APPENDIX T

Information Technology Department Presentation to Budget Section

December 11, 2013

Mike J. Ressler

Desktop Support Study

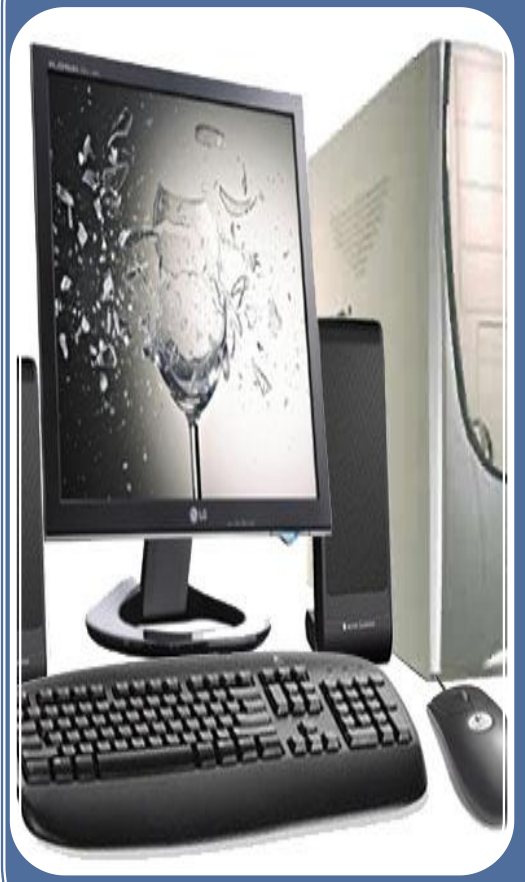
December, 2013

By Eide Bailly

Project Scope

- As required in SB 2021, Section Nine:
  "study of all state agencies' IT desktop support to determine the feasibility and desirability of centralization of desktop support services through the ITD for all state agencies."
- Over 50 agencies were interviewed to assess their current Desktop Support environments.
- State of North Dakota Desktop Support practices were compared to multiple industry benchmarks and best practices.

Summary of Recommendations



Hybrid Support Model

32 Agencies / 1,787 Users – Migrate to Desktop Support provided by ITD

16 Agencies / 6,088 Users - Continue with the current agency-based Desktop Support model

Summary of Recommendations

Tools Standardization

- Expand efforts to consolidate Desktop Support related tools and services
- 5 Key Tools recommended as “mandatory” for use by all agencies

Summary of Recommendations

Improved Efficiency

- Shared staff for smaller agencies results in fewer overall staff than are currently required for Desktop Support
- Focus agency staff on their primary function

Benefits of Recommended Solution

- Cost Avoidance
  - Avoid future Desktop Support staff expansions for agencies with ITD-provided Desktop Support.
  - Free existing agency staff from Desktop Support duties to focus on their primary agency function(s).
- Security
  - Better monitoring and management of small agency desktop security.
  - Consistent security policy implementation across all agencies. (Through more consistent tools use.)
- Efficiency & Effectiveness
  - ITD Desktop Support staff will increase efficiency for smaller agency support.
  - Efficient and effective support for users whose technology is “common” across the environment.

Support Model Options Considered

Option #1
Fully Centralized ITD Provided Support

A single ITD Desktop Support team for all agency users.

All desktop management tools and processes centralized with ITD for all agencies.

Option #2
Fully Distributed Agency Provided Support

Each agency provides their own Desktop Support (tools and staff).

Continue "status quo" for all desktop management tools. (e.g., ITD provides selected tools for agency use)

Option #3
Hybrid

Customized Desktop Support staffing model - by agency requirements and size.

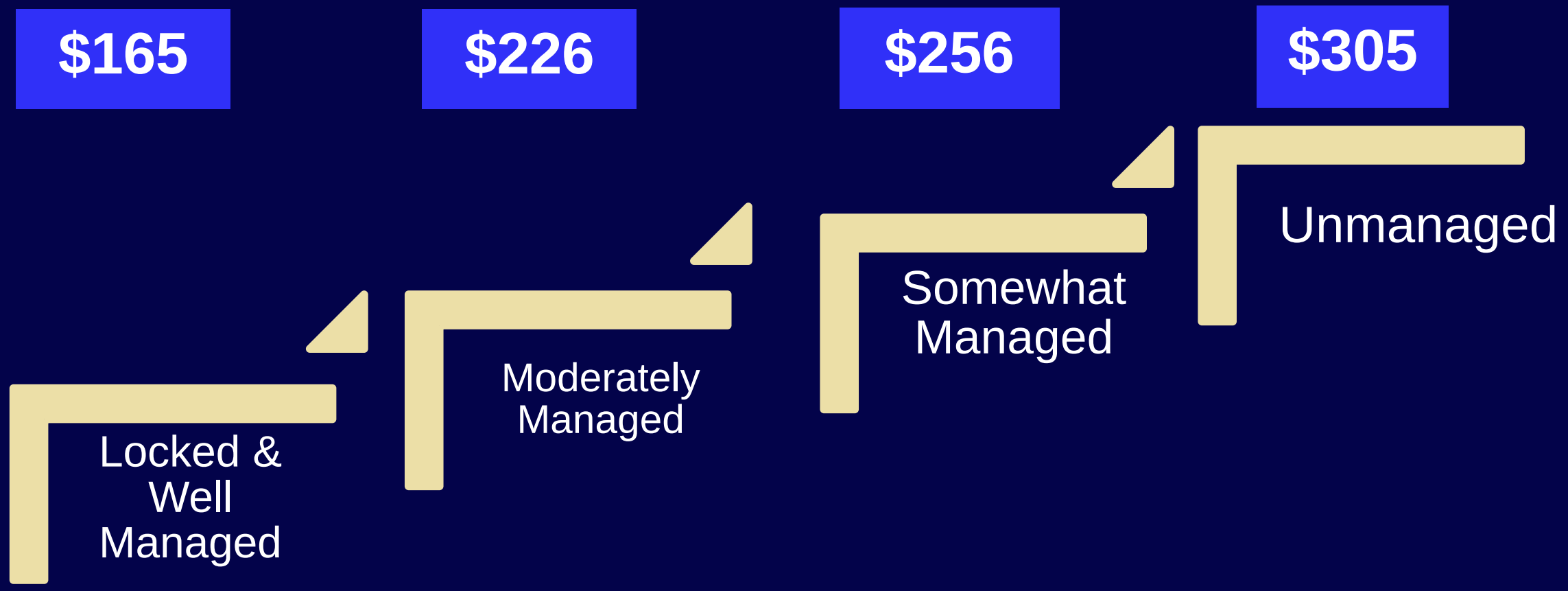
Stronger standardization of desktop management tools, while still allowing for agency flexibility for non-mission critical tools.

Key Statistics & Benchmarks

Number of End Users per Support Technician		
Small Sized Organizations (Less than 2,000 Users) Median Ratio 150:1	Medium Sized Organization (2,000 - 10,000 Users) Median Ratio 375:1	North Dakota Agency Average Ratio 128:1

Key Statistics & Benchmarks

Tier 1 & Tier 2 User Support Costs – By Level of Manageability



(Source: Gartner – Desktop Total Cost of Ownership: 2013 Update)

Why not continue with the current distributed Desktop Support model for all?

- **Highest cost model, particularly for smaller agencies.**
- **Distributed security roles and responsibilities adds unnecessary risk to the environment.**

Why not fully centralize all Desktop Support for all agencies?

- Complex environment to support with 100’s of applications.
- Many larger agencies are already achieving Desktop Support staff to user ratios that are in-line with industry benchmarks.

Questions & Comments

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November, 2013

Desktop Study

State of North Dakota – Information Technology Department

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Executive Summary

Project Goals & Objectives

Eide Bailly has completed an analysis of the Desktop Support environment for the State of North Dakota. The review was completed to satisfy the legislative intent of SB 2021. Section nine of that bill requires the Information Technology Department (ITD) to perform a "study of all state agencies' information technology desktop support to determine the feasibility and desirability of centralization of desktop support services through the information technology department for all state agencies."

As part of this study, the current Desktop Support staffing models, processes and tools were all evaluated to determine a recommendation for a future Desktop Support model. As part of our analysis, Eide Bailly compared the overall costs of Desktop Support within the State of North Dakota's environment to industry benchmarks and best practices.

For the purposes of this analysis, the scope of Desktop Support includes end-user support and operations of a broad set of typical end-user devices and peripherals, such as:

- Desktop PCs
- Laptops
- Mobile Devices (Tablets & Smartphones)
- Printers
- General Application Support (Microsoft Office, Web Browsers, etc.)

Key Findings and Recommendations

A complete detailed list of Eide Bailly's findings and recommendations can be found later in this document. The following summarizes key findings and recommendations for the Desktop Study project:

- **People Findings & Recommendations –** A portion of our recommendations are centered on where support staff for Desktop Support should be managed – within ITD and / or with the agencies. Our "people" recommendations are as follows:
    1. 32 agencies have been identified that would benefit from at least some level of Desktop Support services from ITD. For these agencies we recommend proceeding with a transition to ITD for Desktop Support services as budgeting and planning allows.
    2. Agencies where we are recommending Desktop Support be centralized through ITD are generally under 100 users, have primarily "generic" Desktop Support and operations needs or are currently receiving at least some level of Desktop Support services from ITD.
    3. To support current and planned agency transitions for Desktop Support, ITD will require approximately 8 FTEs, which is an additional four FTEs to current Help Desk and

Desktop Support staff (Note: This aligns with the recommended ratio of approximately 250 users to 1 Desktop Support FTE).

4. ITD should enhance the current Service Desk capabilities to include traditional "Tier 1" help desk capabilities as part of staffing up to support agency desktop services. Our overall staffing recommendation for ITD includes the additional staff required to satisfy the "Tier 1" support needs of agencies recommended for ITD Desktop Support.

- **Process Findings & Recommendations –** Achieving the desired benchmark measures, efficiencies and quality will also require significant process changes for Desktop Support, including the following:
    1. ITD should implement a formal process for annually evaluating service options with each agency and / or transitioning to standardized tools for Desktop Support management.
    2. Establish consistent support processes and data collection across a common set of tools for all agencies. (e.g., Collect complete and consistent data on support tickets, volume, etc. for all users and agencies, whether ITD or agency supported.)
    3. ITD should define expected Service Level Agreement(s) for their various Desktop Support related services and tools. In addition, regular reporting on ITD's performance against these services levels should be provided to each agency receiving Desktop Support services from ITD. (Note: Other agencies should be encouraged to utilize common tools and metrics to monitor their own internal agency Desktop Support service performance.)
- **Technology Findings & Recommendations –** Establishing broader standards for desktop support and operations tools will be a key contributor to improved desktop support efficiency.
    1. ITD should establish standards (some "Mandatory" and other "Optional") for Desktop Support related tools for use across all agencies.

High-Level Project Process Overview

The following provides a summary of the process followed by Eide Bailly in working with the State of North Dakota to complete this project:

- *Phase I: Project Plan Development & Confirmation* - A plan for completing the project and required deliverables was developed by Eide Bailly and the designated State of North Dakota Project Manager.
- *Phase II: Current Environment Data Collection* – Data on the current environment for Desktop Support was gathered via on-site interviews with agencies that have over 100 FTEs and telephone interviews with agencies that have fewer than 100 FTEs.
- *Phase III: Analysis & Report Production* – The recommendations and report were developed by analyzing the State of North Dakota's current Desktop Support environment and comparing it to industry best practices.
- *Phase IV*: *Post Deliverable Support* – As needed Eide Bailly will assist OMB and ITD with further clarification and support associated with the final deliverable.

List of Final Deliverables

Key deliverables for the project included the following:

- *Project Plan* – Our project management tools and schedule for completion of the project within the State of North Dakota's desired timeline.
- *Deliverable Outline* – During the first month of the project, Eide Bailly worked with ITD to develop an outline of the final deliverable to be produced for the project. This outline served as the basis for the content of this final report.
- *Current Environment Summary* – An overview of the current Desktop Support environment within the State of North Dakota IT environment. This included a summary of staffing (internal agency, ITD and contract resources) and tools currently utilized to provide Desktop Support services.
- *Draft Deliverable* – A complete draft of the final analysis and recommendations for the project, including recommendations and priorities for implementation.
- *Final Deliverable* – The final work product for the project including:
    - A Microsoft Word report detailing the findings and recommendations from the project.
    - A Power Point summary of the findings and recommendations from the project.

Current Environment Summary

Introduction

During the first major phase in completing the Desktop Study project, Eide Bailly conducted on-site or phone interviews with each agency identified as in-scope for the project. In most cases, Eide Bailly conducted onsite interviews with agencies having over 100 Full-Time-Equivalent (FTE) staff and phone interviews with agencies have fewer than 100 Full-Time-Equivalent (FTE) staff. During both on-site and phone interviews, data in the following areas was collected:

- Current Support Staff
- Current Desktop Support Costs and / or Desktop Support FTEs (With internal agency staff, ITD services and / or an external provider)
- Desktop and Device Deployment Standards
- Details on Devices and Applications Supported
- Support-Related Tools Utilized (Either agency provided and / or provided by ITD)
- Current Support Statistics and Methods (If available)

Our detailed, data from the agency current environment interviews is contained in Appendix A. The "Current Environment Summary" section contains the following summary information collected as part of the Current Environment review phase of the project:

- **Summary of Services Provided By Agencies** – This section identifies current Desktop Support related services by each agency and how they are being delivered.
- **Current Staffing Summary** – This section documents each agency's staffing in the Desktop Support area. (If available)
- **Resource Geographic Summary** – While most agency Desktop Support resources are located in the Bismarck / Mandan area, there are isolated cases where Desktop Support staff is distributed to other state locations.
- **Technical Environment Summary** – Where available, the project team utilized this Current Environment phase of the project as an opportunity to gather data about the current Desktop Support related technologies in use at each agency.
- **Current Environment Desktop Support Cost Estimate** – With the current Desktop Support environment being largely "agency-based" (e.g., Desktop Support staff are primarily agency staff); the current cost of Desktop Support is not always readily available. However, as part of this effort Eide Bailly is using some reasonable assumptions and rules to effectively estimate current costs.

Summary of Services Provided By Agencies

During the Current Environment assessment phase of the project, the project team was focused on identifying and documenting the services currently delivered by agency Desktop Support staff, ITD Desktop Support staff and by external vendors.

Throughout the interviews and data collection efforts, it became apparent that a key factor in our analysis would be establishing a consistent definition of what is included in "Desktop Support". In some agencies the current view of Desktop Support is primarily a "Help Desk" (including application support). In other agencies the current view of Desktop Support is broader and would include several additional services, such as: deployment of new PCs, advanced support of agency applications, procurement, license management, etc.

For this phase of the project no effort was made to standardize a complete definition of Desktop Support. However, for many of the most common services that are viewed as part of agency, ITD or vendor Desktop Support activities, data was gathered on who is providing these services. This data was utilized to develop our recommendations and service definition for Desktop Support (see "Technology Recommendation Detail").

