Mecklenburg County

2007 eGovernment Strategic Plan

November 2007

Table of Contents

Executive Summary	3
Current State—Department Interviews	6
Major Trends—Industry Research	9
eGovernment Strategies	13
Appendix A—County IT Projects	18
Appendix B—Application Components	21
References	23

Executive Summary

Mecklenburg County is a vibrant, progressive county located in the heart of the Southeastern part of the United States. In May 2001, the Mecklenburg Board of County Commissioners adopted a vision for the community called the 2015 Vision. In this vision, it states that "in 2015, Mecklenburg County will be a place of pride and choice for people to live, work, and recreate." Please refer to the Strategic Business Plan for more details.

2005 eGovernment Strategic Plan

To meet this vision, the County established an eGovernment Strategic Plan in 2005. Full participation from all parts of the organization allowed the eGovernment Strategic Plan to accurately reflect the County's needs. As a result, eight key strategies were identified.

- Support mobile workers and customers.
- Provide a collaborative work environment for knowledge workers.
- Expand customer and employee self-service capabilities as aggressively as practical.
- Improve usability and integration of data.
- Provide a reliable, flexible, functional, secure, and efficient information technology infrastructure.
- Improve service delivery to customers with limited English proficiency.
- Expand enterprise support of electronic systems.
- Deliver information technology services in a cost efficient manner.

It is through these strategies laid out several years ago that County workers and citizens enjoy many of the new technologies today. Below is a quick summary of notable items.

- Teleworking Pilot
- Broadband Wireless for Field Workers
- ePayment Services for Citizens
- New Laptops/Desktops
- Exchange/Outlook
- SharePoint
- Wireless Hotspots for Public and Internal Use
- Virtualized Servers
- Instant Messaging Pilot
- Video-conferencing
- BlackBerrys
- Storage Area Networks (SANs)
- Departmental Specific Projects

To continue to meet these goals, IST collaborated and met with all County departments, three Focus Area Leadership Teams, and the Executive Team to update this eGovernment Strategic Plan in the fall of 2007. The goal is to ensure that we continue to align the information technology needs with the strategic business needs of Mecklenburg County.

What is eGovernment?

eGovernment is electronic customer service. This could include residents filling out online forms, reserving a park facility, looking up information on the web, and paying for County services online. It also includes County employees accessing computer systems and applications, locating electronic information, gaining access to IT services and resources, and many other

tasks. In essence, eGovernment includes all services, both internal and external, provided by information technology.

The eGovernment Strategic Plan identifies key business needs and develops information technology strategies that will enable the County to achieve its goals. It provides a basis for information technology decisions, including IT priorities, budgets, and resources.

Business Needs

While meeting with each department, there were several business needs expressed which are summarized below. For additional details, please refer to the section entitled Current State—Departmental Interviews.

- Internet presence needs to be enhanced.
- Provide self-service for more services.
- Ensure easy/timely access to info.
- Provide additional videoconferencing.
- Address eDiscovery and privacy needs.
- Provide additional disaster recovery capabilities.
- Expand wireless and mobile access.
- Provide tools for knowledge workers.
- Ensure sustained funding for IT.
- Converge voice and data (VOIP).
- Retain knowledge before staff retire.
- Address additional information sharing needs.

Society Trends and Research

Afterwards, we also met and discussed what societal and information technology trends were emerging that would impact the County strategically. These trends were gathered by researching trade journals, advisors, information technology experts, and various industry events. All of these trends were repeatedly reflected in the interviews. Each has major implications to the County work and technical environment in which we serve our customers.

- Consumerization of IT
- Web 2.0—A Computing Platform
- Mobility of Workers and Customers
- Electronic Discovery
- Virtualization
- Collaborative Internet Tools
- Generational Diversity
- Knowledge Management
- Green IT

2007 eGovernment Strategies

The consistency between department interviews, IST's input, and research gathered from professional sources gives confidence that this eGovernment Strategic Plan accurately reflects the business issues that must shape the County's information technology strategies. The culmination of this work is the articulation of nine specific eGovernment strategies which are listed below.

- **Support mobile workers and customers** in accessing information and conducting business without traveling to County facilities.
- **Improve collaboration** for County knowledge workers and citizens to enable productivity, creativity, and innovation.
- **Expand self-service** capabilities to enable anytime, anywhere access to information and services.

