

**Board of County Commissioners
Leon County, Florida**

Leon County BOCC Technology Update

**January 19, 2010
1:30 pm – 3:00 pm**

**Leon County Board of County Commission Chambers
Leon County Courthouse, 5th Floor**

Board of County Commissioners

Workshop Item

Date of Meeting: January 19, 2010

Date Submitted: January 11, 2010

To: Honorable Chairman and Members of the Board

From: Parwez Alam, County Administrator
Alan Rosenzweig, Assistant County Administrator
Pat Curtis, MIS Director

Subject: Leon County BOCC MIS Technology Update

Statement of Issue:

This workshop is to inform and update the Board of County Commissioners on IT (information technology) and how it continues to be implemented by MIS according to the Strategic Plan approved for 2006 - 2010. Approval of the 2010 – 2014 MIS Strategic Plan (Attachment 1) will be sought during this workshop.

Background:

In order to maintain a responsive and effective Management Information Systems (MIS) division, MIS uses a strategic planning tool that originated in May, 1995. In alignment with the County's Mission statement and the Board's priorities, the strategic plan declares the vision and mission of MIS; the guiding principles of MIS; the Management philosophy of customer partnership and value of staff; MIS strengths, weaknesses, opportunities, and threats; and the basic strategic issues and goals for a five year period. The current 2006 - 2010 MIS Strategic Plan was approved at the May 9, 2006 Technology Workshop. As the changing IT industry is impacting several major infrastructure and technology initiatives in the County's IT and information management standards and goals and new Board priorities have been established, it is necessary to update the MIS Strategic Plan a year earlier for the years 2010 – 2014.

Analysis:

The workshop will cover four areas:

1. An overview of MIS, its customers, functions, budget,
2. A status report of the 2006 – 2010 MIS Strategic Plan Goals,
3. A review of the proposed 2010 – 2014 MIS Strategic Plan,
4. A report on staff recommendations regarding the County's email messaging system.

1. Overview of MIS

As an overview of MIS, details about MIS in regards to its customer base; staffing levels; services in ITT, JIS, Web, and GIS; and its budget follow. After those details are presented, benchmark comparisons to key indicators are provided.

A. Customer Base

The MIS provides services to a customer base which includes all Board Department and Divisions, the Constitutional Agencies, and the justice community in the six Counties of the 2nd Judicial Circuit (Gadsden, Wakulla, Jefferson, Franklin, Liberty and Leon). Over the past five years MIS support has been divided between its customer base, ranging from:

61% - nearly 64%	-	the Board Departments and Divisions,
18% - 22%	-	Constitutional Offices (mostly to the Sheriff's Office),
6% - nearly 18%	-	Article V Agencies (Court Administration, Public Defender's and the State Attorney's Offices, and some Clerk Court Functions).

Currently the customer mix is 17.27% for Article V Agencies, 19.27% for the Constitutional Offices, and 63.46% for the Board Departments and Divisions.

B. Staffing

MIS/GIS is staffed with 61 positions organized into four areas: Administration, Applications, Information Technology and Telecommunications (ITT), and GIS.

- Administration – 4
- Applications – 22
 - Justice Information System and Jail Management System
 - Web (Internet and Intranet)
 - Banner (Finance, Human Resources, OMB, Payroll, and Purchasing)
 - Work Order Management (SIRSI, Hansen, PETS)
 - Electronic Content Management
- ITT – 20
 - Network
 - Telephone
 - Systems (File Services and Messaging)
 - Desktop
 - Chambers Support
- GIS – 15

MIS staffing has ranged from 48 to 46 FTEs with a loss of two FTEs in the past three years. Current MIS staffing is at 46 FTEs. GIS staffing has ranged from 18 to 15 FTEs with a loss of three positions in the last three years. Current GIS staffing is at 15 FTEs.

C. Services – ITT (Desktop, Telephone, Systems, and Network Infrastructure)

MIS logs nearly 12,000 support calls every year for its customers encompassing desktop hardware and software, printer, telephone, email, file management, password support, training needs, specialized software support, and connectivity needs. MIS supports 1,958 networked PCs and laptops and over 1,600 extensions on the Avaya phone system. Ninety-nine percent of all CRT monitors have been converted to flat panel LCD monitors, which can use one-half to two-thirds less energy. By replacing CRT monitors and implementing energy settings on LCD monitors, the estimated yearly energy savings for Leon County is nearly 600,000 kWh, which equates to greater than \$55,000 annual savings (based on current energy costs). The introduction of virtualized desktops will continue to increase energy savings as PCs are replaced with zero client units which use 3% of the energy a PC does.

The Systems section of ITT supports the County's email messaging and file system. On average, Leon County receives over 35,000 e-mails to valid County accounts every day, which equates to more than 12 million e-mails for FY 2009. Of the 35,000 daily e-mails, approximately 15% were classified as 'SPAM' and were quarantined. All incoming e-mails are scanned for:

- viruses
- SPAM content
- offensive language
- valid recipient e-mail address
- number of attachments
- total e-mail size

For FY 2009, over 9,300 incoming e-mails which contained a virus were detected and deleted. Every month the anti-SPAM software detects and automatically quarantines over 150,000 SPAM e-mails. The SPAM filter automatically discards over 90,000 e-mails per week that are sent to invalid Leon County e-mail addresses (including the old @mail.co.leon.fl.us e-mail addresses, which were discontinued in November, 2008).

Sixty-three locations in Leon County and the counties of the 2nd Judicial Circuit are networked together to allow for communications and connectivity to enterprise systems. Special network segments with the City allow for the secure connectivity between programs such as GIS and the Permit Enforcement and Tracking Systems (PETs). Network security is managed through specialized devices and software to lockout intruders and to monitor performance. Redundant network links are in place to minimize any outages caused by providers (i.e. Century Link, Comcast, and City fiber). The most interesting network connection is to the County's fuel pumps at the Public Works Complex and at the Sheriff's Office. This network connection allows administrators to interact with Fuelmaster for usage and expense information.

D. Services – JIS (Justice Information Systems)

Nearly 1,200 users access the Leon County Justice Information System within the County's network, the State's CJNet network or the Internet. The JIS provides criminal case management for Court Administration, the Clerk's Office, and interfaces to the Public Defender and State Attorney's case management systems. As part of the Board's priority for Jail population management, case management for Probation and the Supervised Pre-Trial program are components of the JIS along with the recently added mental health module. Integrated with JIS is the Sheriff's Jail Management System that supports the operations of the Jail from booking to medical to inmate housing and visitation. The North Florida Pawn Network Program is another application that the JIS team manages which supports over 25 counties in Florida and South Georgia and serves users over the Internet. The JIS also manages over 30,000 active warrants for the Sheriff's Office and has interfaces to the Federal Citizen Information Center (FCIC) and the National Crime Information Center (NCIC).

E. Services – Web

MIS supports the web site for the Board and the Constitutional Offices, except the Clerk's Office. Other customers and citizens visit the Leon County web site for online services and information, which has seen over one-half million visits during the FY 08/09 budget year. The site averages 6,038 visits per day with an average of 57,781 different people each month. The top five most downloaded documents from the Leon County's web site for FY 08/09 are:

- FY 08/09 Budget – 72,324 downloads
- The 2008 Annual Report – 20,724 downloads
- The County's Organization Chart – 3,543 downloads
- Voter Registration Information and Forms – 23,324 downloads
- The Elections Precinct Location Information – 17,367 downloads

Other frequently downloaded documents are the Mosquito Control school program manual and the Recycling Newsletter.

The top five sites or pages visited during FY 2009 are the Library's site, HR's site with the Open Jobs Listing, the Sheriff's site with the Booking images, the Property Appraiser's site, and the Tax Collector's site.

The newest features of the County's website are the online reservations system for Parks and Recreation and the eSubscription service through GovDelivery for citizens to be notified of alerts and updates on the website.

F. Services - GIS

The Tallahassee-Leon County GIS program maintains over 360 data layers for City and County Departments and Divisions. Over 133,200 point addresses, 108,000 parcels and 17,800 street segments are managed within the GIS databases.

G. Budget

The MIS operating and capital budget has ranged from \$7,090,970 to \$6,457,437 over the past five years, translating to 3.24% to 2.32% of the County's budget. The FY 09/10 operating and capital budget is \$6,457,437 or 2.61% of the County's budget.

The GIS operating and capital budget has ranged from \$2,466,035 to \$2,009,868 over the past five years, translating to .87% to 1.01% of the County's budget. The FY 09/10 budget operating and capital is \$2,466,035 and is .94% of the County's budget. Note that the GIS program is 50% funded by the City and the County realizes revenue of \$1 million plus from the City for the program.

H. Comparative Research

Industry benchmarks for government from Info-Tech Research Group have been used to assess MIS. Typical benchmark data revolves around the staffing level ratio to users, PCs, and servers, as well as IT spending per organization employee. As seen below, MIS staff cover more assets than the industry benchmark and funding per organization employee is less than the industry benchmark. Note that the benchmark information is specific to ITT (information technology and telecommunications) and does not include GIS services.

Benchmark Data	# Users Served	# MIS FTEs	Leon County Ratio	Benchmark Ratio (Info-Tech Research Group)
Average number of users per MIS staff	2205	46	1:48	1:23
Average number of PCs per IT staff	# PCs Supported	# MIS IT FTEs		
	1958	20	1:98	1:40
Average number of servers per Systems staff	# Servers Supported	# Systems FTEs		
	200	6	1:33	1:12
IT spending per employee in the government sector	MIS FY 09/10 Operating & Capital Budget	# of County Positions		
	\$6,457,437	1807	\$3,574	\$3,808

2. Accomplishments of the 2006 – 2010 MIS Strategic Plan

Most of the goals established in the MIS Strategic Plan for 2006 – 2010 have been met with additional unplanned activity undertaken during that time frame – most notably are:

- the implementation of a virtualized server environment where 150 standard servers were collapsed into eight servers thereby saving energy costs in the Data Center by 10% and supporting the Board's priority on sustainability as well as improving effectiveness of Systems staff in deploying and maintaining systems;
- the development of an online mapping application in partnership with the Council of Neighborhoods' Energy Challenge to document homes participating in the challenge;
- the development of the County's emergency communications website in partnership with the Public Information Office and Emergency Management;
- the addition of the Health Department's 370 extensions to the Avaya phone and voice mail system;
- the upgrade of the Chambers' broadcasting control system;
- the implementation of video conferencing technology in the Leon County Courthouse, Juvenile Detention Center, the Leon County Jail, and coordinating interfaces to the 2nd Judicial Circuit jails in Jefferson, Liberty, Franklin, Gadsden, and Wakulla Counties;
- the additional of a Mental Health case management module in JIS;
- the implementation of an online employee appraisal system for career service and senior management staff in collaborating with Human Resources;
- the wiring support for designing the new libraries in conjunction with Facilities; and
- the provision of technical support in the design of the Public Safety Complex.

During the time period of 2006 - 2009 MIS/GIS received recognition in several areas:

- 2009 Florida Sustainability Award was presented to the Council of Neighborhood's Energy Challenge, which TLC GIS was a partner.
- 2008 Digital Counties Survey – Leon County was selected in the top ten of counties nationwide with similar population by the Center of Digital Government and the National Association of Counties for being a Digital County.
- 2008 ESRI Special Achievement in GIS Award was presented to TLCGIS for its leadership with geospatial technology.
- 2008 National Association of Counties National Achievement Award for technology was presented to MIS for the North Florida Regional Pawn Shop Application.
- 2007 InfoWorld Top 100 Awards was presented to the MIS North Florida Pawn Network program.
- 2006 the National Policy Research Council and Computerworld graded Leon County's website as an "A" Top County Web Site.
- 2006 Government Computer News and the Washington Post IT Leadership Award – Profiles in Persistence to the MIS Director.

Attachment 2 contains the status for each goal as outlined in the 2006 – 2010 MIS Strategic Plan.

3. 2010 – 2014 MIS Strategic Plan

The 2010 – 2014 MIS Strategic Plan proposes a strategy for fulfilling the MIS vision, in concert with the County's mission and the Board's priorities, to deliver current, comprehensive, and accurate information and technology solutions in a user-friendly and reliable medium to:

- policy makers and management for their decision making process;
- staff for effective processing of their work; and
- the citizens and business community of Leon County for effective access to County information and interaction with processes.

The Plan describes the strengths, weaknesses, opportunities, and threats of MIS; identifies strategic issues to address; specifies goals and activities to address the issues.

A. Strengths

In summary, MIS strengths are its:

- Dedicated, committed, focused, engaged, resourceful, and skilled staff;
- Stable, secure, reliable, and dense high speed data network infrastructure;
- Agile and energy efficient systems infrastructure based on virtualization technology;
- Web services and application development;
- Security management;
- Disaster recovery and business continuity strategy;
- Award winning and robust GIS program; and
- Collaboration and coordination efforts with the City and other governmental entities.

B. Weaknesses

Despite its many strengths, MIS faces a major weakness in its staff level to support critical functions with depth; to provide support in a time frame that was enjoyed several years ago; and to expand expertise in project management and business analysis. This weakness is caused by the loss of staff and the inability to add staff during the economic environment of the past several years. In many critical areas, such as EMS support, infrastructure support, and telephone support, one individual is the primary expert and main support. The organization is vulnerable should that one individual not be available or the individual burns out because of constant 24 hour support. Cross training of other staff is underway, but with increased workloads and competing priorities, cross training is often times displaced. Additionally, training in project management and business analysis has not been possible to the extent needed because staff workloads do not offer time for such training. Finally, MIS has been able to rehire several retired staffers to transition institutional knowledge for succession management. However, increased staff workloads due to position cuts and new priorities are making time for succession management in critical areas minimal.

C. New Opportunities

New opportunities are now here with the convergence of cloud computing and virtualization, communications, and workflow hardware and software. Workflows are improved with hand held personal devices which have converged to provide phone, email, and application services to the workforce to allow mobility of information access and management. MIS has begun to take advantage of each of these new opportunities.

Cloud computing is a growing trend where hardware and software are off premises and provisioned over the Internet by vendors/service providers. Examples of cloud computing currently in use in Leon County are OMB's GovMax, MWSBE's B2GNow, MIS Systems' SPAM service, and EMS' billing system. MIS continues to review opportunities to take advantage of cloud computing solutions for customers' needs and effective enterprise deployments.

Virtualization is the latest technology that merges groups of smaller servers into large, mega servers that manage the resources for specific applications. MIS' adoption of virtualization to consolidate servers and the growth of web services is improving existing applications and will allow for the growth of new applications. The first phase to consolidate 150 servers into eight mega-servers has been very successful and produced an energy savings of 10% in the Courthouse Data Center. The ongoing project will continue to provide efficiencies in the management of the server computing environment and the provisioning of computing resources for future applications.

Desktop virtualization is a new opportunity that is becoming an industry standard as a viable module for providing workstation solutions. Adoption of desktop virtualization by MIS will upgrade the County's aging fleet of PCs with devices that will last up to ten years, lower energy costs, maximize a user's space, improve security, allow for business continuity, and improve effectiveness of IT support through standardization.

Workflow hardware and software are solutions that manage information about processes from the field and the office using hand held personal devices. Initial efforts for improved workflow hardware and software within Public Works, EMS, Growth and Environmental Management, and Facilities have been very successful. The use of mobile field devices has been well integrated in many of these offices. MIS will continue infrastructure building and maintenance to support more field devices through wireless technology and application services to allow seamless interaction between office applications and in-the-field devices to achieve process efficiencies for the organization.

