FAIRFAX COUNTY, VIRGINIA

Department of Information Technology

Fairfax County VIRGINIA

FY 2010 INFORMATION TECHNOLOGY PLAN

Pre-Adopted Version to accompany Advertised Budget

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FAIRFAX COUNTY INFORMATION TECHNOLOGY PLAN

FY 2010 Advertised Budget

Prepared by
The Department of Information Technology

INTRODUCTION

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SECTION 1
IT GOVERNANCE

PLAN OVERVIEW

Like many governments faced with growth in demand for services while confronting a strained economy, the County is faced with major challenges and opportunities where technology innovation is essential. These challenges and opportunities are fueled by heightened expectations from the County's constituents and business community to interact and conduct business with the County utilizing modern automation and web-based capabilities combined with agencies' need to leverage and enhance limited staff resources in an atmosphere of budget decline. Recognizing that information technology (IT) innovation fuels business transformation and responsiveness, nimble IT enabled service on demand is critical in an environment of rapid change and finite resources. The County's Information Technology (IT) capabilities must be contemporary, flexible, scalable, secure and environmentally conscious with the ability to respond to new goals and dynamically changing service and operational requirements by various agencies. The County's IT environment builds on an enterprise architecture that includes industry standards, open systems, and tools that supports a variety of needs and diverse portfolio of systems. The supporting infrastructure foundation is designed to ensure the integrity of transactions, data, and optimum system performance. Strategic planning, governance and program management assures inclusion in decision making and implementation of solid products, and effective solution delivery at a fully leverage cost.

To enable Fairfax County's technology program to meet the challenges, continued emphasis is placed on determining solutions that provide enhanced on-line capabilities, promote cross agency business processes, enable data mining and sharing for more effective decision making, promote greater transparency by making information more publicly accessible, enable key County priorities such as mobility and Telework, green initiatives, Public Safety, Land Development initiatives, enable self-service opportunities, ensure data privacy, and maintain low cost, supportable and secure infrastructure. The projects enable more effective communication, workflow and use of information within the County government organization, and with the community allowing secure access to County data and services. Emphasis is also placed on processes to ensure that IT projects are managed consistently through proper levels of oversight and tracking, and ensure that IT investments are leveraged, deliver a return on the investment and are aligned with the County's strategic goals.

This plan summarizes the County's underlying principles for IT Investments and Governance *(Section 1*); Initiatives and Strategic Directions (*Section 2*); current IT Projects and Planned Enhancements (*Section 3*); Management Controls and Processes for projects (*Section 4*); and the foundation Information Technology Architecture (*Section 5*). The plan describes adopted technology investments that accomplish identified goals and objectives; provides status of on-going project accomplishments; identifies resources required for implementation; and states the return on investment benefits projected by the sponsors of the projects. Projects are linked to agency sponsor strategic plans and the Board of Supervisor's goals and Vision Elements.

The modernization efforts described in this plan are funded in the Information Technology Fund - Fund 104 and Fund 120 (E-911). Sometimes projects included in the IT Plan are funded from other sources such as sponsor agency income funds or other monies to take advantage of total available County dollars, augment investment funding capacity, and provide additional opportunities to meet IT investment goals. Governance, architecture, and infrastructure for supporting IT projects are described within this plan, however, ongoing Department of Information Technology (DIT) operating and personnel costs which are funded in the General Fund - Fund 001 and the Technology Infrastructure Fund - Fund 505, and the routine operational activities, on-going support efforts, and normal upgrades and maintenance work supported by these funds is not reflected in this plan. Together, the four funds support the comprehensive Information Technology delivery for nearly all agencies, lines of business and services. Additional details of each fund can be found in the Fairfax County Fiscal Year 2010 Adopted Budget Plan.

Information Technology Goals

In recognition of the need to link the County's Information Technology efforts more closely to its business goals the executive management of the County established the County-wide Information Technology (IT) goals, determining priorities within the context of Board of Supervisor goals and priorities, sustainability and the service demands that must be met within county resource availability and opportunities. The formulation of the goals provided a framework by which the allocation of critical resources would be directed and categorized and aligned with County goals. The goals are reviewed each year for applicability and relevance against new demands on county business requirements and IT industry trends.

Based on global changes in social and economic paradigm shifts, the following priorities have been validated and are adopted for funding:

- *Mandated Requirements*
- *Leveraging of Prior Investments*
- *Enhancing County Security*
- *Improving Service Quality and Efficiency*
- *Ensuring a Current and Supportable Technology Infrastructure*

1. TECHNOLOGY ORGANIZATION AND GOVERNANCE

Technology is managed as an enterprise asset in Fairfax County. The Department of Information Technology (DIT) is responsible for direction and execution of information technology and communications systems and support services on an enterprise-wide infrastructure, architecture framework and standards for most systems. County agencies have a limited number of technology staff that support small scale agency business specific point solutions or industrial systems and matrix to DIT. The County's Chief Technology Officer is the Director of the County's Department of Information Technology.

The Deputy County Executive for Information Departments (DCE) is responsible for the overall direction for innovation and enterprise information policy. The DCE directs a broad range of information related departments and related agency functions, leading efforts that integrate with or enhance the mission of delivering strategic technology initiatives. This model groups the County's information programs and services under a single authority to provide efficient and effective constituent services.

Collaboration among the departments which include the Department of Information Technology (DIT), Fairfax County Library/Archives (FCPL), Department of Cable Communications and Consumer Protection (DCCCP) and the Office of Public Affairs (OPA) deliver programs that make up the County's e-Government channels, public access capabilities, enterprise infrastructure architecture, document management, interoperability and county-wide communications strategy. The DCE also oversees the Health Insurance Portability Accountability Act (HIPAA) Compliance Office that works directly with DIT's Information Security Office to ensure that an appropriate IT security architecture, standards and enforcement mechanism are in place to protect HIPAA and other privacy laws for covered systems and data.

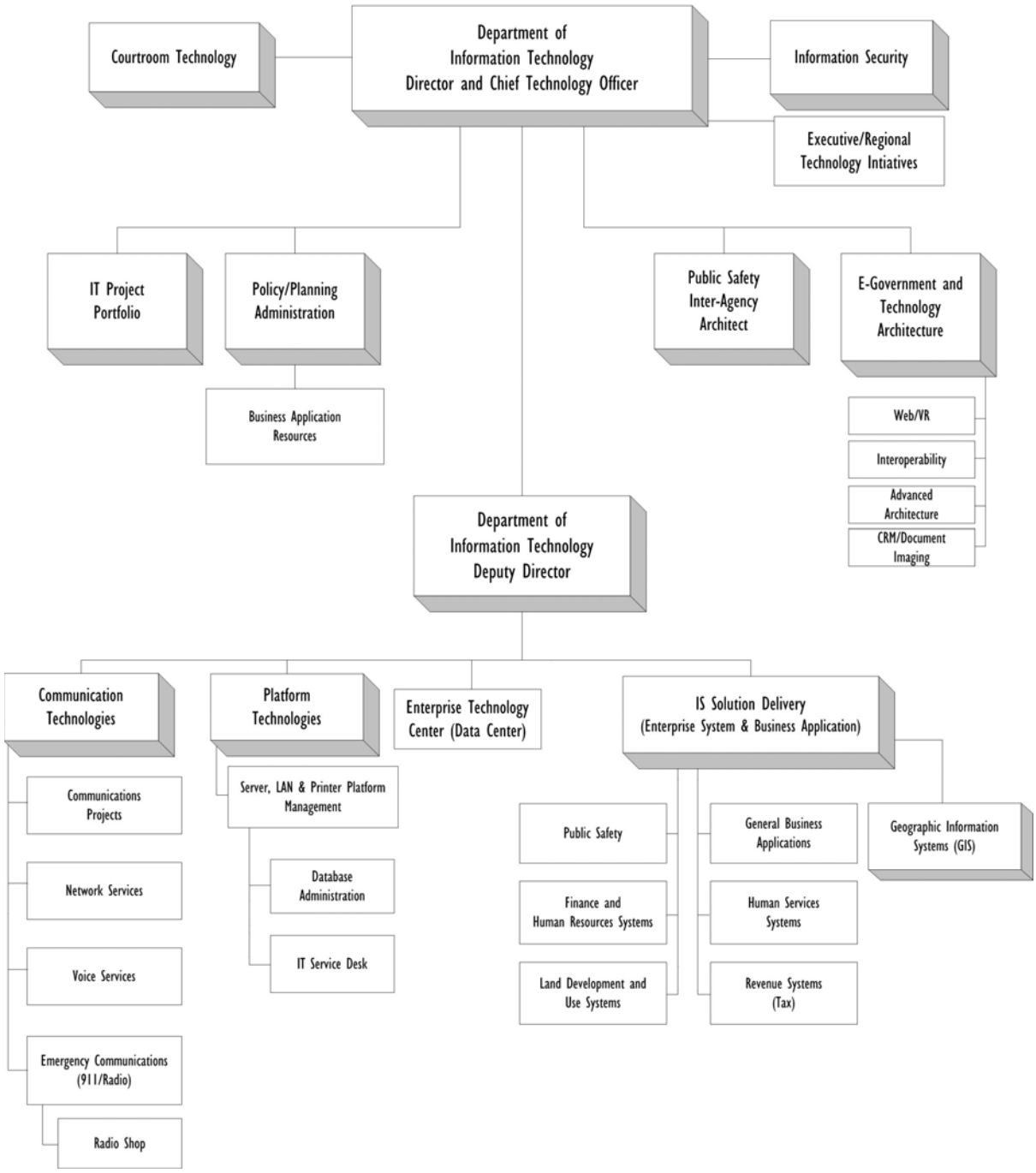
The information and web content function in the Office of Public Affairs works closely with the DCE to develop a comprehensive communications message strategy and to ensure the integrity of content for published information served through the County E-government programs. The DCE also serves as the liaison to the Economic Development Authority in conveying the County's best technology practices and assisting with marketing the County to prospective businesses. The DCE is also responsible for the Office of Human Rights and Equity Programs which also assists the IT strategy for ADA, compliance and related regulatory consultation. In addition, related DCE initiatives such as energy initiatives, arts and special needs includes involvement in IT strategy and support. The DCE's broad responsibility for information spans policy, information content strategy, books, television, enterprise technology architecture, management of documents, and compliance.

In FY 1999 a County executive group, the Senior IT Steering Committee, was created to advise the DCE and Chief Technology Officer and to provide policy governance oversight for the County's IT strategy. This group includes the County Executive, the Deputy County Executives, Director of the Department of Management and Budget, and Director of the Department of Information Technology/CTO. The committee's work is augmented by the Senior Management Team composed of County department heads for participation in key policy issues. The Senior IT Steering Committee meets on a regular basis to review specific IT initiatives, opportunities and issues; set the County's IT strategy based on the Board of Supervisors' direction; and approve the annual IT investment plan. For strategy and governance specifically focused on the County's e-government program, the DCE hosts and chairs the E-government Steering

Committee, including the directors of DIT, OPA, FCPL, and DCCCP, as well as the County's WEB and Public Access Technology Director (DIT e-Government group), and the WEB Content Director in OPA. This committee collaborates with the DCE on policy and opportunities to expand the use and effectiveness of on-line capabilities through the e-government channels and new cyber services such as Social Media. In addressing policy issues, the group is assisted by the IT Security Director and the Office of the County Attorney.

1.1 DEPARTMENT OF INFORMATION TECHNOLOGY ORGANIZATION

Fairfax County
Department of Information Technology
Organization Chart



The Department of Information Technology (DIT) provides leadership, process, governance, architecture, resources and expertise in deploying modern information technologies to improve government efficiency and citizen access to government information and services. To provide focus and direction to staff within the department and to help plan for the future, an overall mission was established together with eight goals. The mission and goals statements were developed with considerable input from staff, and the Senior IT Steering Committee regarding the important issues facing the department.

Fairfax County continues to make the necessary investments in information technology hardware and software, which through careful planning, cooperative business and technical execution provides its citizens with a return on investment in the form of improved services. The department's goals were established to energize the department in performing its functions of developing and maintaining current information technology systems, and providing a technology infrastructure and customer service support to County agencies. The Department of Information Technology is charged with establishing technology architecture, implementing and managing systems, applications, communications, and the overall management and security of the County's information assets.

The organizational structure of the Department of Information Technology (DIT) has evolved over the years to align with changing priorities, trends and expertise requirements, and to leverage technology platforms and available resources. It is designed to address the ongoing evolution of technology and its utilization in support of the business functions within County government. This evolution has seen a tremendous growth in web based systems and distributed architectures and wireless hand-held computers, as well as the number of platforms that support enterprise-class solutions and software applications used in support of various County functions. These information technology systems have become crucial components in the day-to-day operations of almost all areas of County government, and the increasing complexity and sophistication of these systems require well-trained end users and support staff.

DIT is organized into subject matter expert groups: Application Solution Delivery supports both enterprise-wide systems including corporate applications, document management, CRM platform, and geographical information systems that are used by all agencies, and agency business specific applications development and support; Technology Infrastructure manages all hardware, communications and network platforms enterprise-wide, integration tools, enterprise messaging applications, desktops and the network based digital multi-function printing devices that support countywide distributed printing, print-on-demand, electronic transfer of printed information, and the help desk service. Policy, Planning and Administration provides DIT administrative support functions and IT policy support and compliance oversight; E-government provides architectural direction, standards and strategic innovation for on-line applications and E-government technology programs including web, IVR, and Social Media and information interoperability architecture. In addition, in FY2005, the Public Safety group was established to focus efforts on the integrating systems in public safety, and address homeland security, and regional collaborative and interoperability initiatives and mandates. Finally the Information Security Office reports directly to the Chief Technology Officer and has authority in monitoring, investigating, and compliance activities to ensure County IT assets are safeguarded.

The Department of Information Technology is charged with delivering quality and innovative information technology solutions that provide citizens, the business community and County staff solid technical capabilities that ensure the integrity of the County's information, service efficiency and convenient access to appropriate information and services. DIT embraces the following goals:

Goal 1: Deliver timely and effective responses to customer requirements through teamwork.

Goal 2: Provide vision, leadership, and a framework for evaluating emerging technologies and implementing proven information technology solutions.

Goal 3: Provide citizens, the business community and County staff with convenient access to appropriate information and services through technology.

Goal 4: Work with County agencies to improve business operations by thoroughly understanding business needs and by planning, implementing and managing the best information technology solutions available.

Goal 5: Guarantee a reliable communication and computer infrastructure foundation on which to efficiently conduct County business operations today and in the future.

Goal 6: Effectively communicate information about plans, projects, and achievements to County staff and customers.

Goal 7: Develop and maintain technically skilled staff competent in current and emerging information technology and a user community that understands and can employ modern technologies to maximize business benefits.

Goal 8: Ensure effective technical and fiscal management of the department's operations, resources, technology projects and contracts.

In addition to the Department of Information Technology's Mission and Goals, Fairfax County Information Technology (IT) projects and processes are guided by **Ten Fundamental Principles** adopted by the Board of Supervisors in 1996 and updated annually.

1. Our ultimate goal is to provide citizens, the business community, and County employees with timely, convenient access to appropriate information and services through the use of technology.

2. Business needs drive information technology solutions. Strategic partnerships will be established between the stakeholders and County so that the benefits of IT are leveraged to maximize the productivity of County employees and improve customer services.

3. Evaluate business processes for redesign opportunities before automating them. Use new technologies to make new business methods a reality. Exploit functional commonality across organizational boundaries.

4. Manage Information Technology as an investment.

a. Annually allocate funds sufficient to cover depreciation to replace systems and equipment before life-cycle end. Address project and infrastructure requirements through a multi-year planning and funding strategy.

b. Manage use of funds at the macro level in a manner that provides for optimal spending across the investment portfolio aligned to actualized project progress.

c. Look for cost-effective approaches to improving "legacy systems". Designate systems as "classic" and plan their modernization. This approach will help extend investments and system utility.

d. Invest in education and training to ensure the technical staffs in central IT and user agencies understand and can apply current and future technologies.

5. Implement contemporary, but proven, technologies. Fairfax County will stay abreast of emerging trends through an ongoing program of technology evaluation. New technologies often will be introduced through pilot projects where both the automation and its business benefits and costs can be evaluated prior to any full-scale adoption.

6. Hardware and software shall adhere to open (vendor-independent) standards and minimize proprietary solutions. This approach will promote flexibility, inter-operability, cost effectiveness, and mitigate the risk of dependence on individual vendors.

7. Provide a solid technology infrastructure as the fundamental building block of the County's IT architecture to support reliability, performance and security of the County's information assets. Manage and maintain the enterprise network as an essential communications channel connecting people to information and process via contemporary server platforms and workstations. It will provide access for both internal and external connectivity; will be flexible, expandable, and maintainable; be fully integrated using open standards and capable of providing for the unimpeded movement of data, graphics, image, video, and voice.

8. Approach IT undertakings as a partnership of central management and agencies providing for a combination of centralized and distributed implementation. Combine the responsibility and knowledge of central management, agency staff, as well as outside contract support, within a consistent framework of County IT architecture and standards. Establish strategic cooperative arrangements with public and private enterprises to extend limited resources.

9. Consider the purchase and integration of top quality, commercial-off-the-shelf (COTS) software requiring minimal customization as the first choice to speed the delivery of new business applications. This may require redesigning some existing work processes to be compatible with beneficial common practice capabilities inherent in many off-the-shelf software packages, and, achieves business goals. In consideration of this, it is recognized that certain county agencies operate under business practices that have been established in response to specific local interpretations and constraints and that in these instances, the institutionalization of these business practices may make the acquisition of COTS software not feasible. Develop applications using modern, efficient methods and laborsaving tools in a collaborative application development environment following the architectural framework and standards. An information architecture

supported by a repository for common information objects (e.g., databases, files, records, methods, application inventories); repeatable processes and infrastructures will be created, shared and reused.

10. Capture data once in order to avoid cost, duplication of effort and potential for error and share the data whenever possible. Establish and use common data and common databases to the fullest extent. A data administration function will be responsible for establishing and enforcing data policy, data sharing and access, data standardization, data quality, identification and consistent use of key corporate identifiers.

In working with DIT, the **Department of Cable Communications and Consumer Protection** has several major areas that fit within the overall provisioning of information services County-wide:

Communications Policy and Regulation encourages competition and innovation in Countywide deployment of cable provider services; enforces cable communications legislation and franchise agreements; works with the Telecommunications industry to enable the development of cost effective network services for the public and ensuring a reliable means of mass communication of official information during public safety emergencies. This group works with the Department of Information Technology on a variety of initiatives and FCC regulatory activities that impact telecommunications services for County government managed by DIT.