- **Improve usability and integration of data** to provide easy and timely access to information by staff and customers and reduce or eliminate information silos.
- **Improve data management** for County workers and customers.
- **Expand the use of web** based tools and applications which will allow users to access information anytime, anywhere.
- **Adopt more efficient technologies and work processes** by streamlining business processes, using technology to gain more efficiency, and looking for innovative ways to solve business needs.
- **Expand disaster recovery and reliability** within the information technology infrastructure for critical services.
- **Provide a sustained funding model** for information technology needs within the organization to ensure that the County continues to meet its overall goals and objectives.

The construction of this eGovernment Strategic Plan was made possible only through the active participation of numerous employees. The eGovernment Strategic Planning Committee is indebted to these people for their past and continuing efforts.

Geospatial Information Services (GIS) Strategic Plan

Geospatial Information Services (GIS) plays a key role in providing information technology solutions. Roughly 80 percent of the average local government's work involves geographically related issues or tasks. GIS plays a critical role bringing all of this information together in a seamless framework. GIS brings together disparate groups of people with different knowledge bases and helps them understand problems through a common, visual language. There was broad consensus and recognition that any discussion of information technology strategies should include GIS. Therefore, for additional information regarding specific GIS strategies and initiatives please refer to the Geospatial Information Services Strategic Plan. This can be located at the following web address:
http://charmeck.org/Departments/Geospatial+Information+Services/General+Info/Home.htm.

Current State—Department Interviews

Interviews with departments and Focus Area Leadership Teams revealed a number of recurring themes, which are presented below. This summary also serves as a clear SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis from the interviewee perspective.

Customer/Stakeholder

- More citizens are technology-savvy and expect more self-service. Departments see self-service as an opportunity for efficiency and convenience. Many felt we currently have a lot of services payable on the web; however, it is difficult to navigate and find information and services.
- The County's Internet presence needs to be enhanced. Departments stated that it's difficult to find information, material is out of date in many cases, and there is little consistency between department pages. Many mentioned that we have a very limited amount of staff working full-time performing web administration.
- Expectations for self-service increases as citizens seek functionality on par with leading private sector companies such as eBay, Amazon, and others. Accessibility is an issue cited by many. It is difficult to find eGov services.
- Some residents challenge local government to provide services that compete with those offered by private companies—ePayments, wifi hotspots, online forms, and more.
- Hispanic and other immigrants have created a need for multilingual employees to mitigate language barriers. However, many mentioned that it wasn't easy finding a technology answer to the problem since 20% of the County Latino population is illiterate.
- Other demographic factors create additional pressures. The general aging of the population increases demands for many social services. Disabled customers, for example, have special needs in voting and recreation.

Business Process

- The County's significant mobile work force continues to expand, particularly as County services are being pushed out into the community. These employees expect supporting information technology on par with an office-based environment, allowing them to conduct business fully in the field or from their homes.
- Many of the County's business partners are also increasingly mobile and expect wireless access.
- More information sharing opportunities should be pursued, such as information sharing across sites, departments, and external provider partners, such as schools, hospitals, state agencies, etc.
- Business process reengineering skills need to be expanded. Simply automating broken processes doesn't resolve issues. The underlying business processes need to be examined before simply providing a computer automation solution.
- New laws and legal precedence have created new privacy concerns and eDiscovery issues over the past several years. New tools, budgets, and resources are needed to ensure that the County meets this growing challenge.
- Legislative changes can be unpredictable and cause significant impact. As an example, recent voting law changes created new demands for equipment and voting practices.

- Storing documents electronically will enable citizens and employees access to the information anytime, anywhere.
- More search tools need to be used within the County. Many departments indicated that the County has a large amount of data; however, it is difficult to find the right information in a timely manner.
- Efficiencies can be gained by converging voice and data with IP telephony. Also, departments indicated they'd like to explore single-phone solutions and the ability to have voice mail integrated with the County's email system.

Financial

- It has been said many times at the County that "even in the best of economic times, there will never be enough money to pay for all funding requests."
- Information technology budgets need to be properly aligned with the business needs of the organization. Many departments expressed discontent with the Technology Reserve budget priorities, particularly since the PC Replacement request was not initially funded.
- The financial commitment to eGovernment and information technology has not been consistent. Departments expressed a desire to ensure that there is a sustained funding model structure put in place to make sure their needs are met.