In closing, the newest opportunity is the development of a new data center at the Public Safety Complex and the associated technology for joint dispatching, next generation 911, and the Emergency Operations Center under design and construction in the next few years. This

will allow for continued enhancements for disaster recovery and business continuity of applications and systems to be achieved at a highly secure and protected environment.

D. Strategy

The Plan's strategy is broken down into six basic strategic issues. These issues were defined in previous Plans and remain relevant for the next five years.

- Strategic Issue 1: Customer Focus/Service Oriented
- Strategic Issue 2: Comprehensive, Timely, Integrated Information with Reliance on Online Access and Interaction
- Strategic Issue 3: Reliable and Effective Infrastructure
- Strategic Issue 4: Qualified, Productive Staffing and Consulting Services
- Strategic Issue 5: Systems, Data, and Network Security
- Strategic Issue 6: Disaster Recovery and Business Continuity

Specific goals for each of these issues are presented in the proposed 2010 – 2014 MIS Strategic Plan and have been derived from analyzing needs with users, supporting Board priorities, and following industry best practices for technology. Funding requirements (as best known at this time) for these goals have been declared in the out years of the Budget.

Goals to highlight are:

- Virtualize the desktop environment
- Support the building/expansion of the branch libraries
- Support the technology implementation for the Public Safety Complex
- Fully implement electronic content management
- Continue enhancement and support of the network infrastructure
- Continue enhancement of web services for citizens
- Continue support for sustainability
- Continue support and enhancements for communications with the PIO's Office
- Continue support and enhancement of the JIS system
- Continue to broaden and enhancement business continuity and disaster recovery
- Continue support and enhancements of the GIS program
- Continue to assess opportunities for improvement in the email messaging system

As the virtualized desktop environment will be the most significant change for employees in the next few years, more detail is provided. The virtualized computing environment replaces traditional PCs which contain a Central Process Unit or CPU, hard drive(s), memory, and

reading devices with a “zero client” to connect a flat screen monitor, keyboard, and mouse to the network to receive access to the operating systems and software provided by a centralized server. The “zero client” device is a small 3.5 inch square box called a Pano device which contains no CPU, no memory, no operating system, no drivers, no software and no moving parts. Costs for the virtualized desktop are comparable or less than a traditional PC. However, ongoing support and energy costs of the virtual desktop are less than the traditional PC. The Pano device consumes 5 watts of power, which is 3% of a typical PC, and supports the Board’s commitment to energy conservation. Additionally, the maintenance and support for each desktop is greatly minimized with the centralization of software and computing resources. End user security is more controlled and MIS ITT staff can be more effective and responsive in solving user issues in this environment. MIS has completed the virtual desktop deployment in Probation and the Supervised Pre-Trial Program. Other divisions and offices will be deployed over a two to three year period as part of the funded computer replacement plan. More technical details regarding the virtualized desktop solution are provided in Attachment 3.

4. County Email Messaging System

During the August 25, 2009 Board Meeting, the Board directed staff to determine the cost of transitioning the County’s GroupWise/Novell email system to Microsoft’s Outlook/Exchange mail system. To clarify, Microsoft Outlook is the end user software for Microsoft’s Exchange server and are used together. MIS engaged Dyntek, a Microsoft Gold Partner and consultant/partner with the MIS virtualization project, who was able to leverage their understanding of the County’s desktop and server infrastructure environment to develop a proposal on the effort and costs for transitioning to Microsoft Outlook/Exchange. First, Dyntek with Microsoft engineers took MIS management and technical staff through an envisioning process to understand the functionality of the Microsoft Outlook/Exchange environment. Then a cost proposal for equipment, software, and services was provided (Attachment 4) to transition from GroupWise/Novell to Microsoft Outlook/Exchange within a twelve month migration schedule at \$627,552.

As GroupWise is more than an email system, many County users have taken advantage of the records management functionality the system provides. There will be extensive staff resources consumed in moving, purging, and reorganizing documents. The proposal does not take into account the cost of handling the County’s current store of archived email/documents going back to the mid-1990s. If it is expected to keep the archives, a solution will need to be put into place to search and retrieve archived emails and documents. Such a solution will range from \$200,000 to \$400,000, depending on how far back emails/documents are saved.

Design and Conversion Services	\$ 387,000
Hardware	\$ 142,728
Software	\$ 97,824
Archiving System	\$ 200,000 - \$400,000
Total Cost for Migrating	\$ 827,552 - \$1,027,552

In conclusion, for nearly one million dollars the County can be transitioned from Novell GroupWise to Microsoft Exchange; however, is it worth the cost and staff resources in training and reorganizing? Dyntek reported that:

"Novell offers comparable solutions to each of these Microsoft offerings. In most cases, we see no value in the feature level comparison of eDirectory vs. Active Directory, or Outlook 2007 vs. GroupWise, etc. Each of these solutions is used in the industry and both have major feature similarities and minor feature differences both pro and con." Page 2 of the Budgetary Estimate

Furthermore, Gartner, the leading technology analysis organization, stated:

Given that migration is a time-consuming and cost-consuming effort, is it worth it? The truth is that, for many organizations, the cost of migration will never be recouped. There is often no return on investment (ROI) on NetWare migration. When an ROI is achieved, it is typically more as a result of soft cost savings (such as help desk calls and administrative reduction) than actually hard dollar savings. In other words, a lot of money is spent migrating to end up in the same place from a functional point of view." Page 4 of the Budgetary Estimate

Finally, the ongoing costs for support in the Microsoft Outlook/Exchange environment will require additional staffing. A report by Osterman Research, "Comparing the Cost of Email Systems", published in May 2009, (Attachment 5) states:

"...GroupWise requires a lower level of IT support per 1,000 users than many other leading e-mail systems." Page 6 of the Osterman Research

That report found a two to one ratio for staffing to support a Microsoft/Exchange environment. Therefore, in MIS' environment two additional Network Systems Administrators would be needed at an annual total cost for salary and benefits of approximately \$80,000 each to support a Microsoft Exchange/Outlook platform.

The County is on GroupWise Version 7 which is already compatible with Microsoft's Outlook/Exchange calendaring system. MIS is ready to upgrade to Groupwise Version 8 at no cost which extends the busy search feature that is GroupWise specific to Microsoft Exchange calendars; integrates with Active Directory; and provides a stronger teaming and collaboration suite than Sharepoint offers. Dyntek's reported concerns about the end of life for the NetWare operating system (OS) is moot as adoption of the open source OS or Windows Server OS are Novell's migration path options for NetWare.

Looking at other counties and cities in Florida which have considered or made the transition from GroupWise, it was found that most made the change because they were on older, less functioning

versions of GroupWise; required massive infrastructure changes; were not using the records management functionality fully; and they had a system requirement to move to Microsoft's Active Directory infrastructure. This is unlike the situation within Leon County which is functioning under a recent version of GroupWise, has a stable and robust infrastructure, users are maximizing the functionality of GroupWise for document archival and collaboration and any Active Directory needs can be interfaced. Without those circumstances in other jurisdictions, costs justified moving to Outlook and its Active Directory structure and/or adopting Microsoft's Sharepoint product. Others such as the City of Tampa have decided to remain with GroupWise after securing services from KPMG to conduct a needs analysis and assessment on migrating to Microsoft Exchange/Outlook. Their installation contains 3,300 accounts compared to Leon County's 2,200 account base. While KPMG suggested the City could achieve savings by minimizing the complexity of their messaging system implementation by migrating to Microsoft, the City found that the \$1.5 million cost for the conversion and for entering into the Software Assurance program, combined with the increased costs for annual maintenance for Microsoft versus GroupWise, and the extensive time to implement made the option not justifiable at the time. Therefore, City of Tampa IT officials have taken an "if it is not broke, don't mess with it" stand and will be reviewing this decision every year as they monitor market/technology advances.

Volusia County uses Groupwise 7 and plans to upgrade to version 8 shortly. Volusia County found the cost to move to Microsoft Outlook/Exchange will take over \$600,000 and take about 18 months to complete with little added benefit ... considering training and providing access to archives, and added security exposure with Microsoft products.

Another compelling reason for Leon County to forgo a transition at this time, is the latest development in cloud computing e-mail solutions through Google Gmail or potential e-mail offerings from the State of Florida and other vendors, warrant consideration. Cloud computing will enable entry into newer solutions to be more cost effective and require no hardware or software on the premises. The City of Los Angeles with 30,000 users recently elected to move to Google for their email as did City of Orlando with its 3,000 users. Additionally, e-mail services continue to converge more robust team collaboration tools and unified messaging with telephone applications. These solutions are more in alignment with future information management and collaboration and bring into question the return on investment of nearly one million dollars for a solution to transition to Microsoft that simply changes a platform and offers little in new functionality and may be an out of date model for communications within three to five years.

Therefore, MIS recommends remaining with GroupWise, upgrading to Version 8 at no cost, and continue monitoring cloud computing solutions for e-mail for cost and functionality, and strategically prepare for migration to new solutions as warranted in the near future.

Options:

1. Accept the status report on the 2006 – 2010 MIS Strategic Plan.
2. Approve the 2010 – 2014 MIS Strategic Plan.
3. Approve Staff Recommendation to continue with GroupWise as the County's e-mail messaging system but continue assessment of new solutions within cloud computing for e-mail services.
4. Provide Board direction to staff.

Recommendation:

Options #1, 2, and 3

Attachments:

1. 2010 – 2014 MIS Strategic Plan
2. Status of 2006 – 2010 MIS Strategic Plan Goals
3. Technical Details on Virtualized Pano Device
4. Dyntek Leon County Microsoft Platform Migration Budgetary Estimate – October 2009
5. Osterman Research – Comparing the Cost of Email Systems

PA/ar/pc

MIS Strategic Plan

2010 - 2014

**Leon County Board of County Commissioners
Department of Management Services
Division of Management Information Services
January, 2010**

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Vision Statement

Leon County policy makers, management, staff, citizens, and the business community will be provided current, accurate, comprehensive, and integrated information in a user-friendly, secure, effective, and reliable medium to reflect the County's activities and Board priorities and to improve decision making and work processes. Infrastructure, applications, and technology solutions to support such information management and delivery will be effective, reliable, and secure. MIS staff resources will be certified experts in their fields and will deliver outstanding customer service and satisfaction.

Vision

Our vision is delivering current, comprehensive, and accurate information and technology solutions in a user-friendly and reliable medium to:

- policy makers and management for their decision making process;
- staff for effective processing of their work; and
- the citizens and business community of Leon County for effective access to County information and interaction with processes.

Our vision is driven by the partnerships between MIS and its customers to assist those customers as they redefine their business processes to meet changing needs and priorities. By being flexible, innovative, and responsive, MIS will build and/or strengthen trust with its customers to solve information management needs with technical solutions.

Our vision is of a MIS Division delivering prompt, courteous, and efficient service with 100% customer satisfaction with a staff that is well trained, professional, highly motivated, committed, dedicated, focused, and engaged.

Finally, our vision is of Leon County MIS as a pacesetter in providing quality, leading edge technical services to its customers with the promotion of security and provision of disaster recovery and business continuity.

Management Philosophy

Management Information Services commits to a team approach with our customers in the delivery of quality services to our customers and to safeguarding the information resources entrusted to us. We strive to deliver our services on time, defect free, and in a professional and courteous manner.

Management Information Services also commits to providing MIS employees with necessary resources, training, and encouragement to develop effective comprehensive solutions to information technology issues and challenges. Communication and feedback from our employees and customers are encouraged and expected.

Guiding Principles

1. Customers are the focus of everything we do and are our number one priority. Our work is done in partnership with our customers and under the guidance of the Board's priorities.
2. Quality service is expected. To achieve customer satisfaction, the quality of our products and services will be exemplary - going beyond customer expectations.
3. Continuous improvement is essential to success. We strive for excellence in all we do; in our products, our services, and our human relations.
4. Employees are the source of our strength. They provide our expertise and determine our reputation and vitality.
5. Employee involvement and teamwork is our way of life. Professionalism, commitment, dedication, focus, and engagement are expected qualities of our employees. We are a team. We treat each other with respect and trust.
6. Integrity is never compromised. The conduct of our Division is pursued in a manner that commands respect for its integrity and positive contributions to County services.
7. Security is seriously managed to ensure the accuracy and reliability of data, to protect privacy as required by law, to secure data from improper access and/or changes, and to safeguard the County's technical infrastructure assets against loss of use, improper use, tampering, and/or destruction.

Strengths

Our strength lies in the dedicated, professional, committed, focused, engaged, and resourceful MIS Staff and their ability to meet the technical and information needs of our customers by innovative means that are responsive, cost effective, and supports the County's commitment to sustainability. That strength is achieved with the stability of a highly skilled staff, a strong human resource plan that provides and encourages career advancement, skill development, and skill enhancements; and a defined technical certification and training program (availability based on funding) for staff which ensures staff are maintaining core competencies and learning new technologies.

A stable, secure, reliable, and dense high speed data network infrastructure is another strength of MIS. Superior MIS staff expertise built a reliable, secure, and high speed data network that enables effective deployment of applications to County and 2nd Judicial Circuit users, augmented with wireless technologies. With such a network in place, County workers have access to information and their desktop applications any where they have Internet access.

An agile and energy efficient systems infrastructure has been built using virtualization technology which supports the Board's sustainability priority. Such an infrastructure provides strength in being more agile in systems deployment and requiring a smaller energy footprint in the Data Center.

Strength in web services and applications development, augmented with Oracle and SQL server services, has allowed staff to support and enhance the County's award winning web site for the Board and most of the Constitutional Offices. This strength allows the Board's priority for enhanced communications to/from citizens to be met with new programs such as email notifications and LeonListens. That expertise also has built and maintained an integrated criminal justice information management system that is used by the entire justice community in Leon County where data is entered at the first point of entry and is shared among all users. Integration with other local, regional and state programs is provided with enhancements through various technical solutions using imaging and biometrics. Additional applications for mental health and the Probation and Supervised Pre-Trial Release Programs support the Board's priority to address recidivism, re-entry program for inmates, diversion, and jail population control.

Strength in security management with liaisons with FDLE (Florida Department of Law Enforcement), the FBI, and alliances with SANS Institute (SysAdmin Network Security) and the FTDRS has kept the County from data breaches, loss of service, and outages caused by cyber attacks.

MIS has developed strength in disaster recovery (DR) and business continuity with the addition of a DR data center, the implementation of desktop and server virtualization, and the implementation of a web-based virtual private network for employee access to file systems and the Intranet.

An award winning GIS program that supports the County, the City, the Property Appraiser, and the Sheriff's Office is a strength as spatial information and tools are used in daily decision making and strategizing of the government. GIS is an instrumental tool to Growth Management, Public Works,

Planning, and Blueprint 2000 and supports the Board's priority of protection of waterbodies countywide and development of countywide stormwater standards.

Strength in collaboration and coordination between the City enables sharing of email address books, integration of networks, and collaboration on solutions with GIS, Permitting, and Joint Dispatch, another Board priority. In addition, that strength in collaboration and coordination defines solutions and augments resources through sharing and networking with other County and City CIOs, IT/MIS Directors through the Florida Local Government Information Systems Association, GIS leaders and professionals through the GIS SHRUG (Seven Hills Regional User Group) and Florida Urban Regional Information Systems Association (FLURISA), security professionals through Infragard (a FBI sponsored technology security program), State IT members through the Digital Government Summit Advisory Board, the FTDRC (Florida Technology Disaster Recovery Consortium), and the justice community through the Florida Department of Law Enforcement (FDLE) and the Office of the State Court Administration of the Florida Supreme Court.