The table below provides a summary of the service delivery information gathered during our interviews with agency staff:

Service & Definition	Agency Staff Delivered (Qty.)	ITD Delivered (Qty.)	External Vendor Delivered (Qty.)	Unknown / None (Qty.)
End-User Help Desk Services – Telephone or email based user support services. These services are either delivered via direct calls or email to agency IT staff and / or to a centralized agency help desk number.	36	17	14	0
Device (Desktop, Laptop, Mobile, etc.) Deployment & Lifecycle Management – Management of devices from installation through disposal.	36	10	12	0
Procurement – The purchasing of new hardware based on pricing from the WSCA (Western States Contracting Alliance) contract.	47	5	0	0
Ticketing System – System used to track, manage and respond to support requests.	8	10	1	32

Service & Definition	Agency Staff Delivered (Qty.)	ITD Delivered (Qty.)	External Vendor Delivered (Qty.)	Unknown / None (Qty.)
Desktop Patch Management – WSUS (Windows Server Update Services) and SCCM (System Center Configuration Manager) are available for agencies to leverage for Microsoft and third party software updates. Some agencies utilize their own configured WSUS or patch management system such as Altiris or LAN Guard.	17	28	2	6
Mobile Device Management –Agencies appeared to be waiting for a solution or had already deployed a solution specific to their platform of choice. A mobile device management system monitors, secures, manages and supports mobile devices.	4	20	1	25
Desktop / Laptop System Imaging – Utilizing a system imaging tool helps standardize and expedite the desktop deployment process. Agencies have leveraged this technology through ITD's SCCM or by purchasing their own solution.	4	7	0	39
Asset Management & Inventory – System utilized for tracking all local agency technology assets.	26	6	0	18
Remote Device Control –Tools utilized to provide remote support and management of devices.	17	6	1	16
Anti-Virus Software – Software used to prevent, detect and remove malware.	2	22	1	25
License Management – Purchasing and compliance management for all software licensing.	19	6	0	25

Note: In several cases, services are jointly delivered by agency staff and ITD or were unknown by agency staff; therefore, not all quantity numbers add up to the total number of agencies interviewed.

Current Staffing Summary (Desktop Support Services Only)

With the current highly distributed model of support, analyzing the current staffing levels for Desktop Support is a difficult effort. However, during our Current Environment data collection phase, information was gathered on key metrics related to Desktop Support staffing. The following information was gathered on each agency to assist in documenting current Desktop Support staffing levels:

- Source of Desktop Support Services (Agency, ITD or External Vendor)
- FTEs Dedicated to Desktop Support (Follows the agency's definition of "Desktop Support" and frequently estimated to include only a portion of internal agency staff time e.g., Agency Desktop Support staff frequently have other duties, so agencies were asked to estimate the percentage of time these staff were dedicating to Desktop Support.)
- Vendors Utilized for Desktop Support
- Total Agency FTEs Supported by the Current Desktop Support Resources

The following table summarizes current Desktop Support staffing at each agency:

	Small Agency (0-49 FTEs)	Medium Agency (50-99 FTEs)	Large Agency (100+ FTEs)
Total # of Agencies	24	9	15
Total FTEs	524	662	6685
Total Desktop Support Staff	3.25	9.75	43.5
Support Staff Ratio (FTEs Supported Per Desktop Support FTE)	171:1	68:1	151:1

Notes:

1. Several agencies support public use of their technology as well, indicating that support often extends beyond just state of North Dakota FTEs. (Examples of public user support include: Web-sites and Driver's License Testing public use kiosks)
2. In addition to agency FTE staff, several agencies identified that there are additional permanent or periodic contractor staff that are supported by their Desktop Support staff. Specific examples of this include the following:
    - Adjutant General's Office – Temporary staff are hired to run emergency operations centers. In addition, Desktop Support staff frequently provide support to FEMA users when they are on-site in North Dakota for disaster recovery.
    - Agriculture Department – Seasonal inspectors are employed, beyond the year-round staff.
    - Bank of North Dakota – Selected non-agency staff working on-site at the Bank of North Dakota are supported by Bank of North Dakota IT staff.
    - Game & Fish Department – The Game & Fish Department provides public support for licensing websites / applications. In addition, the game & Fish Department has a significant seasonal staff, above and beyond their FTE count.

3. Estimated Desktop Support FTEs is determined using the following data points:
    - Estimated time split (as stated in agency interviews) for staff with additional duties outside of Desktop Support.
    - Outside companies providing Desktop Support services are not included. (Unless full-time contract resources are being provided)
4. ITD has an additional 4 FTEs dedicated to Desktop Support; however, they are not included in the above staffing analysis statistics. ITD Desktop Support FTEs are not included because of the following:
    - ITD's current Desktop Support team provides services to both ITD users, as well as provides varying levels of Desktop Support services to several additional agencies.
    - ITD's current help desk provides some additional Desktop Support and customer service support related services. Because the help desk team's scope of service is well beyond Desktop Support, they are not included in our analysis or FTE counts.

Resource Geographic Summary

While the majority of agency staff requiring desktop support are located in the Bismarck / Mandan area, there are a significant number of staff located either remotely or in offices located throughout North Dakota. Most non-Bismarck / Mandan area staff requiring desktop support services are part of the Department of Human Services or they are remote / mobile users.

Outside of Bismarck / Mandan, the following locations have significant offices with concentrations of users requiring Desktop Support:

- Williston(*)
- Dickinson(*)
- Minot(*)
- Rolla(*)
- Devils Lake(*)
- Jamestown(*)
- Valley City
- Wahpeton(*)
- Fargo(*)
- Grand Forks(*)
- Grafton(*)

Note: Locations note with a (*) are primarily Department of Human Services locations – Regional Human Service Centers, Development Center and State Hospital - with existing local Desktop Support resources within the agency.

To support their large distributed staff, the Department of Human Services has IT staff located at their Regional Human Service Centers, The Development Center and The State Hospital. Job Service is the only other agency within the scope of this project that has non-Bismarck / Mandan area IT staff. (Qty. 2 – located at regional locations.) In addition, several agencies have designated "super users" that assist with occasional on-site support needs for staff that are distributed throughout the state.

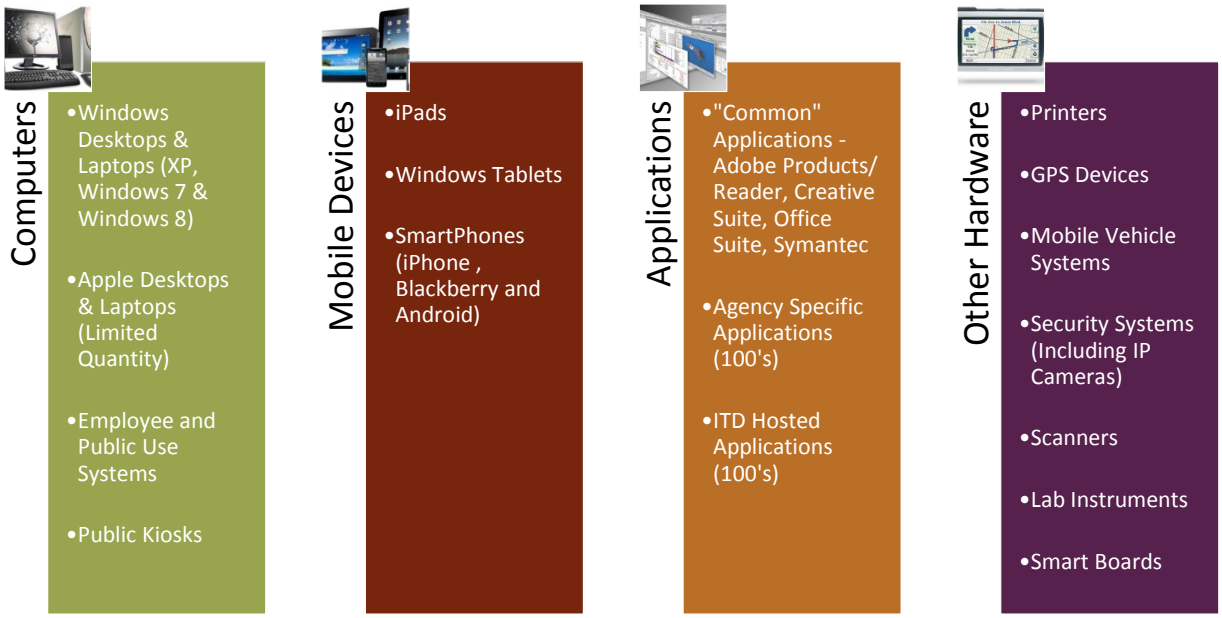
Technical Environment Summary

In gathering information about the current Desktop Support environment, it was critical to also gather several key pieces of technical information about the devices and applications being supported by the current largely agency-based model of Desktop Support. This data will be used to support our analysis and recommendations efforts for the project.

During our Current Environment data collection efforts the project team focused on collecting selected technical environmental information in the following areas:

- Devices Supported
- Management and Monitoring Tools Utilized
    - Patch Management
    - System Imaging
    - Monitoring
    - Ticketing System(s)
    - Anti-Virus Management
    - Remote Control
    - Mobile Device Management
- Hardware & Device Standards
- Use of Laptop Hard Drive Encryption
- Applications Supported
- Desktop Operating Systems

The following are some key highlights of the current technical environment being supported:



Additional details on each of the technical areas gathered are provided in the table below. As part of the Current Environment analysis, “consistency” and “adoption” ratings have been assigned to each area. The consistency rating provides insight as to how consistent / similar each technical area is from agency to agency. The adoption rating provides insight into how widely deployed each technical area is across all agencies.

Understanding the current level of technical consistency in these areas provided the project team with a key data point to understanding any potential efficiency gains or barriers with particular Desktop Support models.

Consistency Rating Key:

High Consistency = Very consistent across agencies

Medium Consistency = Some consistency across agencies

Low Consistency = Little consistency across agencies

Adoption Rating Key:

High Adoption Consistency = Majority of agencies utilizing the technology

Medium Adoption Consistency = Some agencies utilizing the technology

Low Adoption Consistency = Few agencies utilizing the technology

Technical Area	Consistency Rating	Adoption Rating	Comments
Anti-Virus Management	High	High	• ITD's current Symantec anti-virus solution is one of the most consistently and widely deployed Desktop Support services utilized by agencies.
Laptop Hardware Drive Encryption	High	Low	• A limited number of agencies are utilizing hard drive encryption for their laptops. Those that are were migrating towards ITD's standard Wave self-encrypting drive solution.
Mobile Device Management	High	Low	• Most agencies that indicated use of a Mobile Device Management (MDM) solution indicated that they are utilizing ITD's provided solution. However, many agencies were not fully aware of the current solution's capabilities and were relying on ITD for any policy deployment or configuration. • One agency indicated they were utilizing their own MDM – Cisco / Meraki.
Desktop Operating Systems	High	High	• Nearly all agencies reported having standardized on Windows 7 for a desktop operating system. • There are limited deployments of Mac OS installed at a few agencies. • Most agencies reported having a "few" Windows XP machines still in production; however, most are planned for replacement within the next 6 months.

Technical Area	Consistency Rating	Adoption Rating	Comments
Hardware & Device Standards	Medium	High	• Nearly all agencies indicated that they purchase desktop and laptop hardware off of the state of North Dakota's participation in the WSCA contract. • A majority of agencies "try to follow" pre-configured desktop and laptop hardware standards on the WSCA contract; however, there were specific exceptions noted for nearly all large agencies. • A majority of agencies have internal IT staff with specific hardware procurement responsibilities.
Patch Management	Medium	High	• While a majority of agencies utilize ITD's Windows Update Server Service (WSUS) for "critical" and "security" patches; there are several additional patch management solutions currently deployed at various agencies. • In addition to the widely utilized ITD WSUS solution, the following patch management solutions are also in use: o Direct Windows Updates to Microsoft o LAN Guard
Remote Control	Medium	High	• To facilitate Desktop Support, many agencies utilize remote PC control tools. • Remote control tools currently in use at agencies include the following: o Bomgar o TightVNC o Windows Remote Desktop o Dameware
Monitoring	Medium	Low	• Most agencies are not widely utilizing "monitoring" tools. Agencies that are utilizing monitoring tools are frequently utilizing ITD's SCCN and / or Altiris tools.
System Imaging	Low	Low	• System imaging solutions are not widely deployed throughout the agencies. This is, in part, due to the diversity of systems being deployed and supported. • Imaging solutions currently utilized at agencies include the following: o Microsoft System Center Configuration Manager (SCCM) o CloneZilla

Technical Area	Consistency Rating	Adoption Rating	Comments
Ticketing System(s)	Low	Low	• The majority of agencies do not use any ticketing systems for management of Desktop Support requests. • For agencies that utilize a ticketing system, there are several disparate systems in use, including: o ITSM o WMS (This system is not typically used for support tickets, but several agencies indicated it was utilized for support tickets.) o Heat
Applications Supported	Low	N/A	• **Common Applications** – Nearly all agencies utilize some common applications. Examples: Microsoft Office, Adobe Acrobat, etc. • **Agency Specific Applications** – In addition to the applications that most agencies have in common, hundreds of agency specific applications are supported almost exclusively by agency IT staff.
Devices Supported	Low	N/A	• **Common Devices** – All agencies have common / standard devices that are supported by their desktop support staff. These typically include: PCs, Laptops, Tablets, SmartPhones and Printers • **Agency Specific Devices** – All large agencies have at least some unique devices supported by their current desktop support staff. Significant examples of agency specific devices being supported include the following: o *Department of Transportation* – GPS, public use computers, kiosks, field data collection hardware o *Department of Human Services* – County users, hospital systems, photo and video editing software o *Highway Patrol* – Digital video hardware, GPS, security systems, dispatch hardware o *Department of Correction and Rehabilitation* – IP security cameras, security systems, video surveillance systems o *Adjutant General* – 911 system hardware, state radio hardware, mobile command centers o *State Library* – Microfiche hardware, book scanners, public use labs

As the above table indicates there is a great deal of diversity in the desktop support related environment across agencies. This high level of inconsistency is not just with the hardware and software being supported, but also extends to the tools, processes and resources deployed to provide the current desktop support services.

Current Environment Desktop Support Cost Estimate

In the current (largely agency distributed) Desktop Support environment specific costs for providing Desktop Support services is difficult to ascertain. Specific current environment characteristics that make determining agency-level costs for desktop support difficult include the following:

- For agencies with current full-time IT staff (generally agencies with 50+ FTEs to support), "Desktop Support" is frequently not identified as a specific full-time position. Agency IT staff that are providing desktop support are generally also performing other duties for the agencies. In several agencies desktop support staff are also performing other non-IT related duties.
- At smaller agencies (generally agencies with fewer than 50 FTEs), Desktop Support in generally provided via one of two models:
    - *External Vendors* – With this model, desktop support is generally provided via an external vendor as part of a broader set of IT services that includes more than just desktop support.
    - *Internal "very part-time" Staff* – With this model someone on the agency staff that does not have primarily an IT role is providing desktop support on a very limited and highly variable basis.
- In many agency environments, desktop support duties are split between multiple resources or organizations.