Employee/Organizational Capacity

- More technical staffing resources are needed to provide adequate service, particularly for web management. Many departments stated that they'd like to simply provide content and let professional web developers use the latest tools and technologies to present the information to the outside world.
- Most businesses, including the County, now employ fewer clerical workers. Therefore, most organizations look to hire more knowledge workers. The concept of a "high performance workplace" is sometimes used to describe the desirable transition to these higher-functioning jobs.
- Some employees welcome culture change, but other are more resistant. Many people are open to technology and automation changes, but others aren't. Training individuals on how to properly use technology was an issue raised by many departments.
- Generational diversity brings its own set of challenges. Older workers retain the bulk of institutional knowledge, which can be lost as these employees retire. However, they are least likely to use the tools designed to capture the institutional knowledge that they possess. However, younger workers expect more technology. These facets are significant to recruitment, retention, and retirement. Knowledge Management (KM) can bridge the difficulties in preserving institutional knowledge.
- Workplace changes create an ongoing demand for retraining, including learning about technology and how to use it within the context of their job. There is a desire for technology-based training options—computer based training, webcasts, streaming video, video conferencing, etc.
- Many departments expressed a desire to expand teleworking and field work initiatives. Therefore, the County needs to continue providing additional resources to provide these capabilities. Many mentioned wanting the ability to connect to County resources remotely without having to load additional software or having to use different methods of

connecting if they use different applications. In other words, they'd like seamless access to all County resources as an employee.

- Many jobs have been automated and computerized over the past several years. Therefore, employees are "dead in the water" if the computer system fails. Disaster recovery expansion was cited as a major need by many departments.
- Departments indicated a need to provide more collaboration tools such as instant messaging, videoconferencing, call centers, etc.

Major Trends—Industry Research

Several major societal trends were identified in our strategic plan research. We gathered information from professional journals, advisors, and industry events. All of these trends were reflected in our departmental interviews. These trends affect public and private organizations alike and are addressed strategically by this plan.

The Consumerization of Information Technology

Usage of the Internet has exploded over the past decade. Almost everyone has access to the Internet. In a 2007 Mecklenburg County Community Survey, it was discovered that 79% of citizens who responded have access to the Internet. Many of these own their own PCs and have personal Internet service subscriptions. Consequently, a very large percentage of our citizens and employees are consumers of technology products and services in their personal lives such as eBay, Amazon, online banking, tax software, and many others.

What are the implications of this movement? First, there are increasing expectations of citizens and employees for more Internet services from government. They not only expect the capability, but assume it will be available 24 x 7 and will be easy to use. Secondly, they are exposed to new technologies and capabilities they would like to use in the workplace. Years ago, technology was introduced in the business community and eventually made its way to the consumer market. However, in today's economy, much of the new, innovative technologies are introduced in the consumer market and eventually find their way to the business community. This is both an opportunity and a threat. It is an opportunity because of potential benefits of new capabilities, increasing productivity, and innovation. However, it can be a threat because the new products may present security, reliability, or other negative impacts on the County's information technology infrastructure. The challenge for the County is to balance the need to embrace these new, innovative technologies being driven by the users while maintaining a secure, reliable network.

Collaborative Internet Tools

Over the past decade, the Internet has spawned a new generation of tools and services available to businesses and customers. These tools allow people to communicate and collaborate in new, exciting ways.

- **Instant Messaging (IM)**: IM allows users to immediately communicate and carry on a live conversation. Also, this allows users to see if their friends and coworkers are currently available through presence awareness. The younger generation of workers has eagerly embraced instant messaging as a mechanism to communicate while talking on the phone, responding to email, and doing other tasks.

- **Social Networking**: More and more people today meet, communicate, and do business with others by accessing social networking sites such as MySpace or FaceBook. It gives people access to other people with similar interests, backgrounds, and ideas. It's a virtual environment giving users the freedom to make friends and business acquaintances

globally as never before. It allows people to exchange ideas and collaborate with others who share the same interests socially, economically, and politically.

- **Web Blogging and Wikis**: Today, people look to wikis such as Wikipedia as well as web blogs to find information. Blogging has become a mainstream way of expressing one's opinions and a mechanism to convey ideas. Within corporate America it has become a way for people to capture information and allows people to locate knowledge experts for a given area. This technology allows everyone to collaborate and share their expertise and knowledge.

Many other collaborative tools and technologies are emerging and evolving that allow us to communicate. Many people today use web-cams to be seen as they chat online. Others use the Internet to make voice calls to their relatives here in the United States or across the world without incurring long distance charges. Many people exchange digital files and electronic media by Internet sites designed to allow users to quickly and easily find information posted by millions of users. More and more people enjoy the online tools that are being developed daily and expect this same, rich collaborative environment as they access resources from Mecklenburg County.

Web 2.0—A Computing Platform

The consumerization of information technology is transitioning the Web from a collection of web sites to a rich, diverse computing platform. This new platform serves applications to end users, provides access to information, and provides universal access for a large number of devices. Any number of devices can take advantage of this new platform—desktop computers, tablet PCs, smart-phones, PDAs, and others. This transition will result in most large organizations embedding more web technologies into their computing environments, making it the platform of choice moving forward.

The number of tools and resources has exploded over the past five years making them universally accepted. From instant messaging, social networking sites, Internet file sharing capabilities, web blogging, wikis, and many more being created daily, it's difficult to keep up at times. The combination of tools, applications, and a rich development environment has created tremendous opportunities for organizations. Though it grew up in the hands of consumers, businesses are now embracing these sets of tools to create a rich, web environment to reach out to their workers and customers.

Generational Diversity

The workplace is changing dramatically as a new generation of workers joins the work force. This group, the Millennials (born between 1980 and 2000), is different in many respects from previous generations. Millennials are very technology literate, use a diverse range of digital media, and are visually oriented. As a group, they tend to multi-task and prefer interactivity as they process information and construct knowledge. For instance, they enjoy communicating and interacting with others across the Internet using tools such as instant messaging. They also are involved in popular social networking sites such as MySpace and spend a great deal of time viewing multimedia sites such as YouTube. The Millennials have been using computer

technology since they were in elementary school. Therefore, it has become second nature for them to use and expect it.

In contrast, this is very different than the older workers who generally prefer to perform a single task at a time and are typically less technology literate. Therefore, the challenge will be to provide the technology diverse and rich work environment required to stimulate and support the new workers, yet accommodate the different needs of other work groups that include Baby Boomers (born between 1946 and 1964), Generation X (born between 1965 and 1980), and Veterans (born prior to 1946). As older workers retire, it is especially important to have an attractive work environment for the Millennials.

Mobility of Workers and Customers

Today, plugging into the Internet has become pervasive. As such, accessing the Internet has changed dramatically. People expect access in all shapes and forms including wireless. There are a multitude of technologies that have made wireless access ubiquitous. People today enjoy wifi hotspots in restaurants and coffee shops, broadband services offered by cellular companies, and cell phones accessing web sites. Mobile staff and citizens expect to be able to access County information and systems wherever and whenever they wish. They want to have the capability to function in an equivalent manner to office workers but no longer wish to be constrained by the office environment.

Knowledge Management

Knowledge Management (KM) is a simple concept. As Forrester puts it, “it’s about how people across organizations create, capture, and share information to support innovation, product, and service delivery activities.” The purpose of KM is to enable enterprises to manage their intellectual assets because of the value within them. One goal of knowledge management is to imbed learning into processes and practices to increase the overall competency of the organization. Many of the social networking platforms and collaboration tools described previously allow people to quickly and easily communicate with co-workers and others across the globe. Other collaboration tools such as wikis allow users to find information quickly and easily and to locate experts on given subjects. Tools such as these foster learning and adaptation to change in an ever changing marketplace. Therefore, providing tools and resources to enable knowledge management is essential moving forward.

Electronic Discovery

The Federal Rules for Civil Procedure were amended in 2006 to require organizations to retain electronic records and be able to provide these upon request for legal proceedings. Organizations are expected to comply with these civil procedures and failure to retain and provide these electronic records as requested would put an organization at a significant disadvantage in a civil case. When organizations cannot produce the requested records, the courts have instructed juries to assume that whatever the opposing party alleged was in the missing records was there. The proliferation of different electronic record types and the growing reliance of organizations on these records to conduct business are forcing organizations to establish rigorous methods for classifying, storing, securing, and managing these records. It is now essential that every organization have sound data management practices to assure retention of these records as required by the courts.

Environmentally Friendly Computing—Green IT

Having a positive impact on the environment is a high priority for many organizations. More and more private corporations and government institutions look for ways to create a healthier environment for all of us to live. Therefore, conserving energy and reducing pollution has become a priority for many firms. Many organizations are embracing information technology as a way to help in this endeavor. Computer manufacturers are constantly looking for new and better ways to conserve energy. Examples include monitors which automatically turn off while not being used, computers themselves going into sleep mode, and hard disks not turning if not accessed over a period of time. Many organizations give buying precedence to computer hardware manufactures that look for innovative ways to conserve energy.

Also, many organizations today allow employees to work from their homes or from alternate work locations. This not only improves employee morale and productivity, but conserves energy since workers don't travel as they typically would have in the past. Many workers in today's modern world are allowed to work at alternate work sites through "hoteling" efforts or work from their homes. Providing mobile access is a key ingredient to successfully allowing these alternate work models. Therefore, information technology has become a critical piece to aid in this endeavor.

Virtualization

Virtualization is a trend that has taken shape over the past couple of years, both on the server and desktop side. It allows multiple operating systems to run on the computer at the same time. It's like having many different computers running inside that same computer. This has several advantages. First, on the server side, the operating system installs and configures itself within this virtual environment without looking at the hardware itself. If the hardware needs to change, it simply can be reinstalled on another hardware platform with little to no impact. This is an important concept moving forward in providing quick, immediate reinstallations in the event of a disaster. Secondly, another major advantage is conserving server hardware. In the past, each server installation required separate server hardware. In many organizations this can become very expensive. Finally, by virtualizing the user's PC environment, it moves organizations towards device independence. It allows the PC environment to be virtualized and viewable through a web browser. By web-enabling application access, it becomes much easier to provide mobile workers with the easy, secure access they need without tying them to specific hardware.

eGovernment Strategies

Departmental interviews, business needs, and industry trends were analyzed to shape the formation of nine eGovernment strategies to be pursued over the next three years. While these strategies contribute broadly to the accomplishment of all the Community and Corporate Scorecard's desired results, the most direct relationship is to specific strategies in the Effective and Efficient Government Focus Area which are listed below.

Community and Corporate Scorecard

Increase Customer & Stakeholder Satisfaction	➢ Focus on customer satisfaction in design and delivery of County services
Improve Employee Efficiency	➢ Maximize use of technology ➢ Re-examine, re-design, and/or eliminate business processes
Increase Employee Access to Information	➢ Streamline processes and/or maximize the use of technology to make job relevant information easily available through self-service
Improve Technology Related Capacities	➢ Invest in new technology with demonstrated return on investment.

eGovernment Strategies

Below is a list of the eGovernment strategies and the high impact initiatives that need to be addressed over the next year. Additional items and initiatives for each strategy can be found immediately following this section.

Support mobile workers and customers in accessing information and conducting business without traveling to County facilities.

- Develop telework plan to expand capacity and capabilities for teleworkers and field workers.
- Plan for teleworkers and field workers in the upcoming Real Estate Services 20 Year Facilities Master Plan including the concept of hoteling. Hoteling allows employees to work at County facilities temporarily rather than having a permanent work space.
- Have HR and IST partner to provide policies regarding teleworking and field work.

Improve collaboration for County knowledge workers and citizens to enable productivity, creativity, and innovation.

- Develop a strategy to capture and make accessible the institutional knowledge at the County.
- Expand use of Live Communication Server (LCS) which provides instant messaging, presence awareness, and other collaboration capabilities.

Expand self-service capabilities to enable anytime, anywhere access to information and services.

- Develop an Internet strategic plan that addresses key issues such as:
  - Lack of up-to-date content and consistency of web pages.
  - Difficulty in finding information for both employees and citizens.
  - Limited professional web editorial staff.

Improve usability and integration of data to provide easy and timely access to information by staff and customers and reduce or eliminate information silos.

- Provide an imaging solution to ensure that paper documents are accessible electronically.

Improve data management for County workers and customers.

- Partner with Legal to investigate laws and legal precedence and create proper guidelines to classify and retain data with these legal requirements.
- Develop backup, retention, and archiving policies to ensure data is being managed throughout its life.

Expand the use of web based tools and applications which will allow users to access information anytime, anywhere.

- Evaluate upgrading existing applications and services that aren't web based.

Adopt more efficient technologies and work processes by streamlining business processes, using technology to gain more efficiency, and looking for innovative ways to solve business needs.

- Increase the County's business process reengineering capacity.
- Develop plan to converge voice and data services into one common infrastructure (IP Telephony).
- Continue to consolidate services such as servers by using technologies such as Storage Area Networks (SANs) and virtualization.
- Develop strategy for acquisition and implementation of Microsoft Vista (Windows XP replacement) and Office 2007.

Expand disaster recovery and reliability within the information technology infrastructure for critical services.

Provide a sustained funding model for information technology needs within the organization to ensure that the County continues to meet its overall goals and objectives.

- Measure the cost of information technology services through mechanisms such as portfolio management, which measures total costs over the life of applications and services.

Additional eGov Items and Initiatives

Below is a quick summary of additional items and eGov initiatives that need to be addressed over the next three years for each strategy.

Mobility

- Expand secure wireless at County facilities and public wifi hotspots where it is appropriate.
- Continue deploying BlackBerrys and other PDA devices and investigate new technologies as they emerge.
- Provide seamless, secure access to applications and data for internal employees as they telework, or work from the field without requiring special software to be loaded on the remote device.
- Long-term, work towards device independence by exploring access to applications and data on different types of devices such as PDAs, SmartPhones, and more.
- Investigate providing employees with a single phone solution.
- Develop a plan to allow mobile workers to use soft phones while working remotely.

Collaboration

- Continue to rollout SharePoint, expand its usage, and ensure that customers understand the business value it brings.
- Provide access to SharePoint and other internal applications to our partners such as CMPD, Carolinas HealthCare, City of Charlotte, and others.
- Expand videoconferencing.
- Provide tools such as NetMeeting and others to allow users to conduct meetings remotely.
- Explore the use of wikis for internal and external use. This will allow workers to capture and locate information and subject matter experts.
- Utilize technologies such as streaming video, webcams, phone blasts, and others to reach out to the community.

Self-Service

- Market and promote having more services paid for electronically.
- Continue to expand 311 services within the County to allow citizens the ability to locate services quickly and easily by phone.
- Develop strategies for extended work hours.
- Evaluate deployment of kiosks for use by the public.

Data Usability

- Promote awareness and sharing of County datasets.
- Leverage GIS data and services to improve integration with and usability of other County applications and datasets.
- Provide enterprise search tools for web based applications as well as search tools for desktops.
- Expand the use of existing integration tools and standards such as XML.
- Expand data warehousing capabilities.
- Investigate the use of meta-data to classify, describe, and locate data.

Data Management

- Expand the tools and resources available to manage the growth and classification of data.
- Develop best practices for imaging to ensure that the data can be searched and properly classified.
- Provide necessary backup and restoration tools to effectively meet the ever changing County standards and policies.

Expand Web

- Ensure all developed applications are web based.
- Give preference to vendors that provide web based tools and services when purchasing software solutions.
- Promote a consistent user interface for web based applications and prefer vendors whose products can be configured to support it.
- Provide access to data, applications, and services through a web interface for County employees giving them seamless access anytime, anywhere.
- Refer to Appendix B—Application Components. It discusses XML, Service Oriented Architecture (SOA), Composite Applications, Web 2.0

Efficiency

- Provide unified messaging capabilities to County workers. This will allow users to have all voice mails accessible through County email.
- Provide streaming video.
- Embrace Green IT technologies and work processes whenever practical.
- Explore providing device independence through virtual PCs.
- Develop a strategy to implement the Information Technology Infrastructure Library (ITIL), which is a framework of best practices designed to improve the quality of computing services.

Disaster Recovery

- Expand the use of fault tolerant hardware and software such as server clustering, Storage Area Networks (SANs), and others for those services deemed mission critical.
- Improve the County's ability to recover from disasters and failures by providing additional disaster recovery equipment, tools, and services.
- Continue to expand the speed and redundancy of the County network to ensure seamless access.

Funding

- Provide necessary funding and resources.
- Department leaders to prioritize, rank, and approve major IT initiatives moving forward using tools such as portfolio management, guiding principles, and other measures.

To see a list of current and pending projects and how they align with the eGovernment strategies, please refer to Appendix A—County IT Projects.

Comparison to the 2005 eGov Strategies

These strategies are very similar to the strategies adopted in the 2005 eGovernment Strategic Plan with a few notable changes. First, these new strategies have been updated with a new set of initiatives for each strategy. These initiatives more accurately reflect the work that needs to be accomplished over the next three years as we see it today. Secondly, additional strategies were set forth to stress new trends and technologies. An example of this would be the rich, diverse tools available today through the web. Therefore, a separate strategy was created to address expanding the web within the County. Finally, the eGovernment committee replaced four strategies from the 2005 version listed below.

- **Provide a reliable, flexible, functional, secure, and efficient information technology infrastructure**. *While important, the consensus was that this more accurately belongs as an overall guiding principle. Also, for specific areas such as disaster recovery and providing an efficient IT infrastructure, additional strategies were created to address these specific needs.*
- **Improve service delivery to customers with limited English proficiency.** *Since the adoption of the 2005 eGov Plan, it has been recognized that technology alone will not meet this goal. For example, while interviewing departments, it was discovered that 20% of the Latino population can't read or write Spanish as well as English. Therefore, the County has developed a separate Diversity Management Strategic Plan. IST will look to the strategies formed from this plan to meet this objective.*
- **Expand enterprise support of electronic systems**. *Physical security, cameras, and other "non-traditional" electronic devices are important. However, the committee felt that these technologies needed to be driven by those in the organization that had more expertise. For example, Security should set the overall priorities of which facilities receive additional cameras, if they are monitored, etc*.
- **Deliver information technology services in a cost efficient manner**. *This is always a critical priority in all decisions that the County makes. Therefore, this more accurately belongs as an overall guiding principle.*

Appendix A—County IT Projects

Below is a list of information technology projects that are currently active and how each aligns with the nine eGov strategies.

Project	Mobility	Collaboration	Self-Service	Data Usability	Data Mgmt.	Expand Web	Efficiencies	DR & Reliability	Funding
Mecklenburg County Guiding Principles									Y
Porfolio Management							Y		Y
ISSI Just-1-Call			Y			Y			
Administrative Court - 1st Appearance		Y		Y			Y		
Convert IP Addresses							Y	Y	
AOC Connectivity	Y	Y					Y		
Server Consolidation and Management					Y		Y	Y	
Freedom Mall Infrastructure							Y		
Pretrial Release Case Management							Y		
Appraisal Process Improvement, IPM	Y								
Appraisal Process Improvement, Addressing Phase I	Y								
Appraisal Process Improvement, Spatialest	Y								
Appraisal Process Improvement, Oblique Photography	Y								
Appraisal Process Improvement, Addressing Phase II	Y								
AssessPro 4.51 Upgrade							Y		
.NET CAMA Rewrite		Y					Y		
Call Center Mgmt. Info. Sys. Replacement						Y	Y		
CSS Database Consolidation					Y				
Veterans Outreach			Y						
Archibus CAFM									
Replace Voice mail System		Y							
Disaster Recovery					Y			Y	
BCMS RFI and RFP Process									
ePerformance Module - PeopleSoft 8.9	Y			Y		Y			
Holds Dashboard - Web Interface	Y	Y	Y			Y			
Electronic Plan Submittal - Phase 1 Residential		Y	Y			Y			
Activity Based Costing									
Self Facilitation Phase 3 - Commercial			Y			Y			
LUESA Servers/System Retrofits					Y		Y	Y	

Project	Mobility	Collaboration	Self-Service	Data Usability	Data Mgmt.	Expand Web	Efficiencies	DR & Reliability	Funding
ePayments - Merchants Services						Y			
Hosted Infrastructure Upgrade							Y	Y	
Imaging Implementation	Y	Y			Y				
ISSI Change Report									
Participant Tracking Web Phase II	Y					Y			
Site Plan Tracking			Y	Y					
Replace Tax Legacy System (3 Year Project)						Y			
BOE - Transaction Statistics						Y			
BOCC Electronic Meetings		Y							
Email Extender					Y		Y		
Medical Examiner's Office Move									
Sheriff Paper System Web Inquiry						Y			
Food Stamps Info. System						Y			
AOC - NCAWARE Warrant Repository		Y							
MAPS - Arrest Processing		Y							
Change/Difference Detection									
CASS - Mailing Address Verification									
Park Locator			Y			Y			
Wireless Networks	Y	Y							
Enterprise Router Upgrade for 2600/2800 Series							Y		
Network Management							Y		
Enterprise Performance Mgmt.							Y		
POSSE Move to SAN					Y		Y		
AMS Move to SAN					Y		Y		
Flood Mitigation Data Mgmt. System	Y								
Storm Water Project Tracking System	Y								
ISSI Audit Packets							Y		
Front Desk Rewrite			Y				Y		
MIT Enhancements							Y		
Bulk Letters and Forms for ESD/MED									
Just 1 Call Enhancements									
ASW ISSI Rewrite	Y		Y			Y			
Just 1 Call Rewrite	Y		Y			Y			

Project	Mobility	Collaboration	Self-Service	Data Usability	Data Mgmt.	Expand Web	Efficiencies	DR & Reliability	Funding
ISSI Transportation Phase 2							Y		
Data Warehouse Enhancements					Y				
Electronic Poll Book							Y		
BOE – Web Site Content Management						Y			
Election Day Call Services			Y				Y		
Integrity Adaptation									
FINS III									
Enterprise Firewall					Y				

Appendix B—Application Components

Application development plays a key role in delivering the eGovernment strategies. Therefore, the consensus was that we needed to provide some additional information regarding the application development environment. Below is a quick summary of key concepts and strategies that need to be reviewed over the next three years, particularly as we move to a web-based environment.

XML

Extensible Markup Language, or XML, has become the standard for today's web computing. It is a very flexible text format that can be read by humans and machines. It is the building block which most of our application architecture is built upon. Mecklenburg County is heavily leveraging XML in our applications and it is a mainstay in our Enterprise Architecture (EA).

Service Oriented Architecture (SOA)

SOA is described as a series of components or services which can be invoked, and whose interface descriptions can be published and described (WC3). XML web services are the building blocks that make SOA possible. To be successful, services must be agile, fluid, and able to adapt to changing requirements or regulations. Additionally, services should be able to communicate with a variety of platforms based on open standards, such as HTTP and XML.

There are several challenges our organization faces when trying to implement SOA. The following outlines some of the many challenges we will face as we adopt SOA:

- Service Identification – what is a service, what functions does it contain?
- Service Location – where should a service be located within the enterprise?
- Service Definition – how should services be grouped together in logical domains?
- Service Packaging – how can we package legacy systems to be re-engineered or wrapped into reusable services?
- Service Orchestration – how are composite services to be orchestrated, i.e. work in conjunction to execute business workflows across applications, departments, and the enterprise?
- Service Routing – how are requests from consumers to be routed to the appropriate service and/or service domain?
- Service Governance – how will the enterprise govern and maintain services?
- Service Messaging Standards – how or what standards will we adopt?

Our current strategy is to continue implementing a SOA architecture using the Microsoft .NET platform. Microsoft .NET helps us solve these challenges. .NET provides a flexible framework designed from the ground up to facilitate needs organizations have to fulfill a SOA contract, by providing a robust framework for building, deploying, and executing Web services. Rich programming environment provides development teams the ability to quickly create web services using industry standard protocols such as WDSL, SOAP, UDDI, and WS-Routing, which are core solutions to many of the challenges listed above.

Our future strategy is to continue the investment in SOA based technologies and expand our use of web services to enable better integration with legacy based applications and vendor packages.

Composite Applications

Composite applications build upon the SOA strategy. Composite applications typically comprise from the functionality of many different services within a SOA. The components may be individual web services, selected functions from within other applications, or entire systems whose outputs have been packaged as web services (often legacy systems). The outputs from these systems are combined to deliver a new application that leverages the technology and software previously developed in a new way or to provide new business functions. Composite applications focus on adapting to the changing needs of the business.

Our current strategy is to continue creating a SOA environment within Mecklenburg County. As we progress, opportunities will present themselves to develop composite applications using existing or purchased services while leveraging portal technology such as SharePoint to bring services together in a unique way.

Web 2.0

Web 2.0 is the next generation of Internet application development technologies aimed at user interactions (mash-ups, blogs, wikis, Rich Internet Applications), services (SOA, XML, RSS), and communication (IM, Presence Awareness). These technologies transition flat, static, standalone web sites into a participative, adaptive, and user centric medium.

Our current strategy will focus on three main components, continuing to build and develop SOA based architecture, expanding our collaboration platform to include additional communication and knowledge management technologies, and improving user experiences of existing applications through adoption of Richer Internet Applications (RIA) frameworks and development of RIA skills.

Forrester recommends that development teams new to Web 2.0 development start by adopting RIA frameworks to enhance user experience in existing or newly developed applications. Our strategy is to provide training for our architecture staff and incorporate RIA technology into our application framework. As staff becomes better skilled at RIA development, we will continue to adopt other technologies, such as dynamic scripting languages and FLASH, in this space.

Additional user based collaboration and communication technology is planned for late FY08 and will continue adoption and deployment over the next three years. Upgrading our portal software to Microsoft Windows SharePoint 2007 will provide the ability to easily roll out user interaction technology such as wikis and blogs. We will target select functions and small user groups for initial piloting early FY09 and plan for larger rollouts during the later phases of FY09 and beginning FY10. Instant messaging and presence awareness technology were piloted during FY08 and are targeted for larger rollout first quarter of FY09.

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