Weaknesses

With the current economic environment, MIS has had to sustain cuts in the desktop staffing area to reduce costs. These cuts have resulted in service resolution for desktop applications and infrastructure requests to increase from an average of 3 days to 5 days. Application development has been stalled in the web and work order management areas as hiring freezes were instituted over the past two years. As our customers become more aware of technology opportunities to improve their work processes, more projects are defined and expectations of enhanced services have grown. There is a backlog of projects and remaining staff are strained as they maintain existing systems along with new development.

As business processes are initiated or improved throughout the County, technical support of specific applications such as those for EMS have little or no backup expertise within MIS. MIS and the organization are vulnerable as critical systems expertise is focused in a few individuals. Additional staff is needed to allow for the expansion of critical systems expertise to other staff to ensure support when primary staff are on leave or are unavailable.

MIS needs to incorporate formal project management tools to facilitate successful and timely completion of projects and mitigate risks. Training of MIS management and key staff will be required. Yet, with staff shortages there is minimal time to devote to such training.

MIS needs to continue preparing for the retirement of several of its management/technical leaders within the next five years. For successful succession management, the division will need to continue documenting institutional knowledge and work processes and provide cross training for critical areas. Again, successful cross training has been impacted by staff shortages.

Use of technology in the various offices and agencies require appropriate analysis of needs and assessment and justification of solutions. Many MIS technical staff lack training or expertise in business analysis and will require training or mentoring to build that skill set. Immediate customer needs may require consulting services to augment existing staff in order to maximize existing installed technology.

Opportunities

The ever growing demand of fast, easy, and reliable open access by citizens and staff in Leon County offers us the opportunity to develop a totally integrated information management system of data that will be cost effective, improve decision making, provide for increased public safety, and incorporate efficiencies for all of our customers. Additionally, the convergence of several communication technologies (phones, email, personal data assistants (PDAs), and mobile laptops/PCs) will empower staff and management anywhere to have access to information and to make updates to computer applications and databases at all times and in a real-time mode. Technological advances with web-based solutions and data sharing have allowed for diverse applications to be integrated. Remote access technology enables the workforce to securely connect to applications and information from any locations. Additionally, the growth of cloud computing and shared services will allow applications that have become commoditized, such as email, calendaring, office productivity

software; to be handled over the Internet at service providers' hosted data centers. Adoption of those types of services can allow the reallocation of MIS resources to critical areas and needs, such as cross training on critical systems and business analysis. To take advantage of these opportunities, MIS professionals must be totally involved with and have a significant understanding of the activities, from strategic planning through systems implementation, of each and every program. Transitioning technical staff to business analysts will require training and time.

Threats

As the country continues to deal with the real threats of terrorism, war, and natural disasters, MIS must ensure that the data and information management of the County Departments and Divisions and the Constitutional Offices are protected and recoverable in a disaster. While the protection of data at off-site locations has been in place for many years, the recent completion of a remote sever center has allowed for the development of a stronger disaster recovery plan with business continuity which will ensure that critical County information management processes can continue with minimal or no down time in the event of a situation.

MIS will be prepared to support employee displacement due to a potential pandemic by a flu or any other event that shuts down office facilities. Providing for home or off-site connectivity to the County network and information is addressed and will need to be expanded in the network infrastructure, web services, and application development projects.

Escalating costs of hardware and software maintenance are increasing at a greater rate each year forcing elimination of other critical operational needs in order to maintain operating costs to previous years' levels..

As budget constraints continue to plague the county, minimizing infrastructure asset replacements and upgrades may adversely impact the priority or critical business processes of the county.

Budget constraints that cut training and travel impact MIS' ability to maintain expertise in the applications and infrastructure which are supported.

Changing and competing priorities of customer needs impact MIS resources and project status and continuity.

Strategic Goals and Objectives

Although this strategic plan is for the MIS Division, its strategic goals must be interconnected with the future of the entire organization and support the Board's priorities. Management Information Services' success in providing necessary information processing, technology infrastructure, and services will determine, to a large degree, the effectiveness of staff and operating departments in meeting the overall County goal of quality services to the citizens of Leon County.

Strategic Issues

- | | |
|--------------------------|-------------------------------------------------------------------------------------------------|
| Basic Strategic Issue 1: | Customer Focus/Service Oriented |
| Basic Strategic Issue 2: | Comprehensive, Timely; Integrated Information with
Reliance on Online Access and Interaction |
| Basic Strategic Issue 3: | Reliable and Effective Infrastructure |
| Basic Strategic Issue 4: | Qualified, Productive Staffing and Consulting Services |
| Basic Strategic Issue 5: | Systems, Data, and Network Security |
| Basic Strategic Issue 6: | Disaster Recovery and Business Continuity |

Basic Strategic Issue 1: Customer Focus/Service Oriented

Background: MIS must continue to better understand its internal end users/customers. The responsibility of MIS is to ensure the County's information computing is done well, securely and in a timely manner. MIS's role is not merely to produce more applications and information systems; rather, it is to build and support the County's information management infrastructure with integration and collaboration as needed.

Strategic Goals:

- 1. Continue to improve policy-making coordination for technology through better definition, action and improved participation with customers.**
 - A. Continue to be a part of the County Administrator's Executive Management Team to:
 - i. Keep abreast of County initiatives, priorities, and program needs;
 - ii. Educate Executive Management about information management and automation improvements and opportunities; and
 - iii. Seek direction on proposed policies for information management security and implementations.
 - B. Continue monthly or quarterly meetings with Departments or Agencies to discuss technology needs and issues. Currently in progress are meetings with Growth Management, Public Defender's Office, Facilities Management, Public Works, Elections, the Sheriff's Office, and the Library. Representation at the Criminal Justice Coordinating Council's monthly meetings and at the Public Safety Communications Board's Technical Sub-Committee continues.
 - C. Continue providing workshop updates to the Board on a regular basis to communicate progress on technology initiatives and seek executive direction on policy issues regarding information management.

- 2. Continue to strive to improve customer relations and partnerships with customer focus a priority.**
 - A. Continue to establish, support, or assist appropriate Application User Committees with representation from all offices, departments and divisions to build consensus among the various offices on technology issues regarding applications, infrastructure, and services. End-user responsibility should be an explicit goal. All decisions regarding information technology should be made within the context of the goal to enhance end-user productivity.
 - i. Currently User Committees are operating for the following applications: JIS, Finance (Banner), Hansen, GIS, PETS, and Web Stewards.
 - B. Continue to solicit feedback from customers through a regularly scheduled survey about delivered services to gauge customer satisfaction and learn of opportunities for improvement.

Basic Strategic Issue 2: Comprehensive, Timely, Integrated Information and Reliance on Online Access and Interaction

Background: There is a need to access and understand the results of the work processes in the various Departments and Divisions in the County at all levels in the organization - from program, to managerial, to executive, and ultimately to the citizens. Most work processes have adopted some level of technology for productivity and effectiveness within the division/program level. MIS must partner with customers to help implement strategies for integration and deployment of comprehensive and timely information for in-house use and for citizen access via web browser based technologies. Coordination and collaboration with the Public Information Office is underway as enhancements are made to the web site to increase citizen input. Continue to use web services in application development. Continue to take advantage of cloud computing resources and opportunities where reasonable and security is ensured.

Strategic Goals:

1. Justice Information System (JIS)

- A. Continue enhancements, equipment refreshes, and maintenance of the JIS, which uses a web browser based interface and incorporates the Oracle relational database.
- B. Continue to develop interfaces to justice community entities to share information .
- C. Continue enhancements to the JIS to add comprehensive jail management functionality.
- D. Continue to cooperatively work with the JIS Interlocal participants in enhancing the JIS.
- E. Continue to support the data access to mobile units in TPD and Sheriff law enforcement vehicles.
- F. Continue to support new technologies such as electronic signatures, imaging, Internet interfaces, and biometrics.
- G. Continue to participate in process reviews and improvement initiatives in the Justice Community, especially with the 2nd Judicial Circuit and FDLE.
- H. Continue to provide application support to the Sheriff's Office to support process needs such as warrants and ongoing phases of the North Florida Pawn Network.
- I. Continue to maintain application support to Probation and Pretrial for case management, Mental health programs, and in-house alcohol and drug testing programs.
- J. Continue to support the Probation Office's GPS monitoring program.
- K. Continue to provide public access opportunities as authorized by statute and policy.

2. Finance Information Systems (Banner)

- A. Continue to maintain Banner on the IBM AIX platform with equipment refreshes every five years.
- B. Deploy Banner upgrades as made available by the vendor.
 - i. Implement employee self-service module for the Board and continue to support the Clerk's Office with employee self-service.
 - ii. Continue to support electronic timesheets via web interface for the Clerk.
 - iii. Implement electronic timesheets via web interface for Board.
 - iv. Implement imaging functionality within Banner for the Board and the Clerk.
 - v. Implement financial self-service for Open Enrollments for the Board and continue to

- support the Clerk's Office with financial self-service.
- C. Migrate Banner to Oracle upgrades as made available by the vendor.
- 3. Electronic Content Management (ECMS)**
- A. Continue deployment of enterprise solutions, such as Project Dox and Documentum throughout the County. Conversion activities underway for Growth Management, Public Works Engineering and Operations, Public Works Animal Control, Human Resources, Facilities Management, Veterans Services, Purchasing, Housing Services, Administration, State Attorney's Office, and Elections.
- B. Continue to identify processes in the organization which can benefit from electronic content management.
- C. Specifically assist the County Administration with the development of records management retention policies.
- D. Develop technology solutions for records retention to support approved policies.
- E. Strive to complete conversion efforts of historical paper files and Board documents, as defined by Administration, by the end of 2014.
- 4. Internet and Intranet**
- A. Continue the maintenance and enhancement of the Internet site for the Board Departments and participating Constitutional Offices (Property Appraiser, Tax Collector, Sheriff, Supervisor of Elections, State Attorney's Office, and Public Defender).
- B. Continue to support and collaborate with the Public Information Office in the maintenance of the content of the web site with current and meaningful information.
- i. In collaboration with the Public Information Office, continue developing and supporting web stewards in the County Departments and Divisions and Constitutional Offices to keep content on the Web updated and easily accessible.
- ii. In collaboration with the Public Information Office, develop a mobile device version of the web site.
- iii. In accordance with the Board's priority to enhance communications with citizens, continue developing online services for citizens to be able to interact with their local county government at any time (i.e. access to Commission meetings and workshops, email notifications of news releases and other pertinent information, online submissions of employment applications, online citizen reporting of problems, online permitting, payment transactions for tax payments, tickets, license renewals).
- C. Continue to enhance the Intranet site for the County Board employees.
- i. Continue to develop the Intranet for County employees as a resource for information (i.e. policies, documents, forms).
- ii. Continue to augment online training opportunities.
- 5. Work Order Management**
- A. Continue migration to a single work order management system for Board Departments.
- i. Continue to support Facilities Management
- ii. Continue to support Mosquito Control and Stormwater
- iii. Continue to support Parks and Recreation

- iv. Continue to support MIS
 - v. Implement migration for Solid Waste
 - vi. Implement Pavement Management
 - B. Plan for upgrade of Permitting work order management with the City.
 - C. Continue to expand the use of hand-held field data collection for real time updates to the work order management database.
 - D. Continue to support remote office capabilities with laptops and/or tablets and wireless technologies.
 - E. Provide economical interface to GIS mapping as processes require and budgets allow.
6. **Library System (SIRSI)**
- A. Continue support and enhancements through vendor upgrades.
 - B. Deploy new web services for public access and internal processes as vendor application allows.
7. **Geographic Information Systems (GIS)**
- A. MIS continues to provide administrative and technical support to the GIS Interlocal as well as to the Leon County GIS program in accordance with needs and the requirements of the Tallahassee Leon County Interlocal agreement.
 - B. Continue partnership with the City on the joint implementation and maintenance of the Permit Enforcement Tracking System (PETS).
 - C. Continue a comprehensive land identification system in conjunction with the City/County Growth Managements, the Planning Department and the Property Appraiser's Office to allow for first point of entry into the GIS System and PETS.
 - D. Support the alignment by City/County Growth Managements and Public works of the County Plat Codes with the City Code to require use of GPS survey monuments to improve quality and accuracy of plats and to streamline the integration of future plats to the digital base map.
 - E. Continue to enhance the GIS web site with expanded functionality and additional data layers.
 - F. Continue infrastructure improvements with the consolidation of City servers with GIS Central, database conversions, the integration of electronic documents with GIS, and hardware and software high availability for disaster recovery and business continuity.
 - G. Maintain and deploy the Address Database as the standard to any existing and future City ISS and County MIS applications and systems.
 - H. Continue to keep the base map current with an incremental update of aerial photography within five year updates, as budgets allow.
 - I. Continue to coordinate the development and maintenance of data layers from the participating departments such as zoning, utility services and assets, recreational facilities, property information, school districts, voting precincts, flood zones, environmental data, building development information, and County and City facilities.
 - J. Continue to improve data capture time of new data with methods such as field hand held units and GPS technology.
 - K. Continue to work with the professional community in maintaining the geodetic network in Leon County to insure accurate GPS and surveying measures.

- L. Continue to take advantage of contract and grant opportunities that will provide funding for additional data development and/or program enhancements.
- M. Continue to develop functionality and promote use of the GIS as a planning tool.
- O. Integrate GIS technology into the Emergency Operations Center.
- P. Create an Interlocal "Quick Start" one day training program for City/County users.

8. EMS

- A. Support and maintain technology initiatives for EMS.
- B. Continue to provide dedicated technician support at the EMS facility.

9. Public Safety Complex

- A. Develop, implement, support and maintain phones, network, and associated technologies for the Public Safety Complex.

10. Office Automation

- A. Continue to provide and support the Microsoft Office Suite for word processing, spreadsheets, and small database management. However, MIS will continue research of other options such as Open Office or Google Apps for effectiveness and efficiency benefits.
- B. Enhance user functionality for information sharing with collaboration, approval processing, and workflow tools.
- C. Continue to support and augment conferencing via the web and/or video.
- D. Continue to support file management with solutions with security, backups, and disaster recovery.
- E. Continue to provide email services for the office and with mobile devices. Plan for a migration from the legacy system to an open source or cloud computing solutions such as Google's Gmail and Gcalendar solutions.

11. Training

- A. Continue an introductory end-user training program and train employees as needed.
- B. Continue providing office automation training for users.
- C. Continue to build into the acquisition and maintenance budgets for major computer systems training for end-users and maintenance personnel.
- D. Support on-line learning functionality as desired by customers.
- E. Continue to support webinar and Go-to-Meeting technology for use by County staff to build in-house training.

Basic Strategic Issue 3: Reliable and Effective Infrastructure

Background:

The MIS Division has exclusive responsibility for the County's backbone communications network and the computer platforms that provide information access. MIS needs to maintain this network in a stable, secure, virus free and fully operational state. Thousands of users, including County employees and countless citizens, depend on this network to access data and information.

MIS will continue to support the County's Sustainability priority with virtualization infrastructure in the Data Center and at the desktop. Continued use of Energy Star products and other energy efficient new technology will aid in energy conservation.