Communications Productions provides award-winning broadcast productions for Fairfax County Government Channel 16, the public information channel, and the Fairfax County Training Network (FCTN). Channel 16 televises over 340 live programs that are also available by video stream, reaching an estimated 600,000 residents with information programming about County programs and services that serve the community. The division also operates an emergency messaging system for residents. This group is part of the E-Government channels and works with DIT in web-based video access.

The mission of **Fairfax County Public Library** system is to provide and encourage the use of library resources and services to best meet the evolving educational, recreational, and informational needs of all the Fairfax County and Fairfax City residents. The **Library's Technology Vision** augments tradition library services with technologies that provide Fairfax County and City residents' access to electronic information resources locally, nationally and throughout the world. Library staff keeps pace with the rapidly changing environment and uses new technologies to assist patrons and improve service delivery. FCPL's goal is to remain flexible by maximizing opportunities to improve services delivery through technology and enhance individual and community life for City and County residents. Working with DIT, FCPL provides Public Access facilities in Libraries where the public can access the Internet through wired workstations and wireless services. The Library's goals for technology are:

- Provide County/City residents access to FCPL resources without constraints of time or location.
- Provide County/City residents access to worldwide electronic information sources.
- Expand access to local information through electronic means.
- Preserve and provide access to Fairfax County and Fairfax City historical documents and images.
- Ensure delivery of electronic library services to physically challenged residents.
- Manage FCPL resources to efficiently deliver library services to residents.

Fairfax County's Regional and National Prominence in the IT Community

In carrying out its mission, the DCE and/or DIT participate on several key County Committees focused on major County initiatives or operational oversight agendas, for example:

- The Public Safety IT Governance Board
- Emergency Management Coordinating Committee
- Emergency Management Executive Committee
- Public Safety and Transportation Operations Center (PSTOC) Leadership and Executive Committees
- Legacy Systems Executive Committee
- Land Development Systems Steering Committee
- Court Technology Governance Board

Additionally, Fairfax County Government's CTO and IT Management provide leadership and/or participate on several federal, state, and regional committees including:

- Council of Governments CIOs Committee
- Council of Governments Emergency Preparedness Council
- Council of Governments Interoperability Council
- Regional Working Group for Interoperability (Maryland, Virginia, and DC, state and local functional and technical leadership representation)
- Commonwealth of Virginia Interoperability Council
- Federal CIO Council
- National Association of CIOs
- National Association of Telecommunications Officers
- Virginia Local Government Information Technology Executives (VALGITE)
- Northern Virginia Regional Commission
- National Association of Counties
- Public Technologies Incorporated
- CIO Executive Board

In promoting technology in Fairfax County Government, DIT hosts several key events each year including:

- GIS Day where DIT conducts competition among County agencies for new application of the use of geospatial and related technology;

- IT Security Awareness Day, and annual event designed to bring in the latest intelligence in promoting employee awareness and knowledge about risks and responsibility in using technology at work and at home

Over the years, Fairfax County Government's IT organization, the Deputy County Executive for information departments, and the Chief Technology Officer/Director of DIT, have earned numerous awards and recognitions, including:

1999 Governor's Technology Award
First Governor's Technology Award - COVITS

2000 eGov Award for Outstanding Service in Technology – MCOG
Innovations in America (Semi Finalist)
eGov Pioneer Award – Government Solution Center
Webmaster Honor Top 50 Internet/Intranet site.

2002 Governor's Technology Award
Achievement Award - NACO
Citizens using GIS in Redistricting – NACO
Finalist County Portal Jurisdiction Population - Best of The Web
Deputy County Executive CIO named top '25 *Doers, Dreamers, and Drivers of IT in US Government'*
Bertelsmann Foundation of Germany –County's e-Government Program as one of top four pace setters of the 12 e-Government programs in the world.
A+ Government Performance Project – Governing Magazine (of only counties graded 'A' for technology program)

2003 Achievement Award For Using Technology to Enhance Gov't – VACO
Special Achievement in GIS Award – NACO
Best Of Breed Government Sites
Third Place County Portal Jurisdiction Population - Best Of Web
Eight Place top 10 Digital Counties
Center for Digital Government *Best of the WEB*
Deputy County Executive CIO named Computerworld 100 IT Leaders
CIO and CTO named *Governing Magazine* Public Officials of the Year

2005 First Place Digital County Survey Winner – Center For Digital Gov't & NACO
Second Place County Portal Jurisdiction Population - *Best Of Web*
Enterprise GIS Integration – FOSE Trade Show
2005 Governor's Award – E-Government Program

2006 Second Place Digital County Survey Winner – Center For Digital Gov't & NACO

2007 Wanda M. Gibson named Most Influential Female CIO – *Government Technology Magazine*
First Place County Portal Jurisdiction Population - Best Of Web.
Forth Place Digital County Survey Winner – Center For Digital Gov't and NAOC
Computer World - Best Place to Work in IT (one of two governments out of 100 organizations)

2008 Third Place Digital County Survey Winner – Center For Digital Gov't and NaCO
NaCO Award for IT Security Awareness
NaCO Award for IT Project Management Training Program

ENTERPRISE TECHNOLOGY GOVERNANCE

1.2 SENIOR INFORMATION TECHNOLOGY STEERING COMMITTEE

The Senior Information Technology (IT) Steering Committee was formed by the County Executive to provide oversight of IT policy and investments to ensure their alignment and support of strategic and operational business requirements. The committee monitors the entire IT project portfolio to continually assess whether the investments are providing expected benefits. This monitoring process provides a broad perspective from senior executives who independently and objectively evaluate and make decisions on the overall status, mission needs, and priorities for the County. The committee meets quarterly and reviews on-going project status in relationship to the County's strategic business initiatives. Additionally, the committee reviews and provides budget recommendations for new initiatives.

Members of the Senior IT Steering Committee include:

- The County Executive
- Deputy County Executives
- The Director of the Department of Management and Budget
- The Director of the Department of Information Technology/CTO

The Committee may activate a number of sub-committees around specific issues that report their findings back to the Senior IT Steering Committee. As part of the decision making process, the Committee presents and discusses strategic policy issues on behalf of the Senior Management Team which is comprised of all County department heads.

1.3 E-GOVERNMENT STEERING COMMITTEE

The e-Government Steering Committee is a subcommittee of the Senior IT Steering Committee, and was created to assist the Deputy County Executive for Information with e-Government policy, strategy decisions, and ensure enterprise consistency and standards in regards to the County's e-Government Program. Members of the Committee include:

- Deputy County Executive – Chair
- Chief Technology Officer, Director of DIT
- Director, Public Access & Advanced Technologies, DIT
- Director, Office of Public Affairs
- Deputy Director, Office of Public Affairs – Communication
- Director, Web Content- OPA
- Director, Department of Cable Communications and Consumer Protection
- Director, Fairfax County Public Libraries

The Steering Committee:

- Considers updates to the Public Web Site content Policy PM N0.13-04
- Creates additional e-Government policies and procedures as necessary
- Assists the Deputy County Executive in consideration of departmental requests for external links, exceptions to policy and the use of emerging e-channels
- Identifies e-Government related issues and ideas for discussion
- Sponsors periodic focus groups, surveys and other public or internal outreach to ensure that the e-Government program is meeting the needs of the County customers
- Investigates and adopts new e-channels- such as social media- to ensure that the County[s e-government channels and services meet the needs of the County's external and internal customers
- Initiates pilot projects and conducts after action review of the pilot project
- Recommends changes as necessary to e-Channels or adopts new e-Channels based on customer feedback
- Sponsors projects for inclusion in the County's annual IT Plan

1.4 INFORMATION TECHNOLOGY POLICY ADVISORY COMMITTEE

In 1998 the Board of Supervisors created a private sector group named the Information Technology Policy Advisory Committee (ITPAC) to assist the Chief Technology Officer (CTO) with technology direction and validation of trends. ITPAC meets on a regulars schedule to review the County's technology posture and key projects, and the annual technology investment plan recommendation. ITPAC serves as advisor to the CTO, providing counsel, experience and support for the IT program.

ITPAC was created by the Fairfax County Board of Supervisors to provide the Board with a source of expert citizen advice regarding information technology strategy. The Board has committed itself to providing the County government with the resources necessary to keep pace with emerging trends in information technology; as well as providing citizens, the business community, and employees timely and convenient access to information and services through the use of technology; and using new technologies to create new business processes and improve government efficiency. To maintain these commitments, the Board has made substantial, continuing investments in information technology. The ITPAC Committee membership includes:

- One representative appointed by each Board Member (10 in total);

- One representative appointed by the School Board; and

- One representative from each of the following groups:
  - Fairfax County Chamber of Commerce
  - Fairfax County Federation of Civic Associations
  - League of Women Voters
  - Northern Virginia Technology Council

- The Committee duties and responsibilities are:

- Keep informed regarding information technology, including telecommunications, developments and provide recommendations to the Board of Supervisors regarding technical improvements to be incorporated in the County computer and telecommunications systems.

- Review the annual Information Technology Plan and information technology budget and make recommendations to the Board of Supervisors.

- Review major information technology acquisition plans and makes recommendations to the Board of Supervisors.

- Bring facts and issues that it deems important to the attention of the Board of Supervisors.

- Undertake such other activities as become appropriate as information technology changes.

STRATEGIC DIRECTIONS AND INITIATIVES

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SECTION 2
STRATEGIC DIRECTIONS AND INITIATIVES

The most critical challenge facing technology providers is to stay current with the rapid pace of change in technology while harnessing innovations effectively to promote an organization's strategic goals, optimize service efficiencies, and successfully meet end-user and public expectation. Advances in technology facilitate the delivery of better and faster service at a reduced cost. However, investments in technology are expensive and incorporation into an organization's business complex. New technology must be adopted carefully and integrated wisely into the existing technology infrastructure of an organization so as to minimize operational disruption and maximize the benefits in a cost-effective manner. The following nine strategic initiatives address the County's objective of providing effective, efficient and customer-oriented access to data and services for both constituents and internal government customers on an enterprise scale.

2.1 E-GOVERNMENT

The e-Government initiative is a foundational program supporting the County's goal of a "*government without walls, doors, or clocks".* The comprehensive strategy uses enabling technology, policy and processes that integrates the Fairfax County Web Site www.fairfaxcounty.gov, Kiosks, Interactive Voice Response (IVR) platforms, and incorporates Cable TV platforms, the County's Public Access sites in Libraries and Access Fairfax sites, and the County's Communications Plan for comprehensive and cohesive access to information and services that span over fifty agencies services. In addition to the on-going efforts to enhance the look, feel, navigation and search capabilities of the Web, and deploying new services and transactions, the strategy incorporates CRM and Content Management tools for wide-ranging service options. The County has achieved much success and acclaim for its e-government focus in integrating the WEB, IVR and Kiosk platforms offering a variety of channels for on-line services for a complete public access capability to services and programs. In FY 2010 the County will continue its efforts to add new services to the e-government channels, including new transactions and e-payments and enhanced search. The e-government program will continue to work with the Commonwealth of Virginia, regional partner municipalities, and federal government agencies in interoperability of common service portals and developing web services standards which will enable cooperative access and seamless integration of information for presentation of information and services regardless of the origin or the source.

In FY 2008 major e-Government initiatives included new applications such as Special Needs Registry, Social Needs Registry and Library Audio Books. The County expanded offerings in mobile access by making the County's public website accessible via wireless devices www.fairfaxcounty.gov/mobile which allowed citizens the ability to interact with the County government through personal wireless devices. Additionally, a new kiosk was located at the Fairfax County Department of Housing and Community Development, and the County continued to work with Homeland Security on regional interoperability initiatives to establish policies, procedures and protocol for data exchange in support of emergency planning and response.

Major accomplishments in FY 2009 include the redesign of the County's Web site which updated the overall look and functionality of the site with current content and innovative features. Consistent left-side navigation was introduced throughout the site in order to deliver user friendly access to county-wide services and information. A highlighted news section provides easy access to information categorized by topics and brings into focus the various county departments and agencies, county-

wide initiative and featured services. The implementation of the Google Search Appliance augmented the overall search functionality of the Web site. The Web site introduced a fresh color palette with a white background, along with text only, printer friendly and text resizing features to enhance accessibility. The public Web site is part of the "Going Green Initiative" and provides a conduit to carry out business with the County on-line 24/7 creating a government without walls, doors or clocks.

Sharing has become an integral part of the Web experience. It is often referred to as online collaboration, and known as Web 2.0, social networking or social media. A few examples include wikis (community developed reference material), podcasts (subscription-based audio information), RSS or Really Simple Syndication feeds (subscription-based information), Second Life (virtual reality) and Twitter (social networking). The wide spread use of Web 2.0 in social networking enables wide spread collaboration and information sharing, and enables individuals to rapidly share news and opinions worldwide.

Through e-Government initiative, Fairfax County Government uses enabling technology to provide a "government without walls, doors, or clocks". Thus far, efforts have largely been focused on providing access to services. However, services are only part of the relationship between citizens and government. Fairfax County is expanding its efforts to provide citizens the necessary tools for interaction and participation with County government in order to improve communication and services (Citizen-to-Government Networking).

Many tools will help interested citizens learn more about the County's operations, programs, and activities. The County has long made it possible for people to subscribe to information that is published through e-mail (http://www.fairfaxcounty.gov/email/lists/), and is increasing the breadth of information available through various e-channels. The County provides RSS feeds (http://www.fairfaxcounty.gov/rssfeeds/), which allow users to have information sent to them through tools explicitly designed to track published information. The County continues to expand access to information through County podcasts (http://www.fairfaxcounty.gov/podcasts/).

Three county-wide pages have been launched on leading social networking sites:
Facebook (http://www.facebook.com/group.php?gid=7901829756 – account required),
Twitter (http://twitter.com/fairfaxcounty)and
YouTube (http://www.youtube.com/user/fairfaxcountygov). Posting content on these sites (which reach millions of people) allows the county to reach an expanded, and potentially younger, audience than it has in the past. The Office of Public Affairs maintains the content for these sites, which is often repurposed from existing material.

The County's Get Fairfax County campaign (www.fairfaxcounty.gov/getfairfax), consolidates all the ways residents and employees can stay connected with the county, including: the social networking sites, information available on 703-FAIRFAX, News to Use, e-government services, podcasts, RSS feeds, Weekly Agenda and emergency alerts.

In FY 2010 efforts will focus on developing additional content for currently supported e-gov channels, developing policies and procedures for publishing County information, making services available through shared sites in the public domain to reach a broader audience, and delivering content and services through additional channels. Building new e-service transactions and e-payments, continued improvements for navigation, improved synchronization of content from disparate sources, addition of enhanced interactive features to the WEB site to expand and improve applications such as a Special Needs registry supporting emergency response situations will remain a strategic focus. In addition, DIT

will continue enhancements to the e-Government channels for compliance with Section 508 for accessibility; and maintain the ultimate goal of facilitating the delivery of integrated and accurate information to citizens via multiple platforms along with implementation of additional web search capabilities.

Customers Served

Kiosk: more than 10.8 million "Screen Touches" to date
IVR: 4 million since FY 2005
Web: 52,445 visitors per day, more than 1,600,000 visits per month

Information and Services Available

Adult education classes	*Web*
Becoming a child-care provider	*Web, Kiosk*
Board Meeting minutes (searchable)	*Web, Kiosk*
Budget information and approved budget	*Web*
Bus tour schedule	*Web, Kiosk*
Child-care provider list	*Web, Kiosk*
Collection of household trash & recyclables	*IVR, Kiosk*
County Code – full text	*Web*
County demographics	*Web, Kiosk*
County maps, scrollable, printable	*Web, Kiosk*
Courts - Circuit, General District, and Juvenile	*Web, Kiosk, IVR*
Crime statistics, Wanted List, Neighborhood Watch	*Web*
DTA EPay	*Web*
DTA Tax Evaders	
HIPAA	
Institute for Earl Learning Training	
iCARE DTA Real Estate Assessment and Information Query	*Web*
Library Graded Reading Lists	
Library Picture Books	
Offsite	*Web*
Public Meeting Calendar	
Community Emergency Alert Network System (CEAN)	
Fire & Rescue Media Information	*IVR, Kiosk*
Health information	*Web, IVR, Kiosk*
Housing information	*Web, IVR, Kiosk*
Inspection scheduling status	*IVR, Kiosk*
Information for victims of crime	*IVR, Kiosk*
Job opportunities	*Web, Kiosk*
Library information line	*IVR*
Multi-jurisdictional information	*Kiosk*
My Neighborhood	
Newcomer information	*Web, IVR, Kiosk*
Parks/Recreation information	*Web, IVR, Kiosk*
Public safety information	*Web, IVR, Kiosk*
Real estate property assessment & tax information	*Web, IVR, Kiosk*
Seniors information and programs	*Web, IVR, Kiosk*
Frequently Asked Questions	*Web, Kiosk*
RSS Feeds	*Web*
Podcasting	

Doing Business with the County

Access Health Department food inspections database	*Web*
Access GIS aerial photography with pan and zoom	*Web*
Apply for County jobs	*Web, Kiosk*
Apply for a library card	*Web, Kiosk*
Board of Supervisors compliant forms	*Web, Kiosk*
Building Permit Fee Estimate	*Web, Kiosk*
Directly connect to County staff	*Kiosk*
Download request for proposal/invitation for bid	*Web*
Electronic Mailing List	*Web, Kiosk*
Estimate Electrical Permit Fee	*Web, Kiosk*
File complaints about landlord or consumer problems	*Web, Kiosk*
Find location of closest Library by entering zip code	*Web, Kiosk*
Register & pay for Park Authority classes, camps, & tours	*Web, IVR*
Library Audio Books	*Web*
Locate facilities and public transportation	*Kiosk*
Obtain permit/plan status	*Web, IVR, Kiosk*
Pay taxes with credit card	*Web, Kiosk*
Pay taxes via eCheck	*Web*
Pay traffic tickets with credit card	*IVR, Kiosk*
Query current real estate property & tax information	*Web, IVR, Kiosk*
Query Human Services online "Resource Guide"	*Web, Kiosk*
Query for current position on the Housing Waiting List	*IVR, Kiosk*
Query specific court case information	*IVR*
Query status of an inspection, permit, or plan	*Web, IVR, Kiosk*
Query Victim Services data for offender release date info	*IVR*
Register a vehicle	*Web*
Request faxes of court fees and procedures	*IVR, Kiosk*
Renew vehicle registrations	*Kiosk*
Reserve a golf tee time	*Web, Kiosk*
Reserve/renew Library books – search catalogue	*Web, Kiosk*
Reserve a picnic area	*Web, Kiosk*
Report change of address for tax purposes	*Web*
Report a lost pet	*Web*
Report a zoning or noise ordinance violation	*Web, IVR, Kiosk*
Search for information in historical newspaper	*Web*
Search for Health Department clinics by area of County	*IVR*
Search for County agency telephone numbers by keyword	*IVR, Kiosk*
Special Needs Registry	*Web*
Sheriff Service Civil Process	*Web, Kiosk*
Subscribe to County publications	*Web, Kiosk*
Social Needs Registry	*Web*
Volunteer to help in the Library or Parks	*Web, Kiosk*
Zoning and Noise Ordinance compliant form	*Web, Kiosk*
Athletic Facilities Application Requests (AFAR)	*Web, Kiosk*

2.2 ENTERPRISE CONTENT AND DOCUMENT MANAGEMENT

The County established a strategic approach to content and document management by developing an integrated solution on an enterprise platform. Content Management is the foundation for the organization and use of information from structured data (through business applications), and unstructured data in electronic or imaged documents (word processing documents, spreadsheets, e-mail, and reports).

