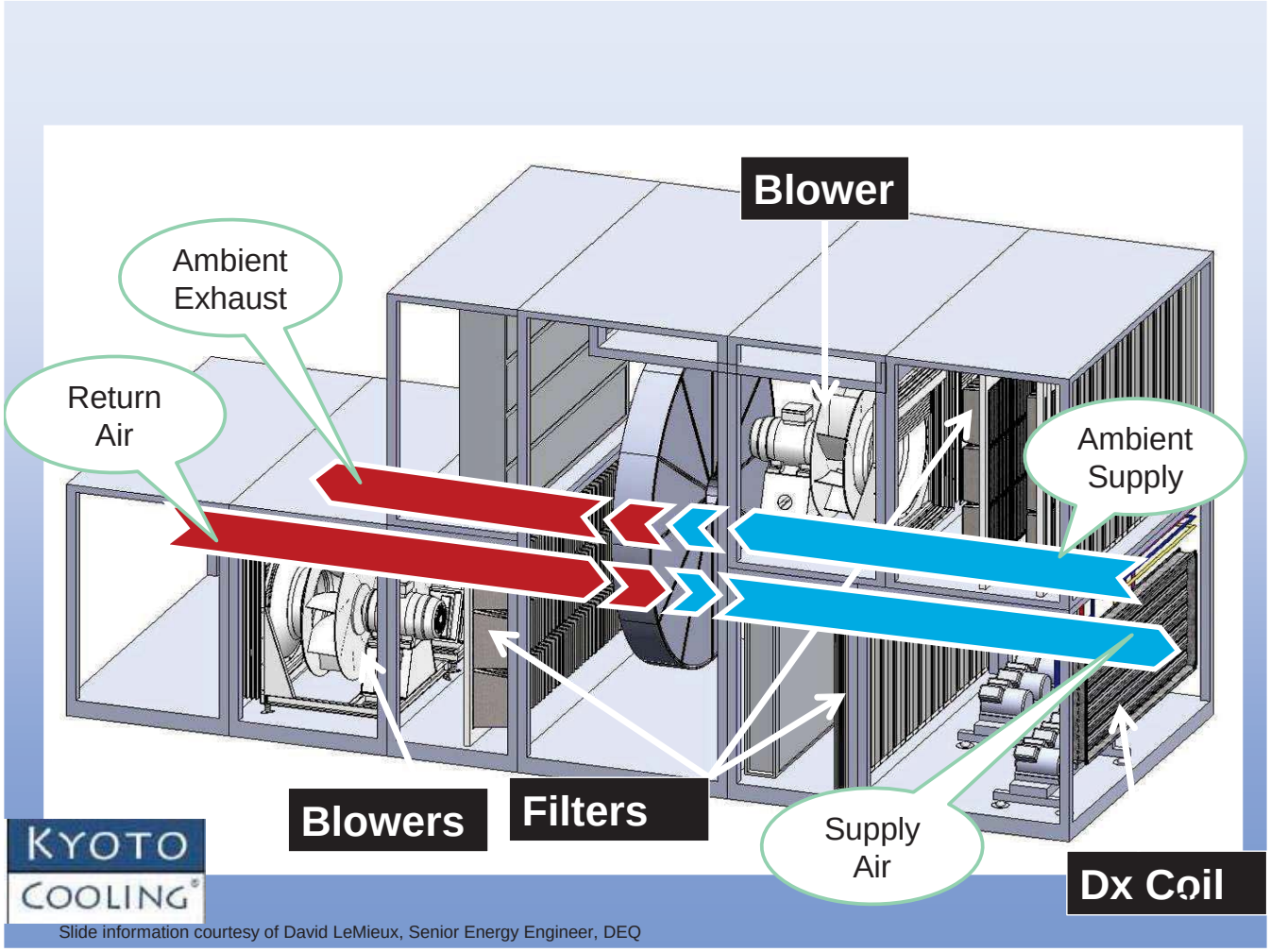
- Network
  - Geographically Distributed
  - Diverse Carriers
  - Diverse Entrance Facilities
  - Redundancy/Resiliency
  - Continuity of Government
  - Overlay Transport Virtualization (OTV)
- Data Center
  - Redundant Systems for UPS and Cooling
  - Backup Power
  - Security Systems
  - 24x7x365 Staffing
  - Clean Room
  - Energy Efficiency

Q & A

Data Centers at a Glance

	SMDC Helena	MCDC Miles City
Square Footage	5618 (247 racks)	2900 (96 racks)
Attended operation	Y	Y Business hrs
Electricity	Non Metered	Non Metered
Emergency Power Generators	2	1
Capacity	1250 KW	1250KW
Fuel supply	8700 Gal.	4350 Gal.
Maintenance cycle	weekly	weekly
UPS	2	2
Capacity	500KVA each	500 KVA
Span	9 Minutes	15 Minutes
Water detection	Y	Y
Fire prevention	FM 200 EPO	FM 200 EPO
Cooling	Kyoto 3 wheels	Conventional
Capacity	300KW / wheel	420 KW
Constraints	racks with chimneys	none
Isolation Bases	Y	N
Racks Provided	Y	Y
Video Surveillance	Y	Y
Environmental Monitoring	Y	Y
Support Dual Power	Y	Y
Secured Racks	Y	Y





Slide information courtesy of David LeMieux, Senior Energy Engineer, DEQ

Version 4 3/28/2011

State of Montana
Helena Data Center

Introduction

The State of Montana Data Center (SMDC) is located in the capital city of Helena, Montana. Completion of the building in March 2010 allowed the State to begin data center operations in August of 2010. The core purpose of this data center is to house computer services for the State. Having additional storage capacity in the facility has allowed the State to offer equipment hosting services to entities outside the State of Montana.

Facilities

SMDC is 15024 sq ft with 6264 sq ft currently allocated to the collocation area. The Data Room sits on a raised floor with cabinets arranged in a hot and cold row configuration. An automated environmental monitoring system allows the facility to be monitored for temperature and humidity levels. The facility is secured with a badge access and biometric system. All entrances are monitored by personnel 24x7x365.

We offer amenities for our customers such as a break room, free parking, hoteling cube space.

Business hours are Monday thru Friday, 8:00am to 5:00pm.

Staffing

The SMDC Facility is manned 24x7x365. There is a facility manager on site M-F 8am – 5pm. The manager uses automated equipment to monitor and adjust temperature and humidity levels as needed. Routine physical checks on all control panels are also conducted for accuracy. The Facility Manager also has access to remote monitoring for periodic checks after business hours.

Maintenance

SMDC has contracted licensed professionals to service and maintain all environmental systems within the facility. Maintenance, services and inspections will be completed regularly according to manufacturer recommended and required maintenance schedules.

Pricing

Pricing is based on a fixed price per cabinet. SMDC will provide standard cabinets, custom cabinets are quote-to-order. There is a quote-to-order cross-connect charge.

Security

The Facility Manager for the SMDC will be onsite during business hours. All entrances require a badge or biometric verification. Entrances are immediately viewed by personnel through a camera system. A Closed Circuit TV (CCTV) system is setup throughout the facility and monitored 24x7x365 by the State of Montana Enterprise Operations Center (EOC) in Helena, Montana. Any incidents are researched and tracked to ensure there has been no breach in security. Video is stored for an extended period of time. An Emergency Action Plan(EAP) is prepared and will be followed in the case of any conceived emergency.

Power

SMDC was designed and built for 150 watts of power per sq ft. SMDC is also supported with a UPS system that will provide 9 minutes of battery backup at 100% load and a 1000 kw generator capable of providing backup power for extended periods of time. At the moment of any utility power loss the backup power systems engage, load balance and synchronization takes place until power supply transfers back to utility power. In the event that there is an extended utility power outage, refueling agreements are in place to keep our generators running until utility power resumes.

Network

The SMDC is a carrier-neutral facility. Currently Bresnan and Qwest Communications are providing service to the data center. A cross-connect from the meet-me rooms (MMRs) to a floor cross-connect cabinet is used to provide the service handoff from the network connection to the client.

Green Energy

SMDC features a state-of-the-art primary cooling system by KyotoCooling, specifically designed for data centers and designed to save energy. Our UPS is 94.4% efficient and our enclosed cabinets are reported to increase cooling efficiency by up to 60%.

SMDC Frequently Asked Questions

COMPANY INFORMATION AND FINANCIALS

Who owns your collocation company?
State of Montana, State Information Technology Services Division

How long have you been in the collocation business?
The State of Montana has been in the collocation business for 20+ years. Our most recent experience with collocation involves the data centers located in Helena and Miles City.

How many other collocation facilities does your company operate?
The State of Montana operates other collocation facilities including the State of Montana Data Center in Miles City and the data center located in our Enterprise Operations Center (EOC) in Helena.

When was the SMDC facility built and when did you begin data center operations at this location?
The SMDC building was completed in March 2010 and began data center operations at this location in August 2010.

SIZE AND OCCUPANCY

Total sq ft of the facility.
The facility is 15024 sq ft.

Total sq ft of collocation area.
The collocation area is approximately 6264 sq ft.

How many cabinets can your facility accommodate?
The SMDC has the capacity for 247 600mm wide x 1200mm deep cabinets.

Do you own or lease your data center facility?
SMDC is owned by the State of Montana, State Information Technology Services Division.

Was your facility built from the ground up to be a collocation facility or built into an existing structure?
Our facility was built for collocation from the ground up.

Who designed and engineered your data center?
SMDC was designed and engineered by Total Site Solutions in conjunction with the State of Montana.

Is the facility totally built out in terms of infrastructure or are you adding new infrastructure as you open up more collocation space in the existing building?
SMDC will expand collocation infrastructure as needed.

Is the overall building designed to be expanded to add collocation space once fully occupied?
Yes, the SMDC facility is designed for growth.

CUSTOMER AMENITIES

Describe available customer office space at your collocation facility.
We offer short term hoteling cube space for up to **6** people. Phone, network, cleaning services and reasonable copy and fax services are provided at no charge. There are several available PC's located in the hoteling area.

How do customers who use the hoteling space connect to the Internet?
Customers of the SMDC are provided access to the Internet through a guest network..

Do you offer lab space?
No, we do not offer lab space.

Do you offer space to store equipment, tools and spare parts?
We do not offer storage space at SMDC.

SMDC Frequently Asked Questions

CUSTOMER AMENITIES cont

Do you have a kitchen facility for the use of customers? If so, what features are available for customer use?
Yes, the facility offers a break room with a table and six chairs, counter and cabinet space, a dishwasher and small refrigerator.

Is free, off-street parking available to customer staff and guests?
Free, off-street parking is available to staff and guests.

How do you manage customer deliveries?
Customers who have deliveries should notify the Facility Manager of the SMDC 24 hours prior to delivery so arrangements can be made for that delivery.

What types of cleaning services are offered to customers?
SMDC provides periodic cleaning above and below the raised floor of the data room and dry mopping is done as needed.

Does the customer have access 24x7x365?
If the customer purchases a cabinet they have 24x7x365. Customers sharing a cabinet will have access during business hours unless prior arrangements are made.

POWER SYSTEM

How many watts per square foot is your data center designed and built for in the collocation areas?
The data center is designed for 150 watts per sq ft of raised floor.

How large is your UPS?
SMDC has a redundant 500kw UPS.

Describe your utility power from outside the data center until it reaches the outlet under the floor that serves an individual user.
Once inside the facility, the power travels thru the paralleling gear and switch gear to the step down transformers and Redundant Power Panels (RPP). The RPP's provide two sources of power paths to the user. The facility is currently supported with a UPS system that will provide 9 minutes of battery backup at 100% load and a 1000kw generator capable of providing backup power for extended periods of time.

Describe what happens from the moment you lose utility power until utility power is restored.
At the moment utility power is lost, the UPS system senses the disruption and picks up the load. It will continue to provide uninterrupted power utilizing the battery strings. If necessary the system can provide up to 9 minutes of power at 100% load. At the same time, the Automatic transfer & bypass switch has sensed the loss of utility power and within 10 seconds the generator will start, synchronization and load balancing will occur, and the generator will take on the load for the facility. Upon restoration of utility power the Automatic transfer & bypass switch will monitor the load for 5 minutes before transferring the load back to utility power. Monitoring takes place to ensure load balance and synchronization is within set parameters for transfer to occur. After transfer occurs, the generator will continue to run for a cool down period prior to shutdown.

How many times each year do you turn off your utility power to verify and time how long it takes for the whole backup power transfer process to take place?
We cut off utility power to the building once a quarter for 1 hour. The system is rated to be 100% covered by the generator in under 10 seconds, however our tests to date have shown the process to take 2-3 seconds

How many hours can the generators operate with the fuel on hand at the facility?
At 80% fill and the generator at 100% load, with fan, and using 74.3 gals per hour, the estimate is 52 hours of run time with fuel on hand.

Do you have refueling agreements in place?
Refueling agreements for SMDC are currently in place.

Do you have a load balance and if so, how often and for how long do you run your generators at full load?
There is not sufficient load in the building to test full load capabilities at this time. We are currently have a contract with a third party to provide load balance testing and conduct 100% load test.

SMDC Frequently Asked Questions

GREEN ENERGY

How are you saving energy with your cooling system?
SMDC uses a state-of-the-art primary cooling system specifically designed for data centers. The KyotoCooling system uses heat transference with outside air to cool the inside air.

Does your power UPS meet the industry standard for efficiency?
In normal operating conditions our UPS systems for the SMDC are 99% efficient at full load.

What nationally recognized green energy qualifications does your data center meet?
The SMDC was designed to meet the Leadership in Energy and Environmental Design (LEED) qualifications and the Green Building Rating System.

HVAC AND ENVIRONMENTAL SYSTEMS

Are you raised floor or Telco?
There is a raised floor in the MMRs and data room.

If raised floor, how many inches?
The finished floor height is 24".

