

# **Presentation to the IT Directional Meeting**

**Wednesday, Oct. 28, 2015**  
**Pioneer Room**  
**State Capitol**



## Agenda

### Dan Sipes

- Greeting
- Security Updates

### Dean Glatt

- Windows 10 and Office 365
- Internet Explorer Versions
- SQL Server 2012/2014 Upgrades
- Desktop Support
- Cloud Services Update
- DELA Sunset

### Greg Hoffman

- BILLIT
- Office 365 Licensing
- E-mail Quota Change
- Click-through Licenses

### Duane Schell

- Voice and Network Updates
- Statewide Interoperability Radio Network
- Unmanned Aerial Systems

### Doran Eberle

- Security Scanning Updates
- Drupal Upgrades
- Version Control
- WebSphere 6.1 Sunset

### Gary Vetter

- Application Inventory
- Hosting Waiver Matrix
- ITCC Lunch and Learns
- Digital Archives Update
- CND - Time and Labor/Enhanced Security



**Dan Sipes**  
**Deputy CIO**



Organizational  
Structure &  
Governance

Hosting  
&  
Servers

Communications

Data

Wireless  
Networking

E-mail

Intrusion  
Detection  
& Prevention

Network  
Security

Technology  
Staff

Remote  
Access

Standards

Policies  
&  
Procedures

Managed  
User Devices

Firewalls &  
Threat  
Protection

Authentication

Procurements  
&  
RFP Language

Vulnerability  
Assessments

Education  
&  
Client Awareness

Authorization

Mobile  
Access

Privacy

# Governor's Cybersecurity Task Force

Backup  
&  
Recovery

Operations  
Management

Accounting

Unmanaged  
User Devices

Relationships

Risk  
Management

Physical  
Security

Network  
Infrastructure

VoIP

Wired  
Networking

Risk  
Assessments

Applications  
&  
Software

Audits

Metrics  
&  
Measurements



## Governor's Cybersecurity Task Force

16 members representing 15 state agencies

Purpose of Task Force:

- Raise awareness of cybersecurity at the executive Level
- Discuss the governance of cybersecurity in state government
- Share best practices & review current defense strategies and tools
- Recommend new policies for mitigating future cyber-attacks
- Discuss cyber incident response strategies



## Cybersecurity Current State



“Cyber threats to U.S. national and economic security are increasing in frequency, scale, sophistication and severity of impact.

Despite ever-improving network defenses, the diverse possibilities available through remote hacking intrusion to insert compromised hardware or software, actions by malicious insiders, and mistakes by systems users will hold nearly all information and communication technology networks and systems at risk for years to come. In short, the cyber threat cannot be eliminated; rather cyber risk must be managed.”

**James Clapper - Director of National Intelligence**

9/10/2015 Report to U.S. House Committee on Intelligence



## Cybersecurity Current State



<b>Banking/Credit/Financial</b>	<b># of Breaches: 58</b> <b>% of Breaches: 9.6%</b>	<b># of Records: 5,056,281</b> <b>%of Records: 2.9%</b>
<b>Business</b>	<b># of Breaches: 237</b> <b>% of Breaches: 39.1</b>	<b># of Records: 15,998,421</b> <b>%of Records: 9.1%</b>
<b>Educational</b>	<b># of Breaches: 49</b> <b>% of Breaches: 8.1%</b>	<b># of Records: 754,100</b> <b>%of Records: 0.4%</b>
<b>Government/Military</b>	<b># of Breaches: 46</b> <b>% of Breaches: 7.6%</b>	<b># of Records: 33,802,728</b> <b>%of Records: 19.3%</b>
<b>Medical/Healthcare</b>	<b># of Breaches: 216</b> <b>% of Breaches: 35.6</b>	<b># of Records: 119,880,552</b> <b>%of Records: 68.3%</b>
<b>Totals for All Categories:</b>	<b># of Breaches: 606</b> <b>% of Breaches: 100.0</b>	<b># of Records: 175,492,082</b> <b>%of Records: 100.0%</b>



