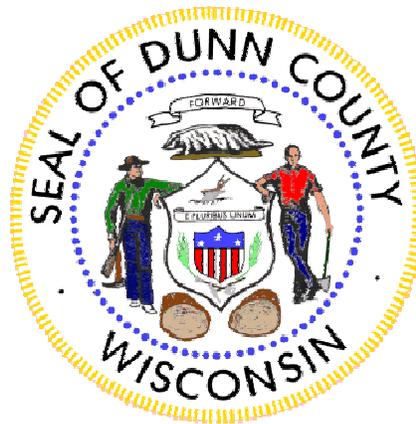




# Dunn County

## Department of Administration

### Information Technology Division



# Information Technology Plan

## 2015

October 2014 Revision

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## Introduction

Dunn County has been proactive in implementing “State of the Art” software and hardware technology and maintains advanced Information Technology (IT) systems based on industry “Best Practices and Standards”. The reason for this approach has been to provide IT systems that are easy to manage and maintain while providing short and long term cost savings by reducing the high cost of maintaining the IT infrastructure. Information Technology influences almost every activity in Dunn County. This document provides an evolving “road map” showing the history, current operations, and future direction of Dunn County’s Information Technology program.

## Mission

To develop, implement, operate, and maintain Dunn County’s Information Technology systems in a cost effective manner that provides better service to the public, private sector, and other governmental agencies and promotes a more productive and effective county workforce.

## Function

The IT program provides centralized information technology services to county departments and programs. This includes enterprise-wide application services such as budgeting, accounting, word processing, internet access, email, and department specific application services such as Medicare & Medicaid billing, dietary analysis, jail inmate booking, records retention, computer aided dispatching, accident reconstruction, asset management, etc. In all, the IT program supports over 100 application services to departments and their related programs. In addition, the IT program acts as a technical consultant to departments to help determine, budget, procure, implement, and maintain new information technology systems. The IT program also upgrades and maintains the County’s Information Technology Infrastructure including servers, WAN & LAN networks, desktop workstations, laptops, and peripherals. The IT program also manages the county’s telecommunication systems including a VoIP phone system that supports over 400 phones and faxes, voice mail, internet, and email systems, and POTS line devices such as modems, card swipe devices, breath analyzers, etc. Communication protocols supported include Optical Fiber, T1, ISDN PRI, SDSL, DSL, and POTS communication lines.

## Roles and Responsibilities

The following list is a guide to help identify key players in Dunn County that “drive” IT work.

Activity	CB	COA	AC	DPT	IT	VEN	EU
Conduct strategic planning	<input type="checkbox"/>						
Review long term goals		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Review short term goals			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>
Approve budget requests	<input type="checkbox"/>	<input type="checkbox"/>					
New technology requests				<input type="checkbox"/>			
Maintenance upgrades					<input type="checkbox"/>	<input type="checkbox"/>	
Problem resolution requests				<input type="checkbox"/>			<input type="checkbox"/>
Infrastructure upgrades					<input type="checkbox"/>	<input type="checkbox"/>	

- CB:** County Board
- COA:** Committee on Administration
- AC:** Administrative Coordinator
- DPT:** Departments



**IT:** Information Technology  
**VEN:** Vendors  
**EU:** End-users

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## Executive Summary

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This executive overview highlights the standards and management plans contained in the Dunn County IT Plan.

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### Architecture Standard

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Maintain network, server, workstation, telephony, application and peripheral standards as the tools to ensure a reliable IT infrastructure.

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### Network Standard

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The IT Division utilizes a centralized fiber high-speed network between all Dunn County buildings. This approach allows the IT Division to maintain and manage all IT equipment from a central location which lowers operational costs and improves the availability, manageability and utilization of resources.

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### Server Standard *(see [Cloud Migration Strategic Plan](#) on page 30)*

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The IT Division maintains centralized servers which provide a high level of service in an efficient, cost-effective, secure and reliable manner. As the amount of data and the needs of departments increase, the cost of storage and maintenance also increases due to administrative and hardware overhead. To curve this growth, the IT Division has deployed new blade servers that have a lower Total Cost of Ownership (TCO) by providing scalability, future upgradeability and cross-over redundancy.

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### Workstation Standard *(see [Cloud Migration Strategic Plan](#) on page 30)*

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The IT Division maintains a standardized and secure workstation platforms for all Dunn County Departments which has greatly increased the stability and lowered the TCO. TCO has been reduced by eliminating the need to maintain and support numerous workstations of varying age and models. In addition, since user configuration information, user, applications and application data are not stored on the desktop, the workstation can be rebuilt remotely and quickly using standard images from an image server. By installing and running applications on high-end blade servers, the desktops have become a “thin client” which increases their lifespan due to the fact that very little local resources are required to run their assigned applications. The overall result for Dunn County has been to greatly reduce the cost of deploying, maintaining, troubleshooting, and extending the serviceable lifespan of the workstations. “See [Service Level and Helpdesk Management](#)”

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### Telephony Standard

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The IT Division maintains a centralized Voice over Internet Protocol (VoIP) telephone system throughout all of Dunn County. By standardizing on one telephone system, the TCO has been greatly reduced by eliminating unneeded equipment, telephone lines, and adding the ability to properly route calls for the greatest cost savings.

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### Application Standard *(see [Cloud Migration Strategic Plan](#) on page 30)*

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Applications are installed on enterprise application servers which provide centralized management and



lower TCO by reducing the support and maintenance costs associated with maintaining over 100 applications in Dunn County. Application servers reduce the cost of support and maintenance by allowing enterprise and departmental applications to be upgraded once on the main server instead of on multiple individual workstations. In the case of departmental applications, this reduces the installation from 20-70 workstations to one server and in the case of enterprise applications, from 325 workstations to updating one server. When a client is needed on the workstation, it is a thin client which can be easily installed using industry standard “push” technology. The overall result has been to greatly reduce the cost of deploying and maintaining applications for Dunn County.

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### **Peripheral Standard**

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All peripherals currently utilized in Dunn County consist of the same hardware platform and configuration. By standardizing on a set of approved peripherals, the TCO for each type of peripheral is decreased by reducing the number of different peripherals and security standards the IT Division must maintain and support while giving the end-user the tools they need to complete their jobs.

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### **Capacity Management Plan**

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The IT Division utilizes Capacity Management processes to plan, analyze, size and optimize capacity requirements to satisfy the demand required for all of Dunn County’s applications and users. By proactively assessing capacity requirements, TCO is reduced by ensuring data is available when required, thus eliminating down-time.

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### **Configuration, Change and Implementation Management Plan**

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The IT Division utilizes a document process to fully manage, implement and maintain all system changes, configurations, and deployments of new technology. This ensures that only authorized and secured components are used in the IT environment and that all changes are recorded and tracked. This also allows the IT Division to introduce required changes into the Dunn County IT system with minimal disruption and cost to on-going operations.

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### **Financial Management Plan**

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The IT Division is responsible for managing and maintaining all IT related purchases for Dunn County which ensures that any proposed IT solutions are fully justified from a cost and budget standpoint. Centralized IT financial management reduces the TCO by ensuring that the most adequate equipment is purchased and that it complies with the Dunn County IT system standards.

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### **Operation Management Plan**

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To manage the wide variety of applications, services, work processes and network equipment, the IT Division has developed a structured documentation process. The structured documentation process has increased the productivity and efficiency of the IT Division by having readily available instructions for completing tasks which provides faster turn around. Total TCO is reduced by not having to “reinvent the wheel” each time work needs to be completed.

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### **Service Continuity and Availability Management Plan**

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Currently the IT Division manages and maintains various measures and techniques to ensure the continuity and availability of IT services to Dunn County. Maintaining a highly dependable and secure system allows the IT Division to reduce the TCO by preventing service-affecting incidents to the IT system which requires staff time in troubleshooting and resolving the incident.



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## Service Level and Helpdesk Management Plan

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The IT Division maintains an active Helpdesk which provides all Dunn County end-users a central point of contact for help in resolving their work requests in a timely and efficient manner. The Return on Investment (ROI) from implementing the Helpdesk has resulted in freeing up time of the other IT staff members to work on other tasks and projects which has resulted in the IT Division being able to do “more-with-less”.

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## Strategic Management Plan

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To propose using Information Technology Information Library (ITIL) strategic planning methods to plan for and implement enterprise and departmental initiatives that meet the strategic vision, plans, goals and objectives of Dunn County. The ITIL strategic planning process is based on the following main objectives:

- Produce a strategic vision for the future of the organization with weighted input from all appropriate drivers in the organization defined in terms of their function, roles, and responsibilities.
- Develop business goals and objectives based upon the strategic vision of the organization.
- Develop plans for achieving the business goals and objectives.

The four key tasks for carrying out the ITIL strategic planning and management process are:

- Review the history and current position of the organization.
- Define and develop the required or desired state of the organization.
- Develop short term and long term goals, objectives, and implementation plans to migrate to the desired state of the organization.
- Review and evaluate the progress of achieving the desired state of the organization.

The ITIL key message to strategic planning and management is that the secret to successful implementation of a strategy is to plan small measurable steps with regular deliverables, milestones, and reviews.

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## Application Strategic Plan

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Replace or eliminate all non-IT standard compliant applications over the next 3-5 years is required to ensure that service continuity and availability is maintained on the Dunn County IT system. TCO will be reduced by consolidating IT standard compliant applications on fewer servers. Fewer servers will reduce the number of required licenses and administrative time required in managing those servers.

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## e-Government Strategic Plan

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The proposed e-Government Strategic Plan Objective is to determine if additional solutions would provide the citizens of Dunn County easier access to the services available to them and possibly generate additional revenue. Different levels of e-Government solutions are available but the TCO and ROI of e-Government solutions would need to be carefully calculated before implementing them.

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## Financial Strategic Plan

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The Financial Strategic Plan shows that Dunn County has multiple redundant financial systems for accounting functions located in multiple departments. The proposed Financial Strategic Plan Objective is to integrate the current financial systems into a centralized integrated financial solution to allow easier access, management, and reduction in the data entry of financial information. This could help lower the TCO for maintaining these systems by reducing the training, procedural, and cross-training costs involved with utilizing multiple financial systems. An integrated financial system could provide a defined county-



wide financial workflow, process, and tasks for employee cross-training initiatives and financial centralization.

### **Land Records Management Database Strategic Plan**

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The Land Records Management Database is currently maintained on an aging mainframe which the manufacturer is discontinuing support for. The Land Records Management Database Plan Objective is to migrate the existing database to a system that complies with current Dunn County IT standards. TCO is reduced by discarding the aging mainframe and providing a centralized source of land record data for use in GIS and other projects.