While these current environment characteristics make it difficult to estimate the costs associated with the current desktop support environment, there is enough data available to provide a solid working estimate for desktop support costs across all agencies. Based on data gathered during our agency interviews, our estimate of current desktop support costs is based on the following key data points and assumptions:

- Average Agency Desktop Support FTE Cost
    - Average Salary: $49,000 (Source: Agency interviews)
    - Average Benefit Cost: 35.5% of Salary (Source: Bureau of Labor Statistics – State & Local Government Employees)
    - Average Total Cost per Desktop Support FTE: $49,000 + 35.5% (Benefits) = $66,395
- Ratio of Agency Desktop Support Staff to FTEs Supported
    - Small Agencies (0 - 49 FTEs): 171:1
    - Medium Agencies (50 – 99 FTEs): 40:1
    - Large Agencies (100+ FTEs): 151:1

The following table illustrates the current staff desktop support calculation across all agencies:

	Small Agency (0-49 FTEs)	Medium Agency (50-99 FTEs)	Large Agency (100+ FTEs)	Agency Shared ITD Desktop Support Staff	Totals
Total Desktop Support Staff	3.25	9.75	43.5	4	**60.5**
Cost per FTE (Including benefits)	$66,395	$66,395	$66,395	$66,395	**$66,395**
Total Agency Desktop Support FTE Cost	**$215,784**	**$647,351**	**$2,888,183**	**$265,580**	**$4,016,898**

In addition to the direct desktop support staff costs identified above, there are several additional added costs with the current largely agency-based support model.

Specific areas where the current support structure is driving up support costs include the following:

- Ticketing Systems
- Remote Desktop Control Tools
- Imaging Solutions
- Procurement
- License Management
- Lifecycle Management
- Hardware Consistency
- Software Consistency

Best Practices Analysis

Benchmark and Best Practice Data

There are four main benchmarks and best practice criteria that were used for comparison and in development of our recommendations:

- Ratio of support technicians to end users
- Technician salary and cost per desktop
- Level of desktop manageability
- Service level metrics

Support Staff to End User Ratio

While it is a fact that larger organizations will generally have higher support staff to end-user ratios (e.g., more users supported per Desktop Support FTE), it is also important to consider the highly diverse nature of support requirements across the State of North Dakota government agencies when comparing to industry standard metrics. While as a whole, State of North Dakota agency users collectively are the size of a "larger" organization (2,000 – 10,000 users in our benchmark comparison), it is also important to consider that the complexities associated with Desktop Support within each agency result in comparisons to "smaller" organization (under 2,000 users in our benchmark comparison) being more appropriate.

Based on these facts and characteristics of the information technology environments at state agencies, our conclusion is that the proper comparison for Desktop Support staffing and cost ratio is to consider appropriate benchmark metrics as being somewhere between the "small" and "medium" organizations included in the graphic below:

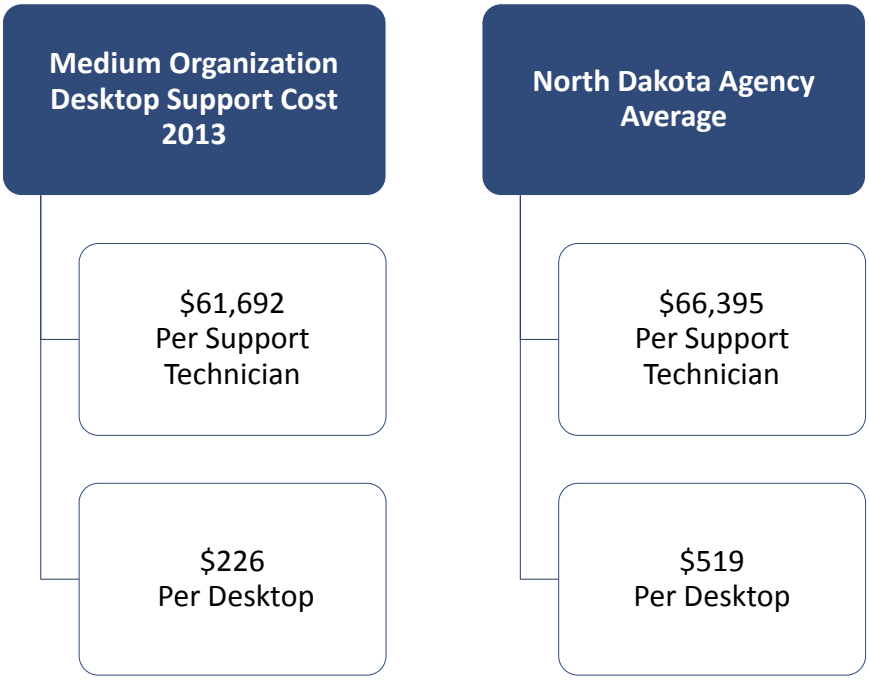
Number of End Users per Support Technician (Agency)		
Small Sized Organizations (Less than 2,000 Users)	Medium Sized Organization (2,000 - 10,000 Users)	North Dakota Agency
Median Ratio	Median Ratio	Average Ratio
150:1	375:1	128:1

(Source: HDI – Staffing Desktop Support – March 2013)

As indicated in the above graphic, the current Desktop Support environment within the State of North Dakota does utilize higher staffing levels than should be required in a typical similar organization.

Support Costs

The costs of technician salaries and per desktop support are based on 2,500 users which is slightly higher than the user base per agency at the State of North Dakota. These benchmarks indicate that North Dakota can achieve lower costs per desktop by providing support to a larger user base.



(Source: Gartner – Desktop Total Cost of Ownership: 2013 Update)

Level of Desktop Manageability

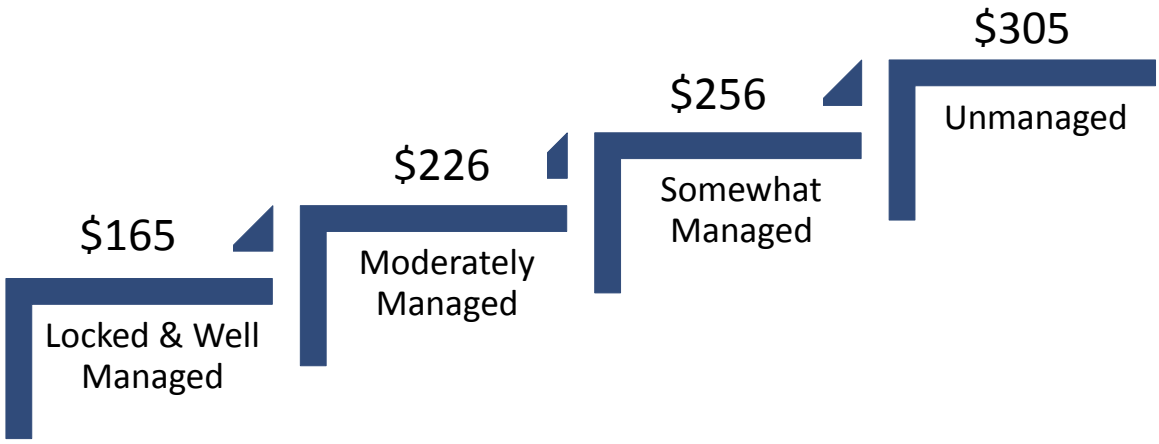
In their "Desktop Total Cost of Ownership: 2013 Update" report, Gartner utilizes the concept of assigning a "level of manageability" to desktops and estimating costs for ownership based on this categorization. In the report, Gartner identifies the following categories for level of manageability:

- Unmanaged - Users can install applications and change settings; limited to no management tools are being used for desktop operations and support
- Somewhat Managed - Limited management tools are in place; however, processes and policies are not fully established.
- Moderately Managed - Tools and processes are widely established; however, user can still install software and change limited settings.
- Locked and Well Managed - Tools and processes are widely established; and users cannot install software or change important settings.

(Source: Gartner – Desktop Total Cost of Ownership: 2013 Update)

Gartner's report estimates the "End-User Cost" associated with managing and supporting desktops for each level of manageability. The following diagram summarizes the differences in only the "Tier 1" (e.g., First Call) & "Tier 2" (e.g., Escalated) end-user support costs identified in this report:

Tier 1 & Tier 2 User Support Costs – By Level of Manageability



(Source: Gartner – Desktop Total Cost of Ownership: 2013 Update)

Based on our review of the Desktop Support environment within the State of North Dakota, Eide Bailly has observed a wide range of manageability within the agencies. However, in most cases the level of manageability would be categorized as "Somewhat Managed" or "Moderately Managed".

This data suggests that by improving the management practices for desktops from "Somewhat Managed" to "Locked and Well Managed", end-user support costs can be reduced to approximately 35% from $256 per year to $165 per year. This data highlights the important role desktop management tools and configurations can play in reducing overall desktop management costs.

Based on our analysis of the State of North Dakota's Desktop Support requirements and of industry benchmark data, we recommend a targeted staffing level of approximately 250 users supported by one ITD FTE providing Desktop Support services (250:1). Achieving this ratio of user to Desktop Support staff would result in the State of North Dakota Desktop Support costs (for staff) being roughly consistent with industry benchmarks.

The following scenario illustrates that a targeted user to Desktop Support staff ratio of approximately 250:1 is required to achieve the benchmark cost per desktop financial results:

- 2000 Users (Agency Staff)
- 250:1 Desktop Support Staff Ratio = 8 FTEs required
- 2000 Users / (8 Staff * $66,395) = $299 / Per User / Desktop

Service Levels

The level of service provided by a Desktop Support team has a significant impact on the cost of service delivery. Unlike many other standardized ITD services, the current service levels for Desktop Support within the state agencies are generally not published or tracked. Without this data, it is difficult (if not impossible) to fully evaluate the effectiveness of the current agency Desktop Support staff. However, as the State of North Dakota moves forward with the implementation of the recommended Desktop Support model, it will become critical to establish expected services levels to measure the success of the effort. These new Desktop Support Service Level Agreements ("SLAs") should be documented as extensions to the current SLAs published and monitored for other ITD services. Establishing these Desktop Support SLAs will provide a mechanism for ITD (and other agencies) to manage and monitor the quality and volume of Desktop Support services being provided.

The following table provides selected industry benchmarks for measuring Desktop Support performance. At a minimum, ITD will need to measure their performance against these metrics for all agencies they provide Desktop Support services to.

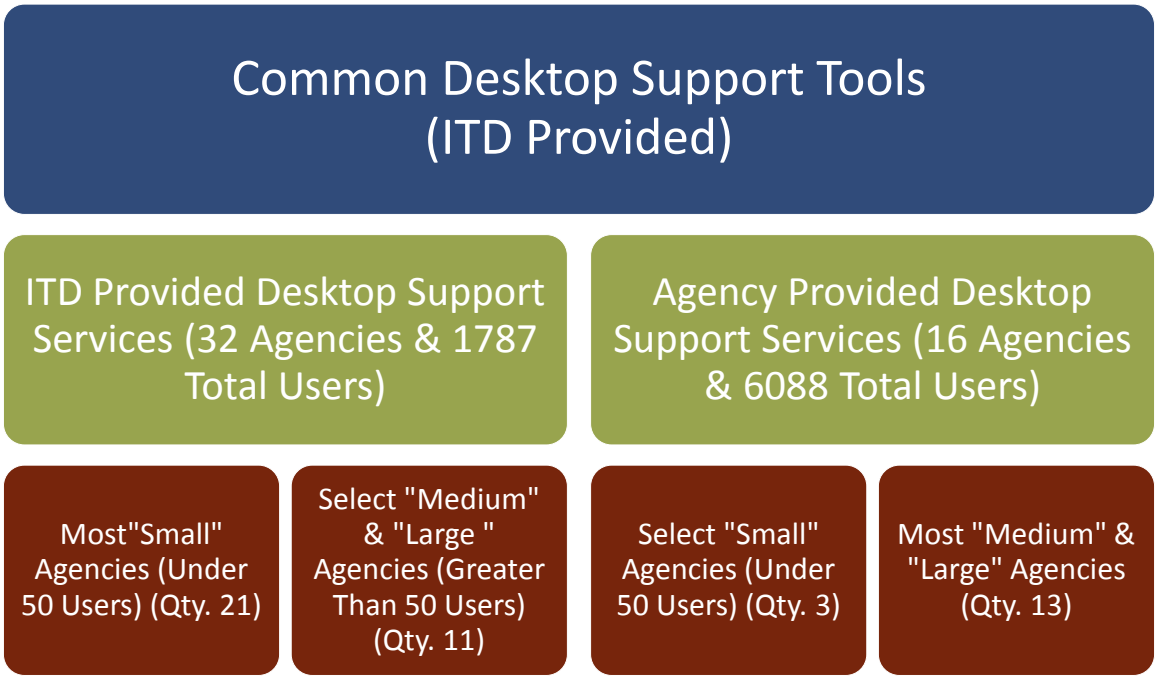
Desktop Support Service Levels		
	Break/Fix	**Request for a Service**
Average number of tickets resolved by one desktop support technician per month	101-125	
Average time to respond to a typical desktop support ticket	1-2 hours	2-4 hours
Average time to resolve a desktop support ticket	8-24 hours	8-24 hours
Average time worked on a ticket	1-2 hours	1-2 hours
Percentage of tickets resolved on first attempt	70-80%	70-80%

(Source: HDI – Desktop Support Metrics – September 2013)

Recommendations

Summary of Recommendations

Based on our analysis of the current Desktop Support environment, agency Desktop Support requirements, cost-benefit data and industry Desktop Support benchmarks, Eide Bailly is recommending a "Hybrid" model of desktop support. With this model, agencies will be supported by either ITD or with local agency Desktop Support staff, based on their unique requirements and attributes. The following diagram illustrates a high-level profile of the Desktop Support environment when the recommended hybrid Desktop Support model has been fully implemented:



Our analysis for the assignment of agencies to either ITD or agency Desktop Support staffing is included below. This analysis includes people, process and technology perspectives. Each of these areas will play a critical role in determining the ultimate success of implementing the recommendations.

People (e.g., Staffing) Recommendations Details

Support Model Options

In our evaluation of Desktop Support models for the State of North Dakota, there were three primary models of Desktop Support staffing that were considered:

Option #1
Fully Centralized ITD Provided Support

A single ITD Desktop Support team for all agency users.

All desktop management tools and processes centralized with ITD for all agencies.

Fully Centralized = Low Cost / Low Service

Labor Cost = $2.6M

Option #2
Fully Distributed Agency Provided Support

Each agency provides their own Desktop Support (tools and staff).

Continue "status quo" for all desktop management tools. (e.g., ITD provides selected tools for agency use)

Fully Distributed = High Cost / High Service

Labor Cost = $4.0M

Option #3
Hybird

Customized Desktop Support staffing model - by agency requirements and size.

Stronger standardization of desktop management tools, while still allowing for agency flexibility for non-mission critical tools.

Hybrid = Balanced Cost & Service

Labor Cost = $3.2M

Based on our analysis of the desktop environment currently deployed within the state of North Dakota government agencies, Eide Bailly recommends a hybrid model of support for implementation across all agencies. While not the lowest cost option, this model will provide the State of North Dakota users and agencies the best balance of quality customer service, value for their Desktop Support investment and efficient use of Desktop Support staff. In addition, the recommended hybrid model preserves agency flexibility for allocating Desktop Support duties as part of an overall FTE's responsibilities.