MIS needs to continue development and documentation of its IT infrastructure and continue to train all employees required to support it. The MIS Division needs to continue investing in network management tools to ensure that a secure, optimally functioning network is available 24 hours a day, seven days a week.

Strategic Goals:

1. Network

- A. Continue to enhance the County-wide communications network and connect all employees that use the automated system(s).
 - i. Continue to keep a structured cabling and wiring plan updated to allow for future growth and maximum bandwidth and emerging technologies.
 - ii. Continue to upgrade the network backbone between all County facilities and remote locations to meet evolving computing demands and be in a position to take advantage of industry improvements.
 - iii. In conjunction with Facilities, continue to support the wiring of existing and new facilities for technology.
 - iv. Continue to assure that network bandwidth limitations stay ahead of computer hardware limitations so that connectivity is never limited by backbone services.
 - v. Continue to develop redundant network paths to remote sites for security and emergency issues (i.e. fiber from the City, Comcast, Century Link, and/or other providers).
 - vi. Continue to upgrade internal network wiring in the County facilities.
 - vii. Continue to advocate, implement, and support wireless technologies to support public access at the libraries and community centers. Add wireless controller infrastructure to manage the 59 plus access points. Add wireless to the Public Works Complex and Tourist Development's Conference Room.
 - viii. Continue to provide remote access services for employees with secured connections into the network.
 - ix. Continue to support personal data assistants (PDA's) and cell phones with integration to the County's email and calendaring systems.
 - x. Continue to promote best practices in networking and security.
 - xi. Continue to research and develop new technologies as they emerge.

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2. Internet

- A. Continue to enhance the County-wide internet connections.
 - i. Provide Internet connectivity to all employees.
 - ii. Provide redundancy for disaster recovery purposes.
 - iii. Monitor usage for compliance to Board policy of proper Internet use and Internet security best practices.

3. Public Access

- A. Continue to provide public access to information in County automated systems by constantly and consistently enhancing the county wide backbone network to allow the most secure, efficient and cost effective interfaces to information and services provided. Statutorily allowed recapture of costs associated with public access shall be recaptured whenever feasible and practical.
- B. Community access from home computers to the automated library system is in place via the Internet and will continue to be enhanced.
- C. Continue to support public access computing resources at the Main Library, the branch libraries, and community centers.
- D. Continue to provide wireless access for citizens and employees in common areas in the Courthouse (Chambers, jury assembly, some courtrooms) and major facilities of the County (i.e., Main Library and the branch libraries, the Cooperative Extension Office, the Renaissance Building, and the Amtrak Station).
- E. In collaboration with the Public Information Office, continue to provide support to the broadcasting and recording of Board meetings and workshops over cable TV and the Internet.
- F. Continue to support the sound system in the Chambers.
- G. In collaboration with the Public Information Office, deploy display units at entrance areas or waiting areas of major facilities (i.e. Courthouse – court hearings, event calendars, and Board information; Libraries – event calendars, directional information).

4. Inter-Agency Access

- A. Provide support, services and connectivity to other agencies as funded and approved by the Board of County Commissioners.
- B. Provide connectivity with outside resources as user needs and security allows.
- C. Provide support for the network and telephony services to support the Joint Dispatch functions for the Public Safety Complex.

5. Desktop Infrastructure

- A. Continue support for the maintenance of computing resources to provide reliable, available infrastructure for employees to conduct their work with a maximum down time of four hours (assuming appropriate MIS budget and staffing).
- B. Continue to strive for a budgeted computer resource replacement program that supports the upgrading of end-user equipment to maintain necessary functionality.
- C. Continue to expand the capabilities of electronic mail, calendaring, the end-user computer environment, collaboration and workflow processes, and the Intranet.

6. Telecommunications Infrastructure

- A. Continue to maintain the telephone system for the Board Departments, the County Health Department, and participating Constitutional Offices such as the Supervisor of Elections, Public Defender's Office, State Attorney's Office.
- B. Continue to support the Library's wireless telephone solution – Vocera.
- C. Continue to provide enhancements to telephone services to meet customer needs.
- D. Continue the use of IP technology in telecommunications services as deemed beneficial to the County.
- E. Support the telephony needs for the Public Safety Complex.

7. Computing Standards

- A. Maintain and/or establish organizational computing standards which streamline operations such as:
 - i. Oracle database infrastructure for large applications; SQL server database for mid-range to smaller applications
 - ii. Unix, Linux, Netware, VM Ware, and Windows-based systems/server infrastructure through virtualization.
 - iii. Desktop standardization through virtualized desktop infrastructure.
 - iv. Cisco network infrastructure.

Basic Strategic Issue 4: Qualified, Productive Staffing and Consulting Services

Background: The MIS professional of today has transformed from the singular programming “techie” and mainframe guardian of the past Data Processing environment to a MIS professional that is committed, dedicated, engaged, focused, involved and understands the business of the end user and current industry technology to provide solutions for effective and integrated information management.

With the purpose of providing high quality services, the Leon County MIS Division must continue to keep abreast of the fast paced changing technical environment. Technicians and MIS professionals are encouraged to maintain their respective technical currency on their own as well as benefit from County provided training. In this age of changing information technology, employees have a responsibility to maintain currency in order to insure improved customer service and individual career development.

Strategic Goals:

- 1. Continue to invest in training as a high priority in the MIS budget with the expectation that the staff will apply the training in their projects and duties.**
 - A. Clearly define the roles for MIS staff and ensure that the employees fulfilling those roles understand the performance standards needed to meet expectations in the positions.
 - B. Continue to provide complete training to the staff that is required to operate and maintain the platforms, operating systems, and databases under its purview.
 - C. Continue to provide continuous training for staff to stay current with the latest technologies.
 - D. Continue to augment technical training with interpersonal and communication skills training that promote customer service and team building.
 - E. Continue to use consulting services to transfer technical skills.

- 2. Continue to improve planning and management capabilities for project management and systems analysis.**
 - A. Continue to use services such as Gartner Group, InfoTech and Forrester Tech Republic, to augment analysis of emerging technologies, to receive planning and research assistance for project planning and development.
 - B. Continue to collaborate with other County and Municipal governments (ie. FLGISA and FTDRC) on best practices of IT management and deployment.
 - C. Continue to receive training on project management and continue to create written project plans, including schedules and task assignments, and have the status of projects measured and reported using the criteria established in the plans.
 - D. Using best practices from the computer technology industry, maintain a quality control framework and apply it to all major projects.

3. **Continue to hire professional and competent staff.**
 - A. With the continued support of Human Resources, maintain well defined job descriptions with appropriate compensation packages that continue to attract highly qualified applicants.
 - B. Continue to develop career paths for technical positions.
 - C. Continue to review the MIS organization and adjust as customer needs and the technology industry changes to ensure resources are distributed to provide services as needed.

4. **Continue to use consulting services to augment staff resources as needed.**

Basic Strategic Issue 5: Systems, Data, and Network Security

Background: MIS staff expertise in security management is strong and strengthened with liaisons with FDLE (Florida Department of Law Enforcement), Federal agencies such as the Dept. of Justice and the Dept. of Homeland Security, and alliances with SANS Institute (SysAdmin Network Security) and IT best practice groups such as the Gartner Group. Extensive training investment and support has contributed to MIS' ability to build and maintain a reliable, secure, and high speed network that enables effective deployment of applications to County users, augmented with wireless technologies.

Strategic Goals:

- 1. Continue to work with management and the user community regarding security standards and requirements.**
 - A. Maintain standards for security on all systems supported by the MIS Division. Other agencies attached to the network must meet minimum access standards.
 - B. Maintain procedures to ensure that viable security policies, approved by the Board of County Commissioners, are in place. It is to be updated as appropriate and enforced by Senior Management.

- 2. Continue to maintain a secured hardware and software infrastructure which protects the network from external or internal threats such as viruses, spam, and loss of service.**
 - A. Continue to maintain and upgrade security hardware such as firewalls.
 - B. Continue to obtain tools and services for security assessment and mitigation.
 - C. Continue to train staff on security issues and practices through organizations such as SANS Institute (SysAdmin, Audit, Network, Security) and the Tallahassee Chapter of the FBI's Infragard.
 - D. Continue to undergo an outside security audit every two to three years.
 - E. Continue intelligent, risk based implementation of system security patches.

- 3. Continue to maintain systems for high availability and performance.**
 - A. Continue to document systems.
 - B. Continue to keep systems patched as tested and proven appropriate.
 - C. Continue to monitor performance of systems and develop solutions for enhancements
 - D. Continue to provide virus protection for desktops and servers.
 - E. Continue to provide spam filtering.
 - F. Continue to monitor and protect from external and internal threats (i.e. viruses, spam, malware).

Basic Strategic Issue 6: Disaster Recovery and Business Continuity

Background: MIS has been diligent in protecting County data and technology assets with off-site storage of data and systems tapes. The County has in place a "hot site" data center where mission critical systems are mirrored, load balanced, and/or are set up for high availability. This "hot site" data center provides will assure a timely recovery and successful business continuity. With applications such as the Justice Information System, the County's web site, the Geographic Information System, the County's messaging system, and the County's purchasing and HR systems, it is felt these systems must be recovered as soon as possible to ensure public safety, County operations, and continued services to the citizens.

Strategic Goals:

- 1. Continue to support remote data center(s) with County systems able to run applications in test and production mode.**
 - A. With cooperation of the Sheriff's Office, maintain a remote data center at the Jail complex with the plan to move the remote data center to the Public Safety Complex.
 - B. Provide redundant data and Internet connectivity through multiple network connections.
 - C. Continue to coordinate with other participating Constitutional Offices and incorporate their system needs in the remote data center.

- 2. Maintain a disaster recovery and business continuity plan.**
 - A. In cooperation with the Emergency Management Program, MIS maintains its disaster recovery and continuity plan and is participating with Court Administration in the specific business continuity plan of the Office of the Florida Supreme Court (OSCA).

- 3. Maintain the disaster recovery and business continuity plan to meet the changing needs and/or circumstances of the organization as resources allow.**
 - A. Annual reviews of the plan will be conducted with a mock disaster test.

STATUS of GOALS FROM THE 2006 – 2010 STRATEGIC PLAN – as of 12/31/2009		
Strategic Goal	Description	Status
BSI 1: Customer Focus/ Service Oriented		
1.A.	Office Automation/Network Users Group	Not Implemented in lieu of departmental meetings. MIS Director now part of Executive Team and can brief executive management on technology opportunities and learn of overall needs. Also, development of Cost Allocation Plan on an annual basis provides documentation of cost of services to each department/agency which is used in assessing services and needs.
1.B.	Monthly Department meetings	Active
1.C.	Board Workshops	Active
2.A.	Application User Committees	Active
2.B.	Regularly scheduled surveys	Active (at least annually)
BSI 2: Comprehensive, Timely, Integrated Information and Reliance on Online Access and Interaction		
1A.	JIS	Continue enhancements and maintenance of the JIS, which uses a web browser based interface and incorporates the Oracle relational database.
1.B.		Completed hardware refresh in 2009 Upgraded to Oracle 10G
1.C.		Completed interfaces to NCIC, FDLE, SAO, PD, FACC's CCIS, and OSCA's JIS. XML requirement has become defunct.
1.C.		Continue to add comprehensive Jail Management functionality
		Completed the following modules/applications: Lobby management, security threat group analysis, inmate moving and tracking, sexual predator notification, automated bond schedule, integration with electronic arrest affidavits to booking processing, transportation module for prisoner transport between the Jail and the Courthouse; inmate case management, replacement of the Jail's imaging system, integration with FDLE's sexual predator database.
		In progress are expansion of the inmate moving and tracking system to Jail Pod's and the automation of the medical area.
1.D.		Cooperatively work with JIS Interlocal participants
		Active – Interlocal agreement renewed in 2007 and involved with Criminal Justice Coordinating Council. Working with a CJCC Subcommittee to develop a paperless system. Completed the Public Defender, SAO, and Court electronic plea process.
1.E.		Support data access to mobile units in TPD and Sheriff law enforcement vehicles
		Completed and under support
1F.		Incorporate new technologies in JIS such as electronic signatures, imaging,
		Electronic signatures and imaging completed throughout the justice process, biometrics

STATUS of GOALS FROM THE 2006 – 2010 STRATEGIC PLAN – as of 12/31/2009		
Strategic Goal	Description	Status
	and internet interfaces	used for identity management at the Jail lobby for visitation. Completed the interface to the fingerprint system in 2009.
1G.	Provide application support to the Sheriff's Office to support process needs such as warrants and the North Florida Pawn Network	Sheriff information management support for warrants is completed. Phase I of the North Florida Pawn Network is completed. Phase II to integrate with FDLE's stolen article file completed in 2009. Over 850 automated stolen property matches made so far with the automatic notifications. Nearly 25 counties in North/Central Florida and South Georgia participate in the Pawn Network. The system received the InfoWorld Top 100 Systems in 2007 and the 2008 NACO Achievement Award.
1H.	Provide application support to Probation and Pre-Trial for case management.	Completed a new Probation and Pre-Trial Release case management system in 2006. Replaced the Offender Tracking Program for Probation/Public Works Work Program as a paperless process via a web based solution in 2009.
1I.	Support the Probation's GPS monitoring program	Active
1J.	Continue to provide public access opportunities as authorized by statute and policy	Active – in 2009 upgraded the VPN access that minimizes staff support of outside users and improves user experience
2A.	Banner Continue to maintain Banner on the IBM AIX platform	Completed hardware refresh and operating system upgrades in 2009
2.B.	Deploy Banner upgrades as made available by the vendor (employee self-service and electronic timesheets).	Clerk deployments completed. Board deployments to be scheduled in coordination with the Board's HR. Added the Documentum EDMS module in 2009.
2.C.	Migration of Oracle 8i to 9i by 2006 and to Oracle 10g by 2009	Completed
3.A	EDMS Deploy enterprise electronic development management solution.	
	- Growth Management	Historical Building Permits Completed, Environmental Permits in progress
	- Veterans Services	Completed; work in progress ongoing
	- Human Resources	Completed employee files are under audit process, but being used by HR daily; Upgrade to Documentum in progress.
	- Facilities Management	Completed; work in progress ongoing
	- County Attorney's Office	Work in Progress system active
	- Public Works	Animal Control Completed; Engineering/Operations File Conversion in Design
3.B.	Agenda process	Automated solutions researched; no automated process adopted; current work process handled in Word and email
3.C.	Strive to complete conversion efforts of	Committee in place to learn how to use