### **Tax System Strategic Plan**

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The Tax System is currently maintained on an aging mainframe which the manufacturer is discontinuing support for. The Tax System Plan Objective is to migrate the existing database to a system that complies with current Dunn County IT standards. TCO is reduced by discarding the aging mainframe and providing a centralized tax system.



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## Architecture and Standards

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The following architecture and standards are intended to provide direction and establish levels of continuity in IT operations.

### Architecture Standard

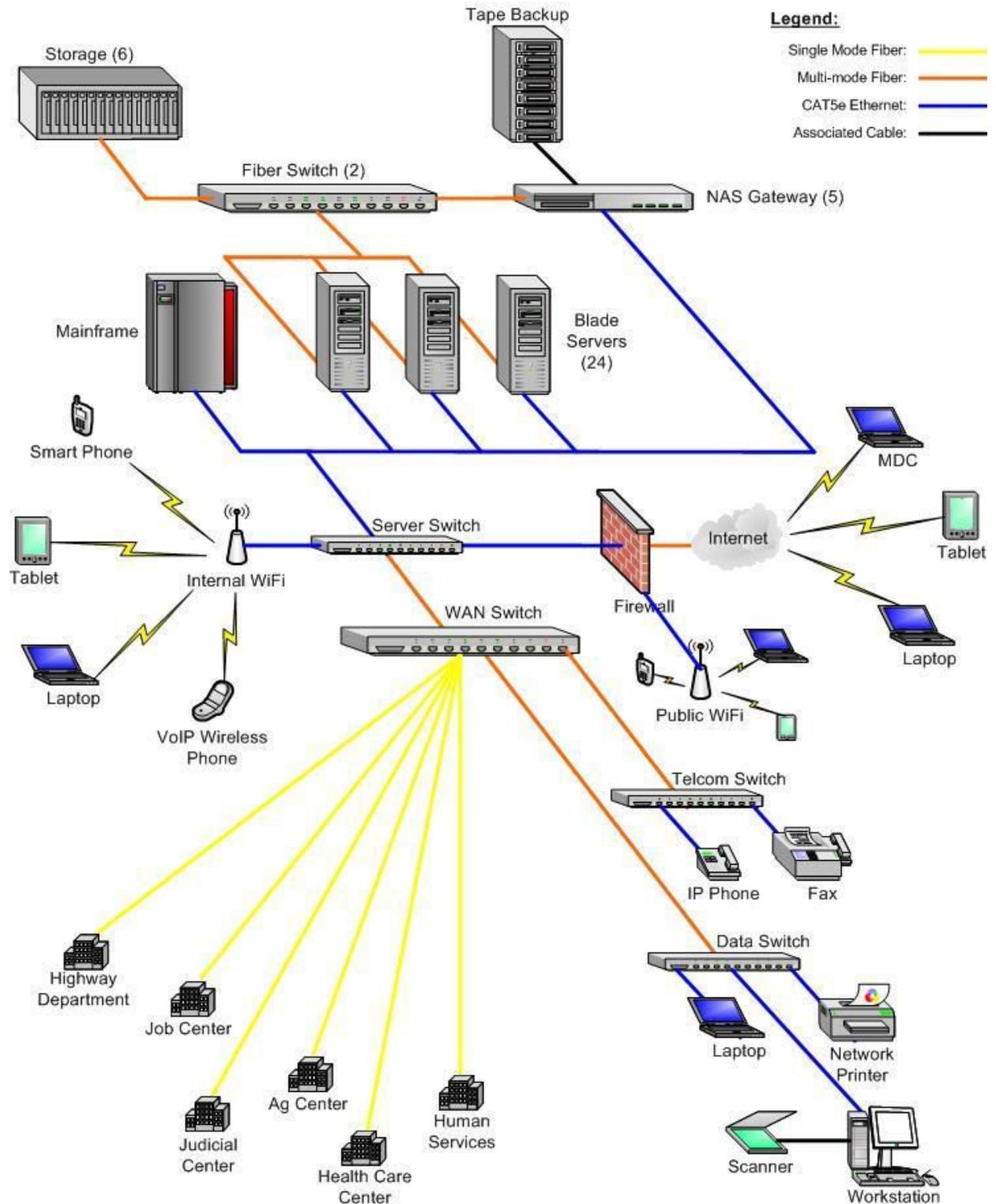
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#### Objective

Use ITIL architecture planning methods to implement system-wide standards for system stability and security.

#### Summary

Maintain network, server, workstation, telephony, application and peripheral standards as the tools to ensure a reliable IT infrastructure. The following diagram is a visual representation of Dunn County's architecture and IT standards.





## Network Standard

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### Objective

Maintain a centralized approach in providing IT services for Dunn County.

### Summary

The IT Division utilizes a centralized fiber high-speed network between all Dunn County buildings. This approach allows the IT Division to maintain and manage all IT equipment from a central location which lowers operational costs and improves the availability, manageability and utilization of resources.

### History

**Pre-2001:** A Local Area Network (LAN) was maintained in each building to provide services required by the departments located in that building.

**2001:** Implemented a Full-Duplex 2 Gigabyte (GB) Wide Area Network (WAN) to connect all of Dunn County buildings. Services were centralized thus reducing overall costs required in maintaining multiple redundant systems.

### Current State

**2012-Present:** Replaced all existing networking with Full-Duplex 10 GB switches at the backbone and 1 GB to the desktop and implemented POE switches for the voice data switches for the replacement of the first generation VoIP telephone system. A County wide Private and Public Wi-Fi is provide with the Private Wi-Fi fully secure and encrypted to current industry standards.

The IT Division currently maintains a full-duplex 10 GB WAN backbone that supports all centrally based information systems for Dunn County. The WAN based approach has significantly reduced the TCO by reducing operational costs, increased security, and providing better physical protection of IT systems in the following ways:

- Centralized IT systems provide uniformed services by significantly reducing the number of servers, network storage devices, backup solutions, and telephone systems county-wide.
- Centralized IT systems are located in the IT Division data room providing temperature & humidity control and a gas based fire protection system.
- Centralized applications, user desktop configuration, and user data is stored on central Network Attached Storage file servers allowing most problems to be resolved at the servers in the IT Division, not out at each facility which reduces both travel cost & time for IT staff.
- Application upgrades are installed on centralized application servers upgrading all 325 desktops county-wide with one installation versus conducting 325 installations at seven sites.



The Dunn County IT system is protected by a hardened firewall, multiple layers of anti-virus protection, advanced Uninterruptible Power Supplies (UPS), and an emergency power generator. 1 Gigabyte (GB) connectivity is provided to all workstations, printers and telephones located in each of the county's 7 buildings and 23 departments.

### Planned Improvements

#### SHORT TERM

Review IT trends for changes in technology that will enhance IT services.

#### LONG TERM

Upgrade equipment as it becomes necessary.



## **Server Standard** (see *Cloud Migration Strategic Plan* on page 30)

### **Objective**

Adopt a standard hardware platform and configuration for all servers used in Dunn County.

### **Summary**

The IT Division maintains centralized servers which provide a high level of service in an efficient, cost-effective, secure and reliable manner. As the amount of data and the needs of departments increase, the cost of storage and maintenance also increases due to administrative and hardware overhead. To curve this growth, the IT Division has deployed new blade servers that have a lower TCO by providing scalability, future upgradeability and cross-over redundancy.

### **History**

**Pre-1998:** Commercial servers were purchased to form Dunn County's first Local Area Network (LAN).

**1998:** Server parts were purchased and servers were built by IT staff to reduce the costs involved with implementing new servers.

**2004-2005:** Commercial Blade Servers were purchased to upgrade current aging servers.  
2012-2013: Replaced Blade Servers with rack mounted servers running Vmware vSphere.

**1998-2004:** The IT Division currently maintains 25 centralized standalone servers that support enterprise and departmental applications and services. These servers are designed on technology from 1998 and replacement parts have not been available from outside vendors for several years. Most of these servers have been in operation for 5-7 years and the IT Division's internal supply of replacement parts is dwindling. In addition, the storage and performance of the servers is not meeting the application requirements as software systems are upgraded and updated with new technology.

**2004-2012:** For these reasons, the IT Division began research and planning in 2003 and budgeted in 2004 and 2005 for replacement of these servers. The new servers were purchased in the latter part of 2004 and beginning of 2005. The new servers are based on blade server technology which allows the core processor, memory, and associated circuitry to be replaced as a module without replacing the central power supplies, network interface, and cabinetry. This reduces the TCO of the servers by providing both scalability, future upgradeability, and cross server redundancy. The IT Division is in the final stages of replacing the old servers with the new units and expects to be completed by end-of-year 2007. The IT Division has implemented two storage area network (SAN) servers to provide redundant support of user and application data to the County's five Network Attached Storage (NAS) file servers and the new blade servers. The SANs provide central storage of the majority of the County's data, and operate in unison with the servers on an internal fiber channel network to provide high performance, reliable, and scalable storage to meet the County's growing need for storage now and in the future.

### **Current State**

**2012-Present:** For similar reason to the 2004-2005 upgrade of servers including the current servers were decommissioned by HP and had reached end of life status the IT division budget for and began replacement of the 32 blade servers with 8 HP DL360-380 commodity servers running VMware 5.X and using Physical to Virtual (PV) migration move the existing sever structure from the blasé servers to the new servers.

### **Planned Improvements**

#### **SHORT TERM**

Migrate remaining Blade Servers to VMware as a virtual server.

#### **LONG TERM**





Upgrade Blade Servers as performance demands dictate.

## **Workstation Standard** (see *Cloud Migration Strategic Plan* on page 30)

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### **Objective**

Adopt a standard hardware platform and configuration for all workstations used in Dunn County.