Recommended Hybrid Support Model

Hybrid Model Key Statistics		
Estimated Desktop Support FTEs: **48 Total** (8 ITD & 40 Agency)	Estimated Annual Labor Cost: **$3.2M**	Targeted User to Desktop Support FTE Ratio: **250:1**

Our recommended support model for future Desktop Support services includes the following key attributes:

- A targeted user to Desktop Support FTE ratio of 250:1 for all Desktop Support Resources (e.g., 250 Users supported by 1 Desktop Support FTE).
- Expand ITD's service offerings in the Desktop Support area to include more standardization of support and operations tools throughout agencies. (Note: Some tools and services are already available – with varying levels of adoption.) (See "Technology Recommendations" for details)
- Our analysis included identifying specific agencies that would be the best served by ITD provided Desktop Support services. We have defined the following criteria for selection of agencies that we recommend receiving Desktop Support services through ITD (e.g., Agencies where any or all of the following key criteria are met.):
    - Agencies that have indicated a desire for receiving Desktop Support services from ITD.
    - Agencies that currently receive some level of Desktop Support services from ITD.
    - Agencies that are under 100 users.
    - Agencies where Desktop Support needs would be categorized as "common" applications and tools. (e.g., There are not highly specialized / unique applications to support.)

- Based on the above criteria, the following agencies would be best served by a centralized model of Desktop Support services delivered through ITD:

Agency	User Count	Agency	User Count
Information Technology Dept.	340	Financial Institutions	29
Job Service *	251	State Library	30
Bank of North Dakota *	180	Protection & Advocacy	28
Office of Management & Budget	131	Career and Technical Education	27
Public Instruction	100	Retirement & Invest Office	19
Agriculture Department	77	University System (System Office Staff in Bismarck Only)	20
Commerce Department	69	Governor's Office	18
Historical Society ND State	69	Department of Labor	13
Parks & Recreation Department	55	Securities Commissioner	9
Auditors Office, ND State	54	Center for Tobacco Prevention and Control Policy	8
Insurance Department	50	Veterans Affairs Dept.	8
School for the Deaf	45	Treasurer's Office	8
Legal Counsel for Indigents	33	Aeronautics Commission	6
Public Employees Retire System	33	ND Council on the Arts	5
Secretary of State	31	Indian Affairs Commission	5
Department of Trust Lands	31	Administrative Hearings	5
Agency Count: 32 / Total Users: 1,787			

*Notes: * Job Service and Bank of North Dakota are currently receiving "Tier 1" (e.g., First call) support services from ITD. Our recommendation includes continuing with this level of service.*

- In addition to added efficiency, the recommended centralization of Desktop Support for the above agencies provides the following key benefits for the State of North Dakota:
    - Through implementation of common tools and processes for Desktop Support, it is anticipated that a higher level of overall desktop security will be achieved than many agencies are currently achieving via their current Desktop Support model.

- By having dedicated Desktop Support staff (through ITD), users will experience improved support response and system uptime. This provides a significant benefit in terms of user productivity and reduced desktop downtime.
- In some cases, agencies are nearing the point where they are considering requests for additional Desktop Support staff (or increasing the FTE status of existing staff's Desktop Support responsibilities). Centralizing Desktop Support through ITD for these agencies will provide the additional efficiencies to avoid future FTE hires within agencies. (Note: The Department of Agriculture's agreement with ITD for Desktop Support services is a recent example of this benefit.)

- We have identified the following criteria for identification of agencies that we recommend continue receiving Desktop Support services their current agency-based staffing model. (e.g., Agencies where any or all of the following key criteria are met.):
  - Agencies that currently have an efficient Desktop Support staffing model that is within our referenced industry benchmarks for users supported per Desktop Support FTE.
  - Agencies that have a highly unique application and / or hardware infrastructure to support.
  - Agencies that are substantially exempt from hosting their server infrastructure with ITD.
  - Agencies with a current Desktop Support environment that is substantially different from ITD standards.
  - Agencies that have unique regulator and / or security requirements that would more difficult to achieve with ITD providing expanded Desktop Support services.
- Based on the above criteria, our recommendation is that the following agencies <u>continue with their current agency-based staffing model for Desktop Support services</u>:

Agency	User Count	Agency	User Count
Human Services (Includes all service centers & Dev. Ctr & State Hospital)	2201	Game & Fish Department	158
Transportation, Department of	1080	Tax Commissioner	134
Department of Corrections	814	Veterans' Home	121
Health Department	354	Industrial Commission	99
Workforce Safety and Insurance	250	Water Commission	90
Adjutant General	246	Public Service Commission	44
Attorney General's Office	214	ND Public Finance Authority	40
Highway Patrol	213	School for the Blind	30
Agency Count: 16 / Total Users: 6,088			

Summary of Recommended Hybrid Support Model & Benefits

When fully transitioned to the recommended Desktop Support model, the following key environmental statistics will apply:

- **Users Receiving Desktop Support From ITD: 1,787**
- **Agencies Receiving Desktop Support Services From ITD: 32**
- **Required ITD Desktop Support FTEs: 8** (This represents an increase of 4 FTEs over current ITD Desktop Support FTEs. Assumes achievement of the targeted 250:1 ratio for users to Desktop Support staff.)
- **Reduction of Agency-Based Desktop Support FTEs: 16.75**
- **Net Reduction of Total Desktop Support FTEs: 12.75** (All FTEs would be currently agency staff. However, in many cases agency plans are to reallocate staff to their primary job function and not to reduce actual FTE counts.)
- **Reduced Outside Contractor Costs:** While very limited data was available from agencies on specific outside contractor costs, there is clearly some savings to be realized with the recommended Desktop Support model.

Transitioning to the recommended Desktop Support model also provides the State of North Dakota agencies with several non-economic benefits, including the following:

- A more tightly controlled, monitored and managed desktop environment for ITD supported agencies. This will reduce the overall IT security risk, particularly at the smaller agencies.
- With dedicated ITD Desktop Support staff, users would experience improved support response and system downtime.
- For agencies that would transition to ITD for Desktop Support services, a higher-level of service than currently being received should be expected.
- Agencies that currently have an adequate agency-based Desktop Support staff that meets their needs and are well within industry benchmark guidelines for support would be allowed to continue with their preferred Desktop Support model.
- ITD would be providing all agencies with consistent tools and services that will help reduce the overall staffing burden on agencies for Desktop Support services.
- Many of the Medium and Large agencies would be allowed to continue with their preferred model of staff being shared between IT / Desktop Support duties and other agency-specific “functional” roles.

Justification For Not Utilizing a Fully Centralized Desktop Support Model

Fully Centralized Model Key Statistics		
Estimated Desktop Support FTEs: **38.5 Total** (All ITD)	Estimated Annual Labor Cost: **$2.6M**	Targeted User to Desktop Support FTE Ratio: **200:1**

Our analysis and experience indicates that a fully centralized support model (Option #1) is not the most efficient and effective solution for the State of North Dakota Desktop Support environment for the following reasons:

- Many of the larger agencies have very complex desktop environments to support (hundreds of applications, highly specialized users, desktops that are utilized by the public for various purposes, etc.). A single centralized Desktop Support team would not be able to effectively support such a diverse environment without a significant impact to the quality and speed of service.
- The added complexity associated with a fully centralized model of support would likely make it more difficult to achieve industry benchmark standards than with the recommended hybrid model.
- Many of the largest agencies are currently operating at a user to Desktop Support resource ratio that is consistent with industry benchmarks; therefore, additional efficiencies would not be gained by centralizing Desktop Support with ITD.
- At most mid-sized and large agencies, the primary support needs are not for "generic" support (Microsoft Office, Printing, etc.), they are for agency specific applications.
- Nearly all agency Desktop Support staff serve in other capacities, in many cases these additional job duties are outside of Desktop Support or even outside of IT altogether. Centralizing Desktop Support would require that these staff be reduced to something less than full-time status, in most cases this is not practical and would result in higher costs to the agencies.
- Establishing an effective centralized support model requires willing and supportive partnerships to be successful. This may not be the case with several agencies that currently provide their own internal Desktop Support.

Justification For Not Utilizing a Fully Distributed Desktop Support Model

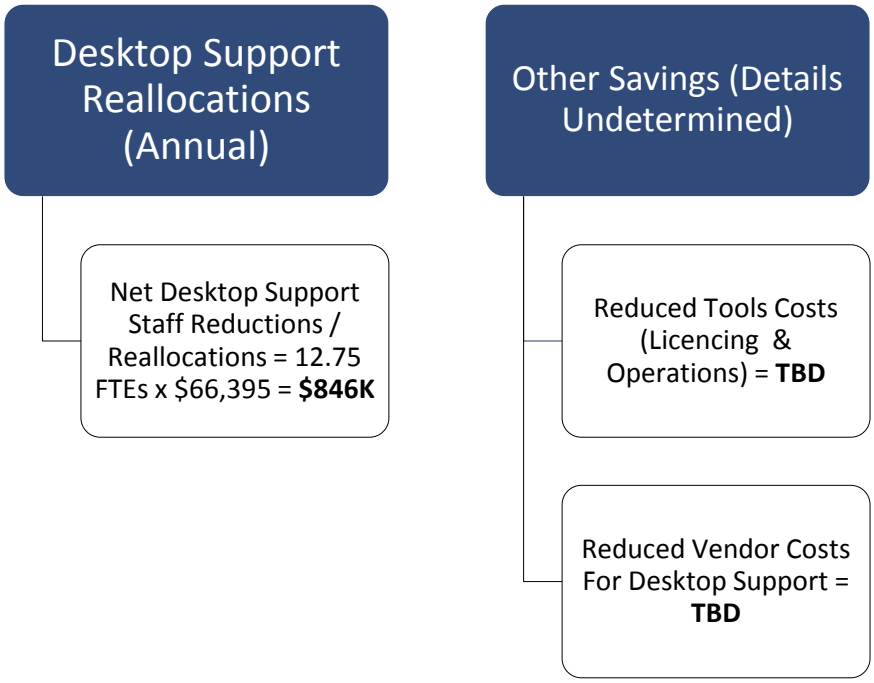
Fully Distributed Model Key Statistics		
Estimated Desktop Support FTEs: **60 Total** (4 ITD & 56.5 Agency)	Current Annual Labor Cost: **$4M**	Current Average User to Desktop Support FTE Ratio: **128:1**

Similarly, our analysis and experience indicates that a fully distributed agency support model (Option #2) of Desktop Support where all Desktop Support services reside in the agencies would not be the most efficient and effective solution for the State of North Dakota Desktop Support environment for the following reasons:

- When deployed across all agencies (particularly at small and mid-sized agencies) this model has proven to be inefficient and costly, as illustrated in the current desktop support staff ratio and cost data.
- Where the State of North Dakota's Desktop Support costs are higher than industry standards / benchmarks, it appears that a significant contributor is the limited standardization of tools and processes across agencies. (e.g., The State of North Dakota is paying to purchase, manage and support multiple desktop management tools where a single standardized tool set is more appropriate.)
- A fully distributed Desktop Support model provides the least amount of control around desktop security, therefore increasing the risk of data loss and / or privacy breaches.

Return on Investment Analysis

With a successful transition to the recommended hybrid Desktop Support model the State of North Dakota will achieve significant savings in their overall Desktop Support costs. Specifically, if the targeted ratio of user to Desktop Support staff (250:1) is achieved, the following savings to overall desktop support can be realized:



Notes: 1) Reduced Desktop Support tools costs will clearly be achieved through the recommended further standardization. However, specific cost analysis for the current tools was not within the scope of this project.

2) Agencies that currently utilize vendors for Desktop Support (generally smaller agencies) were unable to provide sufficient details on specific annual spending. There are clear savings to be gained through the consolidations of Desktop Support in this area; however, without detailed current cost information, the specific savings are not currently determined.

There are several key assumptions that will ultimately determine the ability of the State of North Dakota to achieve the savings available through migration to the recommended hybrid Desktop Support model, these assumptions include:

- ITD is able to achieve the targeted 250:1 ratio of users to Desktop Support staff.
- Agencies can either reduce Desktop Support FTEs and / or reallocate existing Desktop Support FTEs to other required positions within their agencies.
- Tools will be further standardized to support more efficient Desktop Support staffing. (This is particularly important for ITD to accomplish for all desktop / agency environment that they will be providing Desktop Support services for.)
- Clear Desktop Support SLAs will be established for all agencies that ITD will provide Desktop Support services to.

Process Recommendations Details

Current Desktop Support processes and the availability of service level metrics across agencies are highly variable with the current Desktop Support model. In nearly all cases, the current Desktop Support environment does not include any standardization of the following key processes:

- **ITD Service Management** – Most agencies do not appear to have any formal knowledge or understanding of "optional ITD services". An example of this in the current environment includes: Mobile Device Management, Hard Drive Encryption and Patch Management. There is no formal method of determining which agencies should be using which ITD services.
- **Metrics Reporting** – This includes data collection and monitoring of current Desktop Support performance. While there are limited cases where such metrics are tracked and monitored, there are no standards for performance within the State of North Dakota technical environment to evaluate performance against.
- **Service Level Agreements (SLAs)** – In most environment's the size of the State of North Dakota's, standards for performance (hours of operation, response times, resolution times, etc.) have been defined for Desktop Support personnel. Most agencies do not have these types of SLAs formally defined.
- **Support Processes** – Each agency generally has an "informal" process for users to request support. This frequently includes emailing or directly calling the agency IT staff for most support needs. Users are, at times, directed to contact the ITD Help Desk for specific needs. As a result current support processes appear to be confusing for users.

In addition to establishing more formal, well defined and managed services offerings from ITD (See "Technology Recommendations" for details), Eide Bailly also recommends that ITD establish an annual "Service Planning" process with each agency . While this process can (and should) extend beyond Desktop Support services, from a Desktop Support service perspective we envision this process including the following key communications between the agencies and ITD:

Current ITD Services Review	Planned Services Review	Agency Planning and Guidance
• Service Quality • SLA Achievement • Scope of Services Provided	• What additional services can / should ITD be providing? • Review new / planned service offerings for the upcoming year	• Review agency goals for the upcoming year(s) • Identify opportunities for technology to improve agency operations / results

Technology Recommendations Details

As noted in our metrics and best practices analysis, the state of North Dakota agency Desktop Support currently requires more resources than industry best practices / benchmarks. Based on our agency interviews and analysis, Eide Bailly believes that in addition to the staffing inefficiencies already discussed, the lack of wide-spread adoption of Desktop Support tool standards throughout the State of North Dakota environment is a contributing factor to higher Desktop Support staffing requirements. Without standards for key Desktop Support related tools, it is difficult to achieve the potential efficiency gains available with such tools.

Eide Bailly's recommendations for improving the efficiency and effectiveness of Desktop Support with the state of North Dakota government IT environment centers largely around stronger standardization of many of the technical tools utilized to provide operations and support services. Specifically, our recommendations include further deployment and standardization of the tools identified in the following tables.

For ease of analysis, we have categorized our recommended Desktop Support related tools into two broad categories:

- Service & Support
- Operational Management

Service Support

- Remote Management
- Monitoring Solution
- Help Desk Ticketing System
- Anti-Virus
- System Imaging
- Remote Desktop Services (VDI/RDS)
- 24x7 On Call Support

Operational Management

- Procurement
- Asset and Inventory Management
- Managed Print Services

In our recommended environment, ITD would work with each agency to implement a set of services that is customized to meet the needs of each agency. These customized solutions would, at a minimum include all services / tools that have been identified as "mandatory"; however, for several agencies the scope of ITD services could include complete ITD management and support of their desktop environment and support.