The County continues to develop an enterprise information architecture which frames this plan and becomes a tool for web services, applications development, and web static page content search and navigation. The solution includes a rich document management capability to allow for more efficient flow and storage of vast quantities of required paper records. The enterprise document management technology with incorporated workflow solution improves business process efficiency and productivity by providing the capability to view hard copy records through automated applications in order to provide required services. In addition to fast and reliable business processes, the document management solution minimizes the need for storage of paper records, reduce storage space needs, protect against mounting storage costs, and reduce human and physical plant asset risks associated with handling voluminous units of paper.

Business Reference Model (BRM) is the basis for data classification that aligns with three business areas: Service to Citizens, Support Delivery of Services and Internal Operations and Infrastructure. These areas are subdivided into thirty-five separate lines of business which cut across all agencies. BRM provides the foundation for Enterprise Information Architecture and allows for data integration across lines of business within the County. BRM serves as the foundation of a more exhaustive Taxonomy of Services under development for the County. When combined with other metadata, this taxonomy facilitates improved search and classification capabilities across application data and static content. The classification of data is the first and most important step in correctly implementing an Enterprise Content Management System.

In addition to continued work on the Information Architecture and implementing *Documentum's* Content Management System, the following has been accomplished:

- Classified the variety of information types currently offered on the Web Site
- Implemented workflow processes and define requirements for contributing content to the County's Web site
- Piloted delivery platforms for Mobile Content (i.e. Wireless "Contact Us")
- Developed an XML Document Model and Metadata associated with static content
- Implemented the Technical Architecture for Content Management
- Continued work on the Information Architecture including:
- the "Taxonomy of Services" for the County
    - the Inventory of Systems classified by Lines of Business
    - development of an XML Namespace for the County
    - development of repositories for storing XML Objects
- Developed the template and methodology for agency web files that are currently on the County's Web site

Content management integrates with document management. For business activities that also rely on a variety of documents, the document management initiative employs technology at the beginning of a document's life cycle (originated as hard and soft copy) using the system to catalogue and track the documents and enable automated workflow processes through the entire life cycle.

This comprehensive approach and associated implementation of technology is called Integrated Document Management (IDM). Through research and analysis conducted in 2004, the County found that best in breed products for content management engines also incorporated document management needs. The integrated solution is more cost-effective, and provides a seamless integration for use of information found in imaged documents and information in databases and other systems required for a complete business transaction. IDM technology provides the ability to organize electronic documents, manage content, enable secure access to documents, route documents, automate related tasks, and facilitate document distribution.

Another component of IDM includes document imaging. Despite e-government efforts and often in response to legal mandates many government processes remain paper-intensive and require agencies to store large volumes of paper for extended periods of time. Consequently, many County agencies are implementing technical solutions to alleviate the demand for increased storage space, improve business processes, and protect against disasters that can potentially destroy important paper documents. Integrated Document Management solutions encompass core business practices, as well as provide better archival and disaster recovery capabilities.

In FY 2007, the County implemented IDM technology for document work flow projects in the Office for Children, initiated work for the Juvenile and Domestic Relations District Court, began multiple initiatives for the Department of Family Services, and continued work in the Commercial Inspections Division of Land Development Services in the Department of Public Works and Environmental Services to meet the needs of the sewer lateral section. Implementation of the core modules of an automated Accounts Payable System in the Department of Finance will be complete in FY2009. Although the individual departmental business requirements vary for the use of IDM technology, the following benefits and quality improvements have resulted from these projects:

- Increased staff productivity from employees ability to share and act on accurate information through the delivery of the right documents at the right time
- Enhanced communication and collaboration through shared information
- Improved speed of information and transaction flow throughout county agencies
- Improved access and security through controlled access to sensitive documents
- Reduced time spent searching for critical documents
- Improved disaster recovery through electronic storage and backup of information that is far more secure than paper
- Reduced clerical, paper, printing and storage costs

In FY 2010 the County will continue to support the current initiatives of IDM and workflow technology for projects in the Department of Family Services, Office of Children, the Juvenile and Domestic Relations District Court, the Clerk to the Board Office, and the Department of Finance. Document management and imaging projects, especially when work flow automation is used, can greatly improve operational efficiency and effectiveness. In addition, these projects deliver enhanced information security. Granular control over each piece of data enables access by authorized users, and only for the specific information they need and are authorized to access. These solutions provide business units with the capability to reduce costs, accelerate business transactions, ensure regulatory compliance, and support cross-department communication.

2.3 CUSTOMER RELATIONSHIP MANAGEMENT (CRM)

Expectations for easy access to government services continue to expand dramatically. Citizens look for ways to interact with their government through channels that best suit their needs. Fairfax County continues to respond to this growing need through the implementation of Customer Relationship Management (CRM) technology applications. CRM provides agencies and their staff improved opportunities for providing citizens quick and convenient access to information about County programs and services.

In earlier adoption of technologies to enhance tracking and response to citizen inquiries, *Internet Quorum*' (IQ), and '*IPhinity*' call distribution technologies were successfully implemented and proved beneficial to both constituents and County offices and agencies. Significant staff productivity and efficiency improvements were achieved in supporting information exchange with citizens through multiple communication channels: in-person, telephone, e-mail, web, and Kiosk. Successful implementation in the Offices of the Board of Supervisors and the Clerk to the Board provided enhanced opportunities to record, route, and manage interactions with constituents and organizations, and subsequent phases provided expanded capability throughout the County. The Web enabled system '*Internet Quorum'* (IQ) replaced several obsolete custom applications and provided the expansion of IQ to Office of Public Affairs, Consumer Protection, Human Rights office, Department of Public Works and Environmental Services, County Executive and the County's Legislative function within the County Executive's office, Department of Purchasing & Supply Management, Department of Transportation and Alternative Dispute Resolution Program.

The Clerk to the Board of Supervisors uses the IQ Boards and Commissions module to track appointments and nominations to boards, committees, and councils and maintain a complete correspondence history regarding contact with these individuals. Consumer Protection Division's modules include Complaint Tracking, License Administration and Taxicab Inspections. The systems enable staff to rapidly open and begin investigating cases. By expediting the administrative components of case investigations, the initial response time was reduced, resulting in earlier detection of consumer protection violations. The historical research required to discern whether businesses are repeat offenders or not, and how past cases were resolved is now expedited; cross-referencing cases between investigators allows department staff to share online information pertaining to the same or similar consumer protection violations, and facilitates collaboration between department investigators on complaints and resolution techniques. The system also enables citizens to access complaint histories of businesses online in order to research and better determine the pros and cons of doing business with those merchants. In addition, the system allows Fairfax County Police access to license information for all solicitors, peddlers, pawnbrokers, massage therapists, taxi drivers, etc.

The Office of the County Executive uses the IQ Legislative Tracking Monitor application to assist County agencies monitor, review, respond to and track state legislation when the Virginia General Assembly is in session. The system includes the automated downloading of legislative bill information from the Commonwealth's Legislative Information System, thus eliminating the need for a legislative aid to manually perform associated data entry tasks, and enhances county staff's ability to search for bills and comments quickly. The Office of Public Affairs also uses the IQ system and includes publications and brochure tracking and workflow. Other benefits include elimination of the cumbersome process of manually tracking constituent requests with a more efficient means of processing and tracking mandated Freedom of Information requests. The Human Rights Commission uses the system to create, track and report on case workflows allowing the HRC investigators to meet multiple requirements. The system also streamlines complex discrimination processes and addresses privacy concerns for investigator and conciliators.

The FY05 *'IPhinity'* call center distribution application implemented for Human Services Consolidated Services Planning (CSP) call center offers efficiency in supporting the growing number of people seeking assistance from social services agencies with limited staff geographically disbursed at various sites. '*IPhinity*' is customizable to route incoming contacts based upon selected criteria, set levels of access, record specialize voice promotes, manage calls based on specific business requirements, and track all interactions to ensure closed-loop resolution. CSP is able to monitor and manage workload and performance with a comprehensive set of analytical tools for real-time and historical reporting. Computer Telephony Integration (CTI), internal calls or transferred calls are presented to case worker along with a "screen-pop" of information from agency case systems and databases relevant to the citizen's call. This integrated approach provides CSP the opportunity to better develop relationships with citizens and more effectively focus resources to address their needs

Accurate call management, collaborative capabilities, and workforce management tools aid in access to legacy systems, reduce paperwork time, and increases employee productivity. Centralized control to all call center resources, estimated wait time, skills-based routing, virtual call center processing, self-service options, callback messaging, and emergency recording, are all standard features available in the easy-to-use system administrator management interface. An enterprise-wide, automated, full function distributed CRM solution will organize the tracking and monitoring of communications, cases, contacts, events and complaints. It will offer a Web-enabled solution that will provide a robust, consistent foundation for managing all citizen relationships and support a knowledge-based, centralized repository of data allowing the County to leverage emerging technologies as it moves into a more unified messaging environment. Live help using a Web interface, such as instant messaging, will give users another method for receiving real-time support, and will incorporate multi-media and other forms of digital and wireless communications to improve the user experience.

Enterprise CRM supports a holistic view to aid in making well-informed decisions about service delivery to the County's diversified population and improvement of communication through seamless unified access of information via the County's web site, Kiosk, IVR systems, cable TV, in-person, as well a live 311 Agent. A project steering committee consisting of DIT and agency staff that use or have interest in call center functionality was established to manage the implementation and integration of the CRM software within the County's infrastructure environment. Initial efforts involved development of the overall framework and pilot application in the Office of Public Affairs which was successfully implemented in FY 2008. CRM application was also deployed to support Office of Public Affairs customer center sites in several locations. Frequently requested information and telephone numbers for county services and home owner association data is available in a centrally used knowledgebase to support consistent distribution of information. The Office of Public Affairs processed over 33,550 requests for county information and resources in since deployment of the CRM application.

Office of Public and Private Partnerships (OPPP) is the clearinghouse for partnership information in Fairfax County. CRM efforts in OPPP have consolidated disperse contact lists, business partners, and resources enabling staff to utilize the system as a data depository for contacts, accounts, cases, service requests, solutions, correspondence, activities, and allocation of staff and volunteer resources. Additionally, the CRM solution was implemented in the Lee and Dranesville District Board of Supervisor offices in October 2008. The goal in FY2010 is to provide continued support for agencies and plan for future integration of CRM with the County's new telecommunications platform, AVAYA, which will enable screen pop interaction with case record information, contact interaction records and profiles, and transparent case escalation.

2.4 GEOGRAPHIC INFORMATION SYSTEM (GIS)

Fairfax County's GIS has continued its growth in the number of direct GIS users (now over 700) as well as thousands of indirect users, working with applications that now include GIS embedded as part of their operation. County-staff access GIS directly via professional GIS tools and web applications and the public have access to a range of applications that integrate GIS. In FY2009 an internet web 3-D GIS tool was implemented which enables agencies and the public to view GIS data along with 3-D models. The County currently has 3-D models for over 3 sq. miles of Tyson's Corner and over 5 sq. miles of the Reston-Herndon area. The year also saw growing use of the GEM intranet web GIS tool. Substantial staff and contractor effort has gone into preparing the street centerline data for the new CAD/911 system that goes live in FY 2010. (The work done previously in developing the MultiModal transportation model that was documented in last year's Report was essential for the implementation.) The ongoing expanded use of GIS technology, and the extensive augmentation and enhancement of street centerline data were key goals last year. Overall GIS usage has grown not only over the past year but since 2001 when data statistics were compiled. As shown in figure 1, the volume of GIS data served directly to users or via the internet has consistently increased, with the monthly average for the year approaching 5 Terabytes.

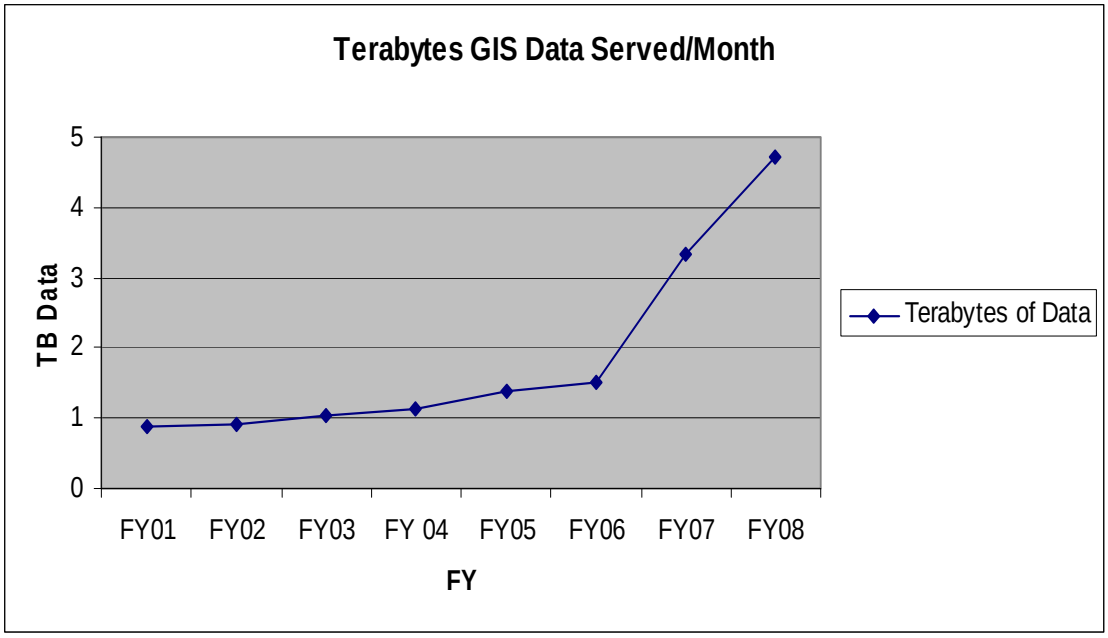


Figure 1.

The GIS data warehouse now holds over 800 layers of Fairfax County data and several hundred more of neighboring jurisdictions. The overall size of the vector data stands at 103 GB (including business data tables), and the raster data is now over 2.9 TB on line and an additional 3.9TB currently archived that will be moved to production.

The volume of data in the Digital map viewer increased as the last of the historic property and zoning map books were scanned and added to the database. Currently there are over 30,000 pre-made maps and images of historic maps available online. The application's usage has continued to increase as well, with views and downloads in excess of 32,000/month.

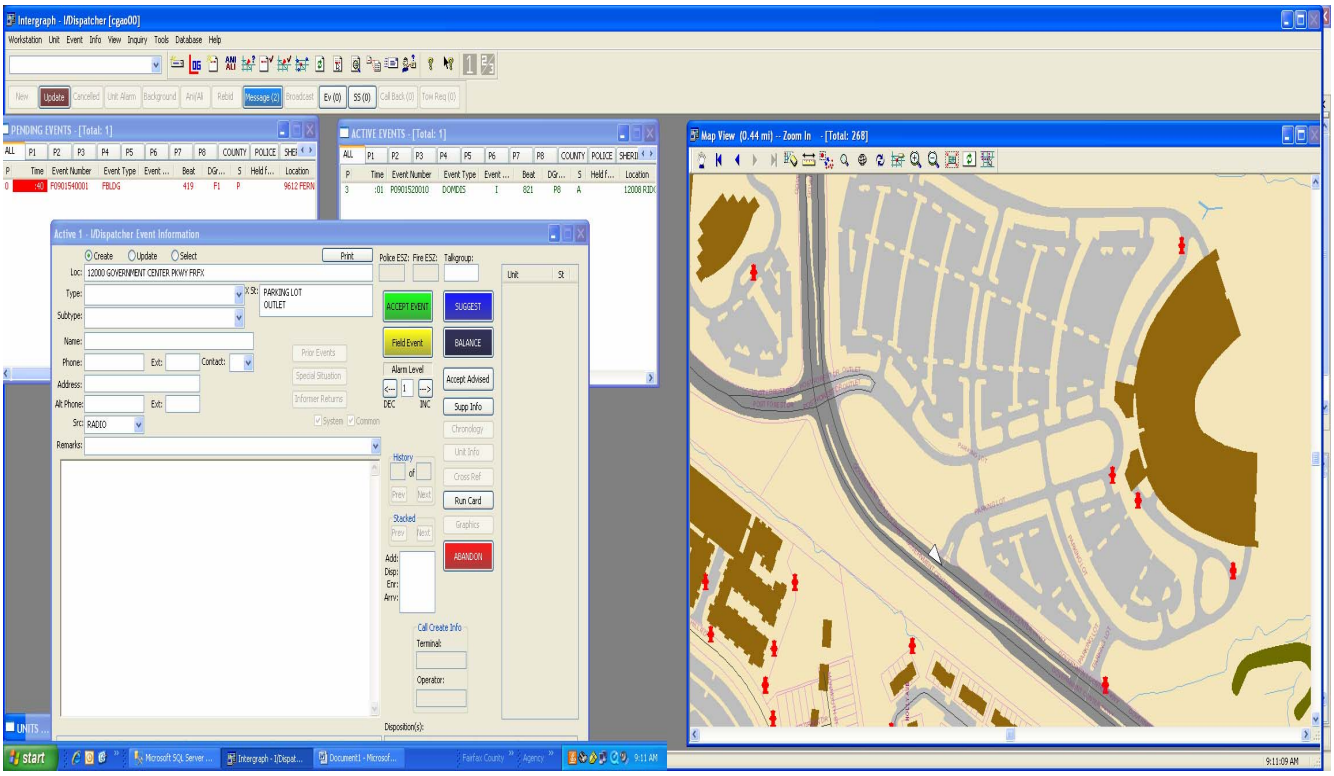
In FY 2010 the GIS branch will continue to enhance the existing applications and GIS data, particularly the centerline data. The County will partner with the neighboring jurisdictions and the state to develop a locally maintained, regionally routable centerline data set that will be useful for emergency response across jurisdiction lines. The planimetric update project currently underway will continue to enhance planimetric data. Two quadrants of the County will be updated which will dramatically improve the planimetric data from stereo imagery in 1997. My Neighborhood version 2 will be released in late FY 2009 or early FY 2010 and will be enhanced with additional data such as street lights. My Neighborhood now serves over 5 million maps/images per month.