### **Summary**

The IT Division maintains a standardized and secure workstation platform for all Dunn County Departments which has greatly increased the stability and lowered the TCO. TCO has been reduced by eliminating the need to maintain and support numerous workstations of varying age and models. In addition, since user configuration information, user, applications and application data are not stored on the desktop, the workstation can be rebuilt remotely and quickly using standard images from an image server. By installing and running applications on high-end blade servers, the desktops have become a “thin client” which increases their lifespan due to the fact that very little local resources are required to run their assigned applications. The overall result for Dunn County has been to greatly reduce the cost of deploying, maintaining, troubleshooting, and extending the serviceable lifespan of the workstations. “See [Service Level and Helpdesk Management](#)”

### **History**

**Pre-1995:** Implemented various 286/386/486 workstations

**1995:** Implemented Pentium 2 workstations

**2000:** Implemented Pentium 3, all-in-one workstations

**2003-2004:** Implemented Pentium 4 workstations

**2007:** Upgraded Pentium 4 workstation LCD displays, memory, and video cards

### **Current State**

All county departments are currently utilizing the same hardware platform and configuration based on Intel Pentium 4 processors, 1 Gigabyte (GB) Read Access Memory (RAM), 40 Gigabytes (GB) of disk storage, and 20 inch wide-screen Liquid Crystal Display (LCD) displays. All workstations are connected to the Wide Area Network (WAN) via 100 Megabyte (MB) connectivity. The initial 250 workstations were installed over a two-year period (2003-2004), with the remaining 25 workstations being added from 2005-Present due to department budgetary requirements. The IT Division has replacement parts for the units to provide 5-7 years of service. Industry research has estimated that 50-80% of the cost of desktop units is expended in maintenance compared to the cost of the original purchase.



### **Planned Improvements**

#### **SHORT TERM**

Research and test Blade PC/Thin Client technology which centralizes workstation compute and storage resources into more easily managed, highly secure data center while lowering the TCO of the units by reducing the long term maintenance costs of workstations.

#### **LONG TERM**

Implement Blade PC/Thin Client technology county-wide.

## **Telephony Standard**

---

### **Objective**

Adopt a standard telephony hardware platform and configuration for use in Dunn County.



## Summary

The IT Division maintains a centralized Voice over Internet Protocol (VoIP) telephone system throughout all of Dunn County. By standardizing on one telephone system, the TCO has been greatly reduced by eliminating unneeded equipment, telephone lines, and adding the ability to properly route calls for the greatest cost savings.

## History

**Pre-2003:** Telephone communications were accomplished utilizing numerous higher-cost Private Branch Exchange (PBX) systems and single Centrex telephone lines.

**2003-2004:** Implemented a VoIP telephony system throughout Dunn County.

**2007:** Migrated Menomonic Police Department to the county's VoIP system

## Current State

**2013 – Present:** Migrating to ShoreTel VoIP System as current 3Com was discounted

All departments have been migrated to the new phone system and the Emergency Operation Center will also be added to the system with the addition of the generator system to the Government Center building. Currently over 400 phones and faxes are supported by the system. The total cost to implement the system was approximately \$200,000. The telecom savings for 2003 were \$14,000, 2004 were \$78,000, estimated 2005 are \$102,000 (based on Jan-March) for total savings of \$194,000.



## Planned Improvements

### SHORT TERM

Continue to review the few remaining single telephone lines for either elimination or migration to the VoIP telephony system.

### LONG TERM

Review changes and improvements made in VoIP technologies to increase savings for Dunn County.

## Application Standard *(see Cloud Migration Strategic Plan on page 30)*

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### Objective

Adopt application standards in providing centralized application services for Dunn County.

### Summary

Applications are installed on enterprise application servers which provide centralized management and lower TCO by reducing the support and maintenance costs associated with maintaining over 100 applications in Dunn County. Application servers reduce the cost of support and maintenance by allowing enterprise and departmental applications to be upgraded once on the main server instead of on multiple individual workstations. In the case of departmental applications, this reduces the installation from 20-70 workstations to one server and in the case of enterprise applications, from 275 workstations to updating one server. When a client is needed on the workstation, it is a thin client which can be easily installed using industry standard "push" technology. The overall result has been to greatly reduce the cost of deploying and maintaining applications for Dunn County.

### History

Prior to the Wide Area Network and server centralization initiatives being implemented, applications were installed on application servers in the buildings for the departments that required them or on individual workstations. This approach required numerous duplicate servers.

### Current State

The IT Division currently maintains various centralized DOS, 16-bit and 32-bit applications for the departments required by them to successfully complete their jobs. Each application has its own setup



requirements and the IT Division uses any of the following methods to deploy applications to the end-users;

- Client-server
- Terminal Services
- Mapped network drive
- Local workstation

### **Planned Improvements**

#### **SHORT TERM**

Research and test Application Virtualization technology which further centralizes applications into more easily managed application deployment system.

#### **LONG TERM**

Carry out the Application Strategic Plan

## **Peripheral Standard**

---

### **Objective**

Adopt standard peripheral hardware platforms and configurations for all peripherals used in Dunn County.

### **Summary**

All peripherals currently utilized in Dunn County consist of the same hardware platform and configuration. By standardizing on a set of approved peripherals, the TCO for each type of peripheral is decreased by reducing the number of different peripherals and security standards the IT Division must maintain and support while giving the end-user the tools they need to complete their jobs.

### **History**

No standardized approach was used in acquiring peripherals.

### **Current State**

All stand-alone printers have been replaced by a standardized set of high speed network-based printers which has greatly reduced the overall number of printers being supported by the IT Division. Peripherals that have been standardized include printers, scanners, Personal Digital Assistants (PDA), and digital cameras.



### **Planned Improvements**

#### **SHORT TERM**

Review IT trends for changes in technology that will enhance IT services.

#### **LONG TERM**

Upgrade, replace or implement new peripherals as technology and end-user requirements change.

## **Plans**

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The following plans are intended to provide direction and establish levels of continuity in IT operations.



## Capacity Management Plan

### Objective

Plan, analyze, size, monitor, and optimize Dunn County's electronic data capacity to satisfy demand.

### Summary

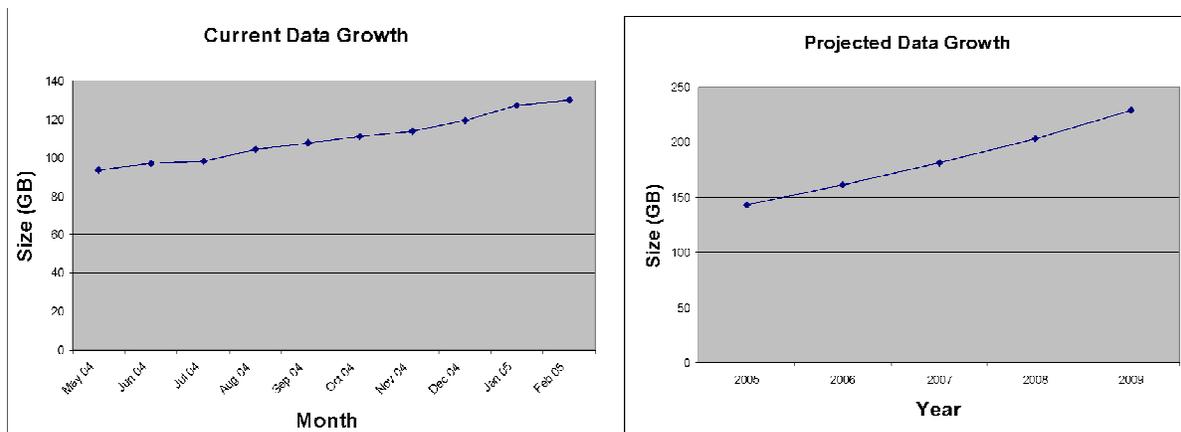
The IT Division utilizes Capacity Management processes to plan, analyze, size and optimize capacity requirements to satisfy the demand required for all of Dunn County's applications and users. By proactively assessing capacity requirements, TCO is reduced by ensuring data is available when required, thus eliminating down-time.

### History

No formalized process was in place to plan, analyze, size, monitor and optimize electronic data.

### Current State

Currently the IT Division monitors and documents the growth of all electronic data and adjusts storage space as required on a monthly basis. Full backups of all the electronic data contained on the Dunn County IT system is done twice a week with incremental backups being performed the remaining 5 days of the week with the appropriate measures in place to verify that the data is indeed being backed up properly.



### Planned Improvements

#### SHORT TERM

Monitor and interpret service capacity levels and IT component performance in order to have the capacity data essential for the planning and design of new systems, services, and applications.

#### LONG TERM

Implement a record retention and archival system to comply with electronic records retention policies and move infrequently used data to lower cost storage systems.

## Configuration, Change and Implementation Management Plan

### Objective

Utilize configuration, change, and implementation processes to effectively manage all Dunn County IT systems.

### Summary



The IT Division utilizes a document process to fully manage, implement and maintain all system changes, configurations, and deployments of new technology. This ensures that only authorized and secured components are used in the IT environment and that all changes are recorded and tracked. This also allows the IT Division to introduce required changes into the Dunn County IT system with minimal disruption and cost to ongoing operations.

### **History**

No formal configuration, change, and implementation processes were utilized to document and effectively manage Dunn County IT systems.

### **Current State**

As new systems or changes are identified, the following steps are followed for a successful deployment;

- A project sheet is completed to identify the requirements as well as any other systems that the proposed new system or change will affect along with identifying the milestones of the project.
- After the planning phase is complete, the milestones are entered into the project management program and assigned tasks are entered into the work request system.
- After the master project list has been updated and the tasks have been assigned, the new system or changes are prototyped in a test environment for review by the IT Division to ensure it adheres to the Dunn County System Requirements and for end-user testing.
- Once the new system or change has been fully tested, a series of installation and maintenance documents are completed to fully document the installation and configuration steps involved in installing the new system or change in the production environment.
- End-users are notified of the planned system or change before the new system or change is implemented.
- The new system or change is deployed in the production network and a series of quality assurance documents are completed to ensure the new system or change was successful.

As systems change, all documentation related to those systems also changes to reflect the most current configurations.

### **Planned Improvements**

#### **SHORT TERM**

Reformat all existing configuration, change, and implementation documentation for easy migration to an Extreme Markup Language (XML) database.

#### **LONG TERM**

Migrate all existing configuration, change, and implementation documentation to an XML database which will provide a central storage location for all documentation.



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## Financial Management Plan

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### Objective

To ensure that solutions proposed can be justified in terms of their cost to implement versus their benefit to Dunn County while adhering to IT standards.

### Summary

The IT Division is responsible for managing and maintaining all IT related purchases for Dunn County which ensures that any proposed IT solutions are fully justified from a cost and budget standpoint. Centralized IT financial management reduces the TCO by ensuring that the most adequate equipment is purchased and that it complies with the Dunn County IT system standards.

### History

Before IT purchasing functions were centralized within the IT Division, all departments maintained their own IT budgets and were able to purchase what they wanted.

### Current State

The IT Division has developed a process that all departments must follow when requesting new IT related items;

- All requests are made by submitting an Information Technology Request Form (ITRF) to the IT Division which identifies the funding source, justification for the request, and the impact the request has on departmental operations.
- The ITRF is then evaluated for appropriateness and adherence to Dunn County IT standards. The IT Division incorporates sound cost justification practices to ensure money is not wastefully spent.
- Approved ITRF requests are then either purchased or added to the next year's capital projects budget request.

