



Ionia County Information Technology Strategic Plan

2008-2013

Table of Contents

Information Technology Mission.....	3
Information Technology Goals.....	3
Current Network Overview.....	4-5
Information Technology Focus Area.....	6-13
Network Hardware.....	6
Network Infrastructure.....	7-8
Network Software.....	8-9
Digital Imaging.....	9
GIS.....	10
Web Development.....	11
Communications.....	12
Security Practices.....	12-13

Information Technology Mission Statement

To provide maintenance and technical support of new and existing information systems in a timely and professional manner, while conducting critical systems analysis and research to determine the best information technologies to serve Ionia County government needs.

Information Technology Goals

- To provide Ionia County with efficient, cutting edge technology that will allow them to be competitive and provide better outreach.
- To provide a network infrastructure that is stable and scalable to the users of the Ionia County
- To provide support that is timely and competent for all of the county's hardware and software resources.

Current Network Overview

The Ionia County Local Area Networks and Wide Area Network consist of seven buildings located in the downtown Ionia area. These buildings include the Ionia County courthouse, District Court, Sheriff's Office, Health Department, Friend of the Court, Commission on Aging, and Central Dispatch. Each building houses individual user PCs running Microsoft Windows XP connected by various networking equipment and category 5e patch cable. Each building, with the exception of the Friend of the Court and Central Dispatch, is connected to the Ionia County courthouse via a fiber optic cable where they are then connected to their individual servers and data stores. The following is a general overview of the network as it operates today.

Server Environment:

The server environment at Ionia County is comprised of 22 Hewlett Packard and Dell server class machines. Authentication and e-mail is utilized through a combination of Active Directory and Microsoft Exchange Server 2003. The list below is the breakdown of server operating systems. This list includes all file, e-mail, web and application servers at each of the six locations.

- 16 Microsoft Windows Server 2003
- 4 Microsoft Windows Server 2000
- 2 Microsoft Windows NT Server

Workstation Environment:

As of August 2007, the user workstation environment is comprised mostly of Windows XP Professional desktop and notebook computers. There currently exist several Microsoft Windows 2000 and Microsoft Windows NT systems. The technology department is currently working to replace and upgrade these machines to Microsoft Windows XP Professional.

The county has recently added a small number of Microsoft Windows Vista Business laptops to the network. These machines are currently being tested on the county network for stability and application compatibility. In the future Microsoft Windows Vista Business will replace Microsoft Windows XP Professional as the standard operating system.

Network Infrastructure:

The Ionia County network is comprised of seven separate locations located in downtown Ionia. These locations include the Ionia County courthouse, District Court, Sheriff's Office, Health Department, Friend of the Court, Commission on Aging, and Central Dispatch. Each of these locations is connected to the central data center at the

Ionia County courthouse via fiber optic cable. This allows for high-rate data transmission between the buildings and reduces the amount of data loss over the longer distances.

The IP subnet of the network consists of two different subnet ranges. Since these subnets co-exist in the same buildings, Cisco routers and managed switches are used to allow the networks to work side by side. While routing is handled by the Cisco hardware, general switching is handled by the various 3Com and Bay Network switches found in each building. The firewall for the internet connection supplied to Ionia County by the Ionia ISD is provided by a Cisco PIX 515E firewall.

Wireless Networks:

Ionia County utilizes wireless networks on a daily basis for day to day operations. There are two access points located in the Ionia County courthouse and one in the District Courthouse. For data security purposes, information about these access points are not listed. Ionia County hopes to expand its wireless network infrastructure to cover all of its buildings and facilities.

Centralized Backup:

There are currently four tape backup drives located in the data center in the Ionia County courthouse. These tape drives backup the various departments each night. There is also currently one off-site backup server located in a server closet at the Ionia County Sheriff's Office. The tapes are changed every night and stored in a secure, centralized location.

Internet Connectivity:

The internet connection serving Ionia County is provided by the Ionia County ISD. This internet connection is classified as a full T1 data line with a speed of 1.5Mbps upstream and downstream. The county currently hosts its own web and e-mail services. This is also made possible through the Ionia ISD. The Ionia ISD currently has registered www.ioniacounty.org for the county.

Information Technology Focus Areas

The following focus areas are designed to provide a breakdown of the projects and tasks that will be performed during the five-year period of 2008-2013. The breakdown includes, Network Hardware, Network Infrastructure, Network Software, Digital Imaging, GIS, Web Development, Communications, and Security Practices. The last two columns in each category indicate the year the project will be completed and in what priority they will be accomplished. The priority levels are: “A” indicates a high priority while “C” indicates a lower priority.

Network Hardware:

The network hardware category consists of individual user PCs, servers, small switches, routers, and other hardware necessary to support the day to day operations of the county aside from the WAN used to connect the various agencies in other facilities. Listed below are the projects related to network hardware that will be accomplished by 2013. In reference to the 2008 to 2013 replacements/upgrades, there is a replacement schedule which will dictate the details of how many desktops, laptops, printers, etc. get replaced for that year. We have chosen not to display this information in this document as not to complicate it with too many details.

Project	Details	Year	Priority
System replacements/upgrades	<ul style="list-style-type: none"> • Desktop PCs • Laptop PCs • UPS power protection • Printers 	2008 - 2013	A
Purchase rack shelf for servers.	<ul style="list-style-type: none"> • The Technology Department would like to purchase a shelf that will be rack mountable for the purpose of moving the current mail server from the technician work area to the server rack. 	2008	A

Network Infrastructure:

The network infrastructure category consists of the hardware and topologies used to connect separate agencies in remote locations. The list below shows, in detail, the projects to be completed between 2008 and 2013.

Project	Details	Year	Priority
Server Replacement	<ul style="list-style-type: none"> Upgrade or purchase any new network servers to replace old systems. 	2008-2013	A
Institute a WiFi blanket throughout county campus.	<ul style="list-style-type: none"> The county would like to institute a wireless infrastructure throughout the municipal buildings owned by the county. This would improve the coverage area supplied to the laptops used by county employees as well as persons needing to use the county network for various types of business. 	2008	A
Implement monetary accounting system for wireless network.	<ul style="list-style-type: none"> Ionia County would like to implement an accounting system to work with the wireless network to be able to charge non-county users a fee to use the wireless internet service. 	2008	A
Connect Friend of the Court to county network.	<ul style="list-style-type: none"> Implement a fiber optic cable connection to the Friend of the Court building to the county court house to share vital information as well as an internet source. 	2009	B/C
Replace any unsupported switches with new hardware.	<ul style="list-style-type: none"> Ionia County has several network switches that are no longer supported by the manufacturer. These devices need to be replaced with hardware that is newer and covered by a warranty. 	2009	B
Replace fiber transceivers.	<ul style="list-style-type: none"> The county has several individual transceivers that handle the fiber 	2009	B

	connections. These could be removed and replaced with switches that incorporate fiber connections.		
Upgrade Microsoft Exchange Server Software	<ul style="list-style-type: none"> Upgrade the Microsoft Exchange 2003 mail server to the newest version (currently Exchange 2007 as of September 2007) 	2010	A
Implement a Barracuda Web Filter.	<ul style="list-style-type: none"> To ensure the users of the Ionia County network with a better, safer web surfing experience, the Technology Department would like to implement a web filter that would filter out viruses and spyware as well as block unwanted pages from being displayed without any user intervention. 	2011	A

Network Software:

Network software refers to any software on a network device that contributes to the day to day operations of Ionia County business. This category also includes the ability of similar systems to be interoperable with one another such as law enforcement, courts, and jails.

Project	Details	Year	Priority
Sheriff Dept.	<ul style="list-style-type: none"> Finalize implementation of Records Management System provided by NewWorld Systems 	2008	A
Register of Deeds	<ul style="list-style-type: none"> Implement a new document management system to provide new and improved services to document searchers as well as others requiring the services of the Register of Deeds. 	2008	A
Public Health Agency Software	<ul style="list-style-type: none"> Implement software to track clients and to provide reports on other resource usages. 	2008	B
Public Health Invoicing	<ul style="list-style-type: none"> Implement invoicing system 	2008	B

	specific to Public Health needs		
Customized Reporting	<ul style="list-style-type: none"> • Work with Public Health and BS&A to institute better customized reporting. 	2009	C
Juvenile Court	<ul style="list-style-type: none"> • Voice dictation software to record long depositions more efficiently. 	2010	C
County Clerk	<ul style="list-style-type: none"> • Jury management system for Circuit Court. 	2011	B

Digital Imaging:

Reducing the need for paper and paper storage is a major concern for Ionia County. With digital imaging we are able to take a document, scan it with a high-speed scanner and turn it into a digital media which can be accessed by multiple people from separate locations. This digital document only takes up space on a network storage device and does not require a filing cabinet and can be kept for any length of time without hindering physical storage applications. This will also reduce the amount of copy paper purchased by individual departments. Training will be provided by the companies installing the imaging systems. Listed below are the departments that will receive the document scanning solutions between 2008 and 2013.

Projects	Details	Year	Priority
Register of Deeds	<ul style="list-style-type: none"> • Scan documents into CherryLAN for web site. Also scan records books to be digitized and indexed. 	2008	B
Drain Commission	<ul style="list-style-type: none"> • Digitize drain books to be indexed for faster searching. 	2009	B
Finance Department	<ul style="list-style-type: none"> • Scan documents to link to the payroll system for easier access by employees. 	2009	B
Sheriff Dept.	<ul style="list-style-type: none"> • Improve document scanning to include documents in reports. 	2009	B
Commission on Aging	<ul style="list-style-type: none"> • Scan documents to be indexed and searchable. 	2010	B
Health Dept.	<ul style="list-style-type: none"> • Scanning documents such as client records, building permits etc. 	2010	B

GIS:

GIS refers to the Geographic Information Systems used by various departments for mapping and data solutions. GIS refers to the information that is used separately from the maps themselves. The items below are related only to the database management aspect of the GIS system and are not related to the actual mapping done by the GIS department.

Projects	Details	Year	Priority
Mapping Updates	<ul style="list-style-type: none"> • GIS map updates 	2008-2013	A
Possible use of GIS system by other county departments to improve operational efficiency.	<ul style="list-style-type: none"> • It has been made known that various departments could possibly make use of some of the data provided by the GIS system. The technology department will research ways that the GIS system can provide these departments with crucial data relating to specific tasks. These may include the Ionia County Health Department, Commission on aging, and the Ionia County Sheriff's Department. 	2008	B
Upgrade GIS software.	<ul style="list-style-type: none"> • The technology department would like to look into upgrading to ArcIMS to make the GIS system available on the web. This would allow local townships access to the powerful data provided by the GIS system. 	2008	A

Web Development: <http://www.ioniacounty.org>

Web commerce is becoming an integral part of the way Ionia County does business on a day to day basis; from records lookup to information on parks and recreation. The county would like to see the website updated on a regular basis as well as develop new content and upgrade the user interface to be easier to navigate and more efficient at providing information to the user. The goals of the county regarding the web site are listed below, as well as the time frame in which they will be completed.

Project	Details	Year	Priority
Implement content management system	<ul style="list-style-type: none"> Implement system for updating the Ionia County website so that individual departments can update their own portion of the site. 	2007/2008	A
Remodel of existing website	<ul style="list-style-type: none"> Ionia County would like to remodel and update its current website. This would include updates for Public Health, Sheriff Dept., and other agencies throughout the Ionia County government. 	2007/2008	A
Frequent user accessibility tests	<ul style="list-style-type: none"> Ionia County needs to have users use the site and report what they like and don't like so that the site can be adjusted appropriately. This will ensure the maximum amount of efficiency and user satisfaction when using www.ioniacounty.org. 	2008	A
Begin design of advanced features	<ul style="list-style-type: none"> We will begin the process of identifying some more advanced ways to use the site as well as the way in which these items can be implemented. 	2009	B

Communications:

Ionia County would like to move to a solution where voice and data transmissions are made along the same physical line. This can be accomplished by several means via a full T1 line and or VoIP (Voice over Internet Protocol). Moving to this type of system can greatly improve the efficiency of telephone and data transmissions as well as cut costs for the overall communication system. Listed below are the solutions that Ionia County would like to institute between 2006 and 2011.

Project	Details	Year	Priority
Combine phone and internet into one system.	<ul style="list-style-type: none"> Move telephone system to work over the full T1 line to minimize costs and increase reliability. 	2010	B
Update Ionia County phone system	<ul style="list-style-type: none"> Update Ionia County's current phone system to a system that is better suited for county needs and has greater expandability for future needs. 	2013	B

Security Practices:

In March of 2005, Ionia County contracted with a company called CPR (Computer Products and Resources) to perform network security scans. These scans included network port scans, Windows security patching audits, and other various network audits. In the scan conducted in March of 2005, CPR found that there were many vulnerabilities that needed to be patched in the Ionia County network infrastructure. The county's outsourced technology support company, Information Matters, then took this information and secured the holes found by the audit. The last audit was conducted in March of 2007. Although this audit showed an overall improvement from the 2006 audit, it also revealed that there were still remaining as well as new holes that needed to be mended. The technology department will strive to use the information collected by CPR to further increase our network infrastructure's security. This is valuable information that we feel will continually help us keep the network secure. We intend to have CPR back for future visits to test strength of our network infrastructure. Below are some of the ways that we will be securing the network over the next five years to ensure the safety of the people and the data.

Project	Details	Year	Priority
---------	---------	------	----------

Conduct Annual Security Assessments	<ul style="list-style-type: none"> • Invite CPR to conduct an annual security assessment of the Ionia County network as well as provide documentation of issues found. 	2008-2013	A
Remove unnecessary running services.	<ul style="list-style-type: none"> • Remove unnecessary services on servers. • Remove unnecessary services on workstations. 	2008	A
Update security policies and permissions.	<ul style="list-style-type: none"> • The Technology Department will look for data that is in unsecured locations and move it to the appropriate secured location. We will also do an inventory of the security permissions for individual departments to ensure that only the proper persons have access to the vital data. 	2008-2013	A
Upgrade server operating systems.	<ul style="list-style-type: none"> • These servers are currently running Microsoft Windows Server NT and 2000. These outdated systems can pose a risk to the security of the data and applications stored on these servers. 	2008	A
Apply necessary software patches to fix vulnerabilities.	<ul style="list-style-type: none"> • Schedule Windows and Office software updates utilizing the SUS software provided by Microsoft. • Patch Veritas BackupExec installations to remove vulnerabilities. • Update IOS on all Cisco routers and Cisco PIX firewall. 	2008-2013	A
Implement IDS.	<ul style="list-style-type: none"> • Implement an Intrusion Detection System to scan network and alert on suspicious activity. 	2011	B