For each of the recommended tools, the tables below provide a summary of:

- **Required / Optional** – A recommendation as to whether or not the use of the tool should be required for all agencies or if use of the tool should be optional and at the agency's discretion.
    - **Required** – Our recommendation is that these tools be standardized throughout all devices and agencies on the State of North Dakota government network. These tools are being recommended as "mandatory" because requirements for all agencies are common and they support the use of a single standardized tool set.
    - **Optional** – Our recommendation is that ITD and agencies work together to standardize the use of these tools where practical. These tools are not being recommended as "mandatory" for all agencies because there may be functional and / or technical requirements that do not allow for the use of a single standardized tool set.
- **Expected Benefits** – Key benefits that the State of North Dakota should expect to see through further implementation of the recommended tool.

Operational Management

Service Offering: Procurement	Mandatory
Service Definition: Centralize all Desktop related purchasing within ITD. Centralized purchasing of desktop related hardware will provide improved standardization within the Desktop Support environment. Providing a procurement service is key to developing an internal asset and management system as well as developing hardware lifecycle and planning for future replacement costs. **Key Benefits:** • Buy more efficiently and reduce duplication of common purchasing activities. • Establish better control of asset and inventory. • Limits signing or purchasing authority of individual agencies. • License compliance can also be achieved throughout all agencies by centralizing the location for all purchases.	

Tool: Asset & Inventory Management	Mandatory

Service Definition:

A system utilized for tracking all local agency technology assets.

Key Benefits:

- Improved lifecycle management.
- More accurate planning for future needs.
- Improved record keeping for regulation, standards, or law.
- Increased accountability and reduction of loss.

Tool: Managed Print Services	Optional

Service Definition:

A system to gain visibility and control costs for printing. This service may be delivered via a consolidated state contract for such a service.

Key Benefits:

- Reduces cost by standardizing on appropriately sized devices.
- Increases operational effectiveness while reducing warehousing costs.
- Reduce help desk time by providing proactive alerts to toner low or device malfunction.
- Improve accountability through access control solutions.
- Simplifies print driver management.

Service & Support

Tool: Remote Management	Optional

Service Definition:

Tools utilized to provide remote support and management of devices.

Key Benefits:

- Quickly deliver a more unified support experience to end users.
- Reduces support costs by solving more problems in less time.
- Service computers even when workers are away.
- Improves end user satisfaction.
- Ability to provide ad-hoc training via screen sharing.
- Ability to support any device regardless of operating system.

Tool: Monitoring Solution	Optional

Service Definition:

A system that constantly monitors a computer network to identify possible bottlenecks or failing devices that may result in down time.

Key Benefits:

- Allow support staff to be more proactive.
- Warns about potential issues before they result in work loss for employees.
- Optimize resource utilization by measuring key metrics to prevent from over or under utilizing resources.
- Assists with providing a more reliable network infrastructure to ensure quality delivery of voice, data and video conferencing.
- By utilizing a monitoring system preconfigured alerts can be sent to notify ITD or individual agency staff for events such as device down, low drive space, or toner low. This will warn ITD or agency staff and allow them to become more proactive to a potential network, system, or device problem.

Tool: Help Desk Ticketing System	Mandatory

Service Definition:

Issue tracking system designed to allow end users to create and update tickets based on their support needs and track each item to closure with the technical support team.

Key Benefits:

- Single point of contact for end user ticket submission.
- Ability to respond and track ongoing support issues.
- Improve service by reducing time to resolve support issues utilizing helpdesk history information provided by previous tickets.
- End user access to knowledgebase for 'self-help' information.
- Provides visibility into Service Level Agreement attainment and reporting capabilities.

Tool: Anti-virus Software	Mandatory

Service Definition:

Software used to prevent, detect and remove malware.

Key Benefits:

- Protection from viruses and malware.
- Protection valuable information on the PC and network.
- Reduces potential support need from removing viruses and restoring information.

Tool: Mobile Device Management	Mandatory

Service Definition:

A mobile device management system monitors, secures, manages and supports mobile devices.

Key Benefits:

- Reduces loss of sensitive information due to lost or stolen devices.
- Locate or remotely wipe lost or stolen devices.
- Uniform configuration of client applications.
- Remote configuration and monitoring.
- Backup and restoration of data.
- Standard set of security controls regardless of device or operating system.
- Encryption of mobile devices.

Tool: PC Imaging and Deployment	Optional

Service Definition:

A system imaging tool helps standardize and expedite the desktop deployment process.

Key Benefits:

- Provides a reliable and repeatable PC deployment process.
- Reduces troubleshooting time.
- Reduces time to deploy new computers.
- Hardware and software inventory to efficiently manage deployments.

Tool: Remote Desktop Technology (VDI, Terminal Services)	Optional

Service Definition:

A method of consolidating the users' desktop experience to a central location.

Key Benefits:

- Provides a cost effective solution as an alternative to deploying dedicated PCs to all users.
- Reduces costs associated with hardware failures.
- Enhanced security and easier management.
- Increased performance, scalability and redundancy.
- Reduces the time it takes to deploy a client device.
- Protection valuable information on the PC and network.
- Rapid Application management.
- Non platform specific, can be used from any device regardless of operating system.

Tool: 24x7 On Call Support	Optional
Service Definition: IT support services provided for agency employees that do not work regular business hours. **Key Benefits:** • Maximize uptime by resolving support issues before regular business hours. • Improved support turnaround time for staff that works irregular work hours.	

Tool: Tier 1 Help Desk Services	Optional
Service Definition: First line of support available to agencies for initial troubleshooting process. **Key Benefits:** • Increases productivity of other IT resources to perform their duties. • Single point of contact for trouble ticket reporting. • Staff augmentation during personal leave and vacations.	

High-Level Implementation Plan

An effective implementation strategy to transition towards the recommended Desktop Support model will be a key step towards realizing the benefits identified in this analysis. Eide Bailly recommends the following high-level implementation plan be followed:

- **Phase I – Scoping and Planning**
  - Formalize service definitions and service levels standards
  - Confirm the scope of services to be delivered for each ITD supported agency (Note: In several cases there will be a need to somewhat customize the Desktop Support process to meet agency requirements.)
  - Establish formal / written Service Level Agreements (SLAs) for each agency's Desktop Support services. SLAs should include items such as:
    - Hours of Support
    - Support Response Time Commitments
    - Definition of ITD and Agency Responsibilities

        - Escalation Processes and Timelines
        - Define SLA Reporting Requirements
    - Establish on-boarding timelines for each agency

- **Phase II – Tools & Process Standardization**
    - Product evaluation and selection (where required)
    - Confirm each agency's participation with the each newly established Desktop Support tool.
    - Tool implementation (where required)
    - Migration of the desktop environment to the selected tools

    Note: At a minimum ITD should have completed the migration to standard Desktop Support tools prior to on-boarding agencies with ITD for Desktop Support.

- **Phase III – Agency Desktop Support On-Boarding**
    - Migrate selected agencies to ITD centralized support. (Eide Bailly recommends migrating no more than 10 agencies per quarter.)

Appendix

- Appendix A – Current Environment Desktop Support Data

State of North Dakota
Information Technology Department

Desktop Support Study
Information Gathering

Please note: Spreadsheet providing raw data has not been formatted for consistency.

Staffing and ITD Support Data

Agency	Total FTE's	# of Locations	Total IT staff	IT staff by role	Type of support received from ITD
Adjutant General		1 - Bismarck, Remote Staff, Temporary Facilities When Needed	4	1 - Manager, 2 - Support Staff (Note: .50 FTE Doing "Desktop Support")	Server Host (Still have about 12 servers at Barracks - not ITD DC), Network, Phone
Administrative Hearings	5	1	0.5	Administrative Staff Officer (Provides webpage, hardware & software support)	Escalation point for Frances (onsite IT), phones, network. ProLaw
Aeronautics Commission	5	1	0		System support
Agriculture Department	77 (Up to 100 w/ Temps)	2 - Both in Bismarck, Plus Remote Staff	1	1 - Support, Deployment, Web, Databases	Implementing support through ITD today (ITD will be first call), All Network, Hosting & Phone provided by ITD
Arts, ND Council on the	5	2 - Bismarck & Fargo	0	n/a	no desktop support at this time - does provide phone service, data processing, file/folder share, occasionally uses their help desk, website support
Attorney Generals Office	220	18 - 6 in Bismarck & 12 spread across ND	14 + 1 Temp part time	1 Desktop support and 1 Help Desk (not full time)	WAN, AS400, Hosted servers , WSUS, Phone
Auditors Office, ND State	56	3 - Capital, Bismarck Satellite Office and Fargo	5	5 - This team's primary responsibility is conducting agency IT audits	Hosting, Network, Phones
Bank of North Dakota	179.5 (189 w/ Temps)	2 - Bismarck & Grand Forks (1 FTE in Grand Forks)	15	* See Org Chart (4 FTEs dedicated to support - including Manager)	Hosting, First Call Help Desk, Network, Voice
Career and Technical Education	27	1	0	n/a	They have a few staff members who have some technical skills that they utilize first for support, otherwise all support requests go to ITD
Center for Tobacco Prevention and Control Policy	9	2	0	n/a	All services - they use NRG to supplement ITD desktop support
Commerce Department	70.25	2 remote users 1 location	0.75	IT Managers	Network and Phone support
DOCR - Juvenile	900 'users'	5 (SP-Bismarck, MRCC-Bismarck, YCC-Mandan, DWCRC-New England, JRCC-Jamestown)	5	5 (4 Network Engineers / Admins, 1 Manager)	Some Servers (i.e. Hospital, Dentist systems), everything else internal
Fair Association	26	1	0		Very little. They hardly ever call them, they call a different vendor for support.
Financial Institutions	30	2	1 (Doug)	1 (Not full time)	Escalations go from Doug to ITD
Game & Fish Department	158 (+40 - 50 Seasonal)	Williston, Dickinson, Riverdale, Harvey / LoanTree, Devils Lake, Bismarck Shop, Bismarck Office, Jamestown	2 (Not Just IT)	2 - "Communication & Network Specialists" (Do more that just support, they also assist in department projects)	Hosting, Network, Phones

Staffing and ITD Support Data

Agency	Total FTE's	# of Locations	Total IT staff	IT staff by role	Type of support received from ITD
Governor's Office	18	2 Floors - Ground & 1st floor	0	Jan is a point of contact, but is not an IT person	Desk phone (Avaya), Cell Phones, Computers, Conference equipment
Health Department	354	Multiple Bismarck locations	8	Each Section has an IT Coordinator (they also do Desktop Support) (2 Sections have 2 IT staff)	Hosting, Network, Phones (Some servers are Department of Heath are not required to be ITD hosted)
Highway Patrol	213	18 (plus laptops in squad cars)	4		Software Development.
Historical Society ND, State	69	10 (some locations are seasonal)	1	Computer and Network Specialist	network, backups, email, phone - but no desktop support
Human Services	2200	Regional Service Centers (7), Child Support Centers (7 - ?), State Hospital (Jamestown), Developmental Center (Grafton), Multiple Sites In Bismarck, Rolla & Grafton Extension Sites and approx. 100 staff working remotely	See IT Org Chart	Desktop Support Staff: 2.5 FTEs @ State Office, 3 FTEs + 2.5 Temps @ Human Service Centers, 1 FTE @ Developmental Center, 1 FTE & .5 Temps @ State Hospital	Hosting, Network, Phones
Indian Affairs Commission	5	1	0	n/a	All the support they require - desktop support, software, phones, network, etc.
Industrial Commission (Department of Mineral Resources)	87	4	3	DBA, Data Processing, Administrator	Email, phone, WAN, State Land, PeopleSoft
Information Technology Dept.					
Insurance Department	50	Bismarck & 1 Remote staff in Fargo	1	1 Person does everything (not full-time Desktop Support)	Hosting, Network, Phones, Email, Active Directory
Job Service	250	15 / 16 Regional Offices	23	3 FTEs are support	First Call Help Desk, Hosting (No Mainframe - it is at JSND), Network and Phones
Labor, Department of	13	2	0	n/a	Databases, Phones, Servers, Network
Legal Counsel for Indigents	65	8	0	0	First call/contact. If ITD can't help they go to NRG for estimate/fix
Library, State	29.75	1	1.5	Information Technology Coordinator/Electronic Technician	The network infrastructure (on ITDs network), Server Storage, and tasks they don't have the network permissions to do such as adding Email users in Active directory, changing caller the ID name on Avaya phones, activate ports on ITD switches, …etc.
ND Public Finance Authority	40	2 - Bismarck & Fargo	2	1 Programmer and 1 Hardware/Software Support Person	Network and Phone support

Staffing and ITD Support Data

Agency	Total FTE's	# of Locations	Total IT staff	IT staff by role	Type of support received from ITD
Office of Management & Budget	130	5	1	There are 5 IT liaisons (one at each location) that do initial troubleshooting before escalating to Jody.	PC Install/Deployment on an 'as needed' basis.
Parks & Recreation Department	50	14	1	IT Coordinator	Phones, email, network, software programming, web hosting
Protection & Advocacy	28	10	0	n/a	Assists with anything they needs help with
Public Employees Retire System	33	1	3	All are IT Coordinators	Infrastructure, Connectivity, ITD houses their servers and databases
Public Instruction	99.75	7	12	2 Desktop Support (1FTE currently vacant), 10 Developers	They provide network services, Active Directory, Antivirus, Procurement.
Public Service Commission	44	1	3	The do not have any dedicated to desktop support because all employees are either scientists, engineers, IT or accountants who can provide their own desktop support	Email, Communicator, Phone
Retirement & Invest Office	19	1	2	1 Supervisor and 1 IT Coordinator	Help Desk when necessary, phones, servers
School for the Blind	28	5	2 @ 30%	Help Desk 'help'…nothing clearly identified	Escalation support (3-5x/year)
School for the Deaf	44	Outreach offices: Raleigh, Minot, GF, Grand Forks, Fargo and Bismarck Agency office in Bismarck (majority of staff is located here)	1	Technology Coordinator (computer and network specialist)	Wiring, phones, video conferencing, website, PeopleSoft, IVN
Secretary of State	40	1 (many people travel throughout the state	0	0	All support starts with ITD
Securities Commissioner	9	2	0	n/a	SQL, email, network, Securities DB
Seed Department	35	2 - Fargo and Grafton	0	n/a	Licensing, certificates, Email, Static Web Page Hosting
Tax Commissioner	134	7	7	3 Software Developers, 2 Data processing coordinators, 2 Desktop Support	Networking, Server Hosting, Programming, Antivirus, SCCM (Microsoft System Center), Active Directory, Group Policy
Transportation, Department of	1090	Bismarck & 8 district office locations (Plus several additional smaller sites like drivers license centers)	51	9 FTEs are support related ("Computer and Network Services")	Hosting, Network, Phone, Email and Active Directory
Treasurer's Office	8	1	0	0	Desktop, Web/Software Development/Maintenance, Mobile Device support