## Recent National Cybersecurity Events



- **US Department of Energy - September 2015**  
Cyber attackers successfully compromised the security of U.S. Department of Energy computer systems more than 150 times between 2010 and 2014.
- **Excellus NY Blue Cross Blue Shield - September 2015**  
Cyber attackers may have gained access to over 10 million personal records.
- **Ashley Madison - August 2015**  
Hackers disclose e-mail addresses of people who visited the site. 33 million names and e-mail addresses at risk.
- **US Office of Personnel Management - July 2015**  
Cyber attackers may have gained access to over 24 million personal records.



It is clear that cybersecurity threats are evolving and increasing – in sophistication, intensity, diversity and volume– and that they are not going away anytime soon.

While we continue to make incremental improvements, there is still more to do to mitigate the mounting threats and disruption to state agencies when attacks succeed.



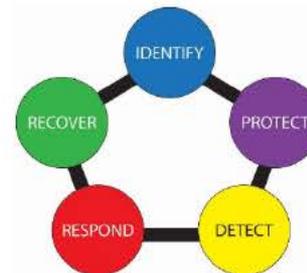
## Web Server Cyber Attack

- Lessons Learned
  - Properly securing and patching third party applications
    - ITD plans to implement more restrictions on the tools agencies and their vendors use to administer web sites.
- Application Inventory and Categorization
  - ITD will be reaching out to agencies to complete an initial application inventory and categorization exercise.
  - Integrates with the Application Portfolio Management role that is part of ITD's Cloud Broker role.
- Scanning critical applications for vulnerabilities
  - Agencies need to budget for this security analysis.



## Current North Dakota Cybersecurity Initiatives

- **State Cyber Disruption Strategy**  
Focuses on critical infrastructure and key resources. (ITD/DES)
- **Governor's Cybersecurity Task Force**
- **Cybersecurity Awareness Month - October**
- **ITD Cybersecurity Framework**
  - Identify
  - Protect     Detect
  - Respond    Recover
- **Enterprise Architecture Security Policy and Standards**





## National Governor's Association – Act and Adjust

- Establish a Governance Structure for Cybersecurity
- Conduct Risk Assessments and Allocate Resources Accordingly
- Implement Continuous Vulnerability Assessments
- Ensure Your State Complies With Current Security Methodologies and Business Disciplines in Cybersecurity
- Create a Culture of Risk Awareness



## General Security Updates

- Password Management System Availability
- Password Unlocks and Resets
  - Service Desk changes coming 12/1/2015
  - Investigating automated tools
- ManTech Audit



**Dean Glatt  
Director**

**Computer Systems  
Division**





## Windows 10 Testing

- Share Results (next page)
- Agencies can list their results on this site
- ITD plans for January 2016
- Critical software may reside on Windows 7/8.1 if not certified



# Windows 10 Testing



## Windows 10 Pilot Site

[Home](#) [Notebook](#) [Documents](#) [Recent](#) [Site Contents](#)

Search this site

### Home

#### Announcements

Windows 10 Testing at ITD  
by System Account

Windows 10 testing will start by Sept 1st and go through October 31. Windows 10 computers will be deployed within the next week.

#### Discussion Board

[+ new discussion](#)

[Recent](#) [My discussions](#) [Unanswered questions](#) [...](#)

#### Windows Tiles

If you create a windows tile shortcut to a website, such as WMS. When you use it to launch the site, it o...  
By Tschida, Wendy K. | 4 days ago

#### Graphics issues

Anyone notice when they have 2 monitors, the display has flashing black boxes often, and parts of the ...  
By Tschida, Wendy K. | 4 days ago

#### Multiple monitors and window placement

Wondering if anyone else has noticed any issues with application windows not remembering which mo...  
By System Account | September 14

#### Trackpad Gestures

Microsoft recently published information about old and new trackpad gestures that can be used with ...  
By System Account | September 14

9/14/2015 12:30 PM

#### Applications

[+ new item](#)

✓	Title	Score	Prio
		... 2	2
		... x	2
	Infopath	... 2	x
		... 1	1
	Office Web Apps (excel/word etc)	... 1	x
		... 1	3
	OWA	... 3	3
		... 3	2
	Remote Server Administration Tools	... 2	1
		... 3	1
	Sharepoint Designer 2013 32bit	... 1	x
	SharePoint Forms/Workflows/infoPath	... 3	3
		... 2	1
		... 4	2



## Office 365 FAQ's

- Office 365 Brand explanation
- Greg Hoffman - On-boarding for licensing and service
- Ron Zarr is the Office 365 Coordinator and administers the Office 365 nd.gov portal



## Office 365 FAQ's specific to ND.GOV

- Services not yet available for nd.gov
  - Lync
  - MDM
  - Exchange
  - SharePoint
- Current system utilizes:
  - ADFS
  - OneDrive for Business
  - Microsoft Office Suite licensing
  - Mobile Apps



## Office 365 FAQ's

- Microsoft Official FAQ's located at:
  - [MS Office 365 FAQs](#)



# Internet Explorer 11 and Edge

- Why is it still relevant?
  - Many vendors still write Web applications that are written to support a particular IE version.
  - Application compatibility
- Support end of life for previous versions Jan 12, 2016
- Specific Questions? Desktop Services team: Ron Zarr
- ITD info at: [ITD Info on IE11](#) -or- [MSDOM](#) roadmap
- For MS Browsers IE11 and Edge will remain
- Ensure your agency apps are “browser compatible”



# SQL Server roadmap

- Always Upgrading...end of life for SQL 2008 has passed

- [Redacted]

- [Redacted]

- [Redacted]



## SQL Server roadmap

- 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
- Points of contact: Pat Groce, DBA or Gary Lipp, DBA Mgr



## SQL Server roadmap

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



## ITD Database Migration Steps

- Database migrations are usually done in 18-24 months cycles. High level migration steps.
  - Agency Notification
  - Grouping and scheduling of agencies
  - Vendor certification
  - Agency acceptance testing



# Desktop Service Update: 11 of 19 agencies completed

Types of services:

Procurement of new hardware—Desktops/Laptops/Monitors/Peripherals

PC Lifecycle Management

Microsoft Licensing— OS, Office suite and O365

Inventory and Asset Management

Enterprise Client Management

Image Deployment and Management

Software Deployments

Operating System Patching

Anti-Virus/Spyware

Endpoint Encryption

Virtual Private Networks (VPN) config and support

Print Queue Management and configuration

Mobile Device Setup and Management—Smartphones/Tablets/PDA

Active Directory Account and Group Policy Management - Password resets

File and Folder access management

Remote and On-site Support from qualified support technicians



## Cloud Services Update - MS Azure

- Proof of Tech project for MS Azure completed:
  - Drupal PaaS
  - ArcGIS
  - SQL 2014
  - Identity Mgmt (Active Directory, Azure AD, O365)
  - Storage
  - Other: Billing, T's&C's, Costs, etc.



## Cloud Services Update - AWS

- Proof of Tech for Amazon Web Services (AWS) started
  - Looking to include GIS and DOT participation
  - Looking to include storage gateways with NDSHS participation
  - Currently creating a schedule



## DELA

- Distributed Environment for Legacy Applications
- System has been turned off!



**Greg Hoffman**  
**Director**

**Administrative**  
**Services**





- BILLIT has been live for 3 billing cycles
  - Customer Survey in November
- 2017-19 Biennium rate development
- Changes to Email Quota
  - 500mb boxes
  - 500mb increment increase \$3.00/month



- Office 365 Pro Plus
  - Office 2013 security updates thru August 31, 2016
- Visio and Project/Project Pro licenses
  - Working with Office 2013
  - Must move to a subscription license when deploying with Office 365 - 2016 version
  - Directly ties to security update note above.



- “Click through” license agreement
- Article 1, Section 9 of ND Constitution
  - Interpreted as agencies cannot agree to the jurisdiction of federal courts or courts in another state.
- Noted on ITD purchase order
  - **Click-through End User Agreements.** All automated end user agreements (e.g., click-through) are specifically excluded and null and void. Clicking shall not represent acknowledgement or agreement to any terms and conditions contained in that agreement.



 **Return Path Certification** | Join the biggest whitelist in the email universe!

"Getting Return Path Certified has been rewarding for us in more ways than one. Our deliverability was already high before we joined the programme, but **we were able to achieve significant improvements** which we are able to directly attribute to Certification"

- StepStone

### Return Path Certification Application Progress

1. About your company
2. Qualifying questions
3. IPs and domains
4. Select pricing tier
5. Accept fee
- 6. Accept contract**
7. Payment Details

Have questions? Email us.  
[certification@returnpath.com](mailto:certification@returnpath.com)

### 6. Next, review and agree to the license agreement

Please type **your name** (or ask a the signor to type his or her name), **job title**, and **company name** in the fields below to legally sign this agreement on behalf of the company.

**ONLINE CERTIFICATION PROGRAM AGREEMENT**

This Online Certification Program Agreement, dated as of the Effective Date (defined below), is by and between you ("You" or "Customer") and Return Path, Inc., a Delaware corporation with its principal place of business at 3 Park Avenue, 41st Floor, New York, NY 10016 ("Return Path") and governs Customer's use of Return Path's Certification Program services (the "Services"). This agreement ("Agreement") consists of the following: (i) these terms of service which may be updated by Return Path from time to time.

[Download a sample agreement for review.](#) You can download the signed version later.

By clicking the button to "Accept License Agreement" I,

, as

understand that I am entering my company into a binding and enforceable agreement with Return Path, Inc., and that I have the authority to perform such an action on behalf of my company



**Doran Eberle**  
**Director**

**Software**  
**Development**  
**Division**





# Security Update

- Continue forward momentum on Discovery and Remediation on ITD developed applications

- Finishing scoring and risk assessments

Discovery	Remediation "In Progress"	Deployed to production after remediation
■ applications	■ applications	■ applications

- Inventory of Apps

- ■ Java/WebSphere
- ■ .Net/IIS/Windows
- ■ Websites ■ Drupal & ■ html)

- 8 teams have identified all PII on these applications and sites





# Security Update

- Education and Training
  - We have been training and mentoring additional resources to meet the growing demand
  - Lucas [REDACTED] successfully passed his certification for GWAPT
    - GIAC Web Application Penetration Tester (GWAPT)
- Incident Response
  - SD resources involved recent security incidents - [REDACTED] Drupal
    - Incident Resolution
    - Proactive scans of vendor written applications



## Security Update - WWW2 Incident

- Software Development will be sending a report of [REDACTED] scans performed during the [REDACTED] security incident
- ITD SD plans to schedule meetings the agencies that had risk assessment of 5 (scale 0-5)
- Available to meet with other agencies (risk lower than 5) to review the report.
  - Review report results (ITD will pick up costs)
  - Further/Deeper scanning (Agency cost)
  - SD can provide cost estimate
  - Please contact assigned SD Team Leader to arrange





## Security Update - Drupal Incident

- Working through effort to upgrade to Drupal ( [REDACTED] ) by the end of November 2015 for ITD developed websites (ITD cost)
- Agencies need to plan for Drupal upgrades to address new security threats
  - Trending appears to indicate that security upgrades will occur about every three months
  - ITD ballpark estimate per upgrade is approximately 8 hours
  - Agency testing is recommended but not required
- Agencies using another vendor for their Drupal websites should be planning accordingly

## Security Update - Annual Scans



- Working on plan to address annual scans
- Changing security threats will require the need for regular scans
- For certain applications an annual scan may not be sufficient
- ITD SD is working towards automation to assist/reduce the people time need to complete the scanning efforts.
  - Environment, Tools, Process
- Annual Discovery efforts will be an agency cost. (Initial scans of ITD developed applications were covered by ITD)



## Security Update - Training

- Plenty of activity occurring to educate staff on many different fronts
  - Securing the Human Developer (40 employees will complete coursework by end of year)
  - .Net and Java specific training courses (7 employees will complete coursework by end of the year)
  - AppScan training (6 employees to attend class in next couple of months)
  - Advanced Penetration Test and Ethical Hacking (focusing 2 developers on this effort)
- SANS and OWASP are the prominent training providers that we are using



# Conversion from Clear Case to Git

- Target June 2016
- Clear Case not supported product line by IBM
- Git Industry Leader
- Git aligns with TFS
  - First-party Support
- Convert during active maintenance request
- March 2016 - Review applications that are in Clear Case





# Windows 10 Testing

- Application Development tools testing
- PeopleSoft
- New Edge Browser
  - Web Application testing
- Usage Statistics - Public Access to ND.Gov Portal
  - **70% Windows** - 9% iOS - 7% Android - 5% Mac - 9% Other
    - 70% Windows 7 - 10% Windows 8.1 - **6% Windows 10** - 14% Other
  - About 2% of all requests are from Edge browsers







## Personnel Updates

- Brandi Fagerland - eTeam, Team Leader
- Paul Scheller - .Net developer
- Web Designer turnover
  - Contract resource in place as we interview





**Duane Schell**  
**Director**

**Network Services**  
**Division**





## New Employees

- Chris Thurow



- Phil Thomas





## Voice Projects

- Long Distance Contract Finalized
- Voice Mail Upgrade - coming soon
- Planning Phase
  - Avaya Web Conferencing
  - IVR
  - Call Recording
  - Core





## ND SIRN 20/20

- Statewide Interoperable Radio Network
  - Public Safety Radio Infrastructure
  - Study to Determine Future State of Radio Communications
- Partnership with SIEC
  - Statewide Interoperability Executive Committee





## Network Upgrades

- Internet Upgrade - completed
- DNS/DHCP - in progress
- Core Dual Points of Presence- in progress
- Data Center Maintenance - went very well!!





## Unmanned Aircraft System (UAS)

- Workshop held Oct 12, 2015
  - “the capabilities of UAS far exceed what the law allows right now”
  - FAA Modernization & Reform Act of 2012 defined UAS as aircraft
  - Hobbyist usage is limited to pursuit outside one’s regular occupation engaged in especially for relaxation
  - Public and Commercial usage must occur 5 miles from an airport, 500 feet from people/buildings, below 400 feet, under 100 mph, daytime, with visual observer
  - Northern Plains UAS Test Site <http://www.npuasts.com>



**Gary Vetter**  
**Director**

**Enterprise Services**  
**Division**





## Application Inventory



- An Application Inventory improves decision making, minimizes risk, improves the overall security posture.
- Agencies will be asked in early-November to provide the first round of information by mid-December.
- Statewide IT planning, IT procurement reviews, hosting requests, and architectural assessments will assist in keeping the inventory up-to-date.



## Application Inventory

Information to be gathered includes:

- **Application Name**
- **Business Function**
- **Contact Person**
- **Users** (Internal/External/Public)
- **Developed by** (ITD, Agency, Vendor)
- **Hosted by** (ITD, Agency, Vendor)
- **Data Category** (Confidential, Sensitive, Public)
- **Authentication** (AD, ND Login, Other, None)
- **Accessibility** (Internal, External)
- **Cost** (Acquisition, Maintenance/Support, Hosting)



## Hosting Waiver Expectations



- Software as a Service (SAAS) adoption is on the rise
- Turn-around time to work through a hosting waiver averages one month
- The process now includes a Risk Assessment that covers likelihood and impact of 3 dozen control areas
- Intended to assist technical and business stakeholders with managing expectations and risk



# Hosting Waiver Expectations

Risk Control Area		Agency Assessment	ITD Assessment	Enterprise Tolerance
<b>Architecture</b>	Networking	Very low	Very low	Very low
	Storage	Very low	Very low	Very low
	Software	Very low	Low	Very low
	Integration	Very low	Low	Low
	Capacity Management	Very low	Very low	Very low
	High Availability	Very low	Very low	Very low
	IT Agility	Very low	Very low	Very low
	Portability	Very low	Very low	Very low
	Service Termination	Very low	Very low	Very low
<b>Security</b>	Data Center Operations	Very low	Very low	Very low
	Identity	Very low	Moderate	Low
	Audit and Compliance	Very low	Very low	Very low
	Logging and Tracing	Very low	Very low	Very low
	Malicious Activities from Within	Low	Moderate	Moderate
<b>Data</b>	Data Classification	Low	Low	Low
	Data Migration	Very low	Very low	Very low
	Data backup	Low	Low	Low
	Data Sanitization	Low	Low	Low
	Records Management	Low	Low	Low
	Electronic Discovery	Very low	Very low	Very low
<b>Strategy</b>	Mission Criticality	Very low	Very low	Very low
	User Expectations	Low	Low	Low
	Customer-facing implications	Very low	Very low	Very low
	Availability	Very low	Very low	Very low
	Provider Selection	Very low	Very low	Very low
	Organizational Readiness	Very low	Very low	Very low
	Incident Management	Very low	Very low	Very low
	Ongoing Maintenance	Very low	Very low	Very low
	IT Skills	Very low	Very low	Very low
	Disaster Recovery	Very low	Very low	Very low
	Finance	Very low	Very low	Very low
3rd-Party Involvement	Very low	Very low	Very low	
<b>Cost</b>	Cost Assessment	Very low	Very low	Very low
	Cost Transparency	Very low	Very low	Very low
	Ongoing Cost	Low	Low	Low
	Enterprise Cost	Very low	Very low	Very low
	Strategic Cost	Very low	Very low	Very low

## Risk Control Areas

- Architecture
- Security
- Data
- Strategy
- Cost

## Perspectives

- Agency Assessment
- ITD Assessment
- Enterprise Tolerance



## Gartner Lunch-and-Learns

- Monthly brownbag luncheons, starting at noon
- Precedes the ITCC meeting
- 45-minute video sessions from Symposium ITxpo
  - Gartner Analyst Keynote
  - Top 10 Trends & Strategic Technologies in (Digital) Government
  - 2016 CIO Agenda
  - Cybersecurity Scenario 2020

**Gartner®**

**SYMPOSIUM ITXPO® 2015**



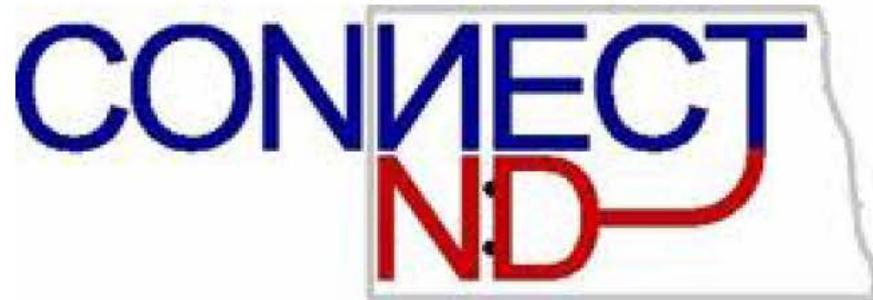


## Digital Archive Update

- A Digital Archive is simply a repository for digital records that need to be retained permanently.
- The 2014 Digital Archived Study concluded that “investments in people, modernized business process, and technologies are needed to bring life cycle controls to state government records...”
- An Electronic Records Archivist position with the State Historical Society closes October 29.



## PeopleSoft Update



- Time and Labor
- Enhanced Security
- Browser Compatibility





**THANK YOU!!!**