The volume of data within the layers has also increased. Table One illustrates some of the most significant layers and their 2005 - 2009 values, along with some additional values that only have recent data:

Table One:

Data Layers	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Parcels	341,000	343,500	356,000	357,300	358,300
Addresses	360,000	365,000	368,000	364,700	365,100
Building Outlines	248,000	252,000	257,000	257,277	257,300
Miles of Roads	4,000	4,800	4,700	4,718	4,736
Number of streetlights			57,939	58,935	59,937
Linear miles of sanitary sewer lines			3,350	3,373	3,390

Figure 2 illustrates a screen shot of a preliminary map version from the new CAD/911 system. That system will place maps in all county emergency response vehicles and provide substantial new capabilities to emergency responders.

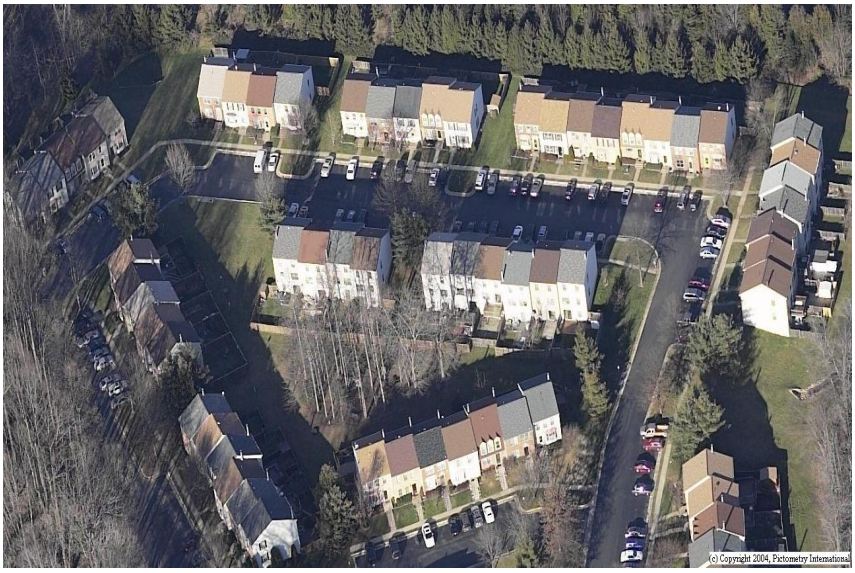


GIS staff are heavily engaged in the CAD/911 planning and implementation. GIS provided a range of emergency response services to the Office of Emergency Management, the most substantial effort involved preparation for the inauguration of president Obama in January 2009, which included coordination with response agencies across the national capital area, federal, state and the preparation of numerous maps.

The availability of key County data digitally through the GIS provides a range of benefits to constituents as well as County staff. Orthoimagery is widely used within GIS as well as over the web. Since the parcel and zoning data is now maintained digitally, production of the County's parcel and zoning books were greatly accelerated. Time consuming manual steps were replaced with the digital production process enabling staff to capture additional features in the GIS (e.g., more easements, particularly conservation easements). Additionally, map changes are posted to the internet daily, providing web users of the Digital Map Viewer with the latest versions of the maps. Prior to these enhancements maps were printed for distribution annually. Digital production has enabled the use of color in maps, and development of new symbolization of zoning patterns are added features. The popularity of the frequently updated data is evident by the steady increase in usage of the Digital Map Viewer.

In cooperation with the state's Virginia Base Mapping Program, aerial imagery of the entire County was updated in FY 2009 (previously in 2007 and 2002). In the intervening years, the County independently flew the entire County and acquired orthoimagery of one quadrant per year. The Northwest quadrant was developed from aerial imagery flown in 2001; the Northeast from 2003 imagery; the southeast from 2004; and the Southwest from 2005. This completes the County's first orthoimagery update cycle. Contractual difficulties delayed the state's plan to fly the entire County in 2006, as a result there is no aerial imagery of the County from 2006. Oblique aerial imagery of the

entire County was taken again in 2007 (previously in 2005 and 2003), delivered and brought online in FY 2008. Oblique imagery shows the sides of buildings, which orthoimagery does not. The side views enable County Assessors to more efficiently view and determine property values. The views also provide public safety officials with key information in planning emergency response, as they can see windows and doors to determine dimensions and heights above the ground. To give a sense of the two different types of imagery, an example of each is included below. Figure 3 is an orthoimage, taken directly over the homes, while Figure 4 is oblique, taken from the side rather than directly overhead.



In FY 2009 compilation work on updating the planimetric began in the SE quadrant of the county (including Ft. Belvoir and much of the Laurel Hill area. This is a jointly funded project between DPWES and DIT, the intent is to update 25% of the County annually, ensuring that the planimetric data will be no more than 4 years old. This data has been requested by EQAC along with a number of County agencies, and will be a foundational component of the new Computer Aided Dispatch system's maps. The fail-over capability of the GIS data warehouse has worked well and avoided database outages.

The breadth of GIS utilization across the County, and the extent of its integration into the overall IT architecture are reflected in the award winning plans and efforts of the preceding years. The awards recognize GIS' achievement in fostering and expanding the use of GIS applications to improve County operations:

- The County's GIS program received a "Best of Breed" award in the 2003 Digital Counties Survey. This survey and award recognition was conducted by the Center for Digital Government, in partnership with the National Association of Counties.

- County GIS programs received the VA Governor's Technology award for DPWES' use of GIS in routing refuse collection vehicles.

- In FY 2005 the County's GIS won FOSE's E-Town Award for GIS Integration.

- Fairfax County's GIS received international recognition via the Environmental Systems Research Institute (ESRI) Special Achievement in GIS (SAG) Awards for both the GIS Branch work and the countywide efforts in GIS.

- The National Association of Counties recognized Fairfax County for its use of GIS in the reap-portionment process.

The Master Address Database project, completed in FY 2006 has proved invaluable in the preparation for the new CAD/911 system. The MAR is the authoritative source of (situs) addresses in the County. Those addresses are essential for operation of the new CAD/911 system. Additionally, in a joint project with the County's Department of Public Safety and Communication (responsible for the CAD/911 system) the MAR data as checked against post office data to ensure accuracy and thoroughness. This data was used to cross check Master Street Address Guide (MSAG) held by the phone company. Since the MSAG is used by the phone company to determine where to route a 911 call its accuracy is crucial.

In FY 2009 and into FY 2010 GIS will be working with the County demographer to prepare for the 2010 census. The initial work involved identifying and providing a list of all residential addresses in the County to the Census Bureau using the data in the Master Address Repository. The Census Bureau reviewed the data and noted that it was most complete and accurate file they had seen in the regional office. Subsequently Census will compile a list for the County that must be reviewed and which becomes the basis for the 2010 Census visits and mailings. Without the MAR the speed of compiling and the quality of the data submitted would not have been possible.

Over 25 County agencies use GIS to in their operations, including the GIS Branch itself. These include:

- The transition to digital property and zoning information now enables the GIS Branch to maintain these maps daily. These maps are processed and made available for County staff and public users via the web. Since the production process is digital, more map series can be easily added. In FY 2008 the soil series will be added to the digital map viewer. In FY 2009 the new soil data based on the countywide soil evaluation program conducted jointly with the federal Natural Resource Conservation Services and the Northern Virginia Soil and Water Conservation District will be added to the digital map viewer.

- The centerline file was modified to reflect the Northern Virginia common centerline elements and made available to County agencies and is being enhanced with additional data need for CAD and for regional routability of emergency response vehicles.

- Substantial savings are realized in the Department of Public Works and Environmental Services through the use of GIS. The agency was recognized by the State of Virginia for integrating GIS with refuse vehicle routing for additional flexibility and cost savings.

- GIS technology enabled the Department of Public Works to complete the mapping involved in the Streams Characterization Project in weeks rather than months.

- The Department of Public Works digitized the sanitary sewer lines into the GIS and maintains them regularly. Storm sewers digitization was completed and is now in the GIS data warehouse. The data is also available in the My Neighborhood application. The Department

also uses GIS as part of its automated sanitary sewer permit application tool which greatly speeds preparation of the permit by automating cost calculations. GIS is also used to help call takers identify problem areas and prepare work orders.

- The Department of Zoning has digitized the Comprehensive Plan into the GIS for easier maintenance and viewing. The agency uses GIS in the urban design project for Tyson's Corner and has performed 3-D visualization work to better understand the proposed developments.

- The GIS now contains data from Fairfax Water and the Cities of Fairfax and Falls Church on hydrants and water mains.

- The Department of Transportation uses GIS to help plan pedestrian safety projects.

- The Health Department uses GIS to conduct emergency preparedness planning, track unhealthful soil deposits, track well and septic systems, and to notify residents when necessary.

- The Park Authority uses GIS for a wide range of planning and management activities. It uses GIS to identify candidate properties for purchase by the county to improve park resources.

- Oblique and Ortho imagery are now available to 911 dispatch personnel, adding improved response evaluation since operators can view actual conditions prior to units arriving.

- The Department of Planning and Zoning staff uses GIS programming and analysis to tackle problems that would have ordinarily been overwhelming manual tasks. Such tasks include assignment of regional transportation analysis zone numbers to each of Fairfax County's 356,000 individual parcels. GIS programming now makes this a routine and quick process. GIS is streamlining the Area Plan Review (APR) through the use of a new Comprehensive Plan Amendment Tracking System (CPATS). In addition, GIS is used with CPATS to generate notices for plan amendment applications. User errors were largely eliminated and the latest information is always used. GIS is integrated into DPZ's Land Information System (DPZLIS), and the Staff Report Locator Map Production System module of DPZLIS is used to quickly create staff report maps. Environmental planners use DPZLIS to generate environmental assessments of LDS or APR application subject areas. DPZLIS is also used widely by staff to generate custom page size maps of any location in the County. These products have been especially beneficial in Zoning Enforcement issues; public users can now check on the status of permits for development and view maps of the work via the internet.

- The Department of Transportation employed GIS technology for a variety of projects and analyses. GIS provided tremendous insight in understanding and predicting commuter use of Park & Ride facilities and helps direct the department locate and manage new/potential facilities. In addition, Department of Transportation uses GIS technologies for the Fairfax Connector bus system's demographic analysis, route planning, and bus stop management. Many of these techniques are also used for the Employer Services program to best promote commute alternatives to Fairfax employers and their staff. They are using GIS to plan and analyze bus stop locations, and plan pedestrian safety improvements.

- In health areas, GIS has been used as part of the West Nile Virus planning and response, as well as tracking tuberculosis in the County. Previously GIS had proven its value in the canker worm outbreak in FY 2001 (and before that the Gypsy Moth outbreak). GIS enabled County staff to quickly identify residents who would be affected by planned canker worm spraying and

contacted them ahead of time. The GIS also provided spraying coordinates to the helicopter spray crews so that balloons would not have to be used, which was a significant time and cost savings. Drinking water wells have also been identified and entered into the GIS.

- The Fire and Rescue Department (FRD) makes substantial use of GIS and as a result is experiencing significant savings. For instance, in the process of responding to Fire Hydrant and Insurance queries, the GIS saves about 50 percent in staff time determining the distances. A new Web application under review will provide even more savings once it is developed and online. Additionally a 98% staff time savings were estimated in the countywide analysis of the process of identifying the five-minute response time areas for fire stations — a factor crucial to establishing response areas that are within response time limits.

- The Police Department has had significant success in its use of GIS in crime analysis. In multiple instances, the Department's crime analysts were able to identify spatial patterns in crime incidents and successfully predict the subsequent crime locations. In those instances suspects were arrested. Police now train some of their crime analysts as criminal profilers, an activity heavily dependent on the use of GIS.

- GIS was used extensively in planning for and responding to flooding in the Huntington area. These maps were helpful for both field personnel and staff in the Alternate Emergency Operations Center.

The GIS Branch continues its strategic interaction with County agencies to foster their development of GIS capabilities and integration into their business processes. The preceding years have seen GIS take root in most County agencies. The program will continue to expand and is an important tool for Public Safety, Homeland Security and Emergency Management efforts. The challenge is to continue fostering, broadening and integrating growth with management involvement and support.

The GIS Branch is also pursuing a number of strategic activities to foster the sharing of GIS data and resources, particularly in the area of homeland security. The County is a member of NACo's GIS committee which looks at key GIS issues affecting counties. The County's GIS manager is a member of the Council of Government's CIO's GIS subcommittee, working on regional interoperability initiatives including development of a regional GIS map, tying the GIS layer with a regional data exchange hub, and pursuing projects and funding to enhance regional GIS.

Fairfax County is a member of the Northern Virginia GIS managers group, an informal group that regularly meets to coordinate activities. The most recent accomplishment is acquiring support from the State's Wireless Board through the Virginia Geographic Information Network to build on the past centerline work and develop a regional, routable centerline data set. This work laid the foundation for a state wide routable centerline model. It will enable routing of public safety vehicles across jurisdiction boundaries. The GIS Branch works closely with the State's GIS agency (Virginia Geographic Information Network, now part of Virginia Integrated Services Program), and now directly participates in the Emergency Operations Center when it is activated. In addition, the GIS Branch completed development of the My Neighborhood Police Incident viewer.

Additionally, there will continue to be emphasis on data quality, system reliability and connectivity as well as implementation of new GIS applications. These aspects are crucial to implementing GIS as a data "utility" across the County so that users at any of the County's offices can "turn on" their GIS "data tap" and have all of the data they need available immediately. Data quality is a paramount issue; rigorous Quality Assurance/Quality Control measures have been implemented on the parcel

data updates. Similarly, rigorous quality standards were developed for the aerial imagery being acquired and the planimetric data. System reliability is an increasingly crucial issue as more users integrate GIS into their daily operations. The GIS Branch monitors the performance of its applications while the DIT's Server Support Division monitors the underlying hardware and communications links to ensure reliability. Critical applications are monitored around the clock and staff is on call if system outages occur outside of work hours.

Finally, as the GIS Branch works closely with other agencies, web-based applications will be used wherever possible, staff will design and implement specific applications to enable users to more easily perform the spatial analysis and querying they need with GIS data. These custom applications will decrease the time necessary for queries and increase the number of staff that can use the data in applications designed specifically for their operational requirements.

2.5 FAIRFAX INSPECTIONS DATABASE ONLINE (FIDO)

The Fairfax Inspections Database Online (FIDO) project is a strategic initiative to consolidate inspection services provided by multiple County agencies into a single software solution and to implement e-permitting capabilities for customers. The system enables all user agencies to work more collaboratively in their inspection and code enforcement efforts. This multi-year project connects four agencies in providing permitting, plan review, inspection, complaints management, and environmental health related services. Goals for this project include migrating from the mainframe environment to a platform that enhances multi-agency access and participation in the affected processes, enhancing customer service by streamlining the permitting process, and facilitating the performance of as much business as possible via the Internet. The FIDO system will provide online permitting, facilitate enhanced plan review capabilities, integrate with the existing Land Development Systems' (LDS) database to ensure the seamless availability of land development data, and provide a virtual one-stop shop for processing permit applications.

The approach for this project represents a concerted effort to harness the expertise of all stakeholders in the design, acquisition, and implementation phases to ensure a seamless, streamlined integration with all other pertinent systems. A project steering committee is comprised of the Deputy County Executive for Land Development and Public Safety, Department Directors from the FIDO user agencies, the Deputy County Executive for Information and Compliance, and the Chief Technology Officer. In addition, teams of representatives from each of the core user agencies and the Department of Information Technology (DIT) have been established to assist in the management of this effort and for the coordination of gathering system requirements from the stakeholders. Customers and County staff that use the system on a daily basis formed numerous workgroups to provide critical input for the development of the user and system requirements. Additionally, these workgroups included staff of the Health Department, Department of Tax Administration, Fire and Rescue Department, Department of Planning and Zoning (DPZ), Department of Public Works and Environmental Services (DPWES) and DIT. The collaborative efforts of these groups provided input on the needs of all the beneficiaries, with a concentrated focus on the day-to-day customers and the numerous organizations that rely on the County for permit processing and inspection information. Many of these teams continue to work on FIDO system enhancements and modifications.

The FIDO system creates adaptability on a new platform that will serve as the foundation for all future e-permitting enhancements while providing immediate additional functionality and a streamlined process. The project will include the acquisition of a web-enabled system with the capability to provide access to permit information and the permit process 24 hours a day, 7 days a week. The system will provide a virtual one-stop shop offering e-permitting opportunities for many projects not

requiring plans. The system will also provide managers the ability to perform an ongoing analysis of efficiency and effectiveness of resource utilization.

Anticipated future enhancements to the new system include the, distribution and review of plans and permit applications by all required review agencies and the issuance of permits online for complex projects requiring the submission of large scale plans. The completion of this project will position the County to utilize additional e-government capabilities and will more fully integrate all of the land development processes to facilitate information sharing and one-stop permit processing. While enhancing customer service, this project will allow greater and immediate public access to permit related data, which in turn reduces customer inquiries and saves significant amounts of staff time. The management of the land development process will be enhanced by the ability to track construction projects throughout the project lifecycle. The consolidation of related data into a single system will improve the process as well as the consistency and reliability of information provided to customers. Finally, the vastly improved search and retrieval capability will facilitate research by the public and the County.