Staffing and ITD Support Data

Agency	Total FTE's	# of Locations	Total IT staff	IT staff by role	Type of support received from ITD
Trust Lands, Department of	28	1 - but some field people offsite	3	2 Software dev/programming 1 Network specialist	No desktop support at this time Server administrations/file print/web server/ EDMs/ FileNet
University System	20	4 - Bismarck, Grand Forks, Fargo, Minot	0	n/a	Desktop support, Network, project management, phones, hosting of People Soft, hosting of servers for Finance and HR, video conferencing
Veterans Affairs Dept.	8	2 - Bismarck & Fargo	0	n/a	Any State related issues such as email, hooking up to the network, network backups
Veteran's Home	120	1 - Lisbon	1	IT Manager	Email, network, long distance service
Water Commission	90	3 + 1 remote worker	4	4 Developers that also provide support when needed. Estimated .25-.5 FTE time for Desktop support	Network, Email.
Workforce Safety and Insurance	250	6 regional offices: Dickinson, Bismarck (Main), Jamestown, Fargo, Grand Forks, Devils Lake, Minot, Williston	3	3 'Desktop Support' people (have 14 'IT' people additionally)	All infrastructure (Servers, firewall, wires, wireless, phones)

Support Cost Data

Agency	IT Support Costs
Adjutant General	.50 FTEs doing desktop support
Administrative Hearings	> $500 per year
Aeronautics Commission	Desktop Support - $10,600 biennium (2 years) ITD - Data processing - $30,000 biennium Phone System - $12,000 biennium
Agriculture Department	$4,000 /month (ITD Contract Amount)
Arts, ND Council on the	biennium - $2,400
Attorney Generals Office	
Auditors Office, ND State	Approximately 20 - 25% of IT audit team is support, Approximately $140,000 per year internal cost, Approximately 1 - 1.25 FTEs
Bank of North Dakota	
Career and Technical Education	$0
Center for Tobacco Prevention and Control Policy	$460 for NRG per month
Commerce Department	$3,822 per year
DOCR - Juvenile	
Fair Association	Maybe $150 per year. Their current desktop support vendor is a friend so they get most of their support for free
Financial Institutions	30% of 1 FTE
Game & Fish Department	40 - 50% of an FTE
Governor's Office	Support $2,000 per month Communications $900 Cellular $800
Health Department	5-10% of IT Coordinator Time (8 IT Coordinators)
Highway Patrol	
Historical Society ND, State	$3000 per year
Human Services	11.5 FTEs; however, these staff do more than just "support" (estimate 50% as Desktop Support)
Indian Affairs Commission	$390.10 - $526.70 per month
Industrial Commission	
Information Technology Dept.	
Insurance Department	Unknown
Job Service	$133,500 (Salaries only for 3 Help Desk staff) + Unknown ITD costs for first call Help Desk
Labor, Department of	$67 per hours for Silicon Plains- only use them once ever 1-2 months
Legal Counsel for Indigents	Varies, mostly hardware. $130/hr at NRG
Library, State	$20,000 annual
ND Public Finance Authority	$13,000 per year
Office of Management & Budget	
Parks & Recreation Department	$1000 per month
Protection & Advocacy	unable to provide an amount because it varies too much

Support Cost Data

Agency	IT Support Costs
Public Employees Retire System	$5,100 per year
Public Instruction	
Public Service Commission	It is so insignificant that they not measure or track this cost
Retirement & Invest Office	$5,000 per year
School for the Blind	ITD=Free. 30% of 2 FTE's time is for IT Support…wouldn't elaborate on what it would be.
School for the Deaf	$9,952 biennium
Secretary of State	$4,000 / Month
Securities Commissioner	Desktop support currently $130 per hour Yearly costs; 2013 $130. 2012 $195. 2011 $585. 2010 $520.
Seed Department	$3,000 per year
Tax Commissioner	$26,150 Annually; Based on Position Description Percentage for Each Employee.
Transportation, Department of	8 - 9 FTEs, but they also do other work beyond desktop support
Treasurer's Office	$1,125 during FY 2013
Trust Lands, Department of	Very minimal- they cannot pull out this minimal cost from their overall IT Cost
University System	Very minimal - They cannot even guess at this cost
Veterans Affairs Dept.	$400 per month for Nortridge & VetraSpec support contracts
Veteran's Home	$5,000-$8,000 biennium
Water Commission	¼ of an FTE
Workforce Safety and Insurance	$160,226/yr (Steve & 2 technicians)

Exernal/Contractor Utilization Data

Agency	Contractor Name	Type of use	Frequency
Adjutant General	Software Vendors Only	N/A	N/A
Administrative Hearings	ProLaw	Installation, maintenance, support	This is a new contractor so they are unsure how much they will be using them
Aeronautics Commission	Web Com Vision Technologies	Desktop Support	1 a week 1 a month
Agriculture Department	None used	N/A	N/A
Arts, ND Council on the	NRG	Support	4-5 times a year
Attorney Generals Office			
Auditors Office, ND State	None used	N/A	N/A
Bank of North Dakota	Software Vendors Only	N/A	N/A
Career and Technical Education	Nexis	SharePoint Support	Once a month
Center for Tobacco Prevention and Control Policy	NRG	Desktop Support	5 times a month
Commerce Department	Summit Software Harland Financial	Maintenance & Support Backup financial software	1-2 times a month
DOCR - Juvenile	Some smaller pieces of Hospital software (IE R-Care Magnum)	Software Support	rarely
Fair Association	Bitz Communication	Desktop Support, Backups, application support	A couple of times a year
Financial Institutions	NRG	Escalations ITD can't handle	3-5/year
Game & Fish Department	None used	N/A	N/A
Governor's Office	None used		
Health Department	None used	N/A	N/A
Highway Patrol	Verizon for network to Squad cars. A company in Japan supports the digital video in the cars.		
Historical Society ND, State			
Human Services	Software Vendors Only	N/A	N/A
Indian Affairs Commission	None used		
Industrial Commission			
Information Technology Dept.			
Insurance Department	None used	N/A	N/A
Job Service	Software Vendors Only	N/A	N/A
Labor, Department of	Silicon Plains	Desktop Support	once every 1-2 months
Legal Counsel for Indigents	NRG	Advanced IT Support	Multiple times per month
Library, State	Data Management	READS (audiobook support)	Weekly
ND Public Finance Authority			
Office of Management & Budget			
Parks & Recreation Department	ND Association of counties	They do not use them currently and when the contract expires it will not be renewed	
Protection & Advocacy	NRG	Desktop support	occasionally
Public Employees Retire System	None used		

Exernal/Contractor Utilization Data

Agency	Contractor Name	Type of use	Frequency
Public Instruction	None used		
Public Service Commission	None used		
Retirement & Invest Office	CPAS	Accounting Software issue support & enhancements	weekly
School for the Blind	Screen Reader Apps (Many vendors), Peach Tree, Adaptive Equipment	Most common questions are for the screen reader apps that they help support for the school or clients, more operation related than 'fix' related.	A 'handful' of times per year, no tracking.
School for the Deaf	AVI Captell & CaptionCall Sorenson SMART Technologies Honeywell EduTech	Support & Maint for IVN Maintenance for Caption Phones Video Phone support Warranty & Support for Smart boards & projectors Maint/Support - Instant Alert web based software Supports Power School web based software	Once a quarter Whenever the vendor pushes out updates Once a year Once every 6 months Once a year
Secretary of State	ITD, B-Pro & Election Systems Software	Escalations & Software Support	Multiple times per month
Securities Commissioner	Lexus Nexis NRG	Software support IT Support	Every day Just a few times
Seed Department	Advanced Midwest Solution	IT Support	once every 2 months
Tax Commissioner	Fast Enterprises	GenTax	Daily-Onsite (Currently paying for 2 FTE, 5FTE on site due to this office being a 'training site'.)
Transportation, Department of	None used	N/A	N/A
Treasurer's Office	ITD	Troubleshooting, fixing stuff	Varies from daily to weekly to monthly
Trust Lands, Department of	None used		
University System	Microsoft System Information Technology Support Group	Office 365 Support IT Support	
Veterans Affairs Dept.	MinnDak Computer Services	Software and Desktop Support	Maybe once per quarter
Veteran's Home	HP & Dell	Warranty	
Water Commission	None Used	N/A	N/A
Workforce Safety and Insurance	ITD only	Server/Infrastructure support	daily

Desktop Deployment Data

Agency	Hardware requirements	Desktop setup	Standards followed	Encryption used	Other Desktop Technologies (Thin clients, Printers, etc.)	Infrastructure Location (Where are servers located?)
Adjutant General	Often unique hardware requirements for unique systems	HP Desktops, 40% Laptops	State Standard, Extend State Standards When Needed	None	Printers and other normal devices	Frain Barracks (In concrete "bunker")
Administrative Hearings	State Standard	Frances sets them up		None	2 Epson Scanners, 2 HP Printers	everything is w/ ITD
Aeronautics Commission	none	none	Office	None	Printers - 5	Capital building
Agriculture Department	HP - State Standards	130 Total Machines (Laptop / Desktop Mix)	Follow State Standards	None	Printers and other normal devices	ITD Data Center
Arts, ND Council on the	no	none			5 printers	ITG
Attorney Generals Office						
Auditors Office, ND State	HP - State Standards	Agency IT team completes, including manual rebuilding of machines when needed	Follow State Standards	Yes	Printers	ITD
Bank of North Dakota	Buy of State Contract - Generally base models, some customization when needed	350 Total Desktops & Laptops	Follow State Standards	Yes - Bit Locker	Printers and other normal devices	ITD (Some security servers at BND location)
Career and Technical Education	State Standard	They set up their own desktops	None	none	4 HP printers	ITD
Center for Tobacco Prevention and Control Policy	State Standard	NRG sets up each desktop. NRG will create a work order for ITD if their assistance is needed for the set up		None	1 HP copier, 1 HP Printer, Video Conferencing (IVAN)	ITD
Commerce Department	no - just general PCS are fine	No - standard OS, office, some have Adobe, some may have WP or Microsoft Suite		None	Printers - 6 networked & less than 24 personal	1 onsite (located in the development funds area)
DOCR - Juvenile	None	Standard machines, nothing unique	None	No	None outside of office basics	Mostly at the SP, a couple hosted servers @ ITD
Fair Association						
Financial Institutions	None	Standard machines, nothing unique	None	Yes (Self Encrypting on all but 7 machines, software encryption on the rest)	Programs installed that are maintained/managed by FDIC, Federal Reserve, ARIES, Records Management (database hosted by ITD)	Servers @ ITD
Game & Fish Department	Follow State standards and buy off WSCA	Standard configuration (Office, etc.) (Several; unique agency applications as well)	Follow State standards and buy off WSCA	None		
Governor's Office	Defined by ITD (Lynette Bosch tells them what technologies to buy)	Outlook, Explorer, Adobe, Remote Access	Defined by ITD	New laptops (for senior staff) use encryption	None	

Desktop Deployment Data

Agency	Hardware requirements	Desktop setup	Standards followed	Encryption used	Other Desktop Technologies (Thin clients, Printers, etc.)	Infrastructure Location (Where are servers located?)
Health Department	Generally follow ITD standards - customize when needed	Completed by Section IT staff	ITD WSCA configurations - when appropriate	Yes - Limited	Printers, Lab Instrument PCs	ITD and other Health Department locations
Highway Patrol	State Standard (No media burners)			Netmotion laptop encryption (165 devices)	5 iPads, 2 Windows 8 Tablets	ITD, 1 Federal server located on site.
Historical Society ND, State				No		everything is w/ ITD
Human Services	Follow State standards and buy off WSCA	Completed by Agency IT staff, different build by function		Moving towards ITD standard Wave system		ITD & State Hospital
Indian Affairs Commission	State Standard	ITD Standards	None	None	2 wireless HP Printers	ITD
Industrial Commission						
Information Technology Dept.						
Insurance Department	Follow State standards and buy off WSCA		Follow ITD WSCA standards	No	Printers	ITD
Job Service	Follow State standards and buy off WSCA	Build Machines Manually - When Too Unique and use SCCM for imaging	ITD / WSCA Configs when appropriate			
Labor, Department of	State Standard	Typical setup	None	none	5 HP Printers, 1 Cannon Copier	ITD
Legal Counsel for Indigents	None	Standard machines, nothing unique	None	No	None, outside of basic Office, they use a web service for their 'unique' needs	Servers @ ITD
Library, State	State Standard	Typical setup - Sometimes they use images	None	None	12 HP Printers and copier, Proprietary Recording system (for recording books), in one of their locations they are moving towards thin clients, 2 Xerox copy machines, they have a computer lab for patrons that have 7 desktops and 3 laptops	ITD- they have a local NAS and Drobo
ND Public Finance Authority	They build their own PCs w/ solid state drives and dual monitors	They utilize imaging		None	10 Cannon Scanners	4 local servers (they have an exemption from ITD) - Exchange server and backups
Office of Management & Budget	State Standards	ITD Standards	Defined by ITD, PCs deployed using SCCM (Microsoft System Center).	None	1 remote VPN user. 110 computers, majority of them are laptops.	ITD

Desktop Deployment Data

Agency	Hardware requirements	Desktop setup	Standards followed	Encryption used	Other Desktop Technologies (Thin clients, Printers, etc.)	Infrastructure Location (Where are servers located?)
Parks & Recreation Department	State Standard	IT Coordinator sets up each desktop and installs software		None	Dual monitors, 1-2 HP printers in each location, 1 Cannon copier at each location	ITD
Protection & Advocacy	State Standard		None	None	12 HP Printers, 1 multifunction printer/scanner/copier	ITD
Public Employees Retire System	State Standard	Setup computer 1 at a time - no imaging. IT Coordinators set up desktops		None	4 HP Network Printers, 1 Cannon Multifunction printer, 1 Kyocera multifunction printer, 4 HP desktop printers	ITD server farm. They also have 1 file and 1 print server onsite with the agency
Public Instruction	State Standard	ITD Standards	Defined by ITD	None. VPN is used when mobile. Policies in place to not take data offsite.	None	ITD
Public Service Commission	Hardware requirements are determined by business that is being supported. They do not have a single desktop that is set up the same due to business and technology needs	Software requirements are determined by business that is being supported. They do not have a single desktop that has the same software due to business and technology needs	Based solely on the requirements and technology needs of the business being support.	None. All of their information is open for public record.	2 Printer/Copies and 1 Heavy Plotter	Across the hall from them on the 13th floor in the state capital building in a lock, secured vault.
Retirement & Invest Office	State Standard (high performance standard)	The set up desktops themselves	none	none	3 Printers (Cannon, HP & Dell), 5 Dell laser desktop printers	ITD
School for the Blind	None	Gary & Laurie do most of the 'customizing'	None	No	Screen readers, adaptive equipment	1 Server onsite (Exempt) for teaching purposes)
School for the Deaf	Typically they follow state standards but may on occasion increase RAM & Processing power for OutReach people	Office Suite & VPN for the business office people		None	smart boards, projectors, printers	no
Secretary of State	ITD Managed	ITD Managed	ITD Managed	Doesn't believe so	None	Servers @ ITD
Securities Commissioner	State Standard	Doug or NRG will set up the desktop	None	ITD provides encryption for email	2 HP Printers, 1 Scanner, 1 Dymo label printer, 2 desktop printers	ITD
Seed Department	State Standard	Typical set up, plus drives and ODBC to run their custom software	None	None	Dual Monitors, 5 Smartphones	The have local servers. DNS, DHCP, Exchange, ARGUS server, 6 Virtual servers, SAN, Sonic Firewall