STATUS of GOALS FROM THE 2006 – 2010 STRATEGIC PLAN – as of 12/31/2009		
Strategic Goal	Description	Status
		<p>archived and/or filed Board documents by the end of 2010.</p> <p>Documentum for Administration's files.</p> <p>Housing, Elections, and State Attorney's Office were implemented in 2009.</p>
4.A.	Internet and Intranet	<p>Continue maintenance and enhancement of sites for Board and participating Constitutional Offices.</p> <p>Award winning website supporting all Board Departments, Blueprint 2000, the Sheriff's Office, the Property Appraiser's Office, Court Administration, the PD and SAO, and the Tax Collector. Graded as an A site in 2006 by the National Policy Research Council and Computerworld. Designated a Digital County in 2008 by the Center for Digital Government.</p> <p>Added Websense security software for policy compliance for the County's web sites.</p>
4.B.i		<p>Develop and support web stewards from the various offices</p> <p>About 50 people serve as web stewards. Training and software are provided by MIS. Quarterly meetings are held to review standards and requirements.</p>
4.B.ii		<p>Online services for citizens</p> <p>Submission of employment applications, committee volunteer service application, problem reporting, permit applications in place. Ability to pay taxes, some permit fees, and license renewals is in place. Deployment of LeonListens for citizen input implemented in late 2008.</p> <p>Access to County information via video and documents in place. Access to purchasing information in place. Web access to Library services and online mapping is in place. Access to Board meetings and workshop materials, agendas, and minutes are linked to recorded video of the meetings and workshops. With coordination with the Public Information Office and Emergency Management, added the Emergency Communications Website in 2009 for a single point of information during an emergency for Leon County.</p> <p>Implemented in 2009 GovDelivery subscription service to citizens for email notifications of news and alerts.</p>
4.C.		<p>Enhance Intranet site for employees</p> <p>New Intranet site was launched in late 2008 with a news section and links to Forms, policies, and documents.</p>
5.A.	Work Order Management	<p>Migrate to a single work order management system for Board Departments.</p> <p>Hansen system upgraded to Version 8 in 2008. Public Works Operations, Mosquito Control, Stormwater and Signs implemented. Facilities implemented in 2008. MIS converted on 1/4/2010.</p>
5.B.		<p>Expand use of hand-held field data</p> <p>Citrix server infrastructure in place for PETS</p>

STATUS of GOALS FROM THE 2006 – 2010 STRATEGIC PLAN – as of 12/31/2009		
Strategic Goal	Description	Status
5.C.	collection for near-real time updates Remote office capabilities with laptops and/or tablets and wireless technologies.	and Hansen users with cellular services in place for wireless access. Additional wireless access available at hot spots at the libraries and some community centers.
5.D.	Provide interface to GIS mapping	Interfaces to GIS in PETS and into Hansen are in place.
6.A.	Library System (SIRSI)	Continue support and enhancements through vendor upgrades.
6.B.		Deploy Oracle 9i upgrade and web services implementation in 2007.
7.A.	GIS	Added Director's Station and eLibrary modules in 2009.
7.B.		Completed Oracle 9i upgrade, hardware refresh, and Sirsi 2.0 upgrades in 2007 – 2008. Completed Oracle 10G and Sirsi 3.2 upgrades in 2009.
7.C.		In progress
7.D.		Provide administrative and technical support to the GIS Interlocal participants – City of Tallahassee, Leon County, and the Leon County Property Appraiser's Office
7.E.		Continue partnership with the City on the joint implementation and maintenance of the Permit Enforcement Tracking System (PETS)
7.F.		Program in operation since 1995 with latest upgrade completed in 2007. Will need to consider upgrade to web environment in the next upgrade.
7.G.		Land ID Project
7.H.		In production
7.I.		Align County Plat Codes with the City Code to require use of GPS survey monuments in the development of plats
7.J.		Not done
	Enhance GIS web site with expanded functionality and additional data layers.	Shared in the awards for 2008 Digital County and the 2006 A site designation by the National Policy Research Council and Computerworld. Now supporting over 360 data layers.
	Infrastructure improvements	Completed high availability redundant site at the remote disaster site in 2008. Nearing completion with ArcGIS 9.3 infrastructure upgrade.
	Maintain and deploy Address Database as standard	Ongoing
	Keep the base map current with 5 year interval aerial photography	Continued the LIDAR incremental update program through 2009. Added 2007 Pictometry oblique photography through a grant with the Sheriff's Office.
	Continue to coordinate the development and maintenance of data layers from the participating departments such as zoning, utility services and assets, recreational facilities, property information, school districts, voting precincts, flood zones, environmental data, building development information, and County and City facilities.	Maintains over 360 layers of data.
	Improve data capture time with field handheld devices and GPS technology.	Help supports applications for GPS data capture in County Public Works and City

STATUS of GOALS FROM THE 2006 – 2010 STRATEGIC PLAN – as of 12/31/2009		
Strategic Goal	Description	Status
		Utilities.
7.K.	Densify the geodetic network in Leon County	Continues to strengthen geodetic network with annual flyovers in coordination with the Dept. of Revenue and DOT.
7.L.	Enter into grant and contract work to deliver GIS services.	FY 06/07 – ESRI services valued at \$60,000 for the EOC Incident Tracking System FY 07/08 - \$30,000 grant for Local Update for Census Addressing FY 08/09 -- Partnered with the City and County Emergency Management staff to obtain a \$40,000 Homeland Security Grant for enhancing the EOC Incident Tracking System FY 08/09 - Played a key role in securing \$300,000 in Federal Appropriation funds for Oblique Imagery for North Florida (Congressman Boyd's District) and received 2007 Oblique Imagery for Leon County valued at \$50,000 for free.
7.M.	Develop functionality and promote use of the GIS as a planning tool	GIS used extensively in City/County Growth Managements, Planning Dept., Public Works, TPD, Sheriff's Office, Property Appraiser's Office, State Attorney's and PD's Offices. Ancillary services provided to Elections and EMS. Provides the Emergency Operations Center the EOC Its application for online tracking of incidents.
8.A.	Office Automation	Provide and support the Microsoft Office Suite for word processing, spreadsheets, and small database management.
8.B.		Enhance user functionality for information sharing with collaboration tools. Groupwise has been maintained as the messaging system for email, calendaring and collaboration and was upgraded to Version 7 in 2007. Version 8 contains more collaboration features. Researched feasibility of moving to Microsoft Outlook and Google gMail.
9.A.	Training	Introductory end-user training program for all employees and incoming new employees
9.B.		Office Automation training for users
9.C.		Build into the acquisition and maintenance budgets for major computer systems training for end-users and maintenance personnel.
9.D.		Enhance on-line learning functionality
		Webinar functionality is available for staff to build internal training. The industry now provides a wealth of online training such that creation of a training program in-house is not necessary.

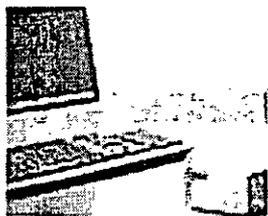
STATUS of GOALS FROM THE 2006 – 2010 STRATEGIC PLAN – as of 12/31/2009			
Strategic Goal	Description		Status
XXX	New Initiatives Not Planned	Human Resources Information Management	Researched, installed, and implemented an online employee appraisal system with Human Resources for the Board in 2008.
		Emergency Medical Services	Assisted with the new patient care reporting system implementation in 2008. Refreshed hardware and mobile computers in 2008. Implemented time scheduling system in 2008. Support current HIPAA requirements.
		Public Works	Created an ID card management system.
BSI 3: Reliable and Effective Infrastructure to Meet Needs			
1.A.i.	Backbone Network	Maintain a structured cable and wiring plan for future growth	In place since 2005. Needs to be updated.
1.A.ii.		Upgrade all County facilities and remote locations to Gigabit Ethernet bandwidth	Completed for all major locations (Renaissance Building, Public Works, and the Main Library with GB bandwidth , and the Sheriff's Office Complex with 20 GB)
1.A.iii.		Keep backbone bandwidth high to accommodate needs	Core switches at the Courthouse and Sheriff's Office have been upgraded. In 2 nd year of secondary switch upgrades.
1.A.iv.		Develop redundant network paths to remote sites for security and emergency issues	Redundant links via Century Link, Comcast and/or City fiber in place to the Sheriff's Office Complex, Public Works, and the Courthouse. The Sheriff's Office has a 10 GB redundant link.
1.A.v.		Upgrade internal network wiring in County Facilities	Ongoing with coordination with Facilities for the Courthouse renovations and the County's Annex at the Bank of America Building.
1.A.vi.		Advocate, implement, and support wireless technology	Installed wireless in public areas of the Courthouse, in the Board Chambers, at the Main Library, at the branch libraries, the Woodville Community Center, at Public Works, and at the Amtrak Station.
1.A.vii.		Provide remote access services for employees with secured connections into the network.	In 2009 upgraded the VPN access to a web browser based solution requiring no specialized software on the user's personal devices. This upgrade allows access to data on the file servers as well as access to the Intranet from off-site locations.
1.A.viii.		Promote best practices in networking and security.	Network audit completed in 2007 with overall good report. Upgraded virus protection and added intrusion detection.
1.A.ix.		Research and develop new technologies as they emerge	Ongoing – conducted extensive research in broadband opportunities throughout the County and presented findings in 2006 workshops. Participated in the 2009 BTOP grant application for funding to expand public access computing services.
2.A.	Public Access	Provide public access to appropriate applications on the network for the public.	Upgraded controlled and secure VPN access for users of the Justice Information System and for vendors who need access to vendor provided applications and/or hardware to a

STATUS of GOALS FROM THE 2006 – 2010 STRATEGIC PLAN – as of 12/31/2009		
Strategic Goal	Description	Status
		web based solution. This eliminates any specialized software on the end user's device and reduces support issues.
2.B.	Community access to the automated library system	Upgrade to eLibrary module will be operational January 2010.
2.C.	Support public access PC's at the Main Library and the branch libraries	Over 250 PCs are available for public use. Expanded public PC access to community centers, first being Woodville.
2.D.	Continue to provide wireless access for citizens and employees in common areas of the Courthouse and major County facilities.	Courtrooms, jury assembly areas, the Chambers, libraries, Woodville Community Center, the Amtrak Station, and Renaissance Center's conference room have wireless Internet service.
3.A.	Inter-Agency Access	Provide support, services, and connectivity to other agencies as funded and approved by the Board.
3.B.		Provide connectivity with outside resources as user needs and security allows.
4.A.	Desktop Infrastructure	Support PCs to provide reliable, available infrastructure with a maximum down time of 4 hours.
4.B.		Strive for a budgeted PC replacement program to support upgrades every three years
4.C.		Expand internal capabilities of electronic mail, the desktop environment and the Intranet.
5.A.	Tele - communications Infrastructure	Maintain the telephone system for the Board, the County Health Department, and participating Constitutional Offices (Elections, PD's Office, SAO's Office)
		web based solution. This eliminates any specialized software on the end user's device and reduces support issues.
		Upgrade to eLibrary module will be operational January 2010.
		Over 250 PCs are available for public use. Expanded public PC access to community centers, first being Woodville.
		Courtrooms, jury assembly areas, the Chambers, libraries, Woodville Community Center, the Amtrak Station, and Renaissance Center's conference room have wireless Internet service.
		Law enforcement agencies such as TPD, Capitol Police, and FDLE have secured access to the JIS system.
		A secured, segmented network interface was developed to support the City access to GIS and PETs.
		VPN connectivity was upgraded to a web based solution. Example -appellate attorneys with the PD's Office
		Achieved 99% of the time.
		The replacement program has been dormant for the past two years because of budget concerns. Only memory add-ons to extend existing systems or replacements of critical systems have been implemented. A five year replacement plan using a virtualized desktop solution is being implemented which will extend the life of a desktop to ten years. The first areas to be completed are Probation, Pre-Trial, OMB, and County Administration.
		Note that surplus PCs are provided to the libraries for public access. A grant application is in place to virtualize the public access PCs. Response to the grant application is expected by the 1 st quarter of 2010.
		Upgraded Groupwise to Version 7 version. Added virus and spam filtering to the desktop environments. Continued support of the Intranet.
		Installed the Avaya digital phone and voice mail system at the Health Department, adding 370 phone lines.
		Currently maintaining over 1800 phone lines with the Avaya phone system.

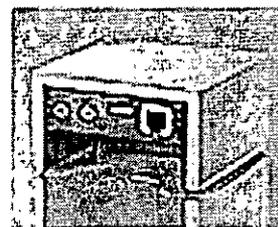
STATUS of GOALS FROM THE 2006 – 2010 STRATEGIC PLAN – as of 12/31/2009		
Strategic Goal	Description	Status
5.B.	Provide enhancements to telephone services as customer needs grow and/or become more sophisticated.	Added the BMCS phone reporting module in 2008. Added wireless telephone integration with the Vocera system for Library staff to access the telephone remotely in 2007.
5.C.	Incorporate the use of IP technology as deemed beneficial	Upgraded the Avaya digital IP hybrid phone and voice systems in 2009 to prepare for SIP infrastructure.
6.A.i.	Computer Standards	Maintain and/or establish standards to streamline operations – Oracle database
6.A.ii.		Maintain and/or establish standards to streamline operations – UNIX, Novell and Windows-based systems/servers
6.A.iii.		Maintain and/or establish standards to streamline operations –Desktop standardization
6.A.iv.		Maintain and/or establish standards to streamline operations – Cisco network infrastructure
XXX	New Initiatives Not Planned	Chambers Support Took over the production of broadcasting the Board meetings and workshops in concert with Comcast. Refreshed the control equipment in the Chambers in 2008. Refreshed the sound system in the Chambers in 2009.
BSI 4: Qualified, Productive Staffing and Consulting Services		
1.A.	Training	Defined roles for MIS staff with performance standards
1.B.		Provide training to staff that is required to operate and maintain the platforms, operating systems, and databases under their responsibility
1.C.		Provide continuous training for staff to stay current with the latest technologies.
1.D.		Augment technical training with interpersonal and communication skills training that promote customer service and team building.
1.E.		Use consulting services to transfer technical skills.
		JDQs and performance standards up to date
		As training has been cut in half in the past few budgets, only critical off-site training is available to staff. Online training for basic courses is available to staff.
		As travel has been cut or frozen by many organizations, vendors have been reaching out to their IT users through webinars. So, staff has been able to take advantage of these resources to keep up with the latest technology trends. Only critical conferences are attended by critical staff.
		Minimal funding is available for this type of training. Only critical skills courses are made available to those requiring such training. However, access to online training is available.
		More training has occurred with mentoring from consultants as software or products are

STATUS of GOALS FROM THE 2006 – 2010 STRATEGIC PLAN – as of 12/31/2009			
Strategic Goal		Description	Status
			purchased and implemented.
2.A.	Planning and Project Management	Improve planning and management capabilities with IT research services	Ongoing subscriptions to Info-Tech, Forrester, Tech Republic
2.B.		Collaborate with other County and Municipal governments on best practices for IT management and deployment	Involved in the Florida Local Government Information Systems Association.
2.C.		Training for program management and planning	Initial efforts underway
2.D.		Using industry best practices, maintain a quality control framework for project management.	Initial efforts underway
3.A.	Human Resource Management	Working with Human Resources, maintain well defined job descriptions with appropriate compensation packages	HR conducts salary market reviews on a regular basis and makes recommendations for upgrades accordingly
3.B.		Develop career paths for technical positions	Through the HR and Budget process, reclasses have been made as appropriate
3.C.		Continue to review the MIS organization and adjust as customer needs and technology industry changes to ensure resources are distributed to provide services as needed.	Ongoing
4.		Use of consulting services to augment staff resources and introduce technology expertise.	Ongoing – especially with Oracle services, Banner, and SIRSI, Hansen, and specialized GIS services.
BSI 5: Systems, Data, and Network Security			
1.A.	Security Standards and Procedures	Maintain standards for security	In place – Updated Internet Use Policy in 2008.
1.B.		Develop security procedures	In place
2.A.	Hardware and Software Infrastructure	Install, maintain, and upgrade firewalls and switches	In year 2 of 4 year plan to upgrade out of date switches.
2.B.		Obtain tools and services for security assessment and mitigation.	Installed Solar Winds Orion software to assess performance and integrity in 2009.
2.C.		Train staff through the SANS Institute and Infragard	Ongoing; but less frequently because of budget cuts to travel and training. Infragard is a local quarterly meeting.
2.D.		Undergo an outside security audit every two to three years	Security audits completed in 2002 and 2004 and 2007.
2.E.		Implement system security patches	Ongoing and up to date
3.A.	High Availability and Performance	Document Systems	Ongoing and up to date
3.B.		Keep systems patched to the current levels	Ongoing and up to date Updated the data backup infrastructure to double throughput in 2007.
3.C.		Monitor performance of systems	Ongoing
3.D.		Provide virus protection for desktops and servers	In place – planned for upgrade to new solution in January 2010
3.E.		Research industry solutions for spam filtering	Implemented and Upgraded spam filter in 2009

STATUS of GOALS FROM THE 2006 – 2010 STRATEGIC PLAN – as of 12/31/2009			
Strategic Goal	Description		Status
BSI 6: Disaster Recovery and Business Continuity			
1.A.	Remote Data Center	With cooperation of the Sheriff's Office, design and install a remote data center at the Jail	Completed 2005 and enlarged to support business continuity in 2008.
1.B.		Provide redundant network connections	Completed and under maintenance
1.C.		Include participating Constitutional Offices and incorporate their system needs in the design	Ongoing – brought on the Clerk's Office and Property Appraiser's Office in 2008.
2.	Disaster Recovery Plan	Develop disaster recovery and business continuity plan.	In conjunction with Emergency Management, developed and maintain COOP plan. Worked with Emergency Management and the PIO's Office to develop an Emergency Communications website for single point of information on emergency situations.
3.	Update and Testing	Conduct annual reviews of the plan with a mock disaster test.	Critical staff have attended NIMS training and participated in COOP plan updates and tabletop exercises when available.