The Hansen, Inc. solution was selected through a competitive process in 2003. During FY 2004 and FY 2005 the complaints module (i.e. Code Enforcement Module) was successfully implemented at (DPZ) and the Health Department, while the Contractor License module was implemented at DPWES and the Health Department. In FY 2006 the FIDO permits module replaced ISIS at DPWES, and in FY 2007 this module was also expanded to include the Fire Department. FY 2007 activities also included the expansion of the Complaints Module at DPWES and FRD. In addition, the FIDO License Module was implemented at the Health Department to support the issuance of licenses to Fairfax County Beauty Salons, summer day camps, pools, and child care facilities. In FY 2008, additional building permit issuance capabilities were provided to the Fire and Rescue Department, and the FIDO system replaced the 20-year old Health Management Information System (HMIS) at the Health Department. During FY2009, the expansion and implementation of the Permits and License modules was completed at FRD and HD, respectively. In addition, new permits supporting Residential and Non-Residential Use Permits were installed at DPWES and DPZ. Remaining items for FIDO include the design and implementation of web-based permit applications, and improved email notification capabilities for permit applicants and permit related inspection requests.

In order to improve coordination and collaboration of County Code Enforcement activities and resolve code enforcement issues (e.g. homes with severe overcrowding in unsafe living conditions) a Strike Team was created to handle the most significant code enforcement violations with a cross-departmental team from Zoning, Public Works and Environmental Services, Fire and Rescue, Health, Housing, Police, and Sheriff. In FY2010, the project team plans to implement a Code Enforcement module that will aggregate and transform code enforcement activities from an agency-centric management module (i.e. multiple cases related to a single address) to an address- specific system that will aggregate all agency cases related to a specific address in a single case. Further enhancements to FIDO are required to sustain and expand the code enforcement efforts. Through the FIDO project the four critical departments assigned to the Strike Team – DPZ, DPWES, FRD, and Health – have many permits, inspections and complaints co-located in one central repository. However, Strike Team cases typically involve multiple violations that cross over multiple departments, codes, ordinances, and laws and therefore system enhancements are necessary to meet their specific business process and information reporting needs. The FIDO solution is consistent with County standards and fits well with County's e-government strategy of using emerging technologies.

2.6 ENTERPRISE TELECOMMUNICATIONS

Superior voice communications is an organizational requirement in today's technological landscape. As government is asked to do more with less, stretching limited financial and human resources, it relies heavily on efficient voice communications to improve effectiveness in meeting the growing needs of constituents. Whether it is citizen access via e-government; efficient management of government information; the advancement of education; the safety of our children on school buses; or homeland security; voice communications plays an enormously critical role.

Integrating voice, video and data communications onto a common structure, which has been envisioned by the industry since the 1980's, is now becoming a reality. This convergence will bring tremendous benefits to enterprises such as Fairfax County that need enterprise-wide voice and data networks. New types of voice service platforms that support data application integration are commercially available and are seen as a cost effective means of improving County's service to citizens. Currently, that fully converged world is the provenance of "early adopters". After decades of high quality phone service provided through the traditional telephone networks, users expect new systems to have consistent voice quality, with never a doubt that they will hear dial tone when they lift the telephone receiver.

The long-term strategy for Fairfax County is to implement Voice over IP (VoIP) services and obtain the maximum utilization of its networking capabilities as well as garner the advantages in functionality and features that this leading-edge technology provides. DIT is implementing a strategy for voice services, utilizing convergent-IP ready technology, over the County's fiber I-Net. This strategy includes a solution architecture that is scalable to support the variety of county sites and agency business requirements distributed over 400 square miles. The strategy uses IP-based telephone service at the smaller sites, so that they can be brought into the common voice enterprise architecture, avoiding investment in larger more expensive equipment. Careful planning will significantly reduce the risks involved in converging IP data traffic with IP voice traffic onto one data network. This strategy is both prudent and forward-looking. It will position the County to increase its use of advanced convergent technologies as these technologies mature. It allows the County to leverage its wide-area fiber network – I-Net for data, video and voice, and facilitates reductions in other voice service operational costs. The plan is in full alignment with the County's principle of implementing contemporary, but proven, technologies, optimizing IT investments and creating more operational cost efficiencies.

The following six strategic goals for Fairfax County voice services were developed and endorsed by County's Executive Management and serves as the building blocks for Fairfax County's Strategic Voice Technology Platform:

Goal	Solution Element	Benefit to Fairfax County
1 - Optimize the total life-cycle cost for voice services	Centralized Servers Telephone sets can be moved by users w/o requiring system programming Secure Centralized Management accessible from anywhere	Reduced cost to update/upgrade. Moves Adds and Changes become less expensive. No increase in personnel needed to manage the system
2 - Provide common voice architecture, County-wide	Modular, scalable, "plug n' play" hardware and software components	Reduced cost to manage and maintain. Common look and feel of applications and telephones improves productivity of users Users and applications are portable; ex. Call Center agents can be anywhere internally or externally and have the same capabilities. Users can move between sites and take their number with them, with or without moving their phone
3 - Provide secure remote access for voice and data to expand Telework	IP Softphone/Agent with Advanced Encryption Standard (AES). Unique dual line Softphone, splits network signaling from voice Citrix support for IP Agent	Conversations remain private and users can work from anywhere Simplified operation for remote users that doesn't require QoS and allows use of any telephone Contact Center agents can be remote and have secure access to applications.
4 - Provide compatibility with "best-in-class" citizen access technologies	Contact Center, i.e. Skills Based Routing. Mobility Solutions, i.e. Extension to Cellular.	Maximize # of productive information exchanges. Citizens can reach County workers even when they are away from their office. All employees/citizens have same opportunity to access information
5 - Develop a survivable architecture that is scalable and flexible	4 Layers of Redundancy, i.e. Mirrored Main Servers, Enterprise Survivable Servers (ESS), Local Survivable Processor, Redundant components Moduler Components	Unparalleled reliability and resiliency of underlying architecture Lower TCO as components can be combined and used in different ways like Lego building blocks

Goal	Solution Element	Benefit to Fairfax County
6 - Prepare for the convergence of voice and data onto one logical network	Applications are media agnostic.	Applications can be extended anywhere to any device, increasing productivity, and reducing cost.
	Universal licenses	Add IP Telephones when and where needed at reduced expense. Existing features work the same as users move from Digital Telephones to IP Telephones thereby easing transition and increasing productivity

To achieve the goals for next generation voice switch architecture, as discussed above, there are a number of technical requirements that the target architecture should meet. The solution must support the County's integrated network philosophy with a single logical architecture. The solution must address the large number of County locations supporting a variety of business and operational needs. The solution must support a range of configurable telephone instruments and feature sets. Finally the solution must also address the following requirements:

- Constituent Relationship Management (CRM) Technology
- Automated Call Distribution/ Interactive Voice Response
- Computer Telephone Interfacing
- Remote Access and Telework
- Unified Messaging
- County-wide Voicemail
- Inbound Caller ID

The transformation of Fairfax County's voice platform is a significant endeavor that requires a great deal of planning and thoughtful implementation over many months, but it will have a revolutionary impact on the way that the County conducts business and provides services to its constituents. Voice over IP (VoIP) is clearly the strategic technology that the County embraces, using a phased approach to minimize risks at the two core locations. The new voice network infrastructure provides uniformity of telephone features at all County locations and will be the foundation upon which to integrate function specific call centers, creating a virtual Constituent Contact Center to streamline incoming call processing while reducing call center operating costs.

In FY 2006 the County selected a competitive solution and began implementation. This comprehensive project will continue into FY2010. The new functionality and integration of the voice and data platforms have already been implemented in a number of County facilities. The replacement of the current telephony infrastructure will serve approximately 15,000 Fairfax County employees. The migration will occur in phases which will allow multiple opportunities and avenues to prepare the FCG community for the transition, and thereby ensure a smooth change of voice platforms. Successful implementation requires accurate and consistent communications regarding project status, system features and functionality, dialing plan information, and changes that users (both employees and citizens) can expect.

2.7 LAND INFORMATION ACCESSIBILITY

In January 2006 the Board of Supervisors established the Fairfax County Land Use Information Accessibility Advisory Group ("Advisory Group"). The purpose was to review how land planning and development information is currently made available to the public, and to make recommendations for accessibility improvements. The target stakeholder audience includes County staff and management, novice citizens, active land use citizens, developers, property owners, and others with an interest in knowing more about proposed and ongoing land planning and development activities.

The final report was accepted by the Board of Supervisors in January 2007. The Advisory Group appreciated the responsiveness that County staff had already provided for this initiative. In addition, they recognized several significant improvements that staff had already implemented since the inception of this Board request, including:

- New web page design to reorganize and consolidate the land planning and development information (http://www.fairfaxcounty.gov/living/landuse/)
- New ability to search the Land Development System using a County address to see all nearby land planning and development cases (on a map or by listing, with drill down capability; http://www.fairfaxcounty.gov/ldsnet/)
- New ability to search the Land Development System by Magisterial District to see area land planning and development cases (on a map with drill down capability; http://www.fairfaxcounty.gov/ldsnet/).

During FY 2008 and FY 2009 additional improvements were implemented to improve public access to land development information based on funding availability, including:

- Adding Building Permit data to the LDSNET Search by Address\Search by Magisterial options,,
- Providing web page accessible land planning and development case summaries in PDF downloadable formats,
- Enhancing the LDSNET and My Neighborhood web page integration to streamline end user navigation.

The Advisory Group recommended that the County embrace and build towards short-term, medium-term, and long-term improvements for land use information. Listed below are summaries of the 12 guiding principles, followed by 17 recommendations.

Twelve Guiding Principles for Fairfax County Land Use Information

The following 12 guiding principles are designed to help maximize public involvement in the land use review and approvals processes, and encourage the continuing modernization of information technologies in Fairfax County's land use review and approval processes.

1. Make land use information publicly available and accessible at the earliest opportunity.
2. Use geocoding standards across all County databases, land planning systems, electronic development files, and documents.
3. Collect and manage information so that it can be accessed from multiple entry points such as geographic location or by steps in the land use approval process.

4. Make all public land use information easy to find, including information developed by others and submitted to the County, as well as County-generated information. :
5. Ensure consistency and user friendliness across all web pages and across all agencies of the County.
6. Create standard report forms to allow searches across projects and aggregation of those data for use by County citizens.
7. Make sure that information systems and any changes made to them are open and scalable so future needs can be addressed.
8. Tailor land use pages to meet the needs of different user types, and provide information as early as possible about Comprehensive Plan land use proposals.
9. Require external land planners and developers to submit land use application information to the County via electronic files using geocoding standards; also request 3D modeling and other visualization technology for larger and more complex land developments.
10. Make land use information accessible to citizens with a range of access to tools and resources, including users with no or limited access to the Internet.
11. Establish procedures and provide resources to keep land use information as timely and accurate as possible.
12. Investigate ways to increase the dialog and information sharing among all land use stakeholders.

The following 17 recommendations and improvements are intended to be designed and implemented over a number of years:

- ***Expanded Application of Land Use Information Tools.*** The Advisory Group recommends development of a more integrated and intuitive "front end" web page or portal or repository that enables users to go to one location and search for land planning and development information relevant to their inquiry location; further integration of LDSNet, My Neighborhood, GIS, the Courts Automated Retrieval System (CARS), the Fairfax Inspection Database Online (FIDO) system that contains permits and inspections information, and the DTA IAS system which contains real estate parcel information, and other related systems; expansion of the My Neighborhood capabilities combined with a data warehouse; providing more land use data that can be imported into a constituent spreadsheet for further analysis.
- ***Further Integration of GIS into all County Land Use Information Systems.***
- ***Land Use Public Hearing Information***. For public hearings the County should make available electronically the information currently provided in the hard copy (staff report, proffers, development plans, and affidavits).
- ***Notification Process Above & Beyond State and Ordinance Requirements.*** Fairfax County should study how to provide a process to electronically notify interested citizens about pending land use actions within a user-specified distance of a County address and according to certain categories of proposed land use.
- ***Improve Access to Site-Specific Land Use History.***
- ***Electronic File Submission and Review.*** Fairfax County should update land use review processes to facilitate electronic file submission and review.
- ***Citizens and contractors requesting permits should be able to file electronically and utilize address or other information already on file with the County.***

- ***Land Use Orientation Page and Activity Calendar.***
- ***Verbatim Excerpts and/or Viewable Proceedings of Planning Commission Decision Discussions Should be Available Online.***
- ***Collection of Approved Plans and Visualization of Community-Wide Development.*** The County should collect an electronic version of approved development plans and build an easily searchable electronic library.
- ***Create New GIS Overlays.*** The Comprehensive Plan should evolve into a more digital model with GIS layers showing the approved plan with options and alternatives and a layer showing existing property development.
- ***Coordination within the County.*** The County should work to ensure more cross-departmental coordination and use of spatial data, including public access.
- ***Coordination with Other Jurisdictions.*** The Advisory Group recommends that County staff stay in close contact with other jurisdictions and other agencies (e.g. VDOT) in an effort to make land use information more accessible, to learn about new techniques and technologies, and to participate in collaborative initiatives.
- ***Outreach to County Stakeholders such as Citizens and Businesses.*** The County should use available land use information and technologies to improve its conversation with and among citizens about land use.
- ***Outreach to Civic and Homeowner Associations.*** The County should encourage organizations like the Federation of Citizen Associations, District Councils, and larger citizen associations to work closely with Board member offices to collect information about which addresses and parcels are associated with each particular civic or homeowner association.
- ***Ongoing Focus Groups.*** Some type of periodic ongoing advisory group should meet to monitor progress and make further recommendations.
- ***Enhancements to the Board Auditorium.*** Enhance the capability for speakers and staff to use electronic media presentations and GIS displays in the Auditorium.

The Advisory Group encouraged the County to embrace the concept of continual innovative and incremental improvements as well as longer-term larger improvements as changes in business processes and technology permit. The Advisory Group also recommended that the Board provide consistent funding and sufficient resources to implement these recommendations as well as to sustain ongoing improvements. To begin achieving the Advisory Group's vision, there will be a series of projects for new systems and enhancements made to existing systems. The final Advisory Group Recommendations are available at:
http://www.fairfaxcounty.gov/landusecomm/

2.8 PUBLIC SAFETY INFRASTRUCTURE MODERNIZATION

The goal of the Public Safety Infrastructure Modernization Project is to procure an integrated suite of software to support Computer Aided Dispatch (CAD) and Records/Information Management Systems (RMS) for Fairfax County's Public Safety agencies. It includes the following major components:

- Replacement of the Northrop Grumman Computer Aided Dispatch system, Altaris
- Replacement of the existing Police Records Management system,
- Acquisition of EMS Incident Reporting solution for the Fire and Rescue Department, and
- Upgrading the current Fire Records Management system.

The CAD/RMS will serve as the core of this integrated, comprehensive public safety information management system. The County conducted a procurement process, starting with a Request for Qualifications (RFQ), followed by an RFP and a rigorous evaluation of the proposals in order to obtain a modern, integrated state-of-the-art solution with a proven track record.

This project will provide the County's public safety first responders with ready access to the tools that will enable sharing of tactical information, often in real time and on-site, with a number of different entities such as emergency management agencies; neighboring Public Safety Access Points (PSAP) and Police and Fire departments; as well as state and federal authorities including Department of Defense components. These requirements are particularly critical for the County and other jurisdictions in the National Capital Region and are consistent with NIMS guidelines.

There are numerous technical and functional improvements a new system will offer the County, and many are considered "baseline" products in current generation CAD and RMS applications. This new solution will include the following essential technical improvements:

- Integrated CAD/Records Management System for Police and Fire and Rescue - The current Police Records Management System is twenty years old, not integrated with CAD, and well past normal life cycle replacement. It does not support modern law enforcement and crime analysis activities.

- Automatic Vehicle Location (AVL) – The current CAD does not support GPS technology and applications to track the locations of public safety units. This is vital feature to insure personnel safety, as well as operational capabilities such as nearest unit response and appropriate resource utilization.

- Nearest Unit Response – Efficient routing based on quality mapping data, in combination with AVL will provide the fastest response to the scene and insure that the closest, most appropriate unit is provided with the optimal routing.

- Standards-Based GIS Capability that will integrate with and leverage existing County GIS data layer and mapping resources –Geographically represented data and information is essential to all public safety agencies, for both after action and statistical reporting, and for on-scene response and incident management. Integrated standards based GIS capabilities will enable the county to leverage technology resources and skill sets across the enterprise and increase efficiency.

- Standards-based interoperability to support both internal County data and information sharing across public safety and related agencies, as well as critical external data and information sharing such as CAD to CAD, interoperability with Virginia Department of Transportation as well as Virginia State Police will provide collaborative incident response with neighboring jurisdictions supporting mutual response.

- Up-to-date tools that improve system administration, enabling the County to better manage and own its application and increasing the ability for Public Safety to respond quickly and effectively to changing needs, and reducing reliance on third-party support and overall system maintenance costs.

- A non-proprietary, standards based system architecture built on a standard platform that reduces the frequency of costly and invasion forklift replacements based on hardware obsolesce. This improves the County's posture for planning refresh cycles into warranties and maintenance plans

2.9 LEGACY SYSTEM REPLACEMENT

Fairfax County government and school system have embarked on a multi-year, joint initiative to modernize the portfolio of enterprise systems that support finance (FAMIS), human resources (government: PRISM/schools: LAWSON), budget (BPREP), procurement (CASPS) and related administrative applications with an integrated approach that has the flexibility to meet current and future requirements. The project seeks to mitigate the risk that antiquated and disjointed systems pose for system failure and inferior data.

The current 'stovepipe' legacy business systems are on various, old technology platforms using a variety of hardware and software architectures integrated through a number of interfaces and reporting tools. Previous assessments of these aging systems revealed that they are past their projected useful lifecycle, no longer meet today's technology standards, and do not meet the demands of resource and financial management and decision-making. System limitations continue to drive a proliferation of multi-step tasks to produce desired data and the development of numerous 'workaround' systems to gain necessary functionality currently not available. This has also resulted in an exponentially increased risk for fraud and security vulnerabilities. Due to their age, many of these systems have no vendor support and rely on retirement eligible in-house staff for maintenance. The systems are written in technical code that is outdated, they are not practiced by the vast majority of the industry labor pool and they are unable to be integrated with future mandated requirements.

Of these systems, the County government's Personnel Resource Information System Management (PRISM) is the most vulnerable to immediate obsolescence issues. It is over 20 years old and highly customized based on historical County operational practices to the extent that it cannot be further enhanced. Further, attrition of in-house technical staff as they reach retirement age is jeopardizing future support for maintaining this legacy application - with the other systems approaching a similar expert support dilemma. Due to the impending lack of support, it is anticipated that PRISM is the first of the legacy systems that will be replaced.