Desktop Deployment Data

Agency	Hardware requirements	Desktop setup	Standards followed	Encryption used	Other Desktop Technologies (Thin clients, Printers, etc.)	Infrastructure Location (Where are servers located?)
Tax Commissioner	They follow state standards. Standard PC 4Gb RAM, Performance PC 8Gb RAM with Intel Core i5 or i7	Windows 7	EA Standards	None on Desktops. SafeND (provided by ITD) encryption on Laptops.		ITD
Transportation, Department of	Follow ITD's "high" standard and extend when needed Lots of custom configurations for unique needs	Completed by agency IT staff	Dell Laptops & HP Desktops	Yes - Very limited use	Technology in planes & snowplows Public driver's license machines Scanners / Document Management	ITD Data Center
Treasurer's Office	Minimal, but with added RAM	ITD Standards	ITD Standards	???	Nothing comes to mind	Not sure. J-Wing…maybe?
Trust Lands, Department of	They require a lot of "horse power" to run GIS software	VPN, Crystal reports, MS Web Service Connections, .Net Framework, GIS Software		None	5 Printers and 1 Plotter	ITD
University System	They are trying to standardize. Currently using both Apply and Windows hardware.	SITS (System Information Technology Support Group) creates and images and ITD pushes the image to the desktop		Yes	20 HP Printers, 4 Multifunction copiers	All w/ ITD, except People Soft's campus solution module is hosted in Grand Forks
Veterans Affairs Dept.	State Standard	Cathy Halguns setups up all new Desktops	None	none	11 Printers (HP, Brother, Epson), 5 Docking Stations, 1 Scanner, 1 Copier	ITD
Veteran's Home	None	IT manager sets them up	HIPPA - separate ePHI	Yes - HIPPA HiTech Requirements	40 desktop printers, 1 copier	They have 2 SQL servers onsite to run their Medical Records software. They will be moving to a SAAS environment. They also have their own local phone system
Water Commission	Non standard. All Apple hardware. 32Gb of RAM.	Very customized for applications used for scientific measuring.	None	No	Using virtual PCs (Linux and windows) on Apple desktop	Apple servers on site, some at ITD.
Workforce Safety and Insurance	None	Standard machines, nothing unique	WSI has their own 'packages' depending on role.	125 laptops, not on desktops	CMS, PIC's, Work Manager (all built in-house)	ITD

Devices and Apps Supported

Agency	Device type	Major applications supported	Mix of Operating Systems
Adjutant General	iPads & Smartphones (Qty ?)	911 System, Switch - Driver's License Check, State Radio System,	Windows 7 (Some lingering Windows XP)
Administrative Hearings	2 iPads	Office, ProLaw (on app server @ ITD), Adobe Design CS4	Windows 7
Aeronautics Commission	iPad	Microsoft Suite, Aircraft registration (Air IQ)	XP and Windows 7
Agriculture Department	5 - iPads, 35 - 40 Smartphones	PPP - Private Practitioners Portal, ATD - Animal Tracking Database, Permitting system and Many Access DBs	Windows 7 (a few XP), 2 Macs
Arts, ND Council on the	1 Droid phone	Creative Suite, Office, PeopleSoft (Web based from ITD), online Grant System, Access	Windows 7 and XP
Attorney Generals Office			
Auditors Office, ND State	PCs & Laptops (Total of 55)	TeamMate (Audit Software), Office	Windows 7
Bank of North Dakota	30 Tables & Smartphones (Apple, Android & Microsoft)	Core Banking - FiServe (Hosted by FiServe & They Do System Admin), Student Loan - HELMS (ITD Hosted & Admin), Item Processing - FIS (Check Imaging), Investment Application - Sunguard (ASP by Sunguard), ACH - PEP Plus (ASP application hosted by FiServe) (ASP - hosted by FiServe), Wire Transfer - Pay Plus (Fund Tech) (Located at the bank now, but moving to ITD for admin and physically by October 1), On-line Banking For Commercial Cash Plus (Fund Tech) (ASP application), Priority Guarantor System (PGS) - a homegrown application built in java / webshpere (Guaranteeing loans issued) (Over 180 total applications supported)	Windows 7 A few lingering Windows XP)
Career and Technical Education	1 windows based smartphone and 1 iPad	Office	Windows 7
Center for Tobacco Prevention and Control Policy	1 Samsung Smartphone	Adobe Design, Office, Internet Browsers	Windows XP and 78
Commerce Department	2 Surface Tablets 10 iPads 15 Phones (mostly iPhone w/ a few Droids)	Dynamics CRM, Sparaks System (Loan Software for ND Dev Fund), in the process of phasing out their old CRM system (in house developed)	Windows 7, XP (just a few)
DOCR - Juvenile	1000+ devices (30% laptops), not including printers - various brands	Offender Management System (OMS), Unique security systems, 'School' based systems, AutoCAD, law library, smart boards	All sorts of stuff. Mostly Windows 7 but have plenty of variety.
Fair Association	Security Cameras - SRT Communications provided, unsure of brand	Office, QuickBooks	XP and Windows 7
Financial Institutions	28 Laptops, 2 Desktops, 7 department issued phones, 10 printers (6 networked) - Various Brands	ARIES, FDIC, Federal Reserve, Records Management (Oracle Database)	Mostly Windows 7 now for machines

Devices and Apps Supported

Agency	Device type	Major applications supported	Mix of Operating Systems
Game & Fish Department	75 - 100 Smartphones (No Tablets)	On-line Services (License & Lottery System), Drupel for our website (Internal staff at G&F do this development - done in Communication division, not IT), Web Information System -)Outdoor subscriptions, Private Land Records, Land Owner Agreements, Survey Data), Deer Depredation Database, Keep track of all the land the department owns in a web app / database and Cost Tracking System (Record Staff Time & Expenses - Meals, lodging and fleet services) (Then this information is loaded into PeopleSoft) (Budget off of this - state PeopleSoft cannot give us the details)	Windows 7 with a few legacy XP machines, A few Macs
Governor's Office	iPad (5 of them), Digital Camera (a small handheld)	Drupal	Windows 7
Health Department	600+ Laptops & Desktops	SaaS, LIMS (2 Systems), SPSS, ASPEN, Oasis, NBS Reporting, Nurse Registry, Chromatography Data System, Instrument Software, MS Access Databases (multiple), GIS Applications, Exchange Network Node and Vital Records Web Applications	Windows 7
Highway Patrol	Squad car lights, breathalyzers, Squad car cameras	Office 2007 & 2010, "Accident reconstruction software", "Trucks - mileage & hazmat software", Software for door access for over 100 doors at the Capital. Firmware for Squad car lights & breathalyzers.	4 XP, Remaining Windows 7, 2-3 Windows 8
Historical Society ND, State			Windows 7
Human Services	8 Tablets (all iPads), 37 State Issues Smartphones (iPhones or Samsung Galaxy S III / IV)	Most widely used is ROAP, but each program typically has a unique application as well (See documentation provided by DHS for additional details)	75% Windows 7, expect to be all Windows 7 by the end of Q1 next year
Indian Affairs Commission	2 smartphones	Office, Windows Video Marker, Pinnacle Studio Ultimate	Windows 7
Industrial Commission			
Information Technology Dept.			
Insurance Department	4 Desktops	Office, Custom PowerBuilder Applications, FileNet	Windows 7 (A couple XP machines - will be transitioned with next purchase)
Job Service	620 - Desktops & Laptops	UI Ice, U Easy, Secure FTP, JobsND.com, Intranet, VOS, ND Workforce Connection and several other smaller agency applications.	Mostly Windows 7
Labor, Department of	2 iPhones	Office, Nuance PDF converter, Labeling software	Windows 7
Legal Counsel for Indigents	Fargo: 7desktop, 2Laptop, 6printers, Grand forks: 8d, 1L, 5p, VC: 5d, 3L, 3p, Dickinson: 5d, 2L, 3p, Williston: 7d, 1L, 5p, Minot: 6d, 2L, 4p, Minot2: 2d, 1L, 1p, Bismarck: 8d, 2L, 6p. 21 smart phones (Mainly iPhones with a few Androids)	None, web based services & email	Mostly Windows 7 now for machines
Library, State	Microfiche machines, Book scanner, Zebra label printer, Security Cameras, Shredders, Typewriters	ODIN, OCLC (International bibliographic library), READS (audiobooks), PBL, Teleport, Office, Communicator, Horizon, Voyager	Windows XP and 7

Devices and Apps Supported

Agency	Device type	Major applications supported	Mix of Operating Systems
ND Public Finance Authority	Dell Notebooks, 2 Smartphones	Office, House Development Software, Servicing System (Accounting Software)	Windows 7
Office of Management & Budget	Printers MFP, projectors, 3 wireless scanners for asset management (these lose memory if batteries die), Dictation devices including foot pedal. 19 state issued cell phones, 2 iPads.	Adobe Pro Std, Creative Suite, Dreamweaver, MicroMain (work orders for facilities), VPN, Lexus Nexus, iBars, Andover heating and cooling system, System Antivirus (provided by ITD). FileNet for scanning. Printshop uses "pit stop pro" for editing before editing goes to the copier. PeopleSoft for HR. Office 2010, waiting on ITD for Office 2013.	XP and Windows 7.
Parks & Recreation Department	5 iPads, 17 iPhones	Reservation System (web based), AutoCAD 2013, Adobe Web Premium, Arc Map, Arc GIS, Office 2013, Symantec	Windows 7 and 8
Protection & Advocacy	None	Office, Online Systems that are subscription based and not maintained by them	Windows XP and 7
Public Employees Retire System	1 iPad, 1 Smartphone (provided/managed by ITD)	PersLink, Office	Currently moving to Windows 8
Public Instruction	20 iPads	Office 2007, Adobe Reader, FireFox, DVD Burning software, ZIP & FTP utility. QuickTime, Radmin (remote admin), UltraEdit, MS SQL, MS Project, MSDN (STARS, ND-TEACH, application created by MIS are supported by them).	Windows 7 and 1 Apple OSX desktop.
Public Service Commission	Apple - iPad	GIS and custom in house applications, very little of their software is off the shelf	Windows 7 and Linux
Retirement & Invest Office	1 Blackberry	Office, CPAS, Dynamics, Tumdi (Research Mgmt)	Windows 7 (2 are 64 bit)
School for the Blind	6 laptops, 32 desktops, 2 iPhones, 6 iPads, 1 Surface, 1 Android, 2 Networked printers and a few desktop printers - Various Brands Used	Basics, Alpha 5 database, 'vision' impaired related software.	Mostly Windows 7 now for machines
School for the Deaf	8 Smart boards - Smart Brand 15 Projectors - Smart & Epson 17 iPads 5 iPods Mobile phones thru the state	Office, Vipre, PowerSchool, Capturing Software, FileMaker Pro, Instant Alert	Windows 7, a few XP
Secretary of State	40 (50/50 laptops/desktops), a handful of smart phones and 3 iPads - Various Brands	Election Software, AS400 w/ webapps, DTM/Word Product, Image Plus	Mostly Windows 7 now for machines
Securities Commissioner	iPhones and Surface Tablets	TimeMatter (Enforcement DB software), Office, Securities DB	Windows 7
Seed Department	5 Smartphones	State Seed Accounting Software (custom software), Office, Email	Windows XP and 7
Tax Commissioner	Scanners to OCR documents, Printers, Projectors (HP, Fujitsu, Xerox, Apple, Epson)	Gentax, Office, Mainframe	Windows 7
Transportation, Department of	Smartphones and Tablets	Many agency specific applications (200+)	Windows 7

Devices and Apps Supported

Agency	Device type	Major applications supported	Mix of Operating Systems
Treasurer's Office	Smartphones (2), Tablet (Motorola, Apple)	Probably none	Android (2), Apple iOS
Trust Lands, Department of	1 iPad, 2 windows 8 tablets, camera, personal smart phones	Office, SLIMs application (older C++ applications), .Net applications developed in house	Windows XP, 7, 8
University System	20 iPads, iPhones, 2 LifeSize Video Conferencing Systems	Office 365, SharePoint, Adobe Creative Suite	Mac and Windows 7
Veterans Affairs Dept.	4 iPads, 1 Droid smartphone	Office, Nortridge (Loan Software), VetraSpec	Windows 7
Veteran's Home	25 Dell Tablets, 8 iPads, 1 smartphone, 3 Never to Late Large touchscreens	Electronic Health Records Program, Office, Time Tracking/Scheduling software, Dite Master, Pharmacy Program	XP and tablets are Windows 8
Water Commission	Apple Desktops, iPhones & iPads	Internally developed applications. (ARC Map, GIS, Aerial Image Dissemination System, LiDAR Dissemination System, Survey System, Flight Operations, Precipitation Stations, Retention Structures, Water Permits, Well Inventory)	Apple OSX, Virtual (Windows & Linux)
Workforce Safety and Insurance	125 Laptops, 225 Desktops, BYOD mobile devices (Various Brands)	Basics, internally developed and managed apps	Mostly Windows 7 now for machines

Support and Maintenance Tools Data

Agency	Mobile device management	Ticketing system	Maintenance & monitoring	Patch management
Adjutant General	None - Waiting for this to mature	None	Bomgar for Remote Control	WSUS
Administrative Hearings	None	None	None	WSUS
Aeronautics Commission	iPhone, Droid - Provided by ITD	WMS - ITD	Maint - ITD	ITD
Agriculture Department	None - Looking into this with ITD	None - Transitioning to ITD	SCCM (from ITD)	WSUS
Arts, ND Council on the	None	No	None	None
Attorney Generals Office		Heat		WSUS
Auditors Office, ND State	None - No mobile devices	None	None	WSUS
Bank of North Dakota	Yes - Limited, want more out of this	Yes - ITD ITSM	SCCM (from ITD)	WSUS
Career and Technical Education	None	None	Maintenance is done with manual updates Monitoring: none	
Center for Tobacco Prevention and Control Policy	None	None	Performed by NRG	Performed by NRG
Commerce Department	None	None	Maint - Do updates and registry cleaning when people are having problems (Critical updates are automatically) Monitoring - None	ITD - WSUS for critical patches
DOCR - Juvenile	ITD Policies	Service Desk+	None on user machines other than Windows Automatic updates. ITD owns servers.	none
Fair Association	None	None	None	None
Financial Institutions	ITD Policies	No	Symantec.	none
Game & Fish Department	Yes - Own Cisco Meraki solution	None	Altris	Altiris
Governor's Office	Provided by ITD	online website for ITD, phone	ITD	ITD
Health Department	Yes - For ITD mail connected devices	None / WMS	None	Direct To Microsoft
Highway Patrol	Netmotion	Software from IntranetConnections.com	None	FileWave for Updates. ITD WSUS.
Historical Society ND, State	use ITD's	No	Maintenance is done sporadically on desktops. No monitoring	
Human Services	ITD	WMS - ITD (No other ticketing system)	WSUS from ITD, EZ Audit (Agency), LAN Guard (Agency), WMS for work tickets, Tight VNC for remote control (DHS only implementation), ITD's Symantec implementation, CloneZilla for imaging	WSUS & LAN Guard
Indian Affairs Commission	ITD	None	ITD	ITD
Industrial Commission				

Support and Maintenance Tools Data

Agency	Mobile device management	Ticketing system	Maintenance & monitoring	Patch management
Information Technology Dept.				
Insurance Department	None	None	None	ITD WSUS
Job Service	Yes - ITD (Limited)	Heat (Shared with ITD)	None	ITD WSUS
Labor, Department of	None	None	None	None
Legal Counsel for Indigents	ITD Policies	ITD & NRG	None on user machines other than Windows Automatic updates. ITD owns servers.	None
Library, State	None	They use an Access DB	Maint: critical updates are pushed weekly and Preventative maint is performed every 6 months, they do updates to software and open each case to blow out dust Monitoring: Symantec	Critical windows updates are scheduled weekly
ND Public Finance Authority	None	In house developed system	Auto updates for Maint Monitoring: non	
Office of Management & Budget	None	None	None	ITD WSUS, Plan is to use SCCM to deploy apps and bios updates.
Parks & Recreation Department	None	None	Scheduled windows updates, no monitoring	ITD WSUS and SCCM for Adobe
Protection & Advocacy	None	None	Maint: End users are trained to perform basic maint tasks such as cleaning up temp files, defrag, and updates Monitoring: none	none
Public Employees Retire System	None	None	Maintenance - updates are scheduled and pushed from their File server for software such as Windows, Adobe, Antivirus, etc Monitoring - non	
Public Instruction	None	None - Uses paper	None - Using ITD for network logs for FaceBook.	Shavlik Netchk for Windows Updates and 3rd party updates.
Public Service Commission	None	None	Maintenance - They perform their own maintenance Monitoring - Antivirus only	Patches are deployed individually because they have to test each patch individually due to how critical their systems are. They do not use ITD WSUS.
Retirement & Invest Office	None	None	Maint - ITD WSUS for updates Monitoring: none	ITD WSUS
School for the Blind	ITD Policies	No	Other than Windows updates, no	none
School for the Deaf	Apple Configurator	None	Maint - uses Vipre on her own server, critical patches, defrags are scheduled, (usually does most maint during the summer, not during the school year) Monitoring - no	She uses her own WSUS
Secretary of State	ITD Policies	Not sure, but likely through ITD	Whatever ITD has in place	Whatever ITD has in place
Securities Commissioner	None	none	Maint: scheduled tasks w/ Windows 7 Monitoring: none	ITD pushes patches

Support and Maintenance Tools Data

Agency	Mobile device management	Ticketing system	Maintenance & monitoring	Patch management
Seed Department	Yes - their contractor provides this service but unsure what service is used	None	Maint: basic maintenance, auto updates and manually updating software Monitoring: None	Antivirus updates are pushed from their server
Tax Commissioner	None	None	They use LanSweeper internally to scan and monitor internal resources. Also use Microsoft SCCM (System Center) to manage PCs.	Microsoft SCCM, ITD WSUS.
Transportation, Department of	ITD System	ITSM	Altiris, Dameware	ITD - WSUS
Treasurer's Office	Unsure - ITD may provide	ITD's	None	None
Trust Lands, Department of	none	None	Update things as they are pushed out to their computers. No monitoring	ITD - WSUS
University System				
Veterans Affairs Dept.	ITD	None	Maint: Scheduled updates for windows and antivirus Monitoring: None	
Veteran's Home	None	None	Maint: scheduled updates Monitoring: Microsoft Baseline Security Advisor	Automatic & then they scan w/ Baseline analyzer
Water Commission	Apple Configurator & Profile manager	None	None	None
Workforce Safety and Insurance	ITD Policies	Heat	Yes: ITD Windows SUS.	Yes: ITD Windows SUS.

Support Statistics and Methods

Agency	Define Support Process	Performance requirements / SLA's	# of support requests per month	Top 5 support requests	Methods used to request support	Reporting	Knowledgebase
Adjutant General	Contact agency IT staff directly when needed	"Zero Downtime"		1. 911 System 2. ???? Switch - From 650 Officer Cars 3. State Radio	Phone, Email and Walk up	None	None
Administrative Hearings	Frances is the first line of support and ITD is the next escalation	none	10	1. Application/software support 2. Things not printing	Email, phone, walk up	None	None
Aeronautics Commission		none	3	1. Locked out of computer 2. Password 3. Network Disconnect 4. I Drive Disconnect 5. File restoration	WMS, phone email		
Agriculture Department	Contact ITD for first call support (just transitioning), Contact agency IT for unique applications	None - Defining this with ITD now	Unknown	1. Agency Unique Applications 2. General PC Support (Passwords, Printing, etc.)	Email, Phone, On-line	None	None
Arts, ND Council on the	First line of support is Amy, if Amy needs to escalate she will go to NRG, unless email (that goes to ITD)	None	4-5 per year	1. New PC setup 2. Sounds/Speakers 3. Mouse issues	Phone	none	None
Attorney Generals Office	Call or Email AG's help desk resources	None Specifically Reported; However, several applications have high-availability / 24x7 support requirements	200	1. "Other" Software 2. Web Applications 3. Security 4. Email	Email, Phone	Yes - Heat Reports	Yes - Heat
Auditors Office, ND State	Contact any of the IT audit staff for support	None	Approx. 3,400 support hours last year (Applications and Desktop)	1. TeamMate Software 2. Password Resets 3. Use of Software	Email, Phone	None	None
Bank of North Dakota	Contact ITD for first call support, Escalate to BND IT staff when needed (Typically for application and on-site needs)	None currently with ITD	400 - 500 (See sample ITSM report)	See sample ITSM report	Phone, Email	ITSM Reports Available	None
Career and Technical Education	They have a few staff members who have some technical skills that they utilize first for support, otherwise all support requests go to ITD	None	<10	1. Outlook help 2. Updates 3. Monitor issues 4. Printer issues	Walk up and email	None	None
Center for Tobacco Prevention and Control Policy	They call NRG first for support and they will engage ITD if necessary	None	5	1. Set up of new computers 2. Network Drive Access 3. Desktop crashes	Phone	None	None

Support Statistics and Methods

Agency	Define Support Process	Performance requirements / SLA's	# of support requests per month	Top 5 support requests	Methods used to request support	Reporting	Knowledgebase
Commerce Department	Phone, email, communicator, stop in the hallway - records time in an excel sheet to track requests	None	200+	1. Outlook file not working (.pst files stored on network) 2. Accounts being locked 3. Equipment for meeting (projectors, etc) 4. Printers 5. Network drives not connecting		Just time	Microsoft website, CRM knowledge base on line
DOCR - Juvenile	Passwords go to ITD, everything else internal.	None			Phone/Email	Available on request	
Fair Association	They email Shelley (not an IT person) and she researches online for troubleshooting steps. If she cannot resolve the issue she contacts Bitz Communications	None	They only average a few a year	General end user questions	Phone	none	None
Financial Institutions	Contact Doug, if Doug can't handle it he will escalate	None	2/week	IE certificates/compatibility, Passwords	Email, Phone call	None	None
Game & Fish Department	Phone and Email Agency IT Staff	None (Very important during specific events though - Deer opener, License lotteries, etc.)	Unknown	1) Password Resets 2) Equipment (GPSs and Phones) 3) Computer to Printer (e.g., Printing) 4) Network Speed & Performance	Email & Phone to Agency IT Staff	None	None
Governor's Office			Can get from ITD - maybe 10-15 per month	1. Password resets/People locked out 2. Loss of connectivity (email) 3. Communicator/Phones		No reporting - not really needed	
Health Department	Contact Section IT Coordinator directory	None	Unknown	Would be different for each section (Generally program / Section software related)	Email & Phone to Section IT Staff	None	None
Highway Patrol	Support requests via phone.	None		1. Network Slow 2. Printing Issues 3. Password reset (training has limited this issue)	Use IntranetConnections software from Manitoba	Reporting using IntranetConnections software	User created how to's on frequent issues.
Historical Society ND, State	all support requests go to Gene. If he cannot resolve the issue, he will escalate to ITD	none		1. Can't log in 2. Machine has locked up 3. video cards/monitors	email, walk up	no	Has a binder with details of how he has resolved issues
Human Services	Staff contact local IT support resources	None	Unknown	1. ROAP 2. Other agency software support	Email, phone, walk up	None	None
Indian Affairs Commission	All support requests are sent to ITD via phone	None	2-Jan	1. Slowness or freezing of computers 2. Software installs	Phone	None	None
Industrial Commission							
Information Technology Dept							

Support Statistics and Methods

Agency	Define Support Process	Performance requirements / SLA's	# of support requests per month	Top 5 support requests	Methods used to request support	Reporting	Knowledgebase
Insurance Department	Call or Email agency IT resource	None	Unknown	1. Password resets 2. Local agency application support 3. Query requests	Email, phone, walk up	None	None
Job Service	ITD First Call, ITD escalates to agency IT staff	None	Unknown	1. Password resets (Mainframe & AD) 2. Mainframe support 3. Printing	Call or Email ITD	Heat Reports Available	None
Labor, Department of	End users call ITD and if ITD cannot assist them they call Silicon Plains	None	7-9 a YEAR	1. New computer setup	Phone	None	None
Legal Counsel for Indigents	First call to ITD. If ITD can help them, they will (mostly password related), otherwise they are directed to NRG.	None	five to ten	Password, or finding info in web app. Occasional Office help.	ITD request, then contact NRG	None	None
Library, State	Ends users create ticket in Outlook	None	30	1. Locked out 2. Expired password	Outlook	Alloway for PC Specs	None
ND Public Finance Authority	Their IT staff support all issues (usually remotely)	None	25	1. Printing on letterhead 2. Outlook - full email boxes 3. Scanners 4. Toner	phone, email, walk up	No	None
Office of Management & Budget	Support requests go to 'IT Liaison' at each location first. If issue is not resolved it is escalated to Jody.	None	5-6/day, 100/month	1. Password Lockout 2. Computer Slow 3. How do I (Excel/Word). 4. Flash/Shockwave issues 5. Printing	Issues are submitted via IM, Email or Phone.	None	Training documents, 'cheat sheets' created for specific issues (printer, copier, ipad related).
Parks & Recreation Department	All desktop support requests go to the IT Coordinator	None	100-150	1. Locked Out 2. Office 2013 questions 3. Software installs 4. Application support	Phone, Email	None	None
Protection & Advocacy	Corinne tries to resolve all issues but she has no real IT training, if she is unable to resolve the issue she escalates to ITD	None	40	1. Printing issues 2. Office help 3. Productivity Software help 4. Slowness issues	Phone, Email	None	Experts Exchange
Public Employees Retire System	All support requests go to their IT Coordinators for resolution. If they are not able to resolve the issue, ITD is their next point of escalation	None	30	1. Printer not printing 2. Unlocking accounts 3. Office end user support - "how to"	Phone, Email, IM, Walkup	None	None
Public Instruction	Support requests are delivered via email, phone, IM or in person.	None	50-150. Average of 75.	1. Locked Account 2. Wireless (specifically with docking stations) 3. Malware/Toolbar removal 4. Printer issues 5. Training	Phone, Email, IM, Walkup	None (But a want for down the road)	Informal 'how-to' documents for VPN, Webmail, WebEx, Office, Communicator

Support Statistics and Methods

Agency	Define Support Process	Performance requirements / SLA's	# of support requests per month	Top 5 support requests	Methods used to request support	Reporting	Knowledgebase
Public Service Commission	Application Issues: They find the SME within their team to assist. 95% of their support is questions on how to use the application. Their hardware and software environment is very stable System Issues: Call is placed to one of the 3 IT people	No define SLAs but the expectation is the issue at hand will be resolve in an expeditious manner	Minimal	1. Email (Supported by ITD) 2. Communicator (Supported by ITD) 3. IP Phones (Supported by ITD)	Phone	Antivirus	Gartner
Retirement & Invest Office	Call, walk up or email to their IT staff	None	20	1. Network Connectivity 2. Password reset 3. Java	Phone, Email, walk up	None	none
School for the Blind	Users call Gary/Laurie	None	30-50/mo	MS Office, Outlook, Alpha 5, Peripherals, Windows, Screen Readers	Email, Phone call	None	None
School for the Deaf	Kerry receives support request in a variety of ways (PinkNotes, call, email, handwritten notes, walk by in the hall way) and performs initial troubleshooting. If she cannot resolve the issue she will reach out to others who have more experience or vendors for help	no	160	1. Computer Issues - keyboard, mouse, Toolbars missing 2. Software Questions 3. ITV 4. Webpage - providing updates 5. iPad/Smart board issues		for her tech plans (1 to the state and 1 to the education technology council) she has to do a summary, she keeps a running tally of equipment that she uses for reporting purposes. Does them every 3 years and is reviewed throughout the year should there be an changes required	None

Support Statistics and Methods

Agency	Define Support Process	Performance requirements / SLA's	# of support requests per month	Top 5 support requests	Methods used to request support	Reporting	Knowledgebase
Secretary of State	Call ITD for everything	There is one, but they aren't sure of what it is. If it's anything beyond password resets, many of the issues linger and take too long to be addressed.	Not sure, several / week	Imaging Support (re-occurring network drive access issues), Printing (network related), Password resets. Printer problems, machines have been good.	Phone/Email	Available on request (they think)	Not sure
Securities Commissioner	They utilize onsite resources and then escalate to ITD	None	1	1. Printer issues	Walk up, phone, email	None	None
Seed Department	All support requests go to Kris and if she is not able to resolve the issue she escalates to their vendor	None	4-Mar	1. Views in software 2. Printer issues 3. End user "lose thing and need help finding them" in the system 4. Hardware not working with software	walk up	None	None
Tax Commissioner	Usually issues are reported via phone call that pertains to specific software.	n/a	2-3. However can be upwards of 10 password resets a day.	1. Locked Account 2. Printing Issues 3. GenTax Issues 4. VoIP Issues 5. Field Office Issues	Phone, Email, In Person	None.	None
Transportation, Department of	Call or email agency support resources	Nothing formal - but high service expectations from users & public	Unknown	Variable	Phone and email	Available fro ITSM	None
Treasurer's Office	The one ITD currently uses for Desktop support.	None	Somewhere between 0 and 5 depending on the month	1. Difficulties working in/saving shared Excel files; 2. Configure/reconfigure machine for new employee; 3. Malware/Spyware removal	Submitting work order& service request on WMS, ITSM through ITD website or calling the help desk.	None	None
Trust Lands, Department of	Jayden will get a phone call, email or someone will catch him in the hallway	None - use Customer satisfaction to measure performance	1-125	1. Power button issues 2. Monitor not working 3. Mouse/Monitor issues 4. Camera/Sound issues 5. Network connectivity issues	WMS request phone		None
University System		None		1. New user 2. Printer issues			
Veterans Affairs Dept	End users approach Cathy Halguns for support. If she is not able to resolve the issue she escalates to ITD or other vendors	none	3	1. Locked out of account 2. Password reset 3. Printer issues	walk up	none	none

Support Statistics and Methods

Agency	Define Support Process	Performance requirements / SLA's	# of support requests per month	Top 5 support requests	Methods used to request support	Reporting	Knowledgebase
Veteran's Home	IT manager provides all support and will escalate if necessary	Resolutions w/in 1-2 days (HIPPA computers receive a higher priority)	10-May	1. Locked account 2. Password issues 3. Wireless access 4. Medical Records Program issues	phone, email	HIPPA requires incident reports	Microsoft and vendor provided sites
Water Commission	End users track down Travis, Rod, Paul or Chris. Staff prefers to have support on site, not remote.		Unknown	1. Locked account 2. Email password reset 3. Printing Problems 4. Software support	Call or walk up	none	none
Workforce Safety and Insurance	All goes through WSI	None	Pull from stats	PICS (All Application related questions--Made a mistake, calculation didn't work right, need new certificate for premium), Password Resets (Application & AD), Video Conferencing	Phone/Email	Available on request	None