### Planned Improvements

#### SHORT TERM

#### LONG TERM

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## Maintenance Management Plan

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### Objective

Maintain established routine hardware/software upgrades and replacement schedules.

### Summary

The IT Division has an established upgrade and replacement schedule to address the requirement to update both hardware and software. TCO is reduced by maintaining newer equipment and software which historically requires less repairs compared to older and outdated systems. The IT Division also maintains maintenance service contracts on all equipment and software which extends the ROI of all Dunn County IT systems.

### History

Hardware and software was typically replaced or updated only after that hardware or software failed.

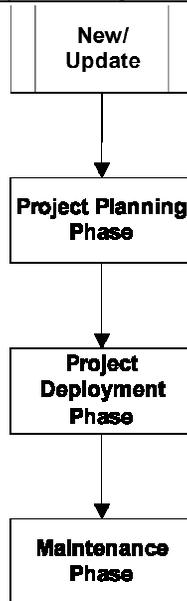


**Current State**

All hardware and software is replaced using the established replacement schedules or as needed;

Hardware	Replacement Schedule
Servers	5 – 7 years or when replacement parts are becoming scarce or no longer available
Workstations	5 – 7 years or when replacement parts are becoming scarce or no longer available
Printers	3 – 5 years or when printers are two model numbers behind those being currently sold

Software	Replacement Schedule
Server Operating System (OS)	In a timely manner following the release and testing is completed
Server OS Updates	Immediately following the release and testing is completed
Workstation OS	In a timely manner following the release and testing is completed
Workstation OS Updates	Immediately following the release and testing is completed
Applications	Immediately following the release and testing is completed



**Planned Improvements  
SHORT TERM**

**LONG TERM**

**Operation Management Plan**

**Objective**

Utilize a documentation process to fully document all configuration and work processes to ensure continuity.

**Summary**

To manage the wide variety of applications, services, work processes and network equipment, the IT Division has developed a structured documentation process. The structured documentation process has increased the productivity and efficiency of the IT Division by having readily available instructions for completing tasks which provides faster turn around. TCO is reduced by not having to “reinvent the wheel” each time work needs to be completed.



### History

No formal document processes were utilized to document configuration and work processes.

### Current State

Currently the IT Division uses a series of document templates to fully document all configurations and work processes.

### Planned Improvements

#### SHORT TERM

Reformat existing documentation for easy migration to an Extreme Markup Language (XML) database.

#### LONG TERM

Migrate all documentation to an XML database which will provide a central storage location for all documentation.

---

## Service Continuity and Availability Management Plan

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### Objective

Ensure that any given IT service consistently and cost-effectively delivers the level of availability and continuity required by Dunn County.

### Summary

Currently the IT Division manages and maintains various measures and techniques to ensure the continuity and availability of IT services to Dunn County. Maintaining a highly dependable and secure system allows the IT Division to reduce the TCO by preventing service-affecting incidents to the IT system which requires staff time in troubleshooting and resolving the incident.

### History

### Current State

The following preventative measures and techniques are currently employed to reduce as many single points-of-failure as possible on the core IT system:

- The building that the IT Division is located in has an emergency generator in case of power loss.
- Systems are located in physically secure locations.
- Systems are plugged into Uninterruptible Power Supplies (UPS) in case of power loss.
- Redundant power supplies are installed in the equipment that supports it.
- User and application data is safeguarded by storing it on an Advanced Data Guarding (ADG) configured Storage Area Network (SAN).
- User and application data is copied to redundant Network Attached Storage (NAS) devices.
- Full backups of all user and application data is completed twice a week with incremental backups being performed the remaining 5 days of the week.
- SAN is configured with redundant fiber switches.
- All servers are configured with mirrored hard drives, redundant network and fiber cards.

The IT Helpdesk is available to quickly and efficiently deal with IT problems as they are detected.

### Planned Improvements

#### SHORT TERM

#### LONG TERM



## Service Level and Helpdesk Management Plan

### Objective

Provide a central point of contact between end-users and the IT Division for resolving work requests.

### Summary

The IT Division maintains an active Helpdesk which provides all Dunn County end-users a central point of contact for help in resolving their work requests in a timely and efficient manner. The ROI from implementing the Helpdesk has resulted in freeing up time of the other IT staff members to work on other tasks and projects which has resulted in the IT Division being able to do “more-with-less”.

### History

In 2000, a consultant was hired to evaluate the IT Divisional operations and it was recommended that a helpdesk be formed to better utilize resources in addressing questions and work requests. The Dunn County Board implemented the consultant’s recommendation and approved the addition of a helpdesk position beginning in January 2001.

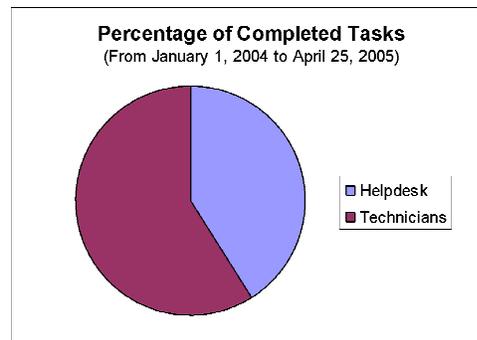
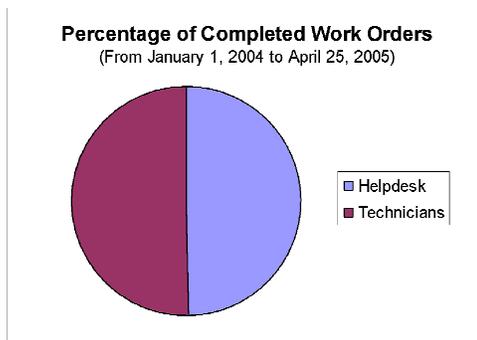
### Current State

The IT helpdesk is open during normal business hours, Monday through Friday, 8:00 A.M. to 4:30 P.M. with one IT technician being on-call during non-work hours to support the 24/7 operations contained within Dunn County. The implementation of the helpdesk has increased turnaround time by:

- Providing a central point of contact for end-users to contact the IT Division
- Providing end-users with the ability to submit and track work requests to the IT Division electronically
- Implementing and utilizing remote connection tools to assist and resolve end-user issues without having to leave the IT Division, thus increasing the response times

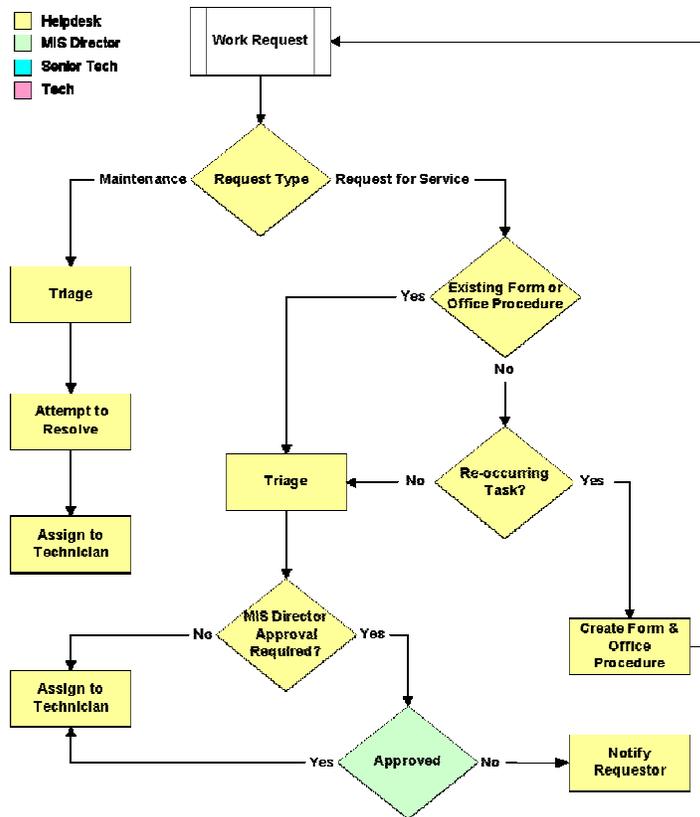
The helpdesk has also increased efficiency by:

- Resolving nearly fifty percent of all incoming work orders (from 1/1/2004 to 4/25/2005), thus freeing up time for the remaining IT technicians to work on other assigned tasks and projects
- Addressing almost forty percent of all tasks (from 1/1/2004 to 4/25/2005)



### System Maintenance

The IT helpdesk employs a documented workflow process that addresses all incoming work requests.



**Planned Improvements**

**SHORT TERM**

Continue to improve the service that is provided to end-users so that they may be as productive as possible. Research tools or procedures that would further increase the overall service to the end-user.

**LONG TERM**

Implement ITIL standards

**Strategic Management Plan**

**Objective**

To propose using ITIL strategic planning methods to plan for and implement enterprise and departmental initiatives that meet the strategic vision, plans, goals and objectives of Dunn County. The ITIL strategic planning process is based on the following main objectives:

- Produce a strategic vision for the future of the organization with weighted input from all appropriate drivers in the organization defined in terms of their function, roles, and responsibilities.
- Develop business goals and objectives based upon the strategic vision of the organization.
- Develop plans for achieving the business goals and objectives.

The four key tasks for carrying out the ITIL strategic planning and management process are:

- Review the history and current position of the organization.
- Define and develop the required or desired state of the organization.
- Develop short term and long term goals, objectives, and implementation plans to migrate to the desired state of the organization.
- Review and evaluate the progress of achieving the desired state of the organization.



The ITIL key message to strategic planning and management is that the secret to successful implementation of a strategy is to plan small measurable steps with regular deliverables, milestones, and reviews.

### History

### Current State

### Planned Improvements SHORT TERM

### LONG TERM

## Application Strategic Plan

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### Objective

Replace or eliminate all non-IT standard compliant applications.

### Summary

Replace or eliminate all non-IT standard compliant applications over the next 3-5 years is required to ensure that service continuity and availability is maintained on the Dunn County IT system. TCO will be reduced by consolidating IT standard compliant applications on fewer servers. Fewer servers will reduce the number of required licenses and administrative time required in managing those servers.

### History

### Current State

The IT Division currently maintains numerous servers which contain only one application due to the application not being compliant with the current IT standards.

### Planned Improvements SHORT TERM

Initiate an ITIL based Application Strategic Planning and Management process:

- Review and document all current applications, processes, and procedures.
- Migrate our current applications to our current system based on Dunn County's Information Technology Standards.