A governance body of senior officials of the County and school system stakeholder agencies has endeavored to identify the optimal strategy to pursue in its effort to procure an integrated financial/procurement/human resources/budget suite that will support agencies in the delivery of government and school services and activities, take advantage of best practices, provide the opportunity for multi-faceted data-driven decisions, significantly improve the efficiency and

effectiveness of existing processes, enhance e-government initiatives and promote telework opportunities, and aid in the transformation and standardization of financial and human resource processes. This initiative will foster an environment of change and redesign to allow for more efficient and effective processes.

The project seeks to mitigate the risk that antiquated and disjointed systems pose for system failure and inferior data. Automation and modernization will empower both employees and managers to execute processes more efficiently, and make the best strategic decisions based on the most timely and accurate information. This shifts the orientation of the system from that of a data repository to one of an information system solution. With the migration to a more standard, supportable database and development environment that incorporates workflow and Web technology, the project expects to:

- Create a collaborative environment where access to data and information, even from remote locations, is based on system "look and feel" flexibility, intuition, data definition, data stewardship and security;
- Provide a seamless integration of a new system with existing applications;
- Reduce the number of shadow systems and reconciliations between systems;
- Align the reporting strategy with the County government and school system overall data management and data warehousing strategy. This must enable and support performance reporting and consistent information management throughout the organizations;
- Incorporate fully integrated best business practices;
- Develop a system that is user-friendly and that empowers users to improve their business processes;
- Add and improve functionality in back-office functional areas;
- Improve the quality and accessibility of information for decision support;
- Reduce redundant data entry, storage, and paper processing;
- Support the countywide balanced scorecard initiative;
- Improve operational effectiveness and productivity;
- Enhance web self-service and improve customer service; and
- Retire existing legacy and back office systems and tools.

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SECTION 3
INFORMATION TECHNOLOGY PROGRAMS

3.1 TECHNOLOGY OVERVIEW

Purpose

Fund 104, Information Technology, was established in FY 1995 to strengthen centralized management of available resources by consolidating major Information Technology (IT) projects in one fund. Based on the 1994 Information Technology Advisory Group (ITAG) study, this fund was created to account for spending by project and is managed centrally by the Department of Information Technology. Historically, the E-911 Emergency Telephone Service Fee, a General Fund transfer, the State Technology Trust Fund, and interest earnings are sources for investment in Information Technology projects. However, in FY 2001, the E-911 Emergency Telephone Service Fee revenue and related project expenses were moved to Fund 120, E-911 to satisfy a State legislative requirement that E-911 revenues and expenditures be accounted for separately.

The County's technology strategy has several key elements: provide an adequate technology infrastructure for agencies in making quality operational improvements; redesign existing business processes with technology to achieve large-scale improvements in service quality and achieve administrative efficiencies; and promote the use of technology in enabling government services without "doors, walls or clocks". The County's long-term commitment to provide quality customer service through the effective use of technology is manifested in service enhancements; improved access to services electronically, expedited response to citizen inquiries, improved operational efficiencies, better information for management decisions, and increased performance capabilities.

FY 2010 Initiatives

In FY 2010, funding of $9.5 million, which includes a General Fund transfer of $7.4 million, interest income of $1.1 million, and $1 million from the County's Cable Fund is provided to meet contractual obligations and complete planned phases of existing IT projects in Fund 104. These projects continue to meet one or multiple priorities established by the Senior Information Technology Steering Committee and include a mix of projects that provide benefits for both citizens and employees and that adequately balance continuing initiatives with the need for maintaining and strengthening the County's technology infrastructure. Funded projects will support initiatives in General County Services and Public Safety program areas, and sustain enterprise technology foundation systems and infrastructure. Although many initiatives meet more than one of the technology priorities, for narrative purposes below, projects have been grouped into only one priority area.

In accordance with the FY 2010 Budget Guidelines, funding requests for Fund 104 IT projects were limited to mandates and existing IT projects requiring a planned funding increment to meet contractual obligations and/or to complete a planned phase. During the annual Fund 104 submission process, agencies were advised that in response to significant budget constraints, no new IT initiatives would be considered; and that FY 2010 Fund 104 funding requests must represent the planned budget increment supporting a previously approved phase required to continue the project deliverables. This change from prior years reflects significant limitations on the County's IT program based on the substantial projected budget shortfall in FY 2010.

In keeping with established procedures, a Project Review Team consisting of business and technical staff from the Department of Information Technology (DIT) and the Department of Management and

Budget (DMB) evaluated all submissions requesting additional funding for clear alignment with project plans and anticipated deliverables. Projects were reviewed for continued alignment with project plans from both a business and a technical perspective, including whether the continued implementation of the project would realize proposed benefits. Benefits of the project were weighed against the cost and several risk factors, including potential unknowns related expenses, changes in scope necessitated by new business drivers, technological relevance, operational transformation needs, project schedule viability, and the impact of not funding or otherwise delaying the project. Technical factors examined include alignment with County technology architecture and standards, impact on existing County IT infrastructure, and availability of viable products and services. Also considered is the organizational experience with the solutions that support the project business goals, and the availability of human resources both in DIT and the sponsoring agency to implement the project.

Funding Priorities

The Senior IT Steering Committee establishes the funding priorities for technology projects. Beginning in FY 2004, based on global changes in social and economic paradigm shifts, the new priorities shown below were adopted. The recommended IT investments meet the five key investment policy objectives shown below and are supported by the Senior IT Steering Committee and the ITPAC. A more detailed explanation of the projects within these requirements is provided within:

1. ***Mandated Requirements:*** (enacted by the Federal Government, Commonwealth of Virginia, Board of Supervisors, Court ordered or County regulation changes).

2. ***Completion of Prior Investments:*** (multi-year lease purchase, implements phase or completion of planned project).

3. ***Enhanced County Security:*** (homeland security, physical security, and information security and privacy).

4. ***Improved Service and Efficiency:*** (consolidate business practices; support more efficient government; optimize management and use of county assets and data; enhance systems to meet the expectations and needs of citizens; and promote service that can be provided through the Internet-'e-government').

5. ***Maintaining a Current and Supportable Technology Infrastructure:*** (consistent and reliable hardware, software and communications infrastructure; ensure that citizens, businesses and County employees have appropriate access to information and services).

The five investment policy objectives relate to the County's continuing focus on making access to government services more reliable, secure, and efficient. The projects on the following pages are supported and will receive additional funding in FY 2010.

The established priorities for IT projects for FY 2010 are summarized as follows:

PRIORITY	FY 2010 ADVERTISED FUNDING
Completion of Prior Investments	**$0.3 million**
Enhanced County Security	**$3.9 million**
Maintaining a Current and Supportable Technology Infrastructure	**$5.3 million**
TOTAL	**$9.5 million**

Completion of Prior Investments - $0.3 million

The County's IT program focuses on using technology as an essential tool to enable cost-effective delivery of services, and continues to stress the need to build reliable, supportable projects for these services in a timely manner. Many projects funded can be completed within that fiscal year, while others are multi-phase projects that require more than one year of funding.

In FY 2010 funding of $182,000 is recommended to complete installation of electronic wayfinding for the Fairfax County Courthouse. The electronic wayfinding system displays court dockets on large monitors strategically places near courtrooms. The system scrolls through defendants' names and courtroom assignments with the objective of providing citizens summoned to court an efficient way to locate their courtroom and reduce the congestion and confusion experienced by the public on the morning their court session is scheduled. Following successful implementation of General District and Circuit Court dockets (as part of the Courtroom Technology Pilot project), the final phase involves installation of electronic docket displays in strategically located public areas and the Juvenile and Domestic Relations District Court (upon their relocation to the new courthouse). This project seeks to improve citizens' access, internally and externally, to the Courts and allow all three Courts to share common resources while providing flexibility and adaptability to incorporate future changes in technology and court processes.

In FY2010 Funding of $150,000 is recommended for continued support for the County's planned on-going maintenance of essential Geographic Information System (GIS) data. FY 2010 funding represents year three of a four year planned initiative to update the County's planimetric data. This project is jointly funded by the Department of Public Works and Environmental Services (DPWES) and Fund 104. Through a series of complex geospatial transformations the raw imagery, taken from aerial imagery flown by the state, will be converted to GIS data available to many County agencies including: Police, Fire and Rescue, the Departments of Transportation, Housing and Community Development, Public Works and Environmental Services, Planning and Zoning, and Tax Administration. The project includes new planimetric impervious surface features including: driveways, building footprints, streams, sidewalks, pools, edges of roads and centerlines, critically needed by key agencies such as DPWES (Stormwater) and by Public Safety.

Enhanced County Security - $3.9 million

Ensuring the security of the County's IT investments and information assets is of primary importance to the Department of Information Technology. Through many projects and initiatives, efforts are focused on the security of various levels of County data, from email to homeland security measures. During FY 2010, the County will continue to implement a multi-faceted approach to securing County data and assets.

Funding of $1,835,791 is recommended in FY 2010 for the Fire Department's portion of the CAD/RMS shared and contractual milestone payments to continue the integration of Fire Records Management System (FRMS) and fire tactical incident support functions with the new CAD/RMS as part of the Public Safety Architecture Modernization initiative. The funding supports continued implementation of tactical incident applications, and integration of Fire Records Management System (FRMS) modules for personnel, equipment and buildings, as well as the capability to manage detailed inventory of FRD's equipment assets, staff resources, response plans, and apparatus assignments, Funding is critical to the overall Public Safety CAD/RMS project and ensures a unified technology platform across public safety agencies.

FY 2010 funding of $1,224,691 is recommended for the continuation of a multi-phase effort to implement a modern, comprehensive Law Enforcement Records Management System to replace the existing Police Department array of disparate legacy systems. FY 2010 funding includes Police Department's portion of 911 CAD/RMS shared and contractual milestone payments to continue the implementation of a modern Police Records Management System (ILEADS) as part of the overall Public Safety Architecture Modernization initiative. The new system will improve the Police Department's ability in prevention, response, case management, and situational analysis relating to the safety and property of County residents. Intelligence led policing, improved criminal justice, and overall strategic public safety resource deployment will be improved upon implementation. The system will enable improved analysis and aid in identifying trends, and assist in staffing decisions and monitoring departmental effectiveness. The ILEADS system will integrate with the Computer Aided Dispatch (CAD) system in the Department of Public Safety Communications (911 Center), ensuring a unified technology platform to facilitate the seamless sharing of processes and data across public safety functions and leverages available technologies.

Funding of $781,901 is provided in FY 2010 for the sixth year of a seven year annual lease-purchase payment for the new Public Service Radio System network infrastructure. The project replaced a 20 year old Public Service Communications System, which provided two-way radio communications for all County non-public safety agencies, as well as the Fairfax County Public Schools Transportation Department (school buses), FASTRAN and Fairfax Water, with updated technology that meets the needs of user agencies. The system provides adequate call processing capacity and area coverage to more than 90 percent of the area within the jurisdictional boundaries of Fairfax County. The new network eliminates two zones within the county and provides seamless coverage on one system. Based on a portion of project costs, derived from the number of radios users operating on the system, $1,272,088 will be recovered from Fairfax County Public Schools and Fairfax Water in FY 2010.

Maintain a Current and Supportable Technology Infrastructure - $5.3 million

In an ever changing technical environment, maintaining a current and supportable technology environment is a challenge that must be continually addressed to ensure performance, operability, security and integrity. The County's technological improvement strategy strives to balance of business needs that require technology investments with the desire to adopt contemporary but relevant and supportable technology industry trends, as well as the ability to leverage existing infrastructure. Projects funded in FY 2010 support the goal of continuing to update and strengthen the technology foundation where practical, and ensure that residents, the business community and County staff have appropriate and reliable access to information and services.

Funding of $3,156,293 will continue FY 2010 support to the Public Safety Architecture Modernization Project for implementing common technology infrastructure needs of the Computer Aided Dispatch (CAD) and Public Safety Records Management Systems (RMS) replacing the legacy CAD, Police RMS and Fire and Rescue RMS systems. The stakeholders include the Department of Public Safety Communications (DPSC), Police Department, Fire and Rescue Department, and Office of the Sheriff for case management and incident reporting. FY 2010 funding will support project's shared milestones, performance bond, commercial wireless broadband, and staff augmentation support. The project will implement an integrated public safety information platform enabling data sharing across functional areas of key public safety agencies for improved collaboration and interoperability.

Funding of $2,100,000, $1,000,000 of which will come from the County's Cable Fund, is included in FY 2010 to continue implementation of the multi-year Telecommunication Modernization Project. This initiative is designed to replace disparate telephone systems throughout the County with a contemporary telecommunication platform that includes functionality to integrate voice with data capabilities such as e-mail, other messaging systems and CRM, streamline business processes, consolidate use of telecommunications facilities, enhance system operational efficiency, and reduce overall support costs. An additional core benefit will be the use of distributed telecommunications applications across the enterprise fiber network (I-Net). The new voice communications platform also provides secure communications to support the needs of Telework. This project provides the telecommunications infrastructure to serves the communications needs of County agencies and advances service delivery to citizens, while maintaining flexibility to adopt future technologies with a minimal need for new spending.

Funding of $50,000 is included in FY 2010 to provide for continuing information technology training and certification in recognition of the challenges associated with maintaining skills at the pace of technological changes and to ensure that the rate of change in information technology does not out-pace the County's ability to maintain proficiency. As the County's workforce becomes increasingly dependent on information technology, training support has become more essential.

3.2 INFORMATION TECHNOLOGY PROJECTS

FY 2010 funding of $9.5 million is included for initiatives that meet the priorities established by the Senior Information Technology Steering Committee. The Senior IT Steering Committee and the Information Technology Policy Advisory Committee (ITPAC) endorses strategic concepts for improved efficiency, effectiveness, and service delivery countywide. DIT has informed both the Senior IT Steering Committee and the ITPAC that for the IT modernization program in FY 2010, 17 requests totaling over $27.9 million were submitted for Fund 104 consideration. Of this, 8 initiatives totaling $9.5 million are recommended for funding. Public Safety initiatives totaling $4,304,000 million are also included in Fund 120 (E-911).

The chart on the following pages provides a summary of the IT Project Fund 104 and Fund 120 modernization dollars since FY 2006. The County's IT program continues to address the need for building and maintaining a reliable, scalable technology foundation that can support IT projects to improve the effectiveness and efficiency of county services. Although investment dollars are currently constrained, it has been highly recommended that the County not fall substantially behind in its IT investment targets and goals that are focused on using technology as an essential tool to enable cost effective delivery of government services. To date the County's investments in technology have allowed Fairfax County to serve a growing population without significant growth in staff positions that would be otherwise necessary just to provide basic services. A more detailed explanation of these projects is provided within. The five investment policy objectives relate to the County's continuing focus on making access to government services more reliable, secure, and efficient.

Budget ID Number	PROJECT TITLE	FY2010 STATUS	FY 2006 ADOPTED	FY 2007 ADOPTED	FY 2008 ADOPTED	FY 2009 ADOPTED	FY 2010 ADVERTISED
FUND 120							
IT0001	Public Safety Communications Network	On-going	8,497,796	5,908,579	7,233,079	7,984,403	4,304,000
	TOTAL FUND 120		**$8,497,796**	**$5,908,579**	**$7,233,079**	**7,984,403**	**4,304,000**
FUND 104							
IT0002	Human Services Information Systems	On-going	60,000	0	75,000	0	0
IT0004	Geographic Information System (GIS)	On-going	491,180	411,000	386,680	158,840	150,000
IT0006	Tax / Revenue Administration	On-going	866,930	0	0	0	0
IT0008	Library Projects	Complete	502,336	0	0	0	0
IT0010	Information Technology Training	On-going	300,000	200,000	250,000	100,000	50,000
IT0011	Document Management and Imaging	On-going	1,493,410	1,351,629	1,145,000	0	0
IT0015	Health Management Information	On-going	0	0	280,785	0	0
IT0022	Tactical Initiatives	On-going	850,000	276,539	96,648	0	0
IT0024	E government	On-going	500,000	475,000	275,000	208,190	0
IT0025	Adult Detention Center Information	Complete	697,160	0	0	0	0
IT0031	MS Office Suite Migration	On-going	0	0	0	0	0
IT0039	Court Modernization Projects	On-going	350,000	0	0	988,960	0
IT0048	Incident Reporting and Training System	On-going	0	0	0	416,691	1,835,791
IT0050	Public Service Communications Replc.	On-going	491,864	588,517	632,166	663223	781,901
IT0054	SYNAPS	On-going	0	0	500,000	0	0
IT0055	Fairfax Inspections Database Online	On-going	520,775	285,376	351,000	0	0
IT0056	Pilot Crtrm Technologies-Wayfinding	On-going	0	0	0	0	182,000
IT0058	Remote Access	On-going	50,000	100,000	0	0	0
IT0059	Child Care Technology Systems	Complete	0	0	194,165	0	0
IT0060	Telecommunications Modernization	On-going	3,300,000	4,495,000	1,757,461	1,534,750	2,100,000
IT0061	Information Technology Security	On-going	450,000	225,000	244,160	300,752	0
IT0062	Police Records Management/ILEADS	On-going	300,000	500,000	2,200,000	4,147,000	1,224,691
IT0063	Facility Space Modernization	Complete	99,208	0	0	0	0
IT0064	Proffer Database & Status System	Deferred	450,168	137,715	0	0	0
IT0065	Facility Maintenance Management	On-going	548,750	0	392,000	188,218	0
IT0066	Personal Property Tax System	Complete	0	0	0	0	0
IT0067	Stormwater Maintenance Management	On-going	335,993	0	0	0	0
IT0068	Home Occupation Permitting System	Complete		46,375	0	0	0
IT0069	Integrated Housing Management	On-going	160,000	222,500	0	0	
IT0071	E-Summons and Court Scheduling	Deferred	405,000	552,500	0	200,000	0
IT0072	Citizen Relationship Management	On-going	0	500,000	250,000	300,000	0
IT0073	UDIS Replacement	Complete	0	820,000	0	0	0
IT0074	Data Analysis Reporting Tool	Complete	0	238,000	450,000	0	0
IT0075	Participant Registration System	Deferred	0	300,000	0	0	0
IT0076	Interactive Web Intake Program Enh.	Complete	0	130,000	0	0	0
IT0077	Land Development Industry Enh.	Deferred	0	250,800	150,000	0	0
IT0078	Courthouse Expansion Technology	On-going	0	1,730,000	0	500,000	0
IT0079	Legacy System Replacement	On-going	0	0	800,000	7,000,000	0
IT0080	RSIS	On-going	0	0	217,200	0	0
IT0081	Housing Management Software Upgrade	Complete	0	0	125,000	0	0
IT0082	Land Use Information Accessibility	On-going	0		300,000	0	0
IT0083	Public Safety Architecture Modernization	On-going	0	0	2,687,750	1,892,458	3,156,293
IT0085	Loan Processing System Replacement	On-going	0	0	0	126,000	0
IT0086	Fire Station Alerting	On-going	0	0	0	200,067	0
IT0087	ParkNet Security Upgrade	On-going	0	0	0	179,571	0
	TOTAL FUND 104		**$13,222,774**	**$13,835,951**	**13,760,015**	**19,104,720**	**9,480,676**
	GRAND TOTAL: IT PROJECTS		**$21,720,570**	**$19,744,530**	**$20,993,094**	**26,337,799**	**13,784,676**

3.3 PUBLIC SAFETY

IT0001 PUBLIC SAFETY COMMUNICATIONS NETWORK/ SYSTEMS

Project Description

This project provides for continued support and maintenance of the Department of Public Safety Communications (DPSC) network, radio and mobile communication components. The network's component systems are vital for ensuring immediate and systematic response to emergencies, and replacement and enhancement is necessary to maintain performance, availability, reliability, and capacity for growth due to increases in County population and demand for public safety services. The Public Safety Communication Network (PSCN) supports emergency communications of the Police, Fire and Rescue, and Sheriff's departments. This includes public safety call taking (E-911, Cellular E-911, non-emergency), dispatching, and all affiliated communications support. Two of the major technologies utilized are a Computer Aided Dispatch (CAD) system with an integrated mobile data communications component and a wireless digital radio network for voice communications. The mobile data communications capability facilitates the dispatch of resources with minimal voice communications, provides field units direct access to local, state, and national databases, and allows continuous contact with DPSC). As needed, this project provides funding for maintenance of the legacy systems and the mobile data communications component. Maintenance and support resources for legacy systems funded from 911 fees through Fund 120 are provided and ensure continued reliable operation of these critical systems.

These legacy systems and components will be supported by this project while a parallel project, IT0083, Public Safety Architecture Modernization, provides the underlying infrastructure components and shared capabilities required for the implementation of a new integrated, interoperable Computer Aided Dispatch that will enable seamless sharing of processes and data across public safety functions and leverages available technologies.

Project Goals

The goal of this project is to ensure immediate and systematic response to emergencies, and replacement and maintain performance, availability, reliability, and capacity for growth due to increases in County population and demand for public safety services.

Progress to Date

Fairfax County migrated to the new digital radio network in FY 2000 to accommodate growing public safety voice communications requirements and to remedy performance, coverage, fragmentation, and reliability problems associated with an aging, technologically obsolete system at the very end of its sustainable life cycle. Deficiencies in the old system severely impeded critical communications and safety in emergency situations. The new trunked wireless digital voice communications system consolidates all County public safety voice communication and is designed to address coverage, reliability, and operational limitations of the old system used by public safety agencies in the County.

Project Budget

FY 2010 funding of $1,200,000 is included in Fund 120 for the third year of a five-year replacement cycle for Mobile Computer Terminals (MCTs). Both the two-way radios and the MCTs have a useful life of five years. In FY 2009, the County began to update its Public Safety Radio System to a newer technology platform. FY 2010 recommendation of $3,104,000 is provided in Fund 120 for continued support of updating the Public Safety Voice Radio System in conjunction with the technology requirements of the Public Safety and Transportation Operations Center (PSTOC). The upgrade will transition the radio system to an IP-based network, enhance the existing outdoor and in-building radio coverage of the current system, allow the use of more up to date radio dispatch consoles, and relocate the current radio system's central controllers to the heavily secured PSTOC facility.

Return on Investment

The return on investment for this project is realized by the performance, productivity, and effectiveness of public safety services in Fairfax County. Replaced and upgraded technology for these systems is critical to the safety of the public and the public safety personnel they support.

IT0011.5 JDRC ELECTRONIC RECORDS MANAGEMENT SYSTEM

Project Description

Juvenile and Domestic Relations District Court is in the process of implementing a multi-phase work-flow and electronic records management system to allow the Court to replace traditional paper-based case files and manual court case processes with electronic court case records and automated workflows for case processing and management. The system will be designed to facilitate information management and the sharing of documents, objects, and unstructured data through the use of imaging, document management, records management, workflow, electronic forms, and enterprise application integration (EAI) tools. This project provides continued funding for the Juvenile and Domestic Relations District Court's planned multi-year implementation of an Electronic Records Document Management System. This document management system, which will be developed using the Documentum Enterprise Content Management system, will allow the court to maintain its case records in electronic rather than paper format. The increasing volume of case records and the complex retention, confidentiality, and destruction criteria as mandated by the Virginia Code have severely impacted the court's ability to manage the court documents. The Electronic Records Management System will convert new case records and retrieved existing case records to electronic format in order to substantially reduce the need to rely on paper documents to initiate services to the public.

Project Goals

An electronic document management system will provide improved security and integrity of records, reduce labor intensive and time consuming record retrieval and re-filing processes, expedite workflow processes through an electronic workflow management system for court documents, provide simultaneous and instant access to court records, reduce costs associated with space and shelving for storage of paper documents, and provide a means of safeguarding documents with an electronic backup of court records.

Progress to Date

The first set of processes for Informal Hearing/Monitored Diversion was implemented at the end of the third quarter of FY 2006. Functionality enabled in this first implementation included electronic document storage in case file format, workflow, form creation, scanning/scanned data routing, and enablement of electronic signatures. A large portion of the baseline infrastructure was also built. The infrastructure houses the various environments for testing, training, acceptance, development and production.

Due to the nature of the workflow, the project will develop in functional segments. The functionality must be built on the processes from intake or pre-court through the public counter, docketing, the courtroom, and post-court. Specific functionality includes case creation, document creation, user ability to view case records electronically, scanning and imaging, expungement, public viewing, redaction and workflow.

The user base will grow substantially; besides intake users presently utilizing the system, personnel will include the court clerk staff and public counter staff, judges, and the probation staff. The remainder of the user software licenses will be obtained, the remaining workstations will be updated and/or replaced, scanning in the courtrooms will be set-up and scanners will be added at additional locations around the county. An innovative training period to accommodate the large number of users and accommodate the diverse areas of duties will be planned.

Milestones

- *Initial Servers, Scanners, ePads, SCSI cards, extender cables procured*
- *User access set up for Pilot, Production, Acceptance, Testing, Scanning, and Training*
- *Acceptance testing for Informal Hearing/Monitored Diversion initial implementation completed successfully with incidents reported and fixes in place*
- *Successful completion of 5 scheduled 2 day training classes with a total of 40 users fully trained*
- *Successful implementation of processes for Informal Hearing and Monitored Diversion with use by intake officers, intake clerks and limited services staff*
- *Infrastructure to support application, docbases, scanning, etc. set-up (missing failover to another site in case of all server failure at the Government Center)*
- *Environments set-up for Acceptance, Test, Training, Production, and Scanning*
- *CYA software for data retrieval set-up, with 15 minutes scheduled back-ups taking place*
- *Successful deployment of hardware including desktops, monitors, scanners, and eSignature pads, for all presently activated users*
- *Successful deployment of software, including new County/JDRDC image, Adobe, and signature software loaded on users machines, and scanner software loaded on scanning workstations*
- *Creation of the ERMS lab (utilized for testing of the application and training sessions) which consists of 8 student workstations, one instructor workstation, a scanner and scanning workstation, and eSignature capabilities*
- *A Statement of Work had been agreed upon to complete the requirements and design phase for the legal process portion of the system. The project will go forward once a Purchase Order is finalized.*
- *A full scanning module will be put in place in the latter half of FY2010 with the remaining funds. (See Project Budget section below.)*

Project Budget

Due to FY2010 budget constraints, $900,000 from this project's existing balances will be reallocated to IT0078- Courthouse Expansion Technology Project in order to complete the technology roll out to the nine JDR courtrooms, master control room, and secluded witness room in the new courthouse. Completion of the above will facilitate the Court's move to the new courthouse scheduled for September 2009. The JDRDC ERMS project anticipates that the remaining $900,000 will be sufficient to continue through FY2010 with no further funding requested.

Return on Investment

Funding this project will reduce staff time spent locating missing files, and retrieving and re-filing records. It will reduce the physical storage space required for court records, avoiding the cost of leased space near the courthouse for overflow storage and in will reduce the amount of storage space required in the new courthouse. It will expedite the response time to internal and external customers at the Records and Fines and costs counters, and it will provide easier and more efficient public access to court records. Planned back-up systems will provide the necessary data security.

IT0039 CIRCUIT COURT TECHNOLOGY

The Fairfax Circuit Court is nationally recognized for its delivery of outstanding public service and continues to actively pursue state of the art technological solutions to improve customer support and operational efficiencies. This project covers multiple facets of Circuit Court operations and receives funding through the Commonwealth of Virginia's Technology Trust fund.

Project Description

Court Automated Recording System (CARS) - The Clerk's Office of the Fairfax Circuit Court is responsible for providing Fairfax citizens with reliable, timely, and accessible public records. As custodian of historical land records, the Land Records, Public Services and Probate sections of the Circuit Court recognized a critical need to preserve deteriorating paper documents, to ensure their availability for future generations. This project was initiated in an effort to preserve these documents and streamline the methods used to record, maintain, store, and view them. To date, more than 35 million Land Record, Public Service and Probate images, dating from 1742 to the present have been digitized, indexed and loaded into the Court Public Access Network (CPAN). CPAN is a web-based, online retrieval system that is available 24 hours a day, 7 days a week, with more than 2,000 subscribers located in twenty-six states and the District of Columbia. Subscribers include citizens, title examiners, law offices, mortgage companies, banks, the Commissioner of Accounts, and county agencies.

Case Management System (CMS) – The Court Modernization project began in 1997 with the County-initiated merger of the Circuit Court Judicial Operations agency with the Circuit Court and Records agency, to reduce administrative duties and expenses. At the time of the merger, the Clerk of Court and the Circuit Court Judges identified that a common, more robust case management system was essential for a successful merger of the two agencies. The current case management system (FullCourt) automates the process of how a case moves through the court system and includes; case initiation and indexing, docketing and related record keeping, scheduling, document generation and processing, calendaring, hearings, disposition, accounting functions, security, and management and statistical reports. In 2006 an RFP was developed to replace the existing case management system, with a system which incorporated identified business processes and the latest developments in case

management software, such as integrated Electronic filing and forms as well as document imaging and management. The RFP process was concluded in 2008 without an award. Negotiations with the existing vendor Justice Systems Inc. are ongoing to continue support of FullCourt. At the same time, research is underway to determine other viable vendors who did not bid on the CMS RFP when it was issued.

Redaction - The Commonwealth of Virginia passed legislation mandating the Clerk of the Circuit Court to redact the social security number (SSN) from all images in Circuit Court automated systems that are viewable via secure remote access. The Circuit Court has identified nearly 37 million images currently online and viewable through the Court Public Access Network (CPAN), a subscription internet service. Additionally, FCC requires a Commercial-Off-The-Shelf (COTS) software package with the capability to integrate into CARS for day-forward operations to remove SSN prior to final export of the new images into public view. Finally, the software must be capable of adding additional privacy requirements into the redaction process, back-file and day-forward, if future legislation is passed.

Project Goals

Circuit Court modernization initiatives in the Clerk of Court's technology program include:

- *Expanded electronic filing of more than 100 land record document types*
- *Replacement of the 10 year old case management system with a fully integrated system providing civil and criminal processing, imaging and electronic filing capabilities*
- *Redesign of the CPAN web capabilities*
- *Implementation of the Commonwealth's redaction legislation for land records*
- *Development of an alternate site for CPAN access to provide additional security and continuity of operations*
- *Increase the number of courtrooms which use new technologies to facilitate remote testimonies, audio and visual displays of evidence, integrated assisted listening and interpretation capabilities*

Progress to Date

Past accomplishments include development and deployment of the Court's Land Records Recording System, including document imaging; implementation of the Court Public Access Network (CPAN) retrieval system, use of an automated jury management system to administer 45,000 potential jurors annually; deployment of a case management system to control the administration of the Court's judicial caseload; development and implementation of paperless probate processing; development and implementation of a streamlined marriage license process which utilizes scanners to import data from customers' operator licenses; implementation of electronic docketing display directing public to the assigned courtroom.

Milestones

CARS

- *Digitized back-file images with associated indices and implemented web-based CPAN, completed 1999*
- *Scanned, indexed, and stored all land record documents for electronic processing, Completed 2000*
- *Added non-deed document processes for indexing and storage (judgment abstracts and notices, marriage licenses, financing statements), completed 2000*

- *Redesigned processes to include automated cashiering and scanning capabilities to update the public record in a more efficient manner, completed 2001*
- *Expanded images and associated indices available on CPAN to 1742, completed 2001*
- *Electronic filing prototype for mortgage releases using the ACH transfer of funds, completed 2002*
- *implemented Public Services cashiering system, completed 2005*
- *Automated the administration of estates system, completed 2006*
- *incorporated the use of commercial credit cards for payment of fees and taxes, completed 2007*
- *Creation and implementation of electronic filing system, estimated completion 2009.*
- *Phases 2 and 3 of the Electronic Filing System (EFS) to enhance the system and expand document types – FY 2010*
- *Integration of redacted data and processes mandated by the legislature – FY 2010*
- *Integrate with Identity Manager for single sign-on capabilities – FY 2010*
- *Integration of automated scanning in the marriage license application process for customers from nearby states – FY 2010*

CMS

- *Provided web-based availability of court information on CPAN, completed 2005*
- *Implemented electronic docketing display directing public to the assigned courtroom, completed 2006*
- *Conducted demonstrations of case management systems recommended by the National Center of State Courts in preparation for the RFP, completed 2006*
- The RFP process was concluded in 2008 without an award.

Redaction

The project team is developing RFP specifications for a contract to procure redaction products and services in order to comply with state mandates.

Budget

FY2010 funding of $739,000 is contingent on funding from the Virginia State Technology Trust fund which supports Circuit Court technology projects.

Return on Investment

CARS provides immediate electronic access to CPAN for over 2,000 commercial customers. The system provides added functionality to search for and correct errors that occurred in documents recorded in the previous land records system. Additional benefits include enhanced retrieval and administration of Circuit Court records and an expedited transfer of information to the Department of Tax Administration, Geographic Information Systems and the Department of Public Works and Environmental Services.

For CMS, anticipated imaging and electronic filing enhancements will provide increased efficiencies in the processing of more than 22,000 civil and criminal case filings annually. Multiple parties will be able to access electronic case files simultaneously and file documents from their office or home, reducing the need to travel to the courthouse and provide 24/7 accessibility. Potential interfaces with other jurisdictions will allow the exchange of electronic documents and/or data and eliminate existing manual processes between jurisdictions.

Redaction – The Redaction Project will enhance the security and integrity of CPAN by removing SSNs from public view. An added cost savings of the project will be the ability of the software to identify items that may be redacted by future legislative mandate without incurring additional reprocessing costs.

IT0048 FIRE AND RESCUE INCIDENT REPORTING AND RECORDS MANAGEMENT

Project Description

The Fire and Rescue Department's Incident Reporting and Records Management Project is part of a multi-system, multi-phase initiative called the Public Safety Architecture Modernization project which will result in the replacement of the current CAD (Computer Aided Dispatch system), as well as legacy Fire and Police Records Management Systems (FRMS and PRMS), a Fire Tactical incident management system, and a field based electronic Patient Care Reporting system (ePCRS). In May 2008 the new Emergency Patient Care Reporting System (EPCR) was successfully implemented.

Project Goals

System procurement is part of a multi-system replacement project called Public Safety Architecture Modernization, which will result in the replacement of the current Computer Aided Dispatch System, the legacy Police records management system, upgrades to the existing Fire Records Management Systems, and the implementation of a field-based electronic Patient Care Reporting System (ePCRS), and a Tactical Incident Management system.

The ePCRS which was implemented in FY2008 and field tuned in FY 2009, is the deployment of a tablet based computer system for all Fire and Rescue units. Patient treatment information is collected directly on the tablet PC while the crew members treat the injury/medical problem. The patient information is linked via secure wireless service to the electronic Patient Care Servers for direct storage. The process is fully HIPPA compliant and more secure than the current method of producing hard-copy reports. The one-time entry of patient and incident information reduces the overall time required to complete the required reporting process through the elimination of duplicate processes and provides more accurate information for better recordkeeping. This system will enable the Fire and Rescue department to comply with the Commonwealth of Virginia's Office of Emergency Medical Services (OEMS) mandated emergency medical services (EMS) data reporting requirements. In addition, the information captured can be mined to assist the Fire and Rescue Department in both the strategic planning for future services and the tactical deployment of Emergency Medical units based on that information.

Progress to Date

The ePCRS is currently in full production. Fire Records Management System installation and configuration is currently underway with a completion and go-live time frame of FY 2010.

Milestones

- *Electronic Patient Care Reporting System (ePCRS) Contract Negotiation, July –September 2007*
- *Rolling go live and field tuning of ePCRS- April 2008*
- *EPCRS functional Acceptance Test and field go-live October 2008*
- *Installation of Fire Records Management servers and Fire Records Management software/Infrastructure build-out within the Fairfax County Government Center*

- *Completion of Fire Records Management installation and configuration, FY 2010*
- *Implementation of Fire Records Management, FY 2010*

Project Budget

Funding of $1,835,791 is recommended in FY 2010 for the Fire Department's portion of the CAD/RMS shared and contractual milestone payments to continue the integration of Fire Records Management System (FRMS) and fire tactical incident support functions with the new CAD/RMS as part of the Public Safety Architecture Modernization initiative. Funding is critical to the overall Public Safety CAD/RMS project and ensures a unified technology platform across public safety agencies.

Return on Investment

The Electronic Patient Care Reporting System provides more timely and accurate tracking of patient transport information by creating more detailed patient treatment documents electronically with a tablet device directly interfaced with the current Computer Aided Dispatch system. With this system, billing information is readily, securely extracted, and electronically transmitted to the billing vendor which greatly improves the efficiency of billing and revenue collection. Patient care is enhanced through accurate documentation and information dissemination to the medical facility when the patient is transported. Furthermore, a reduction in the staff time required to complete patient care and incident reports provides units with a quicker "return to service" time. Enhancements to the Fire Records Management System will consolidate personnel, training and apparatus records in a single system of record, eliminate several legacy applications, and provide a central business system for the Fire Department.

This project supports FRD's continued compliance with National Fire Protection Agency requirements, the Virginia EMS mandated reporting requirements, and will improve data management, statistical analysis, decision making capabilities, FRD's resource and apparatus standards, and improved operations. The overall Public Safety CAD/RMS system will provide significant efficiencies for public safety information and technology utilization. The systems have been consolidated under a single strategy with the various components interfaced when appropriate for a comprehensive view supporting incident response.

IT0056 COURTROOM TECHNOLOGY- WAYFINDING

Description

The electronic way finding system displays court dockets on large monitors strategically placed near courtrooms. The system scrolls through defendants' names and courtroom assignments and provides citizens summoned to court an efficient way to locate their courtroom. This system replaces an inefficient paper based system whereby each day court staff manually post reams of printed court dockets on bulletin boards spread throughout the courthouse.

Project Goals

The objectives of all three courts continues to maximize and share resources focused on providing citizens summoned to court an efficient way to locate their courtroom and reduce the congestion and confusion experienced by the public on the morning their court session is scheduled. . This project seeks to improve citizen's access, internally and externally, to the Courts and allow all three Courts to share common resources while providing flexibility and adaptability to incorporate future changes in technology and court processes.

Milestones

- *Phase I - Pilot GDC Traffic dockets, March 2005,* ***complete***
- *Phase II - Expand GDC to include civil and criminal dockets, Nov 2005* ***complete***
- *Phase II - Add displays for Circuit Court civil and criminal combined, Nov 2005* ***complete***
- *Phase III – additional Circuit Court for renovated wing, July 2009*
- *Phase III – additional GDC for renovated wing, July 2009*
- *Phase III – add new displays for JDRC, third floor new and renovated, July 2009*
- *Phase III – add way finding at Main Entrance, July 2009*

Budget

FY2010 funding of $182,000 is recommended to complete installation of a unified electronic Way finding system for the Fairfax County Courthouse. Following successful implementation of Phase I and II (General District and Circuit Court as part of the Courtroom Technology Pilot project), Phase III involves installation of electronic docket displays in strategically located areas throughout the newly expanded and renovated courthouse and the Juvenile and Domestic Relations District Court (upon their relocation to the new courthouse).

Return on Investment

In implementing electronic way-finding, the objective continues to be on providing citizens summoned to court an efficient way to locate their courtrooms and reduce congestion and confusion experienced by the public on the morning their court session is scheduled. The primary benefit will be improved efficiencies and the facilitation of court processes and services that will provide a direct impact to the citizens, businesses and employees that reside in the County.

IT0062 POLICE RECORDS MANAGEMENT SYSTEM- I/LEADS

Description

The goal of this project is to implement a modern, intelligent, comprehensive Law Enforcement Records Management System to replace the legacy police records management system which has not stayed current with technology. The new system will improve reliability, accuracy, quality of data, and will operate on the principles of "single point of data entry" and query. The I/LEADS System will be based upon current, proven technology that is derived from current industry and County standards. The system will expand the capacity of the Police Department, allowing it to better analyze - statistically and through spatial techniques -- data on incidents and personnel. It will also aid in identifying trends, and assist in staffing decisions and monitoring departmental effectiveness. Intelligence led policing; improved criminal justice; and overall strategic public safety resource deployment will be improved upon implementation.

Project Goals

The new police records management application - I/LEADS will integrate with the Computer Aided Dispatch (CAD) system in the Department of Public Safety Communications, ensuring a unified technology platform approach that seamlessly shares processes and data across public safety functions and leverages available technologies. The new Police Records Management System- I/LEADS will increase the Police Department's ability to prevent, respond to, manage, and analyze situations that threaten the safety and property of citizens.

Progress to Date

An RFP for an integrated CAD and law enforcement records management solution was completed and a contract was signed in September 2007. The first project deliverable was the completion of a gap analysis for all functionality and applications covered by the procurement. The integrated application was evaluated to determine the extent to which the COTS solution will meet Police Department needs for law enforcement records management. During the gap analysis process the solution was also evaluated for functionality used by the Sheriff's Office Civil Enforcement Section and by the Fire Marshal's Office. In addition to completion of the gap analysis, the COTS software product was installed and configuration workshops were provided by the vendor, Intergraph Corporation's Public Safety Services Division. This product has been designated as the Integrated/Law Enforcement, AFR, Dispatch and Police Records Management System (I/LEADS) within the Police Department. The Police Department has had an active Project Team since the inception of the project; Police personnel have been working with Intergraph Inc. in the development of the new records management system as well as the new Business Intelligence reporting tool. I/LEADS is scheduled to go live following implementation of the new CAD system. This COTS implementation will be among the largest technology initiatives, and the most extensive records management upgrade for the Police Department.

Milestones

- *Records Management System solicitation, 2006*
- *Records Management System Vendor Selection, 2007*
- *Records Management System Contract Negotiation, 2007*
- *Data mapping and data conversion from the Old PRMS to (I/LEADS) – FY2009*
- *Installation and configuration of software(ILEADS)-FY2009*
- *Acceptance testing and end user training-FY2010*
- *Go Live to production – FY2010*

Project Budget

FY 2010 funding of $1,224,691 is recommended for the continuation of a multi-phase effort to implement a comprehensive Police Records Management platform. FY2010 request included Police Department's portion of CAD/RMS shared and contractual milestone payments to continue the selection, purchase and implementation of a modern, reliable and proven Police Records Management System (ILEADS) as part of the integrated Public Safety modernization initiative. Due to FY2010 funding constraints, $1,000,000 from the E-Summons Project's (IT0071) existing balances will also be reallocated towards completion of this project. The Esummons project is deferred at this time.

Return on Investment

A unified public safety architecture consisting of a modern records management system, integrated with CAD and other public safety agencies management systems, will result in more cost effective public safety operations. This project will ultimately impact nearly all aspects of police work and police information collection, and link them through an integrated system with CAD. A modern system that assures accurate, timely, reliable and accessible information on events, County geography and Police information will permit the Police Department to efficiently act upon events, from initial response through tracking, investigation and reporting. Additionally, capture and storage of reliable and accessible data from the system will result in the ability to effectively address staffing, crime analysis, resource allocation, tactical planning and strategic planning. The new system will provide

opportunities to increase effectiveness by eliminating redundant work and open up opportunities for information sharing and interoperability between law enforcement agencies. This is a significant tool in developing investigative leads, linking crimes across jurisdictional boundaries, and conducting crime analysis.

IT0071 ELECTRONIC SUMMONS AND COURT SCHEDULING

Due to FY2010 budget constraints implementation of an e-summons solution is deferred pending completion of the Police Records Management-I/LEADS project.

Project Description

This project is designed as a joint effort between the Fairfax County General District Court (GDC) and the Fairfax County Police Department (FCPD) to develop automated solutions that will streamline the traffic summons and court scheduling processes by managing court dockets in a manner that will minimize high and low periods of activity, provide judges and court personnel with a more predictable and manageable workload, and implement of an Electronic Summons application to automate the transfer of summons information from the scene to Police Department's Records Management and the District Court's case management systems.

Progress to Date

Phase I - The Court Scheduling System (CSS) allows court administrators to enter valid court dates into the application and set minimum and maximum caseloads per courtroom based on statistical information from the Court's case management system (CMS). Fairfax County Police Department staff enters squad requests for traffic court dates into the system. CSS processes the schedule using the agreed upon business rules to distribute officers across court dates. The system will indicate where courtrooms are over or under capacity and attempt to level out and evenly distribute court cases. CSS produces reports to help manage and resolve scheduling issues between GDC and the Police Department. Additional functionality was added to CSS to streamline assigning officer court dates, and allow the Fairfax County Police Department to enter criminal and juvenile cases court dates into CSS. Testing is underway for the next phase which will enable court users to manager court schedules for ticket writing groups external to Fairfax County including: George Mason University, Metropolitan Washington Airports Authority, Metro Transit Police Authority, Northern Virginia Community College, Town of Herndon, Town of Vienna, and Virginia State Police. Pending successful testing this version will move to production in February 2009.

Phase II

This phase consisted of the implementation of an electronic summons solution for traffic summons as part of the integrated CAD/RMS project is currently under way. However, due to FY2010 budget constraints and as part of the Fund 104 review process, the Police Department was asked to prioritize between their two Fund 104 Projects (ILEADS- Police Records Management System and Esummons) and placed ILEADS as a higher priority. Therefore, $1,000,000 from this project's existing balances will be reallocated towards completion of ongoing work on the Police Department's new Records Management System – ILEADS (IT0062). Consequently, the Esummons project is deferred at this time.

Project Goals

Goals are to provide the public efficient and timely electronic access to cases to enhance the public's ability to utilize automated options for review of case information and payment of fines; and

improve access to statistical information about the monthly summons issuance patterns to identify officers with heavy caseloads to manage court dockets more effectively therefore improving service to court users and the public.

Milestones

- *Implementation of Phase I, Part 'A' CSS Version 1.0 December 2006*
- *Traffic court calendar processing completed in May, 2007*
- *Traffic court calendar processing completed in October, 2007*
- *Implementation of Phase I, Part 'A' CSS Version 2.1 and 2.2 with enhancements, October, 2007*
- *Acceptance testing to allow users external to Fairfax County to manage their court dates- February 2009-*
- *Planned move to production for external users module February 2009.*
- ***Due to FY2010 Budget constraints, implementation of an Electronic Summons Solution is deferred pending completion of the Police Records Management-I/LEADS system.***

Project Budget

$1,000,000 from this project's existing balances will be reallocated towards completion of ongoing work on the Police Department's new Records Management System – ILEADS (IT0062). The Esummons project is deferred.

Return on Investment

Automated solutions will allow for the reallocation of existing staff to positions that provide direct assistance to the public, ensure greater accuracy in capturing defendant information, eliminate data entry errors with potentially serious repercussions for defendants, allow faster ticketing processes that get officers back on the road more quickly, reduce overtime for officers waiting in court, reduce the frustration and time citizens have to wait in court for a hearing, provide more efficient use of Commonwealth's Attorneys and Deputy Sheriffs, as well as provide the public near real time electronic access to case Information.

IT0078 COURTHOUSE EXPANSION TECHNOLOGY

Project Description

This project will assist with the planning, design and implementation of modern courtroom technologies for fourteen new courtrooms constructed as part of the on-going Courthouse expansion efforts. These technologies include integrated and electronic evidence presentation, video conferencing capabilities to allow remote witness, remote judge, video arraignment and secluded witness, automated court reporting, assistive listening, electronic wayfinding and docket display, and judges' control of the technologies from the bench. The courtroom technologies proposed advance the recommendations provided from the working prototype project developed from the original Courthouse design master plan and supported by the Counties affiliation with the Courtroom 21 Project associated with the College of William and Mary School of Law.

Project Goals

This project's goal is to modernize and implement up to date courtroom technologies as part of the overall courthouse expansion and renovation efforts. The main objectives seek to improve citizens

access, internally and externally, to the Courts, facilitate trials and hearings in the most effective and efficient means possible, allow for all three Courts to share common resources and provide for flexibility and adaptability to incorporate future changes in technology and court proceedings. Consistency and standardization between the three Courts is necessary to maintain efficient courtroom operations and optimize available resources.

Progress to Date

The Courtroom 5E High Technology Courtroom Prototype was completed in October of 2006. This project succeeds the completed prototype project and will implement modern courtroom technologies into 14 new courtrooms recently constructed as part of on-going courthouse expansion efforts. The installation and integration of the master courtroom technology plan was completed in January 2008. Completion of Phase II, technology roll out to five new courtrooms for Circuit Court and General District Court was accomplished in December 2008. Phase III includes the completion of nine new courtrooms, master control room, and secluded witness room for the Juvenile and Domestic Relations District Court. Phase III is currently underway and completion is planned for the fall of 2009 in order to facilitate JDRC's move to the new courthouse.

Milestones

- *Phase I complete - Courtroom 5E prototype/ cable cutting, Oct 2006*
- *Completion of the master courtroom technology plan/design for new/renovated courtrooms, January 2008*
- *Phase II complete – technology roll out to 5 new courtrooms for Circuit Court and GDC, December 2008*
- *Phase III – Technology roll out to 9 new courtrooms, master control room and secluded witness room for the Juvenile and Domestic Relations Court, January -September 2009*
- *Phase IV - shelled courtrooms, estimated completion- FY2012 – contingent on funding.*

Project Budget

Based on the Courtroom 5E prototype project, the total cost of funding courtroom technology for 14 **new** courtrooms was estimated at $2,633,162. An additional $200,000 was identified for the centralized control room for a total revised estimate of $2,833,162.. Approximately 60% or $1,730,000 was allocated in FY 2007 to commence with the planning, design and integration costs for the first phase of the new courtroom technology rollout. An additional $500,000 was authorized in FY 2009 (cable funds). With the opening of the new wing during February 2008, the original allocation of $1,730,000 was expended and completed the Courtroom Technology Phase II rollout. The FY2009 allocation of $500,000 partially funds the final Phase III effort. Due to serious FY 2010 budget constraints no new funds are recommended for this project. However, an agreement was reached with the Juvenile and Domestic Relations Court (JDRC) to reallocate $900,000 from the Court's Document Management project's existing balances to this project in order to complete the technology roll out to the nine JDRC courtrooms, master control room, and secluded witness room in the new courthouse. Completion of Phase III, JDRC courtrooms will facilitate the Court's move to the new courthouse scheduled for September 2009.

Return on Investment

The primary benefit will be improved efficiencies and the facilitation of court processes and services that will provide a direct impact to citizens, businesses, and employees. The main objectives are to improve citizens access, internally and externally, to the Courts; facilitate trials and hearings in the most

effective and efficient means possible; allow for all three Courts to share common resources and provide for flexibility and adaptability to incorporate future changes in technology and court proceedings; and allow the Courts to keep up with the increasing demand and docket backlogs that currently exist.

IT0080 JDRC RESIDENTIAL SERVICES INTAKE SYSTEM (RSIS)

Project Description

This project's original goal was to convert archival mainframe data to a modern platform in order to improve Court staff's ability to access and manipulate the data. However developing expungement rules that met Commonwealth and Code of Virginia standards proved impractical and it was determined that the entire application and dataset could be eliminated if other systems were fully developed to provide similar functionality for record management and ensure compliance with state requirements. A scope change was approved to develop a more robust version of Juvenile and Domestic Relations Court's Residential Services Information System (RSIS), which is the official database for residential placement information previously hosted by JUVARE. RSIS will be enhanced, converted to a newer platform and re-deployed in order to provide Court staff easy access to data required for court operations.

Project Goals

Goals are to re-write existing Residential Services Information System (RSIS) using County application development standards and implement new RSIS to provide agency staff access to residential placement data on Court-involved youth once contained in JDRC's legacy JUVARE application.

Project Progress

Design and development are complete and final testing is underway with a go live date scheduled for January 2009.

Project Budget

FY 2008 funding of $217,200 supports the development and deployment of a new RSIS application using .NET and SQL technologies that meet current county standards. No funds required for FY 2010.

Return on Investment

Since the RSIS application is extensively used by agency staff to track residential placements and their associated data, the new system will reduce the time and cost for implementing enhancements that naturally occur due to changes in the residential programs and JDRC's business processes. The wider use of the application within the agency will reduce the time required to provide information to other agencies, court-involved public and internal staff. The new environment also allows for easier integration of this application with other core agency systems which can further streamline operations to better serve the public.

IT0083 PUBLIC SAFETY ARCHITECTURE MODERNIZATION

Project Description

The Public Safety Architecture Modernization project supports implementation of common infrastructure supporting integrated Computer Aided Dispatch (CAD) and Public Safety Records Management Systems (RMS), including public safety communications, as well as Police, Fire and Rescue, and Emergency Medical Services records management. This project provides the underlying infrastructure components and shared capabilities required for implementation of an integrated, interoperable public safety system. This project supports operational components of a CAD and RMS including network infrastructure, and adopting standard Geographic Information System (GIS) to meet public safety requirements. In a multi-track and multi-phase project, the legacy CAD and mobile Police RMS and the Fire and Rescue RMS are being replaced. In May 2008 a new Emergency Patient Care Reporting System (EPCR) utilizing the infrastructure was implemented as part of this project. Options for integrating with the existing Office of the Sheriff's information system will be evaluated as well.

Project Goals

The project will implement an integrated public safety information architecture enabling data sharing across functional areas of the CAD and RMS in order to support key public safety lines of businesses and provide flexibility to respond to both internal and external data sharing requirements. In this multi-track and multi-phase project, the legacy CAD and Mobile, Police RMS and Fire and Rescue RMS Systems will be replaced. In May 2008 a new Emergency Patient Care Reporting system (EPCR) was the first application to be implemented as part of this project. Options for integrating with the existing Sheriff's Office information system will be evaluated as well.

Progress to Date

The Project Plan called for completion of a gap analysis for each of the applications planned under this project. The County and Intergraph, the selected CAD/RMS vendor, jointly reviewed and validated all of the County's functional requirements as part of this effort. This was completed and the first planned implementation, the EPCR, was placed into production. Completion of these two high level goals included completion of several tasks that are key to next phases of the project, including network and infrastructure design improvements and upgrades, confirmation of the requirements, and assessment of strengths and weaknesses of the existing commercial wireless vendors to support the project's functional requirements. All Fire and Police Department work sites have been upgraded with wireless hotspots. They now support the EPCR application and CAD Mobile. Ultimately Police Records Management and other Fire applications will also be supported. There are additional County buildings that have not yet been upgraded at this point in time. The public safety wireless hotspots will provide data communications to the field units, which enable updates to the systems to be pushed out over an internal network instead of having to manually touch every one of the mobile units in the County fleet. Additionally, a commercial cellular carrier was selected to provide the primary means of communication between the mobile devices in the field and the wired infrastructure located in the McConnell Public Safety Transportation and Operations Center (MPSTOC).In addition to the aforementioned goals, a significant amount of geospatial Information was captured, verified and incorporated into the new data model adopted by the Fairfax County Geographic Information Systems (GIS) Branch. This information will allow the CAD system to more accurately locate an incident and actually route first responders to the incident using the data that was collected during this phase of the project.

Project Budget

Funding of $3,156,293 is recommended to continue support for the Public Safety Architecture Modernization Project. FY2010 funding will support project's shared milestones, performance bond, commercial wireless broadband, and staff augmentation.

Return on Investment

The Public Safety Architecture Modernization project represents a joint initiative undertaken by the public safety agencies in Fairfax County (Department of Public Safety Communications, Police Department, Fire and Rescue Department, Sheriff's Office and Office of Emergency Management) and provