

IT Directional Meeting

June 16, 2016

Pioneer Room, State Capitol



NORTH DAKOTA
INFORMATION
TECHNOLOGY
DEPARTMENT

Agenda

Gary Vetter

- Service Level Agreement Revisions
- Social Media End-User License Agreements
- SharePoint Roadmap
- Configuration Management Database (CMDB)
- Contact Lists
- Statewide IT Planning
- Annual Customer Survey
- Upcoming Events

Dean Glatt

- SCCM / Exchange OWA Update
- Desktop Services
- SQL and Oracle Upgrade Status
- Cloud Storage - *Chad Gumeringer, Enterprise Architect*

Duane Schell

- Network Updates
- Avaya Plug-In for IM

Doran Eberle

- Software Development Updates
- SDLC Toolsets

Greg Hoffman

- Endpoint Encryption
- Rate Reductions

Dan Sipes

- Application Brokering
- Security Updates
- Service Redundancy and DR

Gary Vetter

Director, Enterprise Services Division



Service Level Agreement Revisions

- **Enterprise SLA**
 - Reformatted, revised Business Continuity section
- **Hosting SLA**
 - Reformatted, revising Availability and System Recovery sections
- **Active Directory SLA**
 - New as of March, 2016
- **Email SLA**
 - Revised for 1GB mailboxes and added Account Mgmt. section
- **Datacenter Space Rental SLA**
 - Reformatted

Enterprise Architecture

- **Application Development Methodology Standard**
 - Rescinded; Project Management ensures a methodology is in place
- **Application Development Tools/Languages Standard**
 - Rescinded; Procurement & Project Exploration review tools
- **Web Development Standard and Best Practices**
 - Modernized; swapped content into appropriate document
- **Access Control and Active Directory Standards**
 - Updated due to creation of Active Directory SLA
- **Operating Systems Standard**
 - Combined Desktop OS and OS Critical Updates standards
- **Imaging Standard**
 - Modernized; updated tools list

Social Media End-User License Agreements

Many social media platforms have special terms and conditions for government entities.

- Some offer amended terms (Facebook, Pinterest)
- Some wave clauses you are legally unable to accept (Twitter)
- Some are still in negotiations with states (YouTube)
- Some have not made exceptions (Linkedin)

SharePoint Roadmap

Reminder of Microsoft's announcement to no longer offer SharePoint Foundation beyond the 2013 version.

Affected agencies need to budget and plan now for SharePoint Enterprise (or potentially SharePoint Online) migrations during the 2017-19 biennium.



Configuration Management Database (CMDB)

- A component of Configuration Management
- What it is
- What it is not
- Leveraging HEAT
- Piloting with the Bank of ND
- Populating with Application Inventory data
- Integrating with Incident and Change Management
- Maturing continuously

Contact Lists

- Agency contacts for general Service Desk messages
- Agency contacts for scheduled changes
- Agency contacts for security alerts
- Agency contacts for emergency broadcasts
- Agency IT Coordinator (primary) published on ITD's website
- ND.gov "Contact Us" routing to agencies

... and many more.

Statewide IT Planning

Date	Event
April, 2016	ITD rates announced
May, 2016	Agencies briefed on planning process
May-July, 2016	Planning consultations offered; agencies draft plans
August 15, 2016	IT Operations Plans & Project Worksheets due
September, 2016	SITAC Large Project ranking
January 5, 2017	Statewide IT Plan distributed to 65 th Legislative Assembly

Annual Customer Survey

- Coming July 1, 2016
- Helps evaluate performance for the previous fiscal year
- Drives continuous improvement

Something new: Optionally, tell us about you...

Your feedback is greatly appreciated; thank you!

Upcoming Events

Date	Event
June 20, 2016	SITAC
June 21, 2016	ND SharePoint User Group
June 21, 2016	EDMS User Group
July 5, 2016	EA Security Architecture
July 7, 2016	EA Data Architecture
July 11, 2016	EA Application Architecture
July 13, 2016	Brown Bag Lunch
July 13, 2016	IT Coordinator Council
July 14, 2016	EA Technology Architecture
July 14, 2016	Social Media User Group
July 20, 2016	ArcGIS Pro "Lunch and Learn"
August 10, 2016	IBM Cognos User Group
August 10, 2016	IBM Cybersecurity in Government (tentative)

Dean Glatt

Director, Computer Systems Division



SCCM Update – Secunia Plugin

Download Network Agent

- Scanning Via Local Agents
 - Single Host Agents
 - Download Local Agent
 - PSI For Windows
- Filter Scan Results
 - Scan Paths (0)
 - Custom Scan Rules
 - Completed Scans
- Results
 - Sites (1)
 - Host Smart Groups
 - Overview & Configuration
 - Configured Host Groups (1)
 - All Hosts (158)
 - Product Smart Groups
 - Overview & Configuration
 - Configured Product Groups (4)
 - All Products (130)
 - End-Of-Life Products (24)
 - Insecure Products (8)
 - Patched Products (103)
 - Advisory Smart Groups
 - Overview & Configuration
 - Configured Advisory Groups (1)
 - Reporting
 - Report Configuration
 - Smart Group Notifications
 - Database Access
 - Database Console

Patched End-Of-Life Insecure

Name	Version	State	SAID
Apple Software Update 2.x		Patched	-
Cisco PEAP 1.x		Patched	-
HP Software Framework 4.x		Patched	-
Microsoft .NET Framework 2.x		Patched	-
Microsoft .NET Framework 2.x		Patched	-
Microsoft .NET Framework 3.x		Patched	-
Microsoft .NET Framework 3.x		Patched	-
Microsoft .NET Framework 4.x		Patched	-
Microsoft .NET Framework 4.x		Patched	-
Microsoft Internet Explorer 11.x		Patched	-
Microsoft Office Live Meeting 2007 8.x		Patched	-
Microsoft Silverlight 5.x		Patched	-
Microsoft Visual C++ 2005 Redistributable Package (x86)		Patched	-
Microsoft Visual C++ 2005 Redistributable Package (x86)		Patched	-
Microsoft Visual C++ 2008 Redistributable Package		Patched	-
Microsoft Visual C++ 2010 Redistributable Package		Patched	-
Microsoft Windows 7		Patched	-
Microsoft Windows Media Player 12.x		Patched	-
Microsoft XML Core Services (MSXML) 3.x		Patched	-
Microsoft XML Core Services (MSXML) 3.x		Patched	-
Microsoft XML Core Services (MSXML) 6.x		Patched	-
Microsoft XML Core Services (MSXML) 6.x		Patched	-
Microsoft XPS-Viewer 6.x		Patched	-
Oracle Java JRE 1.8.x / 8.x		Insecure	SA70120
VMware Workstation 12.x		Patched	-
Windows Media Center 6.x		Patched	-

SCCM Update – Secunia Plugin

The screenshot displays the Corporate Software Inspector (CSI) interface. The main window shows a table of products under the Smart Group "Insecure Products". The "Patch Version" column is highlighted in blue, indicating that these versions are missing or outdated. The table lists various software products, their associated SAIDs, advisory descriptions, and criticality levels.

Product Name	Patch Version	SAID	Advisory Descrip...	Criticality
Adobe Illustrator CS5 15.x		SA47118	Adobe Illustrator...	
Adobe Photoshop CS5 12.x		SA48457	Adobe Photosho...	
Cisco AnyConnect VPN Client 3.x		SA53015	Cisco AnyConne...	
Mozilla Firefox 45.x		SA70994	Mozilla Firefox E...	
Oracle Java JRE 1.8.x / 8.x		SA70120	Oracle Java Mult...	
RealPlayer Cloud 17.x		SA59238	RealPlayer MP4 ...	
UltraVNC 1.x		SA41208	UltraVNC Viewer...	
VMware Player 6.x		SA65203	VMware Multiple...	

The interface also includes a left-hand menu with sections for Dashboard, Scanning (Remote Scanning Via Agents, Scanning Via Local Agents, PSI For Windows, Filter Scan Results), and Results (Sites, Host Smart Groups, Product Smart Groups).

Exchange OWA

With OWA for iPhone you have a more full-featured app

Email:

- Organize your email quickly with Conversation View, Mark as Junk, Flag, and Categories
- Quickly search or browse email in all folders including Outlook Favorites

Calendar:

- Schedule meetings using attendee free/busy and room finder
- View shared calendars including delegate support
- Use your voice to look up a contact or bring up your schedule



Exchange OWA

Notes:

- Requires ITD to activate the OWA setting (similar to active sync)
- Remote wipe erases only your corporate data in OWA for iPhone and leaves your personal data on the device alone
- Mailbox must be on the latest update of Office 365 for business or Exchange Online
- iPhone must be iPhone 4S or higher and have iOS 6 or higher
- You need to have the latest update of Office 365 for business to use this app. If you're not sure about your account status, please contact your IT department before installing.



Desktop Services

- Service has been fully deployed and in operation
 - 867 (19 agencies)
-

Service Includes:

- PC/Laptop replacement, Full App and OS Patching
 - Anti-Virus/Spyware and Desktop Firewall
 - Endpoint Encryption
 - Mobile Device Management
 - Office 365
 - Help Desk Support
-

<https://www.nd.gov/itd/services/desktop-support>

Database Upgrades & Migrations

Database migrations are usually done in 18-24 months cycles.

Typical Process:

- Agency Notification
- Grouping and scheduling of agencies
- Vendor certification
- Agency acceptance testing

Oracle 12c migration

- End of life for Oracle 10g/11g has passed (However still in support)
- The upgrade will take place starting in 4Q 2016-2017 and as in the past, a detailed schedule with deadlines by month for agency databases will be provided
- Replacing a 3 node Real Application Cluster (RAC) with a 2 node RAC
 - Total CPU count will be the same

Oracle 12c migration

- Agency will need to submit WMS requests to migrate database applications to new Oracle 12c version
- In total this project covers approximately 50 Oracle databases and over 160 applications
- 6 GIS databases will be migrated from Oracle Standard Edition
- Point of contact: Darin Anderson, PM

SQL Server Migration Steps

Agency will need to submit WMS requests to migrate third party database applications to new SQL server versions. This will include working with vendors to determine which version is supported

In total this project covers 9 SQL instances and 620 databases

Agencies should contact ITD Software Development to coordinate the upgrade if ITD Development supports the application.

SQL Server 2008 → 2012/14 Upgrade

- Started in Q1 2016 - detailed Quarterly migration schedule
- Point of contact: Darin Anderson, PM
- The migration schedule is at:
www.nd.gov/itd/services/database/sql-server-upgrades

SQL Server 2008 → 2012/14 Upgrade

Group #1 (1/1/2016 through 3/31/2016)

- Information Technology Department

Group #2 (4/1/2016 through 6/30/2016)

- Department of Transportation
- Department of Human Services
- Department of Public Instruction
- Job Service ND
- Labor Commission
- State Library
- Highway Patrol
- ND University System
- Office of Administrative Hearings
- Public Employees Retirement System
- State Historical Society

Group #3 (7/1/2016 through 9/30/2016)

- FileNet
- Commerce
- Department of Corrections and Rehabilitation
- Department of Agriculture
- Insurance Department

Group #4 (10/1/2016 through 12/31/2016)

- Department of Health
- Department of Emergency Services
- Department of Financial Institutions
- Bank of ND
- Career & Technical Education
- Game and Fish
- Governor's Office
- Office of Management and Budget
- Secretary of State
- Tobacco Prevention Cessation & Control
- Office of State Treasurer
- Office of State Tax Commissioner
- Workforce Safety & Insurance
- Parks and Recreation
- Office of the Attorney General
- Securities Department
- Retirement and Investment Office
- Rough Riders Industries

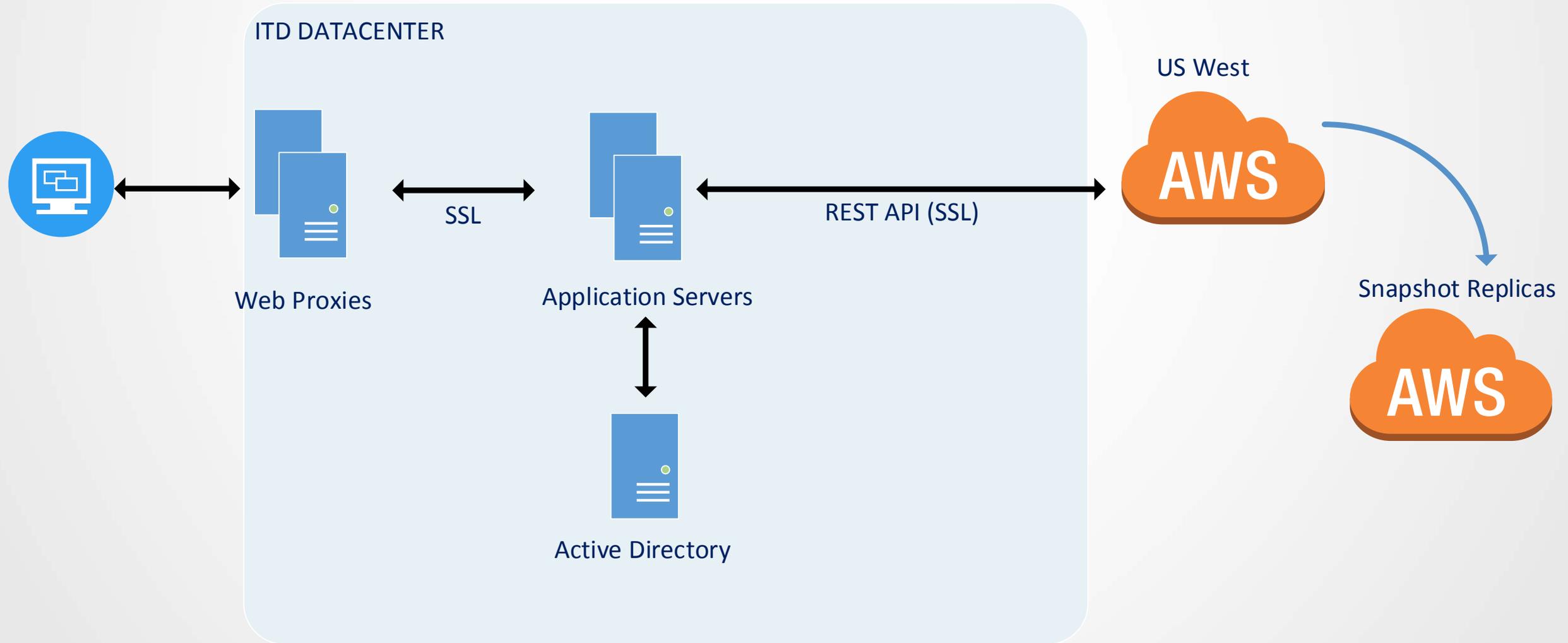
SQL Server roadmap

Agency Counts					
AGO	3	GNF	6	SEC	4
AERO	1	GOV	2	SHS	2
BND	2	INS	15	SOS	10
CJIS	2	ITD	225	STN	2
COM	34	JSND	6	TAX	6
CTE	3	LBC	4	TPCAC	1
DES	2	LIB	4	WSI	3
DFI	1	NDHP	6	FILENET	57
DHS	54	NDUS	2	Total	620
DOA	2	OAH	4		
DOCR	3	OMB	11		
DOH	50	PERS	1		
DOT	69	PNR	2		
DPI	19	RIO	1		
		RRI	1		

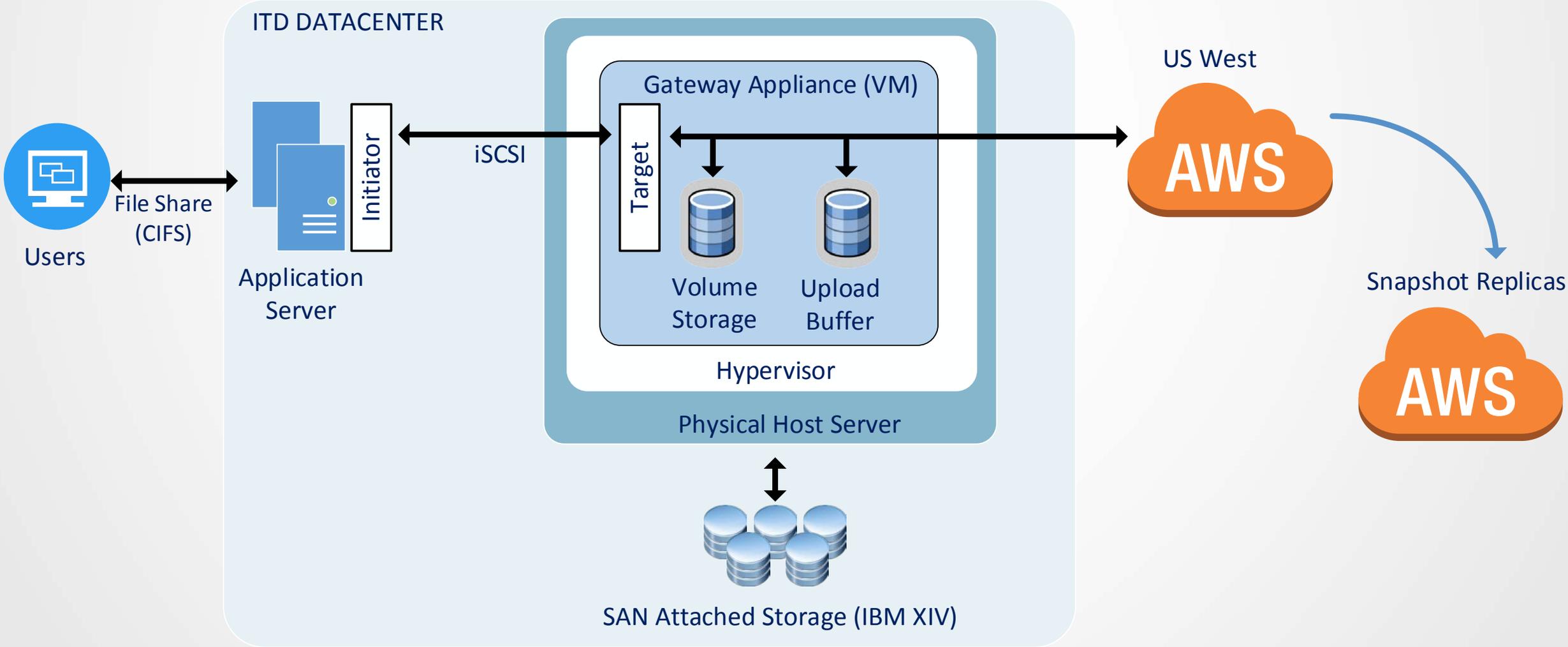
AWS and Azure Storage

- Current projects
 - Historical Society – AWS S3 storage
 - Dept. of Transportation – Cloud Storage Gateway
 - Cost studying (usage based and flat rate structure)
 - Performance
 - Durability (redundancy)
 - Security & Key Management

ND Historical Society Preservica



NDDOT Cloud Storage Gateway



Beyond On-Premise Cloud Services

- ITD Intentions
 - Another tier of storage
 - Cold storage for log files, images
 - IBM Spectrum Protect (TSM) Integration
 - Direct Integration – Filenet
- Beyond Storage
 - Development scenarios
 - E.g. MS Visual Studio tightly integrated to cloud services
 - Spot workloads and automation
 - Service Catalog – Standardized builds
 - Internet of Things (IOT)
 - Workspaces and Workdocs

Demos

Next EA Technology Architecture meeting July 14th at ITD

- Internet of Things Demo with Azure
- Automation using AWS Cloud Formation
- Q & A

Duane Schell

Director, Network Services Division



Network Updates

- Dual POP
 - Completed in Bismarck, Fargo, and Grand Forks
- DNS/DHCP
 - Nearly Complete
- Grand Forks Fiber
 - Well under way
- Education Projects
 - Keep up busy remainder of summer
- Budget Process
 - Consider bandwidth growth



Click to Call

- Avaya/Lync - Click to Call
 - Plug-In
 - Testing Completed
 - Ready for Rollout
 - Phone Password
- Lync Server Upgrade
 - Project in planning phase
- Lync Client Considerations (2010 or newer)
 - Project Completion
 - Nov 2016
- www.nd.gov/itd/services/voice



Video Conferencing

- New Video Bridge
 - Technology that allows a multi-party video event
- Supports all existing room video equipment
- Supports traditional video scheduling
- Much improved soft client experience
 - Includes mobile clients

- www.nd.gov/itd/services/video



Doran Eberle

Director, Software Development Division



ITD SDLC Toolsets

Microsoft TFS (Team Foundation Server)
Microsoft Office Suite (Word, Excel, Visio)
Microsoft SharePoint
Atlassian Confluence Wiki
SAP PowerDesigner
Axure RP
HP Load Runner
IBM Security AppScan & PortSwigger Burp Suite
WMS (Work Management System)
HEAT – Service Management

Microsoft TFS

Microsoft's ALM Suite (Application Lifecycle Management)

Core Features:

- Source Code Management
- Requirements Management
- Test Management
- Product Backlog / Defect Management
- Release Management

Microsoft TFS

Source Code Management

- Hosted **Git** Version Control Repositories
- Code Review Workflow

Requirements Management

- Requirement Traceability
- Specification Documentation

Microsoft TFS

Test Management

- Test Plans
- Test Cases
- Execution Management

Product Backlog / Defect Management

- Documentation
- Prioritization
- Resolution Workflows / Status Reporting

Microsoft TFS

Release Management

- Automated Builds
- Automated Deployments to Non-Production Environments

Microsoft Office Suite

Word

- Project Management Artifacts
- Use Cases
- Functional and Technical Design Specification
- Test Plan / Cases / Specifications
- Implementation Plan
- Work Approval Packages
- Cost Estimate

Excel

- SDLC RACI
- Security Roles and Processes Plan

Visio

- Architectural Diagrams

Atlassian Confluence

Enterprise Wiki Solution – **wiki.nd.gov**

- Collaborative documentation tool
- Licensed for the entire Enterprise

Usage:

- SDLC Reference Documentation
- Team Communications
- Operation Support Documentation
 - Application Inventory
 - Operational Knowledgebase
- Customer Collaboration

Microsoft SharePoint

Scope: PMO Managed Projects

Usage:

- Project Documentation / Collaboration
- Deliverable Approval Workflows
- Risks
- Issues
- Communications

Design Tools

Axure RP

- User Interface Modeling
- Rapid Prototyping

SAP PowerDesigner - 16.x

- Data Modeling
 - Data Dictionary
 - ERD (Entity Relationship Diagrams)
 - Logical and Physical Models

Quality Assurance Tools

HP LoadRunner

- Performance & Stress Testing

IBM Security AppScan & PortSwigger Burp Suite

- Application Security Scanning
- Focus on Web-Based Applications

Other Tools

WMS (Work Management System)

- Request Management
- Project Management (Small Project)
- Project Acceptance

HEAT – Service Management

- Incident Management

Vendor - Project Specific SDLC Tooling

Jama

- Requirements Management

Atlassian JIRA

- Feature / Defect Management

TRAC

- Feature / Defect Management

Subversion (SVN)

- Source Code Management

Greg Hoffman

Director, Administrative Services Division



Endpoint Encryption Options

- WAVE – company was purchased at auction
 - New owner plans to provide support
 - Future costs unknown
- ITD utilizes Microsoft BitLocker
 - Included with Windows 10 Pro, Enterprise, or Education
 - Base functionality stores keys in active directory
 - Need MBAM licensing to manage keys and do reporting
- WinMagic
 - \$55 per user one-time, \$11 per year support, requires server
 - Allows for self-encrypting drives

ITD Rate Reductions

For the months of May and June 2016 the EDMS, ILink, and disk rates will be reduced as per the table below. Regular billing rates will resume July 2016. If you have any questions, please contact the [Service Desk](#)

Rate Description	Current	New Rate
EDMS User Fee	30.75	3.25
EDMS User Fee w/BPM	35.75	3.75
EDMS ILink Email User	3.60	0.50
ILinx Data Capture (user)	91.50	9.25
Disk Storage - Premium OD (GB)	0.45	0.05
Disk Storage - Basic OD (GB)	0.35	0.04
Disk Storage - File Share OD (GB)	0.25	0.03
TSM Disk Storage (GB)	0.15	0.02
Disk Storage - Premium Ded. (TB)	300.00	30.00
Disk Storage - Basic OD (TB)	275.00	27.50
Disk Storage - File Share Ded. (TB)	175.00	17.50
Disk Storage - High Volume (TB)	75.00	7.50

Budget Reports

Home Imports Issues Charges Credits Invoices **Reports** Reference Objects Settings Customers

Home / Reports

Reports

Search Criteria

Report Selection:

Bill Code Trends

Bill Month Range:

06/2016

06/2016

Accounting Code Select

Customer No.:

Division:

Charge Code:

Add

Selected Accounting Code(s):

Click Add to add selected accounting code to the search.

Advanced Options

System:

Display:

Invoiced:

Units and Amounts

Yes

No

Clear

Search

Export

Dan Sipes

Deputy CIO



Application Brokering



North Dakota
Information Technology Department

Contact

facebook



Search ND ITD



SUPPORT

SERVICES

STATEWIDE ALLIANCES

EVENTS

STANDARDS

ABOUT US

> SERVICES OFFERED

Services Offered



Infrastructure

Desktop Support

[Anti-Virus/Spyware and Firewall](#)

[Endpoint Encryption](#)

[Mobile Device Management](#)

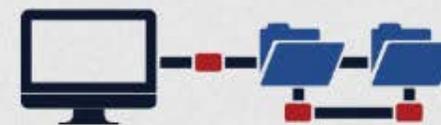


Professional Services

Application Brokering

[Business Analysis](#)

[Enterprise Architecture](#)



Information Management

Basic Content Services

[Microsoft SharePoint](#)



Communication

Email

[Fax](#)

[File Transfer](#)

Application Brokering

The screenshot shows a web page with a dark blue header containing the title 'Application Brokering'. Below the header is a light gray navigation bar with a home icon and a breadcrumb trail: 'SERVICES > PROFESSIONAL SERVICES > APPLICATION BROKERING'. On the left is a dark blue sidebar menu with the word 'SERVICES' at the top. Under 'SERVICES', there are links for 'Infrastructure', 'Communication', and 'Information Management'. Below these is a section for 'Professional Services' with a dark background, containing links for 'Application Brokering' (highlighted in red), 'Business Analysis', 'Enterprise Architecture', 'Enterprise Communication', 'Help Desk Management', 'IT Planning', 'IT Procurement', 'IT Security', 'Project Management', and 'Software Development'. The main content area on the right has a white background and contains the following text:

Application Brokering

Application Brokering involves the coordination and management of a subset of IT services required in support of systems hosted outside the state datacenter. While [Cloud Computing Terminology](#) includes a broad range of topics, ITD's Application Brokering role focuses around the concepts of Software as a Service (SaaS) and external hosting providers.

Application Brokering Components

Historically, ND State Government mostly utilized on premise computing environments in support of its line-of-business applications. In recent years, the maturity of cloud computing and the shift towards Software as a Service (SaaS) has redefined the IT landscape. However, simply moving applications to the cloud or to an outside provider does not alleviate the need for a subset of ITD services.

Application Brokering helps to ensure that the costs for core professional and infrastructure services are distributed equitably across all of the state's line-of-business applications. It encapsulates the people, process, and technology associated with providing enterprise management and end-to-end solutions that are not reflected in most base contracts for cloud computing solutions, including:

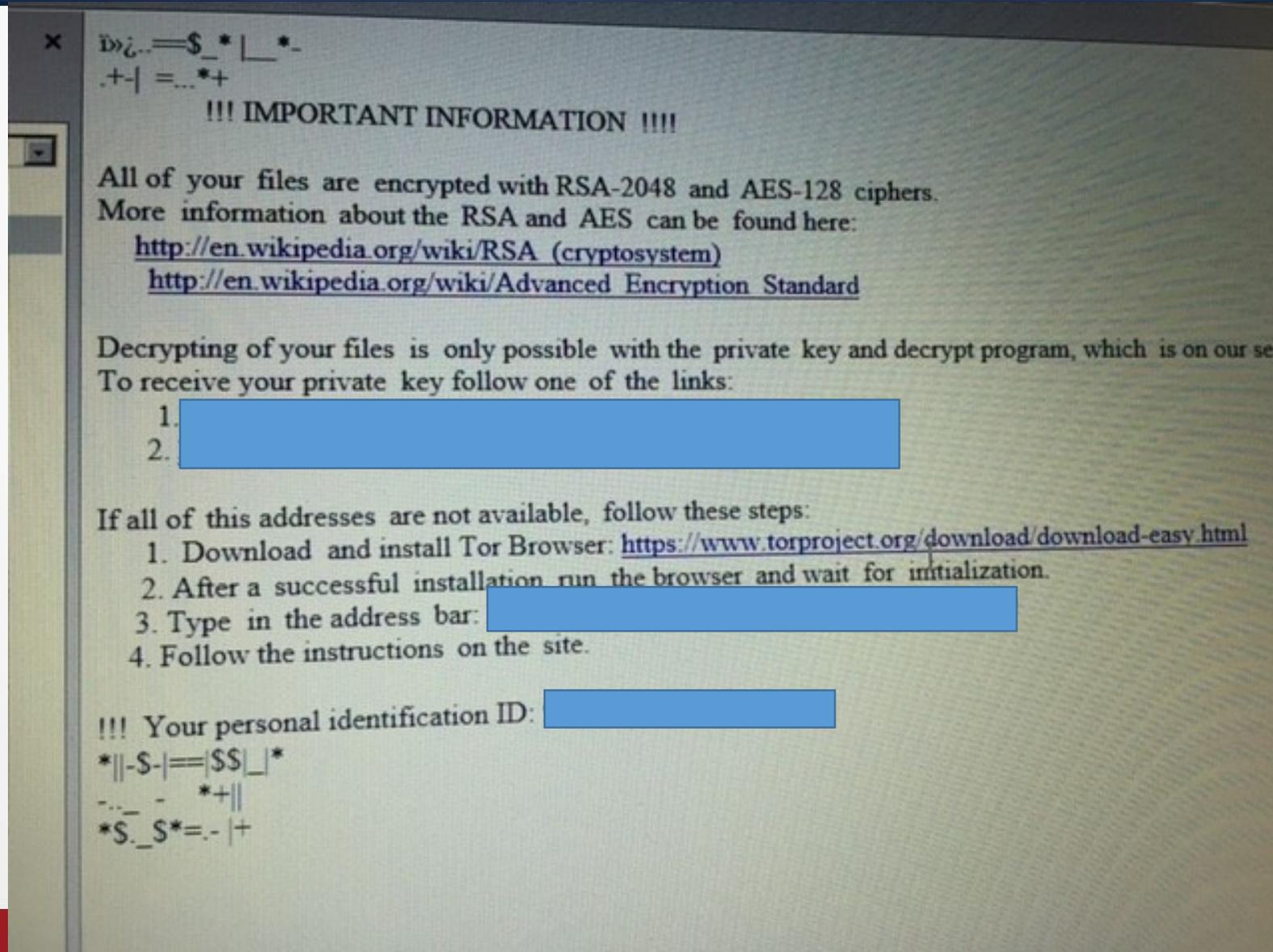
- Security services
- Directory services
- Network connectivity
- Architectural design and maintenance
- Integration architecture
- Incident, change, and configuration management
- Procurement and contract coordination
- Compliance and risk assessment
- IT planning and portfolio management

These services will continue to be bundled within ITD's hosting and storage rates for on premise applications. Application Brokering will ensure a consistent approach to Software as a Service (SaaS) offerings and externally hosted systems.

Security Updates

- Budgeting for Multi-Factor Authentication
 - \$4.30 per user per month
 - \$15 one-time fee per license + optional \$15 one-time fee per hard token
- Upcoming CND Security Changes
- Restricted Access to Enterprise Architecture Security Standards
- Governor's Cybersecurity Task Force
 - <http://governor.nd.gov/cybersecurity-task-force>

Ransomware



IT Business Continuity Dependencies

SYSTEMS & DATA

NETWORK SERVICES

POWER & ENVIRONMENTALS

FACILITIES & STAFF

February 24, 2016

SYSTEMS & DATA

NETWORK SERVICES

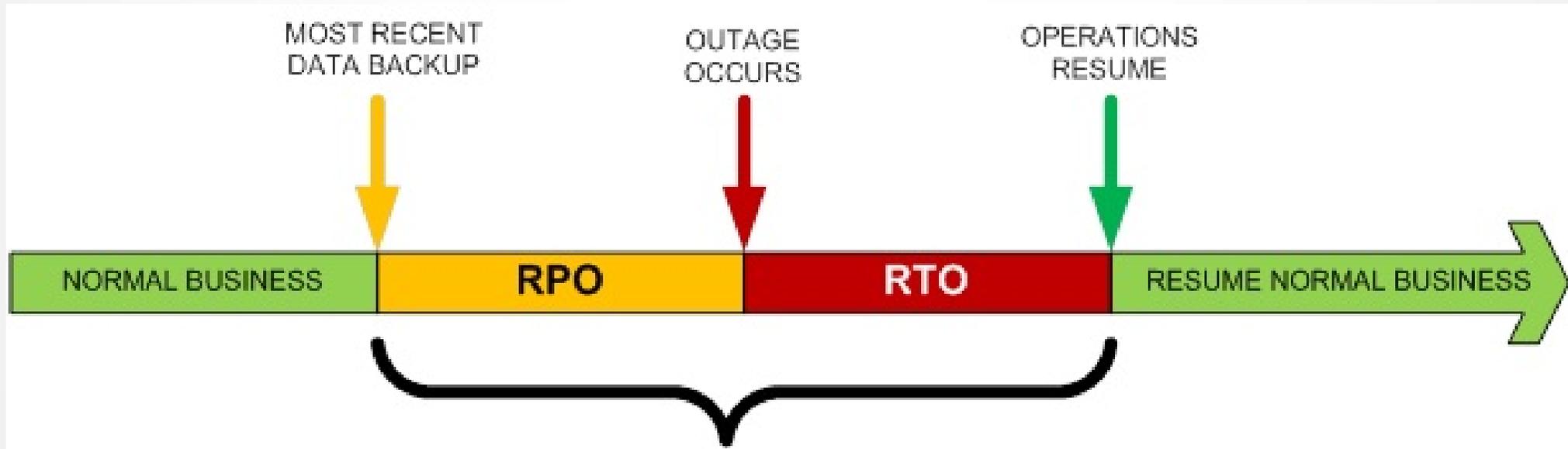
POWER & ENVIRONMENTALS

FACILITIES & STAFF

Voice Service Redundancy

- Voice over IP (VoIP) design – this service was functioning as designed
- As part of the standard VoIP design we have redundant Call Managers in Bismarck/Mandan as well as survivability in each network quadrant.
 - Provides the ability to relocate telephone numbers to other sites with network connectivity.
 - Allow for survivability of a quadrant in the event of network isolation
 - Provides redundant core services for dial tone, call center and automatic call distribution (ACD).
- Voice mail redundancy between Bismarck and Mandan
- IVR – current project to make active/active in Bismarck Mandan
- Remaining capability being virtualized to enhance recovery options

Recovery Point & Recovery Time Objectives



TOTAL OUTAGE TIMELINE

DURATION IN MINUTES, HOURS, DAYS, WEEKS, MONTHS

Recovery Time Objectives - Current

- We have improved the RTO of the second data center from four hours to a matter of minutes for core network services (includes VPN).
- Common shared services that will be up within the first hour:
 - E-Mail
 - File and print services
 - AS/400 platform and applications
 - Current replicated hardware with critical infrastructure designations
 - Disaster Recovery Web Site – basic information
- Common shared services that will be up within two to twelve hours:
 - ITD Hosted Drupal Websites
 - Mainframe (must IPL)
 - ConnectND

Recovery Time Objectives - Agencies

- Agencies that do not invest in replicated data solutions and backup processing capacity will need to wait for additional storage and servers to be shipped and provisioned. Estimated RTO of 3 weeks to 8 weeks for production systems depending on hardware availability, staffing priorities and the amount of data to restore.
- Agencies that invest in replicated data solutions but no backup processing capacity will need to wait for servers to be shipped and provisioned. Estimated RTO of 2 weeks to 4 weeks depending on hardware availability and staffing priorities.

Incident Communication Protocols

- Normal Channels:
 - Customer Service Desk – 328-4470
 - E-mail
 - ITD Website
- With Service Disruptions to ITD Services:
 - Assurance NM – currently used to communicate with our staff
 - Phone Calls to Agencies Providing Critical Services
 - State numbers or mobile numbers depending on services impacted
 - Social Media - Twitter



THANK YOU

Visit us at [*www.ND.gov/ITD*](http://www.ND.gov/ITD)