### LONG TERM

Application Strategic Planning Group:

- Develop a strategic vision and description of a fully IT standards compliant application system that Dunn County would like to achieve as an outcome of this process.
- Develop goals, objectives, and plans to implement this system.
- Develop a continuous review process to achieve the current desired state of the IT standards compliant application system and plans for the future state of application systems based on new and changing business needs of Dunn County.



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## e-Government Strategic Plan

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### Objective

To develop a strategic vision and plan for Dunn County's e-Government initiative and determine if additional e-Government solutions would improve overall Dunn County operations.

### Summary

The proposed e-Government Strategic Plan Objective is to determine if additional solutions would provide the citizens of Dunn County easier access to the services available to them and possibly generate additional revenue. Different levels of e-Government solutions are available but the TCO and ROI of e-Government solutions would need to be carefully calculated before implementing them.

### History

#### Current State

Dunn County currently maintains an internet website which provides the residents of Dunn County a portal of information about the services and programs available to them. Property owners are able to make tax payments online using a credit card. Register of Deeds records are searchable and viewable online.

#### Planned Improvements

##### SHORT TERM

Initiate an ITIL based e-Government Strategic Planning and Management process:

- Review and document all current e-Government systems, processes, and procedures.
- Implement a web-based credit card transaction system.

##### LONG TERM

e-Government Strategic Planning Group:

- Develop a strategic vision and description of a fully interoperable e-Government system that Dunn County would like to achieve as an outcome of this process.
- Develop goals, objectives, and plans to implement this system.
- Develop a continuous review process to achieve the current desired state of the e-Government systems and plan for the future state of e-Government systems based on new and changing business needs of Dunn County.

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## Financial Strategic Plan

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### Objective

To develop a strategic vision and plan for Dunn County's financial systems and determine if an integrated financial systems would improve access and management of financial information.

### Summary

The **History** and **Current State** sections of this document show that Dunn County has multiple redundant financial systems for accounting functions located in multiple departments. The proposed Financial Strategic Plan Objective is to integrate the current financial systems into a centralized integrated financial solution to allow easier access, management, and reduction in the data entry of financial information. This could help lower the TCO for maintaining these systems by reducing the training, procedural, and cross-training costs involved with utilizing multiple financial systems. An integrated financial system could provide a defined county-wide financial workflow, process, and tasks for employee cross-training initiatives and financial centralization.



**History**

In 1998 Dunn County implemented a HP3000 mainframe system to provide centralized enterprise financial services to its departments. Over the years Dunn County departments acquired stand alone desktop computer systems and many implemented financial applications on those systems. In 1994 Dunn County centralized the management of Information Technology in the County’s Management of Information Systems (IT) Department. This resulted in the development of centralized enterprise services on central application and storage servers to all departments. During this process all desktop financial applications were relocated on the central applications servers. Because of this centralization it became apparent that Dunn County departments had developed multiple and in many cases redundant financial systems for accounting functions resulting in many complex systems requiring training, staff time, and departmental and IT resources to maintain.

**Current State**

The following table represents the various financial systems currently being utilized by the departments identified.

The following are descriptions of the information contained in the columns of the application table;

**Department:** The name of the department using financial applications.

**Function:** Financial functions carried out by the department.

**Application:** The financial application to carry out the function.

**Architecture:** Architecture of the application and whether it complies with Dunn County IT standards.

**Documentation:**

*Workflow:* Indicates that workflow processes are documented.

*Formal:* Indicates that financial tasks have been formally documented.

*Informal:* Indicates that financial tasks have been documented on notepads & sticky-notes.

*None:* No level of financial processes or tasks has been documented.

**Cross-Training:** Indicates if more than one employee has been trained in the financial processes and tasks.

“See the application table at the end of this strategic plan.”

**Planned Improvements**

**SHORT TERM**

Initiate an ITIL based Financial Strategic Planning and Management process:

- Review and document all current financial systems, processes, and procedures.
- Migrate our current enterprise financial software from the HP3000 mainframe to our current system based on Dunn County’s IT Standards.

**LONG TERM**

Financial Strategic Planning Group:

- Develop a strategic vision and description of a fully integrated and centralized financial system that Dunn County would like to achieve as an outcome of this process.
- Develop goals, objectives, and plans to implement this system.
- Develop a continuous review process to achieve the current desired state of the financial system and plans for the future state of financial systems based on new and changing business needs of Dunn County.

Department	Function	Application	Architecture	Documentation	Cross-Training
All Departments	Budget	DataNow Excel Spreadsheets	Host-based (N) Client-Server (N)		



All Departments	Purchase Orders	DataNow	Host-based (N)		
Administration - Financial Management Division	Accounts Payable	DataNow	Host-based (N)	Formal	No
Administration - Financial Management Division	Budget	DataNow	Host-based (N)	Formal	No
Administration - Financial Management Division	Payroll	DataNow	Host-based (N) Stand-alone (N)	Formal	Yes
Administration - Financial Management Division	Payroll Federal Tax Withholding Deposit	EFTPS web site	Cloud-based (Y)	Formal	Yes
Administration - Financial Management Division	Payroll State Tax Withholding Deposit	Wisconsin Department of Revenue web site	Cloud-based (Y)	Formal	Yes
Administration - Financial Management Division	Payroll Time Clock	ADP	Cloud-based (Y)	In Progress	In Progress
Administration - Human Resources Division	Applicant Tracking	NeoGov	Cloud-based (Y)	?	?
Administration - Human Resources Division	HR/Personnel	DataNow	Host-based (N)	Formal	Yes
Administration - Risk Management Division	Fixed Assets	DataNow, Dbase	Host-based (N) Stand-alone (N)	DataNow (Formal) Dbase (Formal)	DataNow (N) Dbase (N)
Administration - Risk Management Division	Purchase Orders	DataNow	Host-based (N)	Formal	Yes
Clerk of Court	Daily Deposits directly to bank	CCAP Court Management System	State Network (N)	Workflow	Yes
Clerk of Court	Disbursements (Fines, Fees, Foreclosures, Restitution)	CCAP Court Management System	State Network (N)	Workflow	Yes
Clerk of Court	Receipting Fines & Fees	CCAP Court Management System	State Network (N)	Workflow	Yes
District Attorney	Billing (private attorneys and public defenders for copies)	Excel Spreadsheet	State computer system (N)	None	Yes
Environmental Services - Solid Waste/ Recycling Division	Billing curbside recycling and per capita to municipalities	QuickBooks	Client-Server (N)	Formal	No



Environmental Services - Solid Waste/ Recycling Division	Accounts Payable and Accounts Receivable for charges from the Transfer Station and Area Collection Stations	Advanced Weighing Systems	Stand-alone (N)	Formal	No
Environmental Services - Solid Waste/ Recycling Division	Receipting (solid waste permits & recycling bins)	Hand written in receipt book	Paper-based (N)	Formal	Yes
Health Department	Insurance Family Planning (FP) Billing	PES	Stand-alone (N)	Formal	Yes
Health Department	Medical Assistance Family Planning (FP) Billing	PES	Stand-alone (N)	Formal	Yes
Health Department	Medical Assistance Other Billing	PES	Stand-alone (N)	Formal	No
Health Department	Medicare Billing	Word Processor	Client-Server (N)	Formal	No
Health Department	Medicare Electronic Claims Submission & Remittances	Cortex EDI	Cloud-based (Y)	None	No
Health Department	Private Pay Billing	PCACE Pro 32 Spreadsheets	Stand-alone (N) Client-Server (N)	None	No
Home Care	All Pay Sources Billing	Champ Spreadsheets	Client-Server (N) Client-Server (N)	Formal	Yes
Home Care	Board Reports	Champ Spreadsheets	Client-Server (N) Client-Server (N)	None	No
Home Care	Cost Reports	Champ Spreadsheets	Client-Server (N) Client-Server (N)	None	Yes
Home Care	Medicare Electronic Claims Submission & Remittances	Cortex EDI	Cloud-based (Y)	Informal	No
Home Care	OASIS	Champ Spreadsheets	Client-Server (N) Client-Server (N)	Formal	Yes
Human Services - Aging & Disability Resource Center Section	Nutrition & Transportation Billing	Access Database	Client-Server (N)	No	Yes
Human Services - Support Services Section	Billing	DRI Baby2000	Host-Based (N)	Informal	Yes (some still in progress)



Human Services - Support Services Section	Billing Electronic Submission (WPS)	Trusted Link/Inovis	Stand-alone (N)	Informal	No
Human Services - Support Services Section	Collections (Stark Agency)	Spreadsheets	Client-Server (N)	Informal	Yes
Human Services - Support Services Section	General Ledger	MBA Spreadsheets	Stand-alone (N) Client-Server (N)	Informal	Yes
Human Services - Support Services Section	Medicare Electronic Claims Submission & Remittances	Cortex EDI	Cloud-based (Y)	Formal	Yes
Human Services - Support Services Section	Medicare & Medicaid Electronic Billing	DRI Baby2000 Trusted Link/Inovis	Host-Based (N) Stand-alone (N)	Formal	Yes (some still in progress)
Neighbors of Dunn County	Admission & Census	MatrixCare	Cloud-based (Y)	Formal	Yes
Neighbors of Dunn County	Claims Management	MatrixCare	Cloud-based (Y)	Formal	Yes
Neighbors of Dunn County	General Ledger	DataNow (journal entries)	Host-based (N)	Informal	No
Neighbors of Dunn County	Medical Supply Billing	Orbits - Exports to MatrixCare	Cloud-based (Y)	Formal	No
Neighbors of Dunn County	Minimum Data Set (MDS)	Achieve MatrixCare	Cloud-based (Y)	Formal	Yes
Neighbors of Dunn County	Payroll Processing	ADP DataNow	Cloud-based (Y) Host-based (N)	Formal	Yes
Neighbors of Dunn County	Payroll Time Clock	ADP	Cloud-based (Y)	Formal	Yes
Neighbors of Dunn County	Resident Trust	MatrixCare	Cloud-based (Y)	Formal	Yes
Public Works	Accounts Payable	DataNow	Host-based (N)	None	Yes
Public Works	Payroll Processing	DataNow	Host-based (N)	Formal	Yes
Public Works	Accounts Payable	DataNow	Host-based (N)	None	Yes
Public Works	Accounts Receivable	DataNow	Host-based (N)	None	Yes
Public Works	Bid Quotation Process	Word Processor, Spreadsheets	Client-Server (N)	None	Yes
Public Works	Billing	CHEMS	Stand-alone (N)	Formal	Yes
Public Works	Check Receipting	DataNow	Host-based (N)	None	Yes
Public Works	General Ledger	DataNow	Host-based (N)	None	Yes
Public Works	Inventory	CHEMS	Stand-alone	Formal	Yes



			(N)		
Public Works	Payroll Processing	DataNow	Host-based (N)	Formal	Yes
Public Works	Payroll Time Clock	CHEMS	Stand-alone (N)	Formal	Yes
Register of Deeds	Billing	AVID	Cloud-based (Y)	Informal	Yes
Register of Deeds	Cash drawers for fee collection	AVID	Cloud-based (Y)	Informal	Yes
Register of Deeds	Receipting	AVID	Cloud-based (Y)	Informal	Yes
Sheriff's Office	Receipting	Stellar Trust & Bond	Client-Server (N)	Formal	Yes
Sheriff's Office	Inmate Canteen	Stellar	Client-Server (N)	Formal	Yes
Sheriff's Office	Inmate Funds	Stellar Jail Inmate Funds	Client-Server (N)	Formal	Yes
Transit Commission	Billing	QuickBooks	Client-Server (N)	Informal	No
Treasurer	Check Distribution	DataNow	Host-based (N)	In Progress	Yes
Treasurer	Check Reconciliation	DataNow	Host-based (N)	In Progress	No
Treasurer	Financial Investments	Spreadsheets	Client-Server (N)	None	No
Treasurer	General Receipting	DataNow	Host-based (N)	Formal	Yes
Treasurer	Tax Receipting	ACS Billing & Collection Office	Client-Server (N)	Formal	Yes
Treasurer	Tax Statement Generation	ACS Billing & Collection Office	Client-Server (N)	Formal	Yes
All Departments	Budget, Purchase Orders	DataNow	Host-based (N)		

The above table was created on May 31, 2005 and was updated September 30, 2014. The existence of documentation was not verified.

### Land Records Management Database Strategic Plan

#### Objective

Migrate the current Land Records Management Database to a system that complies with Dunn County IT standards.

#### Summary

The Land Records Management Database is currently maintained on an aging mainframe which the manufacturer is discontinuing support for. The Land Records Management Database Plan Objective is to migrate the existing database to a system that complies with current Dunn County IT standards. TCO is reduced by discarding the aging mainframe and providing a centralized source of land record data for use in GIS and other projects.

#### History

#### Current State

The Land Records Management Database is currently maintained on an aging mainframe which the manufacturer is discontinuing support for in December 2006.



## Planned Improvements

### SHORT TERM

Initiate an ITIL based Land Records Management Database Strategic Planning and Management process:

- Review and document all current land records management systems, processes, and procedures.

### LONG TERM

Land Records Management Database Strategic Planning Group:

- Develop a strategic vision and description of a fully integrated and centralized land records management system that Dunn County would like to achieve as an outcome of this process.
- Develop goals, objectives, and plans to implement this system.
- Develop a continuous review process to achieve the current desired state of the land records management system and plans for the future state of land records management systems based on new and changing business needs of Dunn County.

## Tax System Strategic Plan

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### Objective

Migrate the current Tax System to a system that complies with current Dunn County IT standards.

### Summary

The Tax System is currently maintained on an aging mainframe which the manufacturer is discontinuing support for. The Tax System Plan Objective is to migrate the existing database to a system that complies with current Dunn County IT standards. TCO is reduced by discarding the aging mainframe and providing a centralized tax system.

### History

#### Current State

The Tax System is currently maintained on an aging mainframe which the manufacturer has discontinued support for in December 2006. Dunn County purchased an IT standard compliant Tax System late in 2006 and plans on beginning steps to migrate to the new system in 2007.

## Planned Improvements

### SHORT TERM

Tax Strategic Planning Group:

- Develop a strategic vision and description of a fully integrated and centralized tax system that Dunn County would like to achieve as an outcome of this process.
- Develop goals, objectives, and plans to implement this system.

### LONG TERM

Tax Strategic Planning Group:

- Develop a continuous review process to achieve the current desired state of the tax system and plans for the future state of tax systems based on new and changing business needs of Dunn County.



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## Cloud Migration Strategic Plan

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### Objective

Migrate current applications, desktops, and servers to cloud based Software as a Service (SaaS) and Infrastructure as a Service (IaaS) in order to meet current and future Dunn County business requirements.

### Summary

The current systems as outlined in the architectural standards are in the process of being transitioned into virtualized and cloud base solutions with the long term goal of all systems being migrated to the cloud over the next 5 to 10 years. In order to accomplish this, commodity servers have been put in place, running VMware vSphere 5.1 and VMware View for server and desktop virtualization. Pilot programs have been conducted transitioning 6 physical servers to virtual by using P2V technologies. In addition, 60 desktops have been virtualized using zero client and thin client technologies. Once virtualization of all systems has been completed, Dunn County will investigate the possibility of moving its datacenter to a cloud-based datacenter. Dunn County is also looking at virtualizing its applications using VMware View and ThinInstall while aggressively pursuing as many applications to SaaS based solutions as possible.

### History

#### Current State

See architectural standards above.

#### Planned Improvements

##### SHORT TERM

As indicated in the summary, we have migrated 6 servers and 60 desktops

##### LONG TERM

Migrate all applications, desktops, and servers to cloud based solutions.

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## Policies

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The following policies are intended to provide direction and establish levels of continuity in IT operations.

### Audit Control Policy

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#### Policy Statement

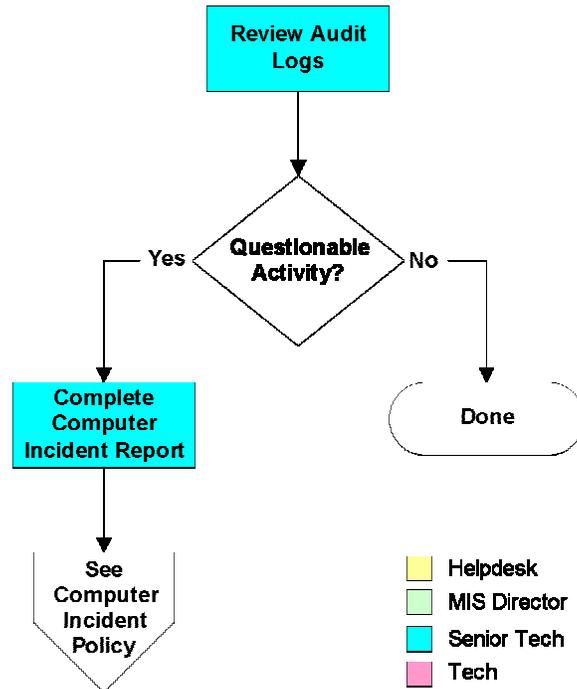
Activity on all Dunn County IT systems will be recorded in audit logs and reviewed on a regular basis.

#### Description

Each system's audit log must include, but not limited to; User ID, Login Date/Time, and Activity Time. System audit logs will be reviewed on a regular basis. Questionable activity found in the audit logs will be reported following the Computer Incident Policy.

#### Procedure

- Review audit logs.
- Report questionable activity.



**Related Documents**  
**TASKS**

**OTHER**

- Computer Incident Policy
- Computer Incident Report

**Backup Policy**

**Policy Statement**

Full backups will be performed twice a week with incremental backups being performed the remaining 5 days a week to maintain exact copies of user data, application data and Dunn County IT system configurations.

**Description**

Base backups of all user and application data and system configurations will be performed twice a week with incremental backups being performed the remaining 5 days a week to ensure that no more than one day's worth of data is un-recoverable. All systems and media used for performing daily backups will be stored in a physically secured environment. Backup media will be rotated to an off-site storage area. Backups will be tested periodically to ensure that exact copies of the data can be retrieved and made available. Backup logs will be reviewed daily to ensure that all required backup jobs completed successfully.

**Procedure**

- Review backup logs daily.
- Rotate backup media according to rotation schedule.



- Perform restore jobs of backup media according to backup restore schedule.

**Related Documents**  
**TASKS**

**OTHER**

**Computer Incident Policy**

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**Policy Statement**

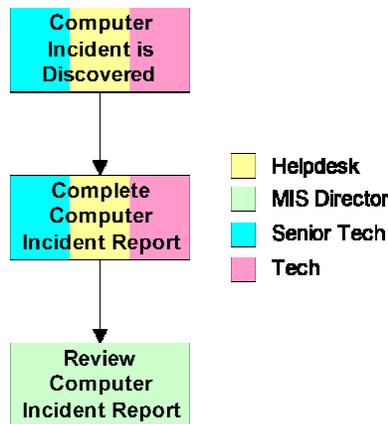
All potential computer-related policy violations will be documented and reported.

**Description**

When a potential computer-related policy violation is discovered, the IT Technician who discovered the violation will **immediately** stop what he/she is doing and document the violation using the Computer Incident Report template. Users can report computer incidents by calling the IT Helpdesk and giving the Helpdesk Technician a detailed report.

**Procedure**

- Document the computer incident.
- Report the computer incident.



**Related Documents**  
**TASKS**

**OTHER**

- Computer Incident Procedure
- Computer Incident Report
- Dunn County Computer Use Policy

**Disaster Recovery Policy**

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**Policy Statement**

A Disaster Recovery Plan will be maintained to ensure all Dunn County IT systems can recover from the loss of data due to an emergency or disaster.

**Description**



The Disaster Recovery Plan will be reviewed periodically to ensure it is kept up-to-date as the Dunn County IT system and HIPAA Security Rules change.

**Procedure**

**Related Documents**

**TASKS**

**OTHER**

- Dunn County COOP/COG Plan

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**Emergency Mode Operation Policy**

**Policy Statement**

An Emergency Mode Operation Plan will be maintained to ensure all Dunn County IT systems continue to function during an emergency.

**Description**

The Emergency Mode Operation Plan will be reviewed periodically to ensure it is kept up-to-date as the Dunn County IT system and HIPAA Security Rules change.

**Procedure**

**Related Documents**

**TASKS**

**OTHER**

- Dunn County COOP/COG Plan

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**Inventory Policy**

**Policy Statement**

All Dunn County IT systems will be inventoried.

**Description**

All Dunn County systems will be inventoried and maintained by the IT Division utilizing the inventory tracking system with all monetary values being recorded.

**Procedure**

- Follow the Requisition policy.
- Follow the Inventory procedure.
- Any item between \$2,000 and \$4,999.99 will be tracked for ACO.
- Any item over \$5,000 will follow GASB 34 and have a Capital Asset Input Form.

**Related Documents**

**TASKS**

**OTHER**

- Inventory form
- Inventory Discard form
- Inventory procedure



- Inventory disposal procedure

## Information Technology Request Policy

### Policy Statement

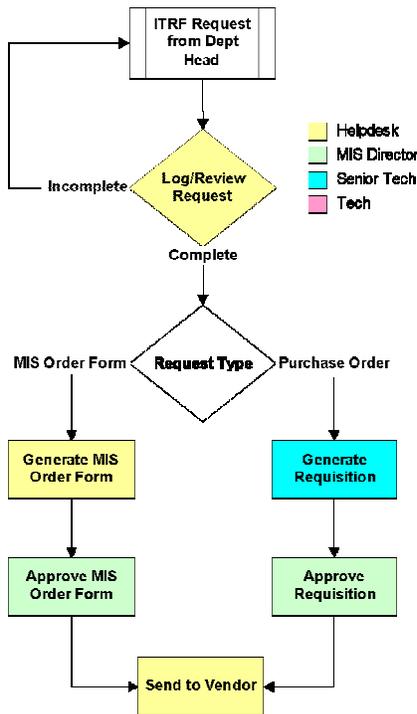
All new hardware and software must be requested by submitting an ITRF.

### Description

The ITRF forms are used by all departments to request new information technology items. The ITRF must be approved by the Department Head and submitted to the IT Division as outlined in the Budget Guidelines.

### Procedure

- Review the ITRF.
- Verify that the most current and proper form is used.
- Verify that the form is typed and filled out correctly.
- Forward to IT Director for review.



### Related Documents

#### TASKS

#### OTHER

- Information Technology Request Form office procedure
- Requisition policy

## Media Disposal and Re-Use Policy

### Policy Statement



All hardware or media will be sanitized or destroyed before it is sold, transferred, taken out of service or made available for re-use.

#### Description

Hardware and media will be sanitized to the DoD 5220.22-M standard using certified software. If software cannot be utilized on the media, the hardware and media will be destroyed.

#### Procedure

- Determine if hardware or media will be disposed or re-used
- Carry out determined method of sanitization / disposal

#### Related Documents

#### TASKS

#### OTHER

## Notification Policy

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#### Policy Statement

Departments will be notified when scheduled work is to be performed.

#### Description

The IT Division will notify departments when the work they are to accomplish will impact the end-users.

#### Procedure

**Work Orders:** Generally, IT does not notify departments when technicians will be on site. The only time notification will be made regarding work orders is when it's necessary to have a specific staff member present during the troubleshooting process.

**Project Rollouts:** Project rollouts consist of replacing or updating hardware or software for one or more departments. The IT Division will generally have talked with department management about a proposed rollout and gather necessary information to carry out the rollout. The IT Division will generally give one weeks notice before actually starting the project rollout.

**Contracted Vendors:** Occasionally the IT Division contracts with vendors to carry out specific work or projects. When vendors are scheduled to be on-site doing work at a department, IT will notify the affected department(s) as soon as the vendor informs them. This can range from no notice to several days notice.

- Departments are to receive at least a **ONE WEEK** notification prior to the rollout or implementation of a project or task
- The rollout/implementation is to be placed on the Intranet giving the users at least a **ONE WEEK** notification
- E-mail notifications can be sent out where appropriate
- Special notification is to be used when needed
- When the rollout/implementation is part of an enterprise project, the IT Director will notify the Department Heads at their Department Head Meeting and others as necessary

#### Related Documents

#### TASKS

#### OTHER



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## Requisition Policy

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### Policy Statement

All requisitions, except for maintenance agreements, require the approval of the IT Director. All purchases must follow the Dunn County Purchasing Policy.

### Description

Purchases must be approved by the IT Director. Under emergencies or time constraints when purchases need to be made, a verbal approval may be given by the IT Director.

### Procedure

- Determine the cost of requisition and purchasing method.
- Items under \$1,000:
  - Order forms and credit card purchases.
  - Approved by IT director.
- Items over \$1,000:
  - Purchase Order.
  - See the Dunn County Purchasing Policy.
- Maintenance agreements are to be invoiced to IT preferably without a name; use IT Director's name if one is required.

### Related Documents

#### TASKS

#### OTHER

- Order Form Procedure
- Dunn County Purchasing Policy

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## Resource Access Policy

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### Policy Statement

Users will be granted access to only the resources required to complete their job function.

### Description

Users will be granted access to resources per the authorization of the department head or designee. Resource requests will be completed using the appropriate forms. All Dunn County IT systems will be monitored for inappropriate use.

### Procedure

- Department head or designee submits the appropriate form.
- Verify that the most current and proper form is used.
- Verify that the form is typed and filled out correctly.
- Carry out the appropriate procedure or task based on the type of form submitted.

### Related Documents

#### TASKS

#### OTHER

- Department Shared Folder Request form
- General Shared Folder Request form
- New User Account form



- Temporary User-Trainer form
- Training Resource Request form
- User Account Change form
- User Authentication Policy

## Risk Analysis and Management Policy

### Policy Statement

Analyze and implement security measures sufficient to reduce risks and vulnerabilities to the Dunn County IT system.

### Description

Risk analysis and management will be conducted by using ITIL industry “best practices” as a baseline in conducting a risk analysis. Risk analysis and management will be reviewed and updated as the Dunn County IT system and HIPAA Security Rules change.

Departments are responsible for conducting their own Risk Analysis and Management Policy for the Standards and Implementation Specifications as outlined in the HIPAA Security Rule and identified in the table below;

Standards	Implementation Specifications	Required or Addressable	Responsible
<b>Administrative Safeguards</b>			
Security Management Process	Risk Analysis	R	IT, Departments
	Risk Management	R	IT, Departments
	Sanction Policy	R	IT
	Information System Activity Review	R	IT
Assigned Security Responsibility		R	HIPAA Committee
Workforce Security	Authorized and/or Supervision	A	IT, Departments
	Workforce Clearance Procedure	A	IT, Departments
	Termination Procedure	A	IT, Departments
Information Access Management	Isolating Healthcare Clearinghouse Function	R	IT
	Access Authorization	A	IT, Departments
	Access Establishment and Modification	A	IT, Departments
Security Awareness and Training	Security Reminders	A	IT, Departments
	Protection from Malicious Software	A	IT
	Log-in Monitoring	A	IT
	Password Management	A	IT
Security Incident Procedures	Response and Reporting	R	IT
Contingency Plan	Data Backup Plan	R	IT
	Disaster Recovery Plan	R	IT
	Emergency Mode Operation Plan	R	IT
	Testing and Revision Procedure	A	IT
	Applications and Data Criticality Analysis	A	IT
Evaluation		R	Security Officer
Business Associate Contracts and Other Arrangements	Written Contract or Other Arrangement	R	HIPAA Committee
<b>Physical Safeguards</b>			
Facility Access Controls	Contingency Operations	A	IT, Departments



	Facility Security Plan	A	IT, Departments
	Access Control & Validation Procedures	A	IT, Departments
	Maintenance Records	A	IT, Departments
Workstation Use		R	IT, Departments
Workstation Security		R	IT, Departments
Device and Media Controls	Disposal	R	IT
	Media Re-use	R	IT
	Accountability	A	IT
	Data Backup and Storage	A	IT
<b>Technical Safeguards</b>			
Access Control	Unique User Identification	R	IT
	Emergency Access Procedure	R	IT
	Automatic Logoff	A	IT
	Encryption and Decryption	A	
Audit Control		R	IT, Departments
Integrity	Mechanism to Authenticate Electronic PHI	A	Departments
Person or Entity Authentication		R	IT, Departments
TranslTсион Security	Integrity Controls	A	Departments
	Encryption	A	Departments

**Procedure**

**Related Documents**

**TASKS**

**OTHER**

**Service Level Agreement/Work Prioritization Policy**

**Policy Statement**

All work requests are prioritized based on impact.

**Description**

All critical functions of the county receive priority over all other work to be performed. Non-critical systems are addressed as workload and technician availability dictates. During normal working hours, the IT helpdesk will contact the affected user(s) to verify the priority and gather additional information. One Senior Technical Support Specialist is on-call 24 hours/7 days a week to support the 24/7 critical functions of Dunn County and assess the priority of the affected user(s). Problem resolution times may be impacted by vendors and/or uncontrollable outside sources.

- **Critical Priority:** Systems that support emergency public services or network-wide, building-wide, and departmental-wide system availability issues. IT Division response is immediate upon receipt by phone, work request, or after-hours pager notification. Problem resolution is 4 hours.
- **High Priority:** Users are unable to access the IT systems required to complete their job function. IT Division response is As-Soon-As-Possible (ASAP) upon receipt by phone, work request, or after-hours pager notification. Problem resolution is 1 day.
- **Medium Priority:** Users are able to function and complete their job duties but takes more time than normal. IT Division response is ASAP upon receipt by phone or work request and based on current work-load. Problem resolution is 3 days.
- **Low Priority:** Users are able to function and complete their job duties with minimal impact. IT Division response is ASAP upon receipt by phone or work request and based on current work-load. Problem resolution is 7 days.



**Procedure**

**Related Documents**

**TASKS**

**OTHER**

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**System Failure Policy**

**Policy Statement**

All system failures will be documented and reported.

**Description**

When a system failure occurs, a System Failure Report will be generated and given to the IT Director.

**Procedure**

- **D** Discover – describe the failure from general to specific.
- **C** Communicate – notify affected users.
- **R** Resolve – fix the issue.
- **A** Analyze – determine cause of failure.
- **P** Prevent – research how this can be avoided in the future. (QA)

**Related Documents**

**TASKS**

**OTHER**

- System Failure Report template

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**System Security Policy**

**Policy Statement**

All Dunn County IT systems will be secured appropriately.

**Description**

System security will be maintained by following ITIL industry “best practices”. System security will be reviewed and updated as the Dunn County IT system, HIPAA Security Rule and overall IT environment changes.

- All area’s controlled by the IT Division and containing Dunn County IT systems will physically secured with unique keys with only approved staff members being issued keys.
- A firewall will be used to protect the Dunn County IT system from outside intrusion.
- All Dunn County IT system administrator or root accounts must be password protected.
- A user identification and password authentication mechanism must be implemented to control user access to the Dunn County IT system. (User Authentication Policy)
- Security patches and updates will be applied on all Dunn County IT systems in a timely manor.
- All unused or unnecessary services will be disabled on all Dunn County IT systems.
- A two-tiered virus detection system, utilizing two different virus scanning engines will be used.
- All transmissions data will be encrypted and use industry best practices to protect transmission of data including VPN, secure HTTPS, Transport Layer Security (TLS) were appropriate.