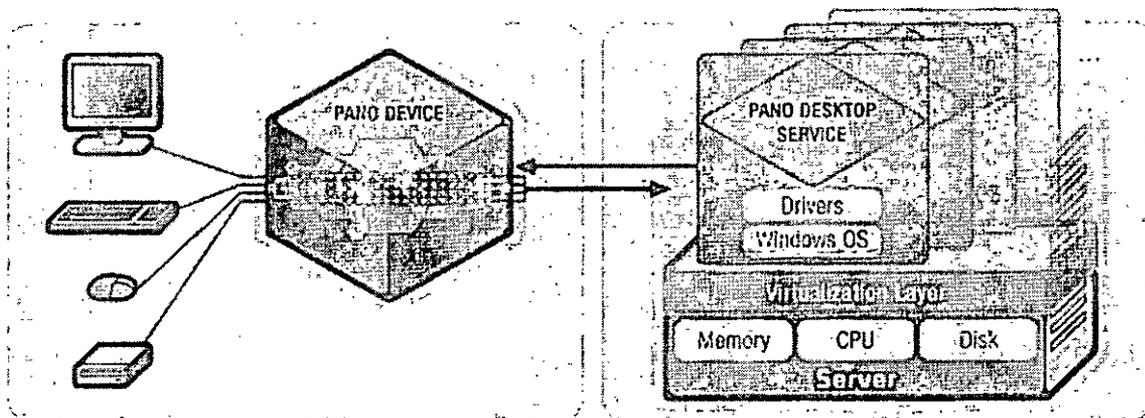
Illustrating size of zero client device to monitor network



Back of the device which connects to the network and peripherals

Each desktop will have a flat screen monitor with 2 USB ports. Employees will have the opportunity to use personal flash drives, headsets, CD writers, and other input devices with these ports. All desktop devices will be configured to access printers in its area along with private printers, as warranted. Access to the full suite of Microsoft Office, Internet Explorer, Microsoft media player, Adobe Reader, and other standard Microsoft interface software will be provided to each desktop. Other approved, work related software will be served from the central server. This environment will prevent employees from loading software onto their desktop environment and thereby prevent viruses, malware, and unauthorized software into the County's network and servers.

The Pano device contains circuitry that connects to a centralized server over the network. The server runs software that provides for virtualization which distributes access to the operating system, memory, CPU power, storage and software applications and databases.



Source: www.panologic.com



Leon County Microsoft Platform Migration Budgetary Estimate – October 2009



Executive Summary

Following the Envisioning phase of the project, we wanted to create a detailed summary of investments and investment options for the County. Within this document we have denoted a project “Phase 1” implementation and a project “Phase 2” implementation. Phase 1 is intended to depict the technologies and effort required to replace the current NetWare environment with Windows Server technologies in an “apples to apples” replacement. Phase 2 is intended to depict all of the technologies we feel the County could benefit from in the midterm but are not required from a platform migration standpoint.

The table below depicts each of the primary proposed technologies and the recommended project phase in which they would be implemented:

Current technology in use	Proposed replacement	Project Phase
NetWare Server 6.5	Windows Server 2008 R2	Phase 1
Novell GroupWise	Microsoft Exchange Server 2007/2010	Phase 1
Novell ZENworks	Microsoft System Center Configuration Manager	Phase 1
Novell GroupWise Messenger - *	Microsoft Office Communications Server 2007 R2	Phase 2
NetWare file shares	Microsoft Office SharePoint Server 2007	Phase 2

* - denoted by the County to be in limited use

When considering the migration from a Novell platform to a Microsoft platform we must include the business reasons and driving factors to substantiate the investment.

- **Unnecessary system complexity**

Today, the County is a mixed platform environment using server and identity technologies from both Novell and Microsoft. If both directories will persist, the directories should be synchronized to avoid duplicated and missing objects within each directory – eDirectory and Active Directory. If they are synchronized, this will add complexity to the environment which will require additional software licenses, additional hardware and support skills to maintain. If they are not synchronized, then additional effort is required to keep the two directories in synch and additional help desk support is required to deal with password changes, security issues, etc.

In the end, a single directory is highly recommended given it reduces this complexity and cost moving forward. This will also reduce the IT spend by \$110,000 annually with the reduction of paying for NetWare maintenance fees.

- **Inevitable platform migration**

As it has been widely publicized, NetWare itself is reaching an end of life situation. NetWare 6.5 has been publicly noted as the final version of NetWare. Customers wishing to advance beyond Novell’s NetWare 6.5 must migrate to Novell’s Linux based Open Enterprise Server. Hence, a



Leon County Microsoft Platform Migration Budgetary Estimate – October 2009



platform migration is not an “if we migrate” situation, but a “when we migrate” situation. If it is determined by the County they wish to remain with Novell into the Linux platform, item one above (duplicate directories and operating systems) will persist as will the complexity created by dual environments.

NetWare standard support is slated to end March 2010, and extended support will end March 2012. Similarly GroupWise 7 is the last version of GroupWise for the NetWare Server platform and is slated for standard support end of life on November 2009, and extended support on February 2011.

We must consider the migrate timeline when working towards an end of life support situation. We recommend the County look at that date – then work backwards with the migration timeline to create a drop dead start date for the project.

- **Availability/cost of support staff**

When looking at any computing platform, the cost and availability of support staff must be considered. Cost for the IT support staff is generally driven in the supply/demand model – hence when there are more available support staff, costs tend to be less. Today, Microsoft enjoys a total of over 4 million Microsoft Certified Professionals – where the number of certified Novell staff is radically less, and dropping. Thus, the County must consider the “one bus rule” when looking at support staff changes, either planned or unplanned. Replacing existing staff if/when a change occurs will be more difficult and costly when on the Novell platform.

- **ISV software end of life**

Aside from a given platform heading into an end of life situation, many times the independent software vendors (ISVs) who provide the critical software add-on products around the operating system end of life their products far earlier than the operating system vendors do. Typically, all ISV's write their products for the masses to gain market share. Given the footprint of the Windows Server platform, more ISVs create products for it, giving the County a dramatically wider range of products to select from. Similarly, these ISVs will end of life their product on a given platform when adoption of that platform is low or slowing.

Some examples of tier one ISVs who are dropping their support for NetWare include McAfee, Symantec, Citrix – each on or before 2010.

- **Feature benefits**

The primary solutions being proposed here are Windows Server 2008, Active Directory, Microsoft Exchange Server 2007/2010, Outlook 2007 and System Center Configuration Manager 2007. Novell offers comparable solutions to each of these Microsoft offerings. In most cases, we see no value in the feature level comparison of eDirectory vs. Active Directory, or Outlook 2007 vs. GroupWise, etc. Each of these solutions is used in the industry and both have major feature similarities and minor feature differences both pro and con.



Leon County Microsoft Platform Migration Budgetary Estimate – October 2009



We do feel however, that the Microsoft platform with integrated technologies does provide feature/integration advantage over a mixed environment. Key areas of these integration points are noted below:

- Active Directory Inheritable Permissions –
In an Active Directory environment, when a workstation or server is joined to the AD domain, Windows can inherit dynamic rights for granular security permissions. For example, a user could be configured to run as a typical restrictive user and only have specific elevated permissions to run certain applications. These critical access controls are specific to Active Directory and are not available with NetWare.
 - Example: Leon County currently gives all users local Administrative access to their local workstations. This is for installation of applications and configuration. This can potentially also allow malicious content run without the end-user knowing and has created a potential security hole.
 - Desktop Operating System Integration
 - Microsoft is the chosen vendor of the desktop operating system by Leon County. The integration of Windows Sever, Group Policy and Active Directory are unprecedented. As the County looks towards Windows 7 the feature advantages increase dramatically when connected to a Windows Server.
 - Management software
 - Microsoft System Center – both Operations Manager and Configuration Manager are very mature management systems. The management packs for these systems are created by the product management teams at Microsoft who create the solutions used by the County. Hence, the direct manufacturer is creating the management solution – and the County is not only be notified if there is a problem – but, when there might be a problem and a well-defined solution from System Center.
- 
SystemCenter.pdf
- Messaging/Collaboration
 - Leon County has chosen Microsoft Office as their desktop suite of choice. The Office suite of products (Word, PowerPoint, Excel, etc) will then directly integrate with SharePoint and Office Communications Server. This integration provides documented time savings for each staff member. Have ubiquitous presence information, instant messaging and document sharing capabilities not available from other solutions in the marketplace today.
 - Once the Implementation of Exchange and Office Communications Server are completed – the County will have the option/ability to utilize Microsoft's voice mail and VoIP integration capabilities – thus providing substantial annual savings over traditional PBX solutions and increased abilities. Users will then have the ability to receive voicemails and faxes directly in their Outlook inbox, and be able to communicate with their calendar and inbox via phone/voice.

Leon County Microsoft Platform Migration Budgetary Estimate – October 2009



Achieving_Cost_and
_Resource_Savings_1

- **The Analysts take**

- **Gartner in 2006:** (for fee article – we could only get an excerpt from)

Given that migration is a time-consuming and cost-consuming effort, is it worth it? The truth is that, for many organizations, the cost of migration will never be recouped. There is often no return on investment (ROI) on NetWare migration. When an ROI is achieved, it is typically more as a result of soft cost savings (such as help desk calls and administrative reduction) than actually hard dollar savings. In other words, a lot of money is spent migrating to end up in the same place from a functional point of view.

Even if there is limited or no ROI on NetWare migration you should consider it, because from migration from NetWare is driven by a number of things:

- *Loss of faith in Novell*
- *Concerns about the long-term future of NetWare*
- *Migration from other Novell products, like GroupWise and ZENworks*
- *Strategic partnership with Microsoft*
- *Reduction of supported server platforms*

With the exception of the first item, we think all of these are valid reasons to launch a migration analysis. In terms of loss of faith in Novell, we continue to see its overall strategy as sound and believe the company is in solid financial position. However, we are concerned about its execution in the market, especially in the area of communicating the potential value of migrating from NetWare to OES.

- **Yankee Group in 2004:**

It should be noted that this comparison was between NetWare 6.5 and Windows Server 2003. Windows Server 2008 then adds substantial advantages and advancements over the ones denoted within the study.

Overall, Active Directory has surpassed Novell's NDS and eDirectory as the most technically advanced directory services mechanism available. From a business standpoint, there is no comparison between the available third-party application support, technical service and support, and readily available documentation for the Active Directory environment. Corporations can deploy it with confidence and know that when correctly designed and configured, Active Directory can lower TCO costs by an average of 20% to 30% over NDS and eDirectory.



Leon County Microsoft Platform Migration Budgetary Estimate – October 2009



Investment Summary

Below is a summary of the project services investments required based on the previously provided Envisioning deliverable.

Project Phase	Total Investment
Phase 1	
Implementation Services	\$297,000.00
Hardware	\$28,128.00
SAN	\$67,900.00
Software	\$86,013.59
Phase 1 Total	\$479,041.59
Phase 2	
Implementation Services	\$90,000.00
Hardware	\$18,000.00
SAN	\$28,700.00
Software	\$11,810.25
Phase 2 Total	\$148,510.25
Final Total	\$627,551.84

Below we have included the detail for each proposed project phases. The Project Aspects and service/training hours are identical to those denoted within the Envisioning deliverable.

Phase 1 - Services & Training

Project Aspect	Importance	Acclimation time (Optional hours not included in Service Hours)	Service Hours	Investment
Active Directory Migration	High (Mandatory)	120	500	\$93,000.00
Exchange Migration	High (Mandatory)	120	420	\$81,000.00
System Center Operations Manager	High\Medium Optional\Mandatory	160	120	\$42,000.00
System Center Configuration Manager	Medium Optional	240	180	\$63,000.00
System Center Data Protection Manager	Medium Optional	40	80	\$18,000.00
Total Estimated				\$297,000.00



Leon County Microsoft Platform Migration Budgetary Estimate – October 2009



Investment (Services)				
Phase 2 - Services & Training				
Project Aspect	Importance	Acclimation time (Optional hours not included in Service Hours)	Service Hours	Investment
SharePoint Implementation	High\Medium Optional\Mandatory	200	160	\$54,000.00
Office Communications Server	Medium Optional	80	160	\$36,000.00
	Total Estimated Investment (Services)			\$90,000.00

Estimated Software Purchases Required

Below are the current estimated software purchases required for the project. The quantities may vary slightly depending on the feature sets determined during the design phase of the project. (Software pricing is estimates for budgeting purposes only and does not constitute a formal quote)

Software	Quantity	Each	Total
Phase 1			
Windows Sever 2008	10	\$ 548.75	\$ 5,487.50
Exchange 2007 Enterprise	4	\$ 3,064.45	\$ 12,257.80
Office Communications Server Enterprise	2	\$ 3,064.45	\$ 6,128.90
Systems Center Configuration Manager	1	\$ 438.00	\$ 438.00
Quest NDS Migrator	1800	\$ 10.00	\$ 18,000.00
			Sever Licenses
			\$ 42,312.20
Phase 2			
Windows Sever 2008	3	\$ 548.75	\$ 1,646.25
SharePoint Server 2007 Standard	3	\$ 3,388.00	\$ 10,164.00
			Optional Licensing
			\$ 11,810.25
CALs			
Library Pricing			
Windows Server 2008	387	\$ 8.31	\$ 3,215.97
Exchange 2007 Enterprise	136	\$ 9.78	\$ 1,330.08
Standard Government Pricing			



Leon County Microsoft Platform Migration Budgetary Estimate – October 2009



Windows Server 2008	742	\$ 24.15	\$ 17,919.30
Exchange 2007 Enterprise	742	\$ 28.62	\$ 21,236.04
		CAL's	\$ 43,701.39
Total Phase 1 Licensing			\$ 86,013.59



Leon County Microsoft Platform Migration Budgetary Estimate – October 2009



Services Estimation Details

Active Directory and Exchange Migration

- 120 hours Migration Design Workshop
- 80 hours POC for NDS\AD – GroupWise \ Exchange migration
- 600 hours for user\mailbox migration including workstations
- 120 hours for application migration
- 120 hours for training and staff augmentation (optional)

*Active Directory to Active Directory Migrations are not being considered in this document but should add approx 3 to 4 weeks for each depending upon the amount of objects being merged into the new AD infrastructure.

- 12 TB additional SAN space on each of the two replicated SANs
- Possible additional ESX server(s) needed
- 2 additional physical servers for Domain Controllers
- 4 Additional Physical servers for Exchange (not VoIP integrated)
- 2 powerful workstations for the Quest tools
- 4 physical servers for SQL 2008 general and future use (projects listed below)
- 120 hours for training and staff augmentation (optional)

SharePoint Implementation

- 160 Hours design and implementation to include
 - 3 generic Team Sites
 - 4 Managed Document libraries
 - 1 Process workflow using built in workflow actions
- 2 Additional Physical Servers for Index and Search functions
- Use of physical SQL servers listed above for configuration and content databases
- 3 to 6 virtual servers for administrative, content and service delivery SharePoint systems
- 200 hours for training and staff augmentation (optional)

SCOM Implementation

- 120 hours design and implementation to include
 - AD Management Pack
 - DNS Management Pack
 - DHCP Management Pack
 - Exchange Management Pack
 - SQL Management Pack
- 1 additional physical server for an extremely active SQL SCOM backend
- 1 additional virtual server



Leon County Microsoft Platform Migration Budgetary Estimate – October 2009



- 160 hours for training and staff augmentation (optional)

OCS Implementation

- 160 Hours design, implementation and integration (not VoIP integrated)
 - Enterprise Edition, Front End Server
 - Enterprise Edition, Back End Database
 - Enterprise Edition Consolidated, Edge Server
 - Mediation Server
 - Communicator Web Access Server
- 5 additional physical servers (non telephony hardware bound servers may be virtualization candidates)
- 80 hours for training and staff augmentation (optional)

SCCM Implementation

- 180 hours design and implementation to include
 - Default software application installation\configuration settings
 - 2 additional group software application installation\configuration settings
 - Logon script and GPO integration
 - Software utilization report
 - System patch and update report
- 2 additional physical servers – heavy I/O and SQL server – not virtualization candidates
- 240 hours for training and staff augmentation (optional)

SCDPM Implementation

- 80 hours envision, design and implement
 - Setup SQL 2005 protection group
 - Setup Exchange 2007 Protection Group
 - Setup SharePoint Protection Group
- Physical tape Library
- 1 additional Physical DPM server
- 5 initial TB of additional SAN space in each site
- 40 hours for training and staff augmentation (optional)

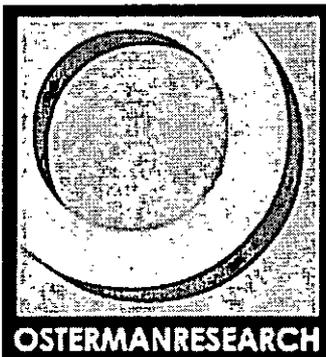
Comparing the Cost of Email Systems

An Osterman Research White Paper

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Why You Should Read This White Paper

E-mail is critical to the job performance and productivity of individuals who use a computer for a living. As a result, e-mail is critical to the success of organizations that employ people who use any sort of computing platform to do their work.

However, deploying and maintaining an e-mail system is not a trivial expense. Depending on an organization's specific requirements, the number of e-mail users it supports, the geographic distribution of its employees and other factors, e-mail systems can cost anywhere from US\$15 to \$50 per seat per month, and can be much more in some cases. Further complicating the problem is that e-mail costs are not as predictable as many decision makers would like them to be—a power outage, the outbreak of a new worm or the loss of key personnel can all drive up the cost of e-mail unexpectedly.

Because the labor required to manage the infrastructure and users accounts for up to two-thirds of the total cost of an e-mail system, and because labor costs continue to increase, organizations that are seeking to reduce the cost of e-mail should first try to reduce the amount of IT labor required to manage the system.

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Another key cost component is system downtime. Downtime is a so-called "soft" cost—organizations pay for downtime in lost employee productivity and missed opportunities rather than paying a direct cost of some sort. Consequently, many IT and business decision makers do not consider the cost of downtime when evaluating their current or new messaging systems.

WHAT IF YOU DON'T KNOW THE COST OF E-MAIL?

On one level, an organization's inability to accurately estimate the cost of providing e-mail services is not critical, since e-mail has become something of a utility and is absolutely critical to the operation of the enterprise. Even if e-mail costs were significantly higher, demand for its functionality would continue to keep use at very high levels in most organizations.

That said, an inability to accurately estimate the cost of providing e-mail services is a significant problem: when corporate decision makers evaluate the cost of their current or prospective messaging capabilities, they are making decisions without as much information as they need.

ABOUT THIS WHITE PAPER

Novell commissioned this white paper, but did not commission the survey data presented herein. Instead, Osterman Research conducted independent research (most of it conducted before Novell commissioned this white paper) to understand the cost of ownership for

various e-mail systems. We present the results of that research, as well as our analysis of what we think it means for organizations that are considering whether or not they should retain their current e-mail environment or deploy a new one.

AN IMPORTANT NOTE

History has shown that analyst firms that directly compare the cost of ownership for competing systems can sometimes create controversy—we anticipate that this white paper might do just that. However, Osterman Research wants to make two things absolutely clear:

- This white paper presents the results of independent research; the data collection or presentation was not designed to favor one vendor or another.
- All of the e-mail systems discussed in this white paper are leading systems from reputable vendors, and all provide excellent functionality and a robust roadmap for the future of their respective systems. This white paper does not take a position for or against any particular platform; our goal is simply to present research results and let the reader determine how best to interpret the data and apply it to their own environment.

We invite readers who might disagree with our calculations or conclusions to contact us directly—we look forward to discussing our methodology and conclusions.

What Does E-Mail Really Cost?

E-MAIL IS CRITICAL, BUT IT IS NOT CHEAP

It goes without saying that e-mail is a business-critical application, the most important communications tool employed by most users, and the primary file transport mechanism in most organizations. For example:

- Users spend an average of 152 minutes on a typical workday working in their e-mail client; based on an average workday of nine hours and nine minutes, working in e-mail represents 28 percent of the time spent by the average e-mail user on a typical workday.
- The average e-mail user in a small organization (up to 1,000 employees) sends and receives 124 e-mails each day, while the average user in a large organization receives 149 e-mails each day.
- 74 percent of the outgoing communications produced by the typical e-mail user are sent through e-mail.
- 35 percent of e-mail users consider e-mail to be important in helping them get their work done, while another 58 percent consider it to be critical.

In short, e-mail is absolutely vital in helping employees get their work done, and it is critical to organizations of all sizes.

E-mail represents a significant proportion of most organizations' IT budgets. E-mail systems consist of multiple servers, software, storage systems, security appliances, load balancers, tape or disk backup systems, and other hardware and software elements. Add to this the cost of maintenance contracts, consultants and a variety of other services designed to maintain the reliability and performance of the system. As policy management, archiving, encryption, data leak protection and other capabilities assume greater importance over time, the e-mail infrastructure in most organizations will continue to get more complex and more expensive.

The cost of hardware represents only a relatively small part of the overall cost of deploying and managing an email system over a normal three-year lifecycle.

LABOR IS THE LARGEST E-MAIL-RELATED EXPENSE

Despite the significant cost of the hardware and software necessary to deploy and maintain e-mail functionality, labor is by far the most significant expense in maintaining an e-mail system. The full-time equivalent (FTE) IT staff that are necessary to maintain the system typically represent one-half to three-quarters of the total lifecycle cost of an e-mail system, although this can vary based on a number of factors.

There are several key inferences that can be drawn from this:

- Despite the concerns that many have about the requirement for 64-bit hardware in some e-mail systems, the cost of hardware represents only a relatively small part of the overall cost of deploying and managing an e-mail system over a normal three-year lifecycle. In other words, an organization can purchase very high-end hardware for its e-mail servers and yet make relatively little impact on the overall cost of their e-mail infrastructure.
- E-mail systems should be chosen with the cost of labor as a top-of-mind issue. While the cost of labor may be more difficult to quantify and, hence, not a key factor for some decision makers, it should be considered.
- The cost of downtime for an e-mail system should also be considered, in part because of its impact on overall labor costs. For example, e-mail downtime requires IT staff to detect, diagnose and remediate, which drives up labor costs. More importantly, however, e-mail downtime typically results in reduced end user productivity. Because the typical e-mail user is about 25 percent less productive during periods of e-mail downtime, and because a downtime incident can potentially impact thousands of users, even short periods of downtime can impose a significant cost—albeit a soft cost that is more difficult to quantify.

MIGRATING E-MAIL SYSTEMS CAN BE EXPENSIVE

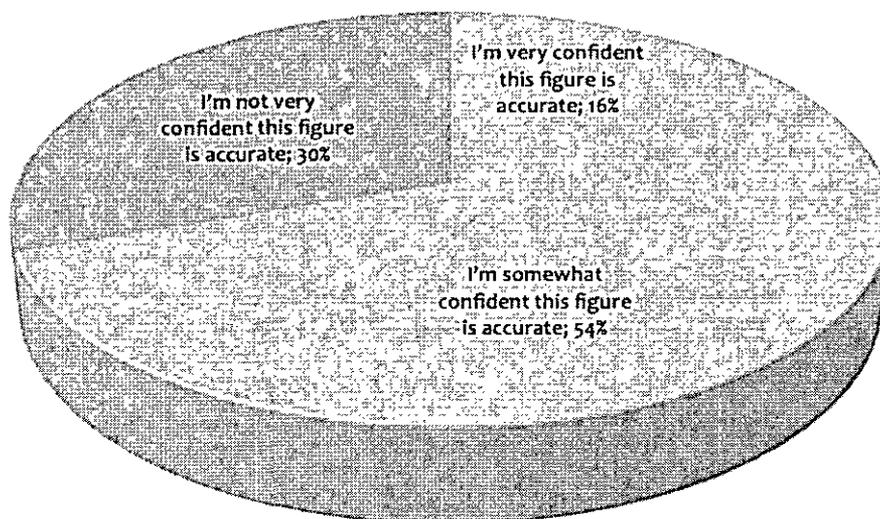
Another potentially significant expense is migrating from one e-mail system to another. While many decision makers are eager to migrate to another system, they should take into

account the significant initial expense involved in doing so, as well as the ongoing costs that they might incur.

DO YOU KNOW WHAT E-MAIL COSTS?

One of the interesting issues that Osterman Research has uncovered in various surveys is that many decision makers underestimate the cost of deploying and managing their e-mail infrastructure, and also that the vast majority of decision makers are not confident in their ability to estimate these costs, as shown in the following figure.

**Confidence in Decision Makers' and Influencers'
Ability to Estimate Messaging Costs**



In good economic times, there is a less critical need to be able to accurately estimate the costs of critical infrastructure elements like e-mail. In poor economic times, however, decision makers become more acutely aware of the need to cut costs, and e-mail services are by no means immune from these types of financial considerations. As a result, many decision makers are considering ways in which they can cut e-mail-related costs, including the use of hosted and managed services, migrating to messaging systems that offer lower licensing costs, and so forth. Key in this decision process, however, is the ability to know what e-mail *really* costs.

Comparing the Cost of Leading E-Mail Systems

SURVEY DATA AND METHODOLOGY

Osterman Research conducted two surveys among users of various messaging systems. Results from a total of 132 surveys were completed during November–December 2008 and also during April 2009, with members of the Osterman Research Survey Panel and other opt-in contacts available to Osterman Research. The goal of this research, in part, was to determine two things:

- How many users can be supported per FTE administrator?
- How many minutes of unplanned downtime are experienced in each environment during a typical month?

Our research findings are shown in the following table and figure.

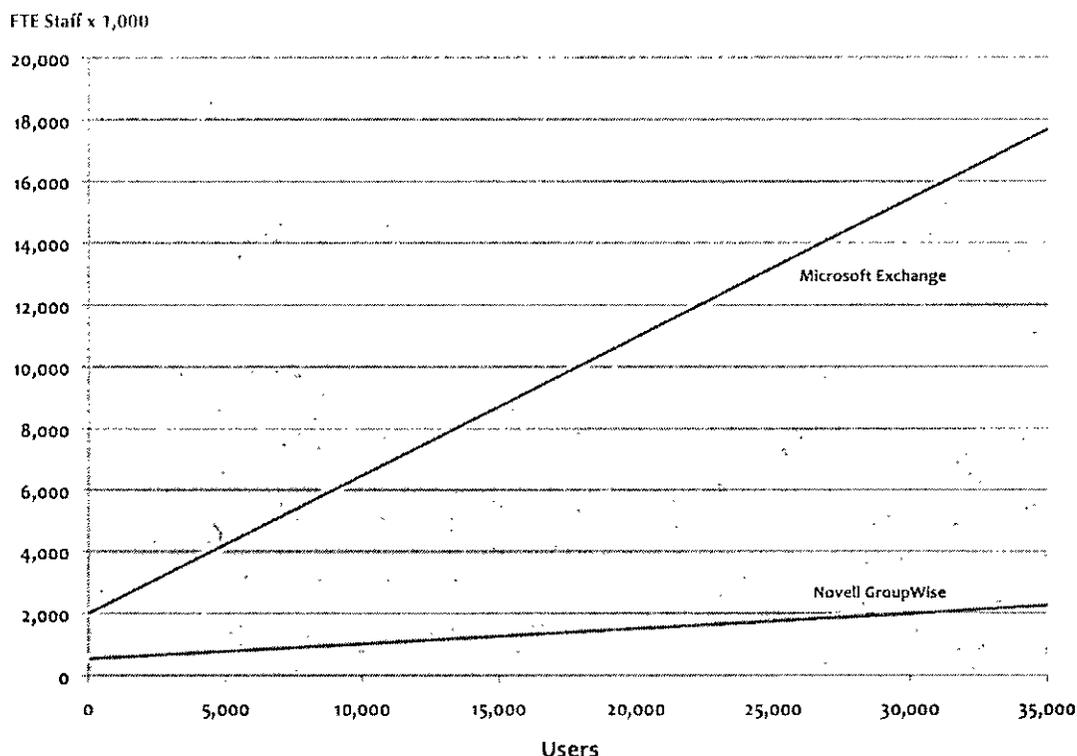
Research Results

ALL RESULTS	GroupWise	Exchange	Domino
Mean users	4,427	13,869	28,077
Median users	1,000	1,300	13,815
Mean users supported per FTE	20,832	1,631	2,681
Median users supported per FTE	3,000	854	2,301
Mean minutes of downtime per month	8	41	124
Median minutes of downtime per month	0	10	13
ORGANIZATIONS WITH 1,000+ USERS	GroupWise	Exchange	Domino
Mean users	7,958	21,836	32,034
Median users	3,700	4,000	18,415
Mean users supported per FTE	37,313	2,379	3,037
Median users supported per FTE	10,000	1,625	2,779
Mean minutes of downtime per month	10	26	141
Median minutes of downtime per month	0	10	15
ORGANIZATIONS WITH UP TO 5,000 USERS	GroupWise	Exchange	Domino
Mean users	1,207	1,286	-
Median users	613	900	-
Mean users supported per FTE	21,157	1,007	-
Median users supported per FTE	1,785	500	-
Mean minutes of downtime per month	5	46	-
Median minutes of downtime per month	0	10	-

¹ Insufficient survey results were collected for smaller Notes/Domino-enabled organizations

Comparing the Cost of Email Systems

FTE Staff Required by Users Supported
Linear Trendlines



WHAT THIS TOLD US

The results we obtained in this research are consistent with many other Osterman Research survey results: GroupWise tends to be used by smaller organizations (with some notable exceptions), Notes/Domino tends to be used by much larger organizations (again, with exceptions), while Exchange tends to be used by a much broader range of organizations.

Further, the figure above shows that, in general, GroupWise requires a lower level of IT support per 1,000 users than many other leading e-mail systems. Certainly, there will be variations based on a variety of factors, including the geographic distribution of users supported by an e-mail system, the number of servers employed, etc., but our research shows that IT requirements for GroupWise are generally lower than for the competitors we studied.

CALCULATING TOTAL COST OF OWNERSHIP

The results used in the analysis below were not selected according to any particular criteria, nor were they "high-graded" so that a particular slant on the data could be obtained. Instead, we used every survey in which respondents provided complete answers to our questions.

Further, it is important to note that we have not focused on all of the costs of deploying each e-mail system, since we chose to focus on the differential costs between the systems. For

Comparing the Cost of Email Systems

example, we did not include the cost of the antivirus spam servers, appliances or third-party services, since these will be similar across all of the platforms and are not truly a direct cost of the e-mail platform itself.

**Basic Assumptions Used
in the Cost Analysis**

Assumption	Value
Fully burdened annual salary, IT admin	\$80,000
Annual wage growth, IT and non-IT	5.0%
Mean hourly labor cost, non-IT, year 1	\$28.47
Mean hourly labor cost, non-IT, year 2	\$30.29
Mean hourly labor cost, non-IT, year 3	\$31.80

SMALL ORGANIZATIONS

As shown in the following table, we have assumed a simple, 100-seat deployment for GroupWise and Exchange built on Windows Server 2008. Note that we did not compare Notes/Domino in this analysis based on the lack of sufficient research data to support any meaningful conclusions about the total cost of ownership for the platform.

Comparing the Cost of Email Systems

Three-Year TCO for
a 100-Seat Deployment

HARDWARE	GroupWise on Windows	GroupWise on Linux	Exchange
E-mail server (Dell PowerEdge T510)	\$2,378	\$2,378	\$2,378
Three-year 24x7 support, four-hour response	\$2,199	\$2,199	\$2,199
SOFTWARE	GroupWise on Windows	GroupWise on Linux	Exchange
Server software	\$0	\$0	\$699
Client access licenses, 100	\$14,300	\$14,300	\$6,700
Software maintenance for 100 clients	\$9,700	\$9,700	\$10,500
Windows Server 2008 or SUSE Linux Enterprise Server	\$3,699	\$4,050	\$3,699
Server OS software client access licenses or equivalent, additional 75 (Windows only)	\$2,996	\$0	\$2,996
Clients, 100	\$0	\$0	\$10,000
LABOR	GroupWise on Windows	GroupWise on Linux	Exchange
Full-time equivalent IT admins	0.1	0.1	0.4
IT admin cost (Year 1)	\$8,000	\$8,000	\$32,000
IT admin cost (Year 2)	\$8,400	\$8,400	\$33,600
IT admin cost (Year 3)	\$8,820	\$8,820	\$35,280
DOWNTIME	GroupWise on Windows	GroupWise on Linux	Exchange
Unplanned downtime, minutes per month	5	5	30
Employee productivity loss during downtime	25%	25%	25%
Cost of downtime (Year 1)	\$712	\$712	\$4,271
Cost of downtime (Year 2)	\$757	\$757	\$4,544
Cost of downtime (Year 3)	\$795	\$795	\$4,770
TOTAL THREE-YEAR TCO	\$62,756	\$60,111	\$153,636
TOTAL THREE-YEAR TCO PER USER	\$628	\$601	\$1,536
TOTAL ANNUAL COST PER USER	\$209	\$200	\$512
TOTAL MONTHLY COST PER USER	\$17.45	\$16.70	\$42.68

As shown above, the cost of IT labor represents 48 percent of the total, three-year cost of ownership for GroupWise, whereas labor represents 70 percent of the cost of ownership for Exchange.

MID-SIZED AND LARGE ORGANIZATIONS

For a larger deployment of 1,000 seats, we have assumed a somewhat more complex environment:

- **GroupWise**
We have assumed that the Post Office and eDirectory server roles are deployed on two servers.

Comparing the Cost of Email Systems

- **Exchange**
We have assumed the use of four server roles: Client Access, Mailbox, Hub Transport and Active Directory. We have not included the Unified Messaging or Edge Transport server roles in this analysis, since we are comparing just e-mail functionality.
- **Domino**
We have assumed the use of IBM Lotus Domino Express, which combines the server and client licensing costs into a single, per-user fee.

Three-Year TCO for
a 1,000-Seat Deployment

HARDWARE	GroupWise on Windows	GroupWise on Linux	Exchange	Domino
E-mail server (Dell PowerEdge T510)	\$4,756	\$4,756	\$9,512	\$4,756
Three-year 24x7 support, four-hour response	\$4,398	\$4,398	\$8,796	\$4,398
SOFTWARE	GroupWise on Windows	GroupWise on Linux	Exchange	Domino
Server software	\$0	\$0	\$15,996	\$0
Client access licenses, 1,000	\$143,000	\$143,000	\$67,000	\$112,000
Software maintenance, 1,000	\$97,000	\$97,000	\$105,000	\$40,320
Windows Server 2008 or SUSE Linux Enterprise Server	\$7,398	\$9,100	\$14,796	\$7,398
Server OS software client access licenses or equivalent, additional 975 (Windows only)	\$38,951	\$0	\$38,951	\$38,951
Clients, 1,000	\$0	\$0	\$100,000	\$109,000
LABOR	GroupWise on Windows	GroupWise on Linux	Exchange	Domino
Full-time equivalent IT admins	0.4	0.4	2.0	2.0
IT admin cost (Year 1)	\$32,000	\$32,000	\$160,000	\$160,000
IT admin cost (Year 2)	\$33,600	\$33,600	\$168,000	\$168,000
IT admin cost (Year 3)	\$35,280	\$35,280	\$176,400	\$176,400
DOWNTIME	GroupWise on Windows	GroupWise on Linux	Exchange	Domino
Unplanned downtime, minutes per month	5	5	45	30
Employee productivity loss during downtime	25%	25%	25%	25%
Cost of downtime (Year 1)	\$7,118	\$7,118	\$64,058	\$42,705
Cost of downtime (Year 2)	\$7,573	\$7,573	\$68,153	\$45,435
Cost of downtime (Year 3)	\$7,950	\$7,950	\$71,550	\$47,700
TOTAL THREE-YEAR TCO	\$419,024	\$381,775	\$1,068,212	\$957,063
TOTAL THREE-YEAR TCO PER USER	\$419	\$382	\$1,068	\$957
TOTAL ANNUAL COST PER USER	\$140	\$127	\$356	\$319
TOTAL MONTHLY COST PER USER	\$11.64	\$10.60	\$29.67	\$26.59

Comparing the Cost of Email Systems

The distribution of costs for the major cost elements for each platform is summarized in the following tables.

Distribution of Costs for
a 100-Seat Deployment

100 USERS	GroupWise on Windows	GroupWise on Linux	Exchange
Hardware	7%	8%	3%
Software	49%	45%	23%
Labor	40%	43%	66%
Downtime	4%	4%	9%

Distribution of Costs for
a 1,000-Seat Deployment

1,000 USERS	GroupWise on Windows	GroupWise on Linux	Exchange	Domino
Hardware	2%	2%	2%	1%
Software	68%	65%	32%	32%
Labor	24%	27%	47%	53%
Downtime	5%	6%	19%	14%

Quotes from Novell GroupWise Customers

The following are data and quotes taken directly from Osterman Research surveys of Novell GroupWise customers:

- Department in a US state with 350 users**
 “[Management of GroupWise] is a small part of my many duties. GroupWise is near maintenance free. Running on SUSE Linux Enterprise Server 10 I never have to touch it. Makes life and my job easy as well as making my CIO happy!”
- US university with approximately 5,000 total users**
 “There are two of us who work on GroupWise, but we spend maybe a combined 1–2 hours a week working on it on a bad week. Most weeks we don't do anything but an occasional check to ensure everything's OK—it is! Blackberry Enterprise Server (BES), on the other hand, takes many hours (maybe 12) a week to keep our 30 or so users going and add new users—it's complex! We haven't had any unplanned downtime in years, and planned downtime is maybe an hour once or twice a year.”
- US county government with 4,763 mailboxes**
 “We have one FTE for GroupWise. That's me. Although it could be argued that I only spend 60 percent of my time on GroupWise (including BlackBerry and anti-spam), and 40 percent of my time on e-discovery and implementing a new e-mail archive server.

Downtime depends on if you count GroupWise WebAccess. Without counting WebAccess, total unplanned downtime of the post offices is in the 'under five minutes per month' range. If you count WebAccess, then downtime jumps to 30 minutes per month. Our WebAccess is a lightly used 'client' though, and not a back-end server. Only 20–30 people use WebAccess, so it may or may not matter.”

- **US university with 28,000 active mailboxes**
“We have a team of five who share all our duties, managing roughly 300 servers. Of those servers, 35 are the production GroupWise system. I would estimate our time involvement across all of us to be maybe 0.5 (1/2) FTE.”
- **US construction company with 225 users**
“We used to have a part-time person, but... their position was eliminated a couple months ago. Now we just have two of us that work on the system whenever we need to. We spend no more than five hours a week working on the e-mail system. So, very low overhead to manage it. It is hard to pinpoint [our downtime], but it is less than 15 minutes a month of unplanned downtime. Most of it is the occasional time to reboot the server and most users don't even notice it.”
- **Department in a US state with 3,700 users**
“We have about 200 internal users and about 3,500 external users. I am the GroupWise administrator and although I am full time, I only spend about 15 minutes per week on GroupWise, and that is only due to user requests (DL change, etc). As far as maintenance, GroupWise does it automatically, so really the only time I am in the GW management tool is for user changes. I cannot remember having any unplanned downtime.”
- **University in Australasia with approximately 3,700 mailboxes**
“We do not have any staff devoted to looking after our GroupWise system! We have about three people who can look after it if required, but they have other tasks as well. We might spend a total of two hours a week on it if we were unlucky—and that could be split between those three people. I'm not including normal administrative tasks in this time—user moves, account creations, etc.—as this is done by the service desk, nor do I know how much time our desktop support staff spend with client-related issues either. All I see is what either of the two previous groups can't deal with and any configuration or service functionality problems. My guess says [downtime] probably averages less than 30 minutes a month.”

“We have about 200 internal users and about 3,500 external users. I am the GroupWise administrator and although I am full time, I only spend about 15 minutes per week on GroupWise.”

Summary

E-mail is critical to virtually any organization and, like a utility, it must operate as close to 100 percent of the time as possible. Deploying and managing e-mail systems is expensive, even in the best of circumstances, but there are significant differences in the cost of messaging systems, driven largely by differences in the amount of IT labor required to manage the them. Independent research conducted by Osterman Research has demonstrated that Novell GroupWise offers a lower cost of ownership compared to other leading systems, due primarily to the relatively small investments required by IT staff to maintain the system. GroupWise also enjoys little downtime in most cases, further reducing its cost of ownership.

About Novell GroupWise

Novell GroupWise is a comprehensive collaboration platform that combines e-mail, instant messaging, calendaring, contact management, task management and Web 2.0 tools into a coordinated platform. GroupWise permits users to create personalized dashboards for various projects, team roles or activities. Supported GroupWise clients run on Windows XP, Windows Vista, Mac or Linux platforms; and can be accessed via the Web using Internet Explorer, Firefox or Safari. The GroupWise product family also includes a mobile server that runs on either Windows or Linux.

GroupWise runs on multiple server platforms, including Windows Server 2003 or 2008, Novell Open Enterprise Server (NetWare or Linux versions), Novell Open Enterprise Server 2 (NetWare or Linux versions), NetWare 6.5 or SUSE Linux Enterprise Server 10. It supports Novell eDirectory and runs on either 32-bit or 64-bit server platforms.

More information is available at <http://www.novell.com/products/groupwise/>.

Comparing the Cost of Email Systems

Appendix – Survey Data

Survey Data Generated by Osterman Research

Novell GroupWise		Microsoft Exchange		Lotus Domino	
Users	FTE Staff	Users	FTE Staff	Users	FTE Staff
27,537	1.0	100,000	38.0	152,100	80.0
23,676	1.0	72,000	35.0	80,000	15.0
17,000	1.0	21,000	6.0	70,000	12.0
13,000	1.0	15,000	3.0	29,100	8.0
13,000	3.0	12,800	1.5	23,400	3.0
10,047	1.0	12,000	13.0	21,850	5.0
8,000	0.5	12,000	4.0	20,000	7.0
6,500	2.0	7,500	4.0	16,830	5.0
6,000	3.0	7,000	1.0	10,800	4.0
5,600	0.1	7,000	5.0	6,650	8.0
5,000	0.1	6,500	50.0	6,000	40.0
3,810	0.6	6,500	4.0	5,300	3.0
3,700	0.0	6,200	3.0	5,000	4.0
3,700	0.1	6,000	4.0	1,440	2.0
3,600	1.0	5,500	5.0	400	2.0
3,500	0.2	5,000	4.0	360	2.0
3,300	0.3	4,500	1.5		
3,200	1.0	4,000	2.0		
2,800	1.0	4,000	2.0		
1,500	0.4	4,000	1.5		
1,500	1.0	3,500	1.5		
1,300	1.0	2,500	0.3		
1,300	0.1	2,500	3.0		
1,200	1.0	2,500	1.0		
1,000	1.0	2,400	1.0		
1,000	0.8	2,100	3.0		
1,000	0.1	1,500	8.0		
850	1.0	1,500	2.0		
800	0.5	1,500	1.0		
800	0.3	1,100	4.0		
650	0.3	1,000	4.0		
575	0.1	1,000	1.0		
550	0.3	1,000	1.0		
500	0.5	1,000	2.0		
450	0.8	1,000	1.5		
450	0.5	1,000	2.0		
450	0.5	1,000	1.5		
427	0.1	900	2.0		
350	0.3	800	2.0		
250	0.1	750	1.0		
225	0.1	700	10.0		
200	5.0	700	3.0		
185	0.3	500	0.5		

Comparing the Cost of Email Systems

Survey Data Generated by Osterman Research
 (concluded)

Novel GroupWise		Microsoft Exchange	
Users	FTE Staff	Users	FTE Staff
177	0.1	400	1.0
70	0.0	400	1.0
70	0.1	300	1.0
65	0.2	300	4.0
50	1.0	290	1.0
50	0.1	289	1.5
45	1.0	250	0.3
30	0.0	250	2.0
10	0.1	225	2.0
		210	1.0
		200	2.0
		200	2.0
		175	0.2
		125	0.5
		115	1.0
		112	0.2
		100	0.3

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