Do you use hot and cold rows and have all the cabinet/cabinets running in the same direction throughout the data center?
Yes, we alternate hot & cold aisles. Our cabinets to not all run in the same direction.

How high are the ceilings in the collocation areas?
There ceiling is 10' 9" from the raised floor.

How do you monitor and measure the temperature and humidity throughout the collocation floor?
The facility utilizes an automated environmental monitoring system which allows the responsible personnel to monitor, measure and adjust temperatures and humidity levels for the entire facility. During business hours the Facility Manager also conducts routine physical checks on all control panels for accuracy. The Facility Manager and other responsible personnel have the ability to access the monitoring program remotely for periodic checks after business hours.

NETWORK SYSTEMS

Are you a carrier-neutral facility?
Yes, SMDC is a carrier-neutral facility.

Who are your current carriers?
Bresnan and Qwest Communications are the current carriers at SMDC.

Are you able to accept new carriers?
Yes, we are able to accept new carriers.

Is your facility a Point of Presence (POP) for any of your carriers so that no local loop is required at your facility?
Our facility is not a POP at this time.

How much WAN capacity can you handle?
WAN capacity will be purchased from carrier by customer.

Do you have two or more separated cable entrances (i.e. fiber vaults and cable paths) into the building?
Yes, we have two separate cable entrances into the building.

Do you have a telco room with full redundancy?
We have two MMRs. The two current carriers are in separate MMRs.

Do you provide Internet bandwidth with BGP-4 to 2 separate Tier-1 carriers? Are there any single points of failure?
Internet bandwidth will be purchased from carrier by customer for 3rd party entities.

SMDC Frequently Asked Questions

NETWORK SYSTEMS cont

Are your connections from the telco room to the customer fiber?
Yes, however we will also accommodate other requests on a case by case basis

What make and model are your core routers and is each fully redundant?
Yes our core routers are fully redundant the make and models can be provided upon request.

How do you hand off the network connection to clients?
A cross-connect from the MMRs to a floor cross connect cabinet to the customer cabinet.

Can you currently support 10GB Ethernet connections?
SMDC can provide 10GB Ethernet connections to State customers. Internet bandwidth will be purchased from carrier by customer for 3rd party entities.

SAN

Does SMDC have SAN hosting services? Who is responsible for the management of the SAN services?
Yes, SMDC has SAN hosting services. Management of hosted SAN services will be done entirely by SITSD.

Can I, as a state agency or third party, bring my own SAN equipment to SMDC?
Yes, agencies and third party entities may bring their own SAN equipment to the SMDC. Any SAN equipment brought to the SMDC by agencies or third parties must be entirely supported by the agency or third party.

Are there other service combinations for SAN, such as partial hosting service, available at SMDC.
Other service arrangements at SMDC can be made on a case-by-case basis.

MONITORING AND HANDS-ON WORK

Do you have engineers on-site 7x24x365 who monitor client systems and contact customers when problems arise?
SMDC will have an on-site Facility Manager during business hours only. 7x24x365 environmental monitoring will be conducted onsite by EOC in Helena. SMDC does not provide technical monitoring of client systems.

Is your data center equipped with rules based on an automated building management system that handles your infrastructure systems?
SMDC utilizes a tritium based environmental system for monitoring the infrastructure. The system is capable of monitoring the generator, cooling towers, heat pumps, boiler and the interior cooling systems. The system monitors operation of all environmental systems and indicates and alarm if any system is malfunctioning. The system also allows for resetting of any alarms once they are corrected and adjustments to temperature and humidity levels and set points have been made.

Do you charge for simple hands-on work such as: re-booting a server, occasional tape change, swapping a drive, etc.?
Remote hands services are not available at SMDC

Do you have a customer portal where clients can monitor their systems in real-time?
This service can be negotiated on a case-by-case basis.

Will SMDC provide the KVM switch for the cabinet?
SMDC will provide the KVM switch for any shared cabinet. Customers purchasing an entire cabinet need to supply a KVM switch of their own, any brand of their choice.

SMDC Frequently Asked Questions

PHYSICAL AND ELECTRONIC SECURITY

Do you have alarms to the local law enforcement and fire protection agencies?
Our alarms notify Capitol Security who will alert local authorities.

Describe your electronic intrusion alarm system and any other means you have to prevent unauthorized access to your facility.
SMDC has a badge access and biometric system to enter the facility. The access systems are attached to our monitoring facility which is manned 24x7x365. Entrances are viewed immediately by personnel through the camera system. Alarms are highlighted and researched to

Describe your electronic intrusion alarm system and any other means you have to prevent unauthorized access to your facility.
SMDC has a badge access and biometric system to enter the facility. The access systems are attached to our monitoring facility which is manned 24x7x365. Entrances are viewed immediately by personnel through the camera system. Alarms are highlighted and researched to ensure an incident has not occurred. All incidents are cabineted in our incident management system.

Describe your CCTV system for monitoring inside and outside the data center. Who has access to these systems?
The camera system is set throughout the facility. Cameras are monitored 24x7x365 by the EOC in Helena. Approved State of Montana employees will have access to the CCTV systems.

How long is the CCTV video stored before being deleted?
The CCTV video is stored for an extended period of time before being deleted.

Is there a phone outside the secure perimeter of the facility?
There is a call box located outside the secure perimeter.

Do you have different levels of access to SMDC?
SMDC has three levels of access: Controlling Access, Escorted Access and Unescorted Access.

- Controlling Access: granted to the staff whose job responsibilities require that they have access to the area on a day-to-day basis
- Escorted Access: closely monitored access given to people who have a legitimate business need for infrequent access to a Data Center. “Infrequent access” is generally defined as access required for less than 15 days per year
- Unescorted Access: granted to a person who does not qualify for Controlling Access but has a legitimate business reason for unsupervised access to a Data Center. An example of this would be a State Employee or Approved Vendor who requires access to work on their system for a set period of time

FIRE DETECTION AND SUPPRESSION SYSTEMS

Do you employ a very early smoke detection apparatus (VESDA) system?
Our facility does not employ a VESDA system. SMDC uses a two stage laser smoke detection system.

What procedures does your staff use in the event of an alarm or fire? How often does your staff practice fire drills?
An EAP is prepared and will be followed in the case of any conceived emergency. The EAP will be reviewed annually or following any emergency event for accuracy. The EAP may be adjusted after an emergency event based on reality. Any required drills will be exercised.

What steps are taken to minimize the chance of a fire?
A Facility Risk Assessment utilizing NFPA and OSHA recommendations is conducted semi-annually. The Facility Risk Assessment ensures the facility and staff are in compliance with standard operating procedures.

SMDC Frequently Asked Questions

PREVENTATIVE MAINTENANCE

Who does the preventative maintenance on your infrastructure systems?
Maintenance, services and inspections will be conducted per instructions found in the operator and service manuals. This information is located in the Operations & Maintenance (O & M) manuals for the facility. The Facility Manager maintains a checklist with all required maintenance schedules. The Facility Manager routinely reviews the checklist with contracted personnel. A five year calendar of scheduled maintenance is available for customers to review.

Do you give notification to customers when you do your major maintenance/power testing?
Customers will be given advanced notification of any major repairs or testing that will take place.

PRICING

How do you charge for cage space?
Cage space is not available within this data center.

Do you bill for actual power usage or fixed price per cabinet?
Fixed price per cabinet (included in cabinet rate) up to a specific amount.

How much do you charge for Internet bandwidth?
Network services are not provided to private entities.

Is Internet bandwidth based up the “95% rule”?
Network services are not provided to private entities. These services will be purchased by the customer from the carrier.

Do you provide cabinets, sell cabinets, or should we purchase our own?
Standard cabinets are provided, custom cabinets are quote-to-order.

What are your non-recurring costs?
Quote-to-order cross-connect charge.

CONTRACT AND SERVICE-LEVEL-AGREEMENTS

Do you have a non-compete clause in your agreement that prevents you from working with our clients without our knowledge and agreement for you to do so?
We do not offer a non-compete clause.

SMDC Frequently Asked Questions

DATA CENTER FACILITY TIER RATING

According to the Uptime Institute's Data Center Tier Rating System, what Tier is your Facility?
Facility was designed at a Tier 3 which requires it to be N+1 for the facility infrastructure.

Explain how your data center meets or exceeds your Tier Rating.
Currently the facility does not meet Tier 3 requirements due to no redundancy in the UPS system. This lack of redundancy will be corrected during the first half of 2011 when the second UPS system will be installed. The facility is N+1 in power, cooling and communications.

Provide the level of redundancy for each of the infrastructure components listed below based upon full utilization of your facility space and power (i.e. Necessary = N, N+1, N+2, 2N).

- Generators: N
- Paralleling Gear: N
- UPS: N+1 up to 500kw
- Batteries: N+1 up to 500kw
- Load Balance: N/A
- Chiller Systems: N+1
- CRAC Units: N+1
- VESDA: N/A
- Fire Suppression: N+1
- Network and Switching Gear: N/A

STATE ITSD
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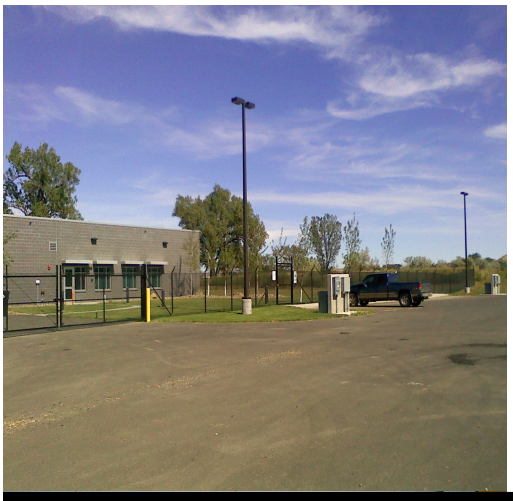
For more information
Contact the ITSD
Service Desk @ 406-444-2000
Or email ServiceDesk@mt.gov



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STATE OF MONTANA
MILES CITY DATA CENTER

Introduction

The State of Montana Miles City Data Center (MCDC) is located in the eastern part of Montana. Completion of the building in June 2010 allowed the State to begin data center operations in September of 2010. The core purpose of this data center is data recovery for the State. Having additional storage capacity in the facility has allowed the State to offer equipment hosting services to entities outside the State of Montana.

Facilities

MCDC is 8645 sq ft with 2862 sq ft currently allocated to the collocation area. The Data Room sits on a raised floor and cabinets run in a hot/cold aisle configuration throughout the data center. An automated environmental monitoring system allows the facility to be monitored for temperature and humidity level. The facility is secured with a badge access and biometric system. All entrances are monitored by personnel 24x7x365.

We offer amenities for our customers such as a break room, free parking, hoteling cube space.

Business hours are Monday thru Friday, 8:00am to 5:00pm.

Staffing

During business hours the MCDC has a Facility Manager on site. The manager uses automated equipment to monitor and adjust temperature and humidity levels as needed. Routine physical checks on all control panels are also conducted for accuracy. The Facility Manager also has access to remote monitoring for periodic checks after business hours.

Maintenance

MCDC has contracted licensed professionals to service, maintain and monitor all environmental systems within the facility. Maintenance, services and inspections will be completed regularly according to manufacturer recommended and re-

Pricing

Pricing is based on a fixed price per cabinet. MCDC will provide standard cabinets, custom cabinets are quote-to-order. There is a quote-to-order cross-connect charge.

Security

The Facility Manager for the MCDC will be onsite during business hours. All entrances require a badge or biometric verification. Entrances are immediately viewed by personnel through a camera system. A Closed Circuit TV (CCTV) system is setup throughout the facility and monitored 24x7x365 by the State of Montana Enterprise Operations Center (EOC) in Helena, Montana. Any incidents are researched and tracked to ensure there has been no breach in security. Video is stored for an extended period of time. An Emergency Action Plan(EAP) is prepared and will be followed in the case of any conceived emergency.

Power

MCDC was designed and built for 150 watts of power per sq ft. The facility was strategically built between two power grids. Montana Dakota Utilities has redundant capability to transfer the power, if needed, from the western power grid to the Easter Power Grid. MCDC is also supported with a UPS system that will provide 15 minutes of battery backup at 100% load and a 1000 kw generator capable of providing backup power for extended periods of time. At the moment of any utility power loss the backup power systems engage, load balance and synchronization takes place until power supply transfers back to utility power. In the event that there is an extended utility power outage, refueling agreements are in place to keep our generators running until utility power resumes.

Network

The MCDC is a carrier-neutral facility. Currently Mid-Rivers Telephone Company and Qwest Communications are providing service to the data center. A cross-connect from the meet-me rooms (MMRs) to a floor cross-connect cabinet is used to provide the service handoff from the network connection to the client.

MCDC Frequently Asked Questions

COMPANY INFORMATION AND FINANCIALS

Who owns your collocation company?
State of Montana, State Information Technology Services Division

How long have you been in the collocation business?
The State of Montana has been in the collocation business for 20+ years. Our most recent experience with collocation involves the data centers located in Helena and Miles City.

How many other collocation facilities does your company operate?
The State of Montana operates other collocation facilities including the State of Montana Data Center in Helena, and the data center located in our Enterprise Operations Center (EOC) in Helena.

When was the MCDC facility built and when did you begin data center operations at this location?
The MCDC building was completed in June 2010 and began data center operations at this location in September 2010.

SIZE AND OCCUPANCY

Total sq ft of the facility.
The facility is 8645 sq ft.

Total sq ft of collocation area.
The collocation area is approximately 2862 sq ft.

How many cabinets can your facility accommodate?
The MCDC has the capacity for 96 cabinets.

Do you own or lease your data center facility?
MCDC is owned by the State of Montana, State Information Technology Services Division.

Was your facility built from the ground up to be a collocation facility or built into an existing structure?
Our facility was built for collocation from the ground up.

Who designed and engineered your data center?
MCDC was designed and engineered by Total Site Solutions in conjunction with the State of Montana.

Is the facility totally built out in terms of infrastructure or are you adding new infrastructure as you open up more collocation space in the existing building?
MCDC will expand collocation infrastructure as needed.

Is the overall building designed to be expanded to add collocation space once fully occupied?
Yes, the MCDC facility is designed for growth.

CUSTOMER AMENITIES

Describe available customer office space at your collocation facility.
We offer short term hoteling cube space for up to **4** people. Phone, network, cleaning services and reasonable copy and fax services are provided at no charge.

How do customers who use the hoteling space connect to the Internet?
Customers of the MCDC are provided access to the Internet through a guest network.

Do you offer lab space?
We do not offer lab space.

Do you offer space to store equipment, tools and spare parts?
We do not offer storage space at MCDC.

MCDC Frequently Asked Questions

CUSTOMER AMENITIES

Do you have a kitchen facility for the use of customers? If so, what features are available for customer use?
Yes, the facility offers a break room with a table and six chairs, counter and cabinet space, a dishwasher and small refrigerator.

Is free, off-street parking available to customer staff and guests?
Free, off-street parking is available to staff and guests.

How do you manage customer deliveries?
Customers who have deliveries should notify the Facility Manager of the MCDC 24 hours prior to delivery so arrangements can be made for that delivery.

What types of cleaning services are offered to customers?
MCDC provides periodic cleaning above and below the raised floor of the data room and dry mopping is done as needed.

POWER SYSTEM

How many watts per square foot is your data center designed and built for in the collocation areas?
The data center is designed for 150 watts per sq ft of raised floor space..

How large is your UPS?
MCDC has a redundant 500kw UPS.

Describe your utility power from outside the data center until it reaches the outlet under the floor that serves an individual user.
The facility was strategically built between two power grids. Montana Dakota Utilities has redundant capability to transfer the power, if needed, from the western power grid (current source) to the Eastern Power Grid. Once inside, the power travels thru the paralleling gear and switch gear to the step down transformers and Redundant Power Panels (RPP). The RPP's provide two sources of power paths to the user. The facility is currently supported with a UPS system that will provide 15 minutes of battery backup at 100% load and a 1000kw generator capable of providing backup power for extended periods of time.

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We cut off utility power to the building once a quarter for 1 hour. The system is rated to be 100% covered by the generator in under 10 seconds however our tests to date have shown the process to take 2-3 seconds.

How many hours can the generators operate with the fuel on hand at the facility?
At 80% fill and the generator at 100% load, with fan, and using 74.3 gals per hour, the estimate is 52 hours of run time with fuel on hand.

Do you have refueling agreements in place?
Refueling agreements for MCDC are in place.

Do you have a load balance and if so, how often and for how long do you run your generators at full load?
There is not sufficient load in the building to test full load capabilities at this time. We are have contracted with a third party to provide load balance testing and conduct 100% load test.

MCDC Frequently Asked Questions

HVAC AND ENVIRONMENTAL SYSTEMS

Are you raised floor or Telco?
There is a raised floor in the MMRs and data room.

If raised floor, how many inches?
The finished floor height is 24".

Do you use hot and cold rows and have all the cabinet/racks running in the same direction throughout the data center?
Yes, we alternate hot & cold aisles and our cabinets are all running in the same direction.

How high are the ceilings in the collocation areas?
The ceiling is 10' 9" from the raised floor.

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NETWORK SYSTEMS

Are you a carrier-neutral facility?
Yes, MCDC is a carrier-neutral facility.

Who are your current carriers?
Mid-Rivers Telephone Company and Qwest Communications are the current carriers at MCDC.

Are you able to accept new carriers?
Yes, we are able to accept new carriers.

Is your facility a Point of Presence (POP) for any of your carriers so that no local loop is required at your facility?
Our facility is not a POP at this time.

How much WAN capacity can you handle?
WAN capacity will be purchased from carrier by customer.

Do you have two or more separated cable entrances (i.e. fiber vaults and cable paths) into the building?
Yes, we have two separate cable entrances into the building.

Do you have a telco room with full redundancy?
We have two MMRs. The two current carriers are in separate MMRs.

Do you provide Internet bandwidth with BGP-4 to 2 separate Tier-1 carriers? Are there any single points of failure?
Internet bandwidth will be purchased from carrier by customer for 3rd party entities.

Are your connections from the telco room to the customer fiber?
Yes, however we will also accommodate other requests on a case by case basis

What make and model are your core routers and is each fully redundant?
Yes our core routers are fully redundant the make and models can be provided upon request.

How do you hand off the network connection to clients?
Network hand-off is accomplished by a cross-connect from the MMRs to a floor cross connect cabinet to the customer cabinet.

Can you currently support 10GB Ethernet connections?
MCDC can provide 10GB Ethernet connections to State customers. Internet bandwidth will be purchased from carrier by customer for 3rd party entities.

MCDC Frequently Asked Questions

SAN

Does MCDC have SAN hosting services? Who is responsible for the management of the SAN services?
Yes, MCDC has SAN hosting services. Management of hosted SAN services will be done entirely by SITSD.

Can I, as a state agency or third party, bring my own SAN equipment to MCDC?
Yes, agencies and third party entities may bring their own SAN equipment to the MCDC. Any SAN equipment brought to the MCDC by agencies or third parties must be entirely supported by the agency or third party.

Are there other service combinations for SAN, such as partial hosting service, available at MCDC.
Other service arrangements at MCDC can be made on a case-by-case basis.

MONITORING AND HANDS-ON WORK

Do you have engineers on-site 7x24x365 who monitor client systems and contact customers when problems arise?
MCDC will have an on-site Facility Manager during business hours only. 7x24x365 environmental monitoring will be conducted remotely by EOC in Helena. MCDC does not provide technical monitoring of client systems.

Is your data center equipped with rules based on an automated building management system that handles your infrastructure systems?
MCDC utilizes a tritium based environmental system for monitoring the infrastructure. The system is capable of monitoring the generator, cooling towers, heat pumps, boiler and the interior cooling systems. The system monitors operation of all environmental systems and indicates and alarm if any system is malfunctioning. The system also allows for resetting of any alarms once they are corrected and adjustments to temperature and humidity levels and set points have been made.

Do you charge for simple hands-on work such as: re-booting a server, occasional tape change, swapping a drive, etc.?
Remote hands services are not available at MCDC.

Do you have a customer portal where clients can monitor their systems in real-time?
This service can be negotiated on a case-by-case basis.

Will SMDC provide the KVM switch for the cabinet?
SMDC will provide the KVM switch for any shared cabinet. Customers purchasing an entire cabinet need to supply a KVM switch of their own, any brand of their choice.

PHYSICAL AND ELECTRONIC SECURITY

Do you have alarms to the local law enforcement and fire protection agencies?
Our alarms notify Capitol Security who will alert local authorities.

Describe your electronic intrusion alarm system and any other means you have to prevent unauthorized access to your facility.
MCDC has a badge access and biometric system to enter the facility. The access systems are attached to our monitoring facility which is manned 24x7x365. Entrances are viewed immediately by personnel through the camera system. Alarms are highlighted and researched to ensure an incident has not occurred. All incidents are tracked in our incident management system.

Describe your CCTV system for monitoring inside and outside the data center. Who has access to these systems?
The camera system is set throughout the facility. Cameras are monitored 24x7x365 by the EOC in Helena. Approved State of Montana employees will have access to the CCTV systems.

How long is the CCTV video stored before being deleted?
The CCTV video is stored for an extended period of time.

Is there a phone outside the secure perimeter of the facility?
There is a call box located outside the secure perimeter.

MCDC Frequently Asked Questions

PHYSICAL AND ELECTRONIC SECURITY cont.

Do you have different levels of access to SMDC?
SMDC has three levels of access: Controlling Access, Escorted Access and Unescorted Access.

- Controlling Access: granted to the staff whose job responsibilities require that they have access to the area on a day-to-day basis
- Escorted Access: closely monitored access given to people who have a legitimate business need for infrequent access to a Data Center. "Infrequent access" is generally defined as access required for less than 15 days per year
- Unescorted Access: granted to a person who does not qualify for Controlling Access but has a legitimate business reason for unsupervised access to a Data Center. An example of this would be a State Employee or Approved Vendor who requires access to work on their system for a set period of time

FIRE DETECTION AND SUPPRESSION SYSTEMS

Do you employ a very early smoke detection apparatus (VESDA) system?
Our facility does not employ a VESDA system. MCDC uses a two stage laser smoke detection system.

What procedures does your staff use in the event of an alarm or fire? How often does your staff practice fire drills?
The Facility Manager is in the process of preparing an Emergency Action Plan (EAP). Once the EAP is completed the plan will be submitted for approval. An approved EAP will be posted and utilized by staff and visiting personnel. The EAP will be reviewed semi-annually and any required drills will be exercised.

What steps are taken to minimize the chance of a fire?
A Facility Risk Assessment utilizing NFPA and OSHA recommendations is conducted semi-annually. The Facility Risk Assessment ensures the facility and staff are in compliance with standard operating procedures.

PREVENTATIVE MAINTENANCE

Who does the preventative maintenance on your infrastructure systems?
Maintenance, services and inspections will be conducted per instructions found in the operator and service manuals. This information is located in the Operations & Maintenance (O & M) manuals for the facility. The Facility Manager maintains a checklist with all required maintenance schedules. The Facility Manager routinely reviews the checklist with contracted personnel. A five year calendar of scheduled maintenance is available for customers to review.

Do you give notification to customers when you do your major maintenance/power testing?
Customers will be given advanced notification of any major repairs or testing that will take place.

PRICING

How do you charge for cage space?
Cage space is not available within this data center.

Do you bill for actual power usage or fixed price per cabinet?
Fixed price per cabinet (included in cabinet rate) up to a specific amount.

How much do you charge for Internet bandwidth?
Network services are not provided to private entities. Services for Internet will be purchased from carrier-to-customer.

Is Internet bandwidth based up the "95% rule"?
Network services are not provided to private entities.

Do you provide racks, sell racks, or should we purchase our own?
Standard racks are provided, custom cabinets are quote-to-order.

MCDC Frequently Asked Questions

PRICING cont.

What are your non-recurring costs?
MCDC has a quote-to-order cross-connect charge.

CONTRACT AND SERVICE-LEVEL-AGREEMENTS

Do you have a non-compete clause in your agreement that prevents you from working with our clients without our knowledge and agreement for you to do so?
We do not offer a non-compete clause.

For more information
Contact the ITSD
Service Desk @ 406-444-2000
Or email ServiceDesk@mt.gov

State of Montana

Strategic Plan for Information Technology 2014

This document is prepared under the authority of the Montana Information Technology Act of 2001. It is published biennially unless special interim plans become necessary.

STATE INFORMATION TECHNOLOGY SERVICES DIVISION
Ron Baldwin, Montana State Chief Information Officer
April 1, 2014

Montana Strategic Plans for Information Technology can be found at:
mt.gov - Montana's Official State Website

If you have any questions or comments on this plan, please contact:
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STATE OF MONTANA
DEPARTMENT OF ADMINISTRATION
STATE INFORMATION TECHNOLOGY SERVICES DIVISION

Steve Bullock
Governor

April 1, 2014

Fellow Montanans:

It is my pleasure to present the State of Montana 2014 Strategic Plan for Information Technology. This plan aligns with the administration's initiatives: better jobs, better education, and effective state government. We will use/leverage technology to address these areas by:

- Providing mobile access for our citizens and state employees.
- Prioritizing projects that deliver the most effective government services.
- Employing technologies make state service more accessible and secure.
- Sharing systems across agencies, Montana political subdivisions, and other states.
- Maximizing returns on IT expenditures.

We know our destination and the road we want to take to reach that destination. This plan is that road map. It describes the overall direction of information technology throughout Montana state government. Agencies will use it as their guide when they are prioritizing their IT investments and making decisions.

Technology plays a crucial role in all our daily lives. This is especially true for Montana state government. Our lives are better for our willingness to embrace advances in technology. However, we fully realize the benefits of technology only when it is well managed and secure. This strategic plan is the foundation for managing our technology and ensuring it delivers maximum value.

The right technology strategy for Montana is to focus on the services our citizens need, and then deliver those services in the most effective, efficient and secure manner.

This plan directly supports the State's strategic goals and business requirements. It is a guide through the complex issues and challenges that are part of effectively managing technology. The success of state government rests on our ability to meet the expectations of Montana citizens and businesses with thoughtful technology investments and manageable risks.

Sincerely,

Ron Baldwin, State CIO

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1. Executive Summary

Montana has three basic business drivers that shape the state's programs and IT strategies: jobs, education, and effective/efficient government. Most IT programs and projects will address only one of the three business objectives. The most frequent objective is usually effective and efficient government. New and enhanced IT systems normally generate savings in agency operational costs, or greatly enhance agency service or functions available to the public.

Montana's IT strategies are designed to directly support and contribute to the success of Montana's business objectives. Montana's IT strategies are:

1. Deliver network services that enable online education and remote access to state and local government services.
2. Deliver mobile access to state services for citizens, businesses and state employees.
3. Leverage standards, technical innovations and systems from other government entities.
4. Share systems, components and functionality across agencies, Montana political subdivisions and other states.
5. Utilize cloud, open source and existing systems; deploy custom built systems only when absolutely necessary.
6. Implement an enterprise cyber security program.

2. State Environment, Success and Capabilities

Montana weathered the recession better than the rest of the nation. Montana's unemployment rate has consistently outperformed other states, and the workforce demonstrates high rates of educational attainment, income growth, and increasing job opportunities. In late June 2013 the Legislative Fiscal Division projected almost a $300,000,000 ending general fund balance for the FY2015 biennium. Montana's economy is healthy, but there is room for improvement.

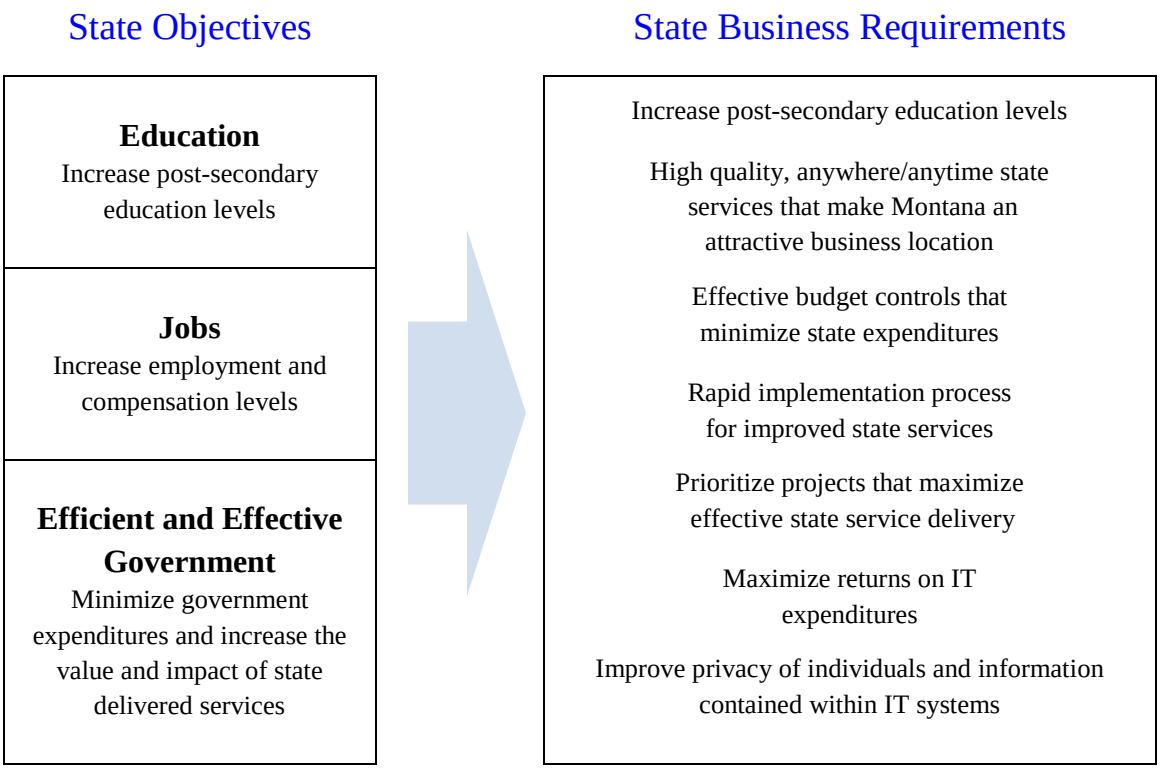
Technology strategic planning must be based on the needs, goals, and business drivers of the leaders that manage State programs and priorities. Those business drivers have been identified as jobs, education, and effective/efficient government.

- **Jobs** - Montana's objective is to ensure job growth and private sector wage growth exceeds the national average. Montana added 10,700 jobs in 2012, a growth rate of 2.3% which exceeded national job growth. Private sector wage growth in Montana increased by 4.2 % in 2012; the second fastest wage growth in the nation. Additional details can be found in the 2013 Labor Day Report at: http://www.ourfactsyourfuture.org/admin/uploadedPublications/5314_LDR-13.pdf

- **Education** - Montana's objective is to increase the percent of Montana's population with a completed college certificate from 40% to 60% by 2020. In the previous three years Montana led the nation with an increase of 37% to 40% in higher education credentials. Currently 96% of Montana's labor force has a high school diploma, 4th in the nation.

- **Effective Government** - Effectiveness is the ability to produce better quality outcomes or higher value. IT can support this goal in two ways. First, by delivering value to state employees and programs. A $100,000 IT investment that saves a state agency $200,000 in personnel time or expenditures, or delivers $200,000 in citizen benefits, would make the state more effective. Second, state IT organizations can reduce their own internal IT costs; reducing them to minimum levels while maintaining high quality service. The state's objective is more effective government through both paths.

Montana's goals and objectives lead directly to several state business requirements; requirements that must be met if Montana is to succeed. The state business requirements are the focal points around which the state IT strategy is built.



3. IT Contribution and Strategies

Montana's IT strategy is designed to support the state's primary strategies and business requirements. Not all IT programs and projects will address all of the business requirements, but all IT programs and projects will support at least one. Most IT programs and projects will focus on effective/efficient government. By its very nature a new or enhanced IT system will normally drive down agency operational costs or greatly enhance agency service or functions available to the public. Occasionally a new IT system will increase agency costs. This will be a conscious choice because the system benefits to state citizens and businesses will far exceed the state's incremental IT costs.

Commerce, Labor and Industry, the Office of Public Instruction, and the university system will directly impact Montana jobs and education. Other agencies will have a secondary impact. But all agency IT organizations will have a direct impact on delivering a more effective and efficient state government. Agency IT services and systems will provide value by delivering faster, more informative services to citizens and business, and by reducing the cost of agency operations.

Montana's IT strategy to contribute to Montana's success has eight components; found in the tables below.

State Objectives	State Business Requirements	State IT Strategies
Education Increase post-secondary education levels	Increase post-secondary education levels High quality, anywhere, anytime services that make MT an attractive business location	Deliver network services that enable online education and remote access to state and local government services Deliver mobile access to state services for citizens, businesses and state employees
Jobs Increase employment and compensation levels	Effective budget controls that minimize State expenditures Rapid implementation process for improved state services	Leverage standards, technical innovations and systems from other government entities Share systems, components and functionality across MT agencies, MT political subdivisions and other states
Efficient and Effective Government Minimize government expenditures and increase the value and impact of state delivered services	Prioritize projects that maximize effective service delivery Maximize returns on IT expenditures Improve privacy of individuals and information contained within IT systems	Utilize cloud, open source and existing systems; deploy custom built systems only when absolutely necessary Implement an enterprise cyber security program

4. IT Principles

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

Montana's IT principles:

- Resources and funding will be allocated to the IT projects that contribute the greatest net value and benefit to Montana stakeholders.
- Unwarranted duplication will be minimized by sharing data, IT infrastructure, systems, applications and IT services.
- Montana will use shared inter-state systems to minimize IT expenditures, improve service delivery and accelerate service implementation.
- IT will be used to provide educational opportunities, create quality jobs, a favorable business climate, improve government, protect individual privacy and protect the privacy of IT information.
- IT resources will be used in an organized, deliberative and cost-effective manner.
- IT systems will provide delivery channels that allow citizens to determine when, where, and how they interact with state agencies.
- Mitigation of risks is a priority for protecting individual privacy and the privacy of IT systems information.

5. IT Governance

The state has established in law, by Executive Order and by Agency Executive Order, governance structures such as the Information Technology Board, the Statewide Interoperability Governance Board, the Electronic Government Advisory Council and the Information Technology Managers Council. The purpose of these governance structures is to ensure that the state's IT investments supporting the business needs of the agencies are done in a cost effective manner.

The state CIO and state agencies will work in a cooperative manner to strengthen these governance structures so they provide the framework for a deliberative approach to making IT investments that support the services the state provides to its citizens.

6. IT Financial Management

Agencies receive their IT expenditure authority from the legislature. IT funding sources include the state general fund, proprietary funds, fees, federal grants, etc. Most of the funding authority originates in an agency's biennial base budget with House Bill 10 providing supplemental capital funding for major IT projects and programs that cross biennium boundaries. IT line items in HB10 are managed by the Office of Budget and Program Planning (OBPP) with approval by the State CIO. SITSD is funded through a state proprietary fund and receives its revenue through chargebacks to agency customers.

Agencies will document and provide adequate justification for their major IT spending proposals to OBPP and the Department of Administration.

7. IT Metrics

The state recognizes the need to minimize IT expenditures while maximizing the return on IT investments. Establishing a value on our IT infrastructure of software applications and hardware is a necessary step. We must also establish a baseline for IT metrics and then measure progress over time. Reporting on progress occurs in the IT Biennial Report, which is published at the start of each legislative session.

The State CIO will work in cooperation with the established IT governance bodies in developing metrics for assessing the effectiveness and efficiencies in the following IT areas:

- Projects
- Operating expenditures
- Capital investments
- Cyber security

8. IT Services and Processes

Montana's agencies have hundreds of individual applications and services that support their programs and constituents. Describing agency systems and applications, or even listing them, would be lengthy and inappropriate considering their agency-specific scope. SITSD offers a range of enterprise-wide services available to agencies, university system and local governments. The scope of SITSD's service offerings is broad and similar to peer states. Outside of a few isolated services such as fax, e-signatures, cell phones, and business analysis, SITSD's catalog of services is typical for a central state IT organization.

Agencies will look for opportunities to build their program services on shared IT systems: inter-agency systems, SITSD enterprise systems, and interstate systems. Additionally, agencies will provide mobile access to state services for citizens, businesses and state employees.

9. IT Infrastructure, Staffing and Resources

Montana has two primary data centers: the State of Montana Data Center (SMDC) in Helena and the Miles City Data Center (MCDC). MCDC operates as a backup and recovery site. The Department of Justice and Montana State Fund also maintain data centers in Helena. Twelve agencies have moved their equipment into the SMDC. The backbone of Montana's IT infrastructure is SummitNet, a secure consolidated voice, video and data network that supports approximately 22,000 devices at over 600 locations. Montana has approximately 850 IT positions, 6.48% of all state employees.

Agencies will utilize cloud, open source, and COTS solutions, deploying custom built systems only when absolutely necessary.

10. Enterprise IT Initiatives

Enterprise IT Management seeks to maximize the value of information technology at the enterprise level. The key objective of this initiative is to implement policies, processes and tools that ensure IT is effectively procured, used and shared across state and local government. This will result in operational efficiencies, reduced IT costs and seamless, integrated services for Montana citizens. The Enterprise IT Management group will focus on the portfolio of enterprise projects, initiatives and opportunities.

Strategic Planning

The 2001 State Legislature recognized IT as an enabler of government services and enacted the Montana Information Technology Act. MITA identified the need for a unified vision for IT in state government and required the development of an enterprise-wide strategic plan. The State of Montana Strategic Plan for Information Technology provides the framework and guidance for state agencies to develop and use IT resources to provide state government services.

MITA also requires that each state agency develop an IT plan. Agency IT plans identify specific agency technology goals, objectives and budget requirements for implementing the plans. The Act also requires the Department of Administration to review and approve agency IT plans and provide oversight for the state's procurement of IT.

IT Service Portfolio Management

IT Service Portfolio Management encompasses the processes for identifying, evaluating, sourcing, modifying and retiring IT services. The objective is to manage a catalog of services to balance the use of resources, deliver maximum value as quickly as possible, and minimize risk. Decisions on IT services are based on customer requirements and economics, not on technology fads.

The Information Technology Manager Council (ITMC) is forming a group to assist SITSD with:

- developing and prioritizing an inventory of potential shared enterprise services
- vetting proposals for new service investments, modifications and retirements

SITSD's IT Service Portfolio Management strategy includes (1) soliciting service requirements from agencies; (2) continually evaluating shared enterprise services; (3) delivering services that are competitive on price and function; (4) and offering new services that can potentially be used by a large segment of agencies.

Enterprise Records Management / Enterprise Content Management (ECM/ERM)

Montana does not have a standardized approach to ERM/ECM. Multiple systems are used by various agencies. The lack of a single ERM/ECM system contributes to such organizational inefficiencies such as duplicate costs, inability to search multiple systems for related information, limited use of automatic retention schedules and inadequate preservation of historically significant documents.

The initial goal of this effort is to identify the most efficient and effective ERM/ECM solution for the State of Montana based on input from agencies, State CIO, Education and Local Government Committee (ELG) Committee, and other stakeholders. The initial phase of surveying agencies and analyzing RFI responses is complete.

Software Asset Management (SAM)

Currently the state lacks an accurate tool to inventory and manage its software investment. Software licensing terms and conditions are becoming more complex, and software vendors are conducting more audits to ensure compliance with their licensing terms. The risk of an unsuccessful compliance audit threatens financial penalties, loss of staff time, and loss of access to needed software. The purpose of this project is to implement a SAM optimization tool which will improve the state's control of software spending and license compliance across the enterprise.

Geographic Information Systems (GIS) and Data

Multiple agencies use five separate agreements for Esri's cloud-based mapping and collaboration platform, ArcGIS Online (AGOL), to create, publish and share maps. Other agencies would like to use GIS tools but lack the funding to acquire them. The state could minimize costs and maximize usage by re-negotiating a statewide agreement in 2014 with unlimited named users.

Cyber Security

Montana has two primary security initiatives: Mobile Device Management (MDM) and Data Protection. Mobile devices are leading to a more efficient and productive working environment. Mobile device usage is forecasted to explode in the future and it is essential to develop a management strategy now. MDM will:

- Implement tracking of mobile assets, secure mobile data transmission and minimize telecommunication and support costs.
- Develop enterprise tools for more efficient mobile device deployment and management.
- Establish enterprise policies to clearly define standards, limitations and use.

In May 2013, the legislature allocated $2,000,000 to the Department of Administration for statewide data protection. The Data Protection Initiative encompasses three enterprise-wide security efforts to protect the state's data assets.

- Access Control & Verification implements an enterprise system to authenticate the identity of users and their access to data.
- Multi-factor Authentication implements a system to verify the identity of a user in the enterprise access controls system through more than one authentication factor
- Enterprise Risk Assessment will evaluate the security and vulnerability of selected high-profile, high-value state targets.