- An inactivity timer to lock the display of any Dunn County IT system will be set for 20 minutes, requiring the user to unlock the system.
- The IT Division will provide various tools to be used as security reminders to all users of the Dunn County IT system. Users will be notified when any changes occur regarding system security.

Departments are responsible for implementing their own Physical Workstation Security Policy for the Dunn County IT systems located within their department.

#### **Procedure**

#### **Related Documents**

##### **TASKS**

##### **OTHER**

- Computer Incident Policy
- Computer Incident Report
- User Authentication Policy

### **Termination Policy**

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#### **Policy Statement**

Terminated employee or contractor user accounts will be denied access to the Dunn County IT system.

#### **Description**

Accounts will be disabled immediately upon notification of termination. Terminated employees or contractor user accounts will be disabled for 30 days from termination date upon which time they will be deleted.

#### **Procedure**

- Initial notification will be given by Human Resources.
- Disable account based on termination date.
- Department Heads will notify by User Account Change (UAC) form.
- Verify that the most current and proper form is used.
- Verify that the form is typed and filled out correctly.
- Create UAC task in work request system.

#### **Related Documents**

##### **TASKS**

##### **OTHER**

- Terminated User Accounts office procedure
- User Account Change form

### **Remote Access and Transmission Security Policy**

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#### **Policy Statement**

Users and Vendors requiring access to the Dunn County IT system must comply with the Dunn County Computer Policy. All transmissions will be encrypted and use industry best practices to protect transmission of data including VPN, secure HTTPS, Transport Layer Security (TLS) were appropriate.



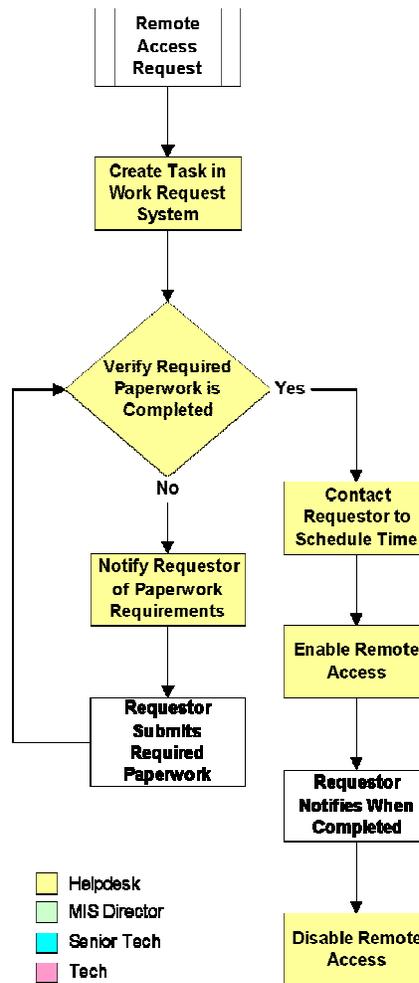
**Description**

User remote access will be approved by the appropriate supervisor and instructed on appropriate use and security compliance by the department.

Vendors requiring access to the Dunn County IT system must complete the formalized process of acquiring a Dunn County computer account by signing the Dunn County Computer Use Policy and completing a New User Account (NUA) Request before any level of access will be allowed. Vendors must fill out the vendor log located on the server and/or workstation they connected to. All transmissions are encrypted. Virtual Private Network (VPN) accounts will be enabled only when a work order has been submitted and a mutual time has been agreed upon between the support technician and the IT Division. When support is not being provided, these accounts will be disabled.

**Procedure for Vendors**

- Vendors or related department will submit a work order to request remote access.
- Create task in work request system.
- Contact vendor and schedule a time.
- Enable remote access.
- Vendor will call and notify IT when they are complete.
- Disable remote access when vendor is complete.



**Related Documents**  
**TASKS**



**OTHER**

- Dunn County Computer Use Policy
- New User Account form
- Vendor Dial-In Access office procedure



## User Authentication Policy

### Policy Statement

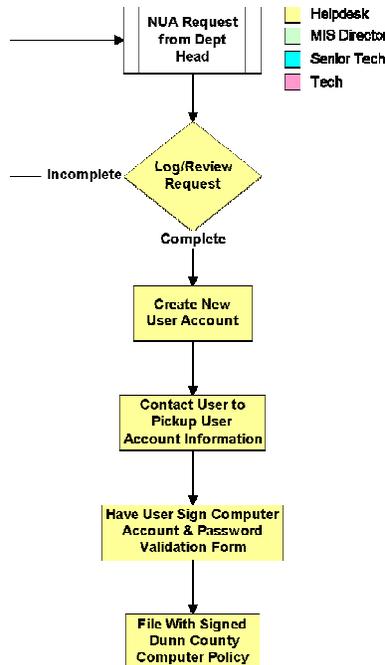
All users will be required to be authenticated in order to access the Dunn County IT system.

### Description

Users will be assigned a unique username and password which will allow them to be authenticated. The username and password are not to be disclosed to anyone but the user. Each user has the obligation to protect their username and password from disclosure. User will update their passwords at a interval set based on industry best practices.

### Procedure

- Department heads or their assigned designator will submit a New User Account (NUA) form to the IT Helpdesk.
- Verify that the most current and proper form is used.
- Verify that the form is typed and filled out correctly.
- The new user will sign off on the Dunn County Computer Policy and it will be submitted to the Administrative Coordinator's Office who will forward a copy to the IT Helpdesk.
- The copy of the signed policy will be filed in the proper Computer Policies 3-ring binder.
- The IT Helpdesk Technician will enter the NUA form into the work request system and assign a task to a IT Technical Support Technician who will create the new user account.
- The user will be contacted to pick up their new username and password.
- When the user picks up their username and password the user will sign the Dunn County Computer Account and Password Validation form which will be filled with the user's signed Dunn County Computer Policy.



### Related Documents

#### TASKS

- Task Creating Task For NUA
- NUA Creating User Accounts

**OTHER**

- Dunn County Computer Use Policy
- New User Account form

**Annual Review Change Summary**

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The following summaries provide a short description of changes made during that year's review of the Dunn County Management Information Systems Information Technology Planning Process for 2005 - 2014 document.

**2007 Review**

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- Document formatting changes
- Updated Architecture Standard diagram
- Updated Network Standard
- Updated Workstation Standard
- Updated Telephony Standard
- Updated Application Standard
- Updated Capacity Management Plan
- Updated Service Continuity and Availability Management Plan
- Updated Service Level and Helpdesk Management Plan
- Updated Tax System Strategic Plan
- Updated Backup Policy
- Updated Requisition Policy
- Added Service Level Agreement/Work Prioritization Policy
- Added Numerous Policy Procedure Flow Charts

**2013 Review**

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- Document formatting changes
- Updated Architecture Standard diagram
- Added Cloud Migration Strategic Plan

**2014 Review**

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- Document formatting changes
- Updated Financial Strategic Plan



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## Terms and Definitions

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The following are terms and definitions used in the Dunn County IT Plan.

### **Access**

Permission to use a Dunn County IT system component.

### **Analyze**

To examine methodically by separating into parts and studying their interrelations.

### **Application Data**

File(s) an application uses to store information.

### **Authenticate**

To validate user's credentials.

### **Availability Management**

Is handling the routine risks to availability that can be expected on a day-to-day basis such as the failure or hardware component.

### **Backup**

A copy of a program or file that is stored separately from the original.

### **Change Management**

A process for introducing required changes into the IT environment with minimal disruption to ongoing operations.

### **Computer Incident**

Action that potentially violates the Dunn County Computer Policy or IT policies.

### **Computer Incident Report**

Report that includes source, declaration, history and policy.

### **Configuration Management**

A process responsible for identifying, controlling, and tracking all versions of hardware, software, documentation, processes and procedures.

### **Contractor**

People hired to perform specific tasks.

### **Destroy**

Physically alter the medium to an unusable state.

### **Disaster**

An occurrence causing widespread destruction and distress such as fire, vandalism, terrorism, system failure, or natural disaster.

### **Dunn County IT system**

The infrastructure on which all computer-based technology is present.

### **Emergency**

A serious situation or occurrence that happens unexpectedly and demands immediate action.



**Employee**

Anyone who qualifies for Dunn County benefits.

**Hardware**

Any physical device with the potential to be connected to any IT controlled system

**Implement**

Apply in a manner consistent with its purpose or design.

**Inventory**

A detailed, itemized list, report, or record of things in one's possession, especially a periodic survey of all goods and materials in stock.

**ITIL (IT Infrastructure Library)**

A widely accepted approach to IT service management. ITIL provides a comprehensive and consistent set of best practices for IT service management, promoting a quality approach to achieving business effectiveness and efficiency in the use of information systems. ITIL is based on the collective experience of commercial and governmental practitioners worldwide. This has been distilled into one reliable, coherent approach, which is fast becoming a standard used by some of the world's leading businesses.

**Maintenance agreement**

Renewable support contract.

**Media**

Memory devices, hard drives, magnetic storage, optical disks, floppy disks and digital memory cards.

**NAS (Network-Attached Storage)**

A server that is dedicated to nothing more than file sharing.

**POTS (Plain Old Telephone Service)**

Standard telephone service that most homes and small businesses use.

**Requisition**

Formal request for materials and services.

**Resource**

Any Dunn County IT system component.

**Re-use**

Redeployed media within Dunn County.

**SAN (Storage Area Network)**

A machine that contains nothing but a disk or disks for storing data and is connected by a network.

**Sanitize**

Cleaned to the Department of Defense 5220.22-M standard.

**Secured**

To guard from danger or risk of loss.

**Service Continuity**

Caters to the more extreme and relatively rare availability risks such as fire or flood.



**Software**

Anything that needs to be installed or is licensed and copyrighted.

**System Failure**

Any enterprise device that causes a disruption in service.

**System Failure Report**

Report that defines what, when, how and why the device failed and who it affected.

**Task**

A task is a formal request new or altered service.

**Terminated**

Any employee or contractor who has resigned or has been released.

**Users**

A person who is authorized to use Dunn County IT systems.

**User Data**

Files used by an end-user to carry out a job function.

**Vendor**

Individual or company with whom IT products or services have been purchased by Dunn County.

**VoIP (Voice over Internet Protocol)**

A category of hardware and software that enables people to use a network as the transmission medium for telephone calls.

**Work Order**

Formal notification from a user that they are having a problem with computer or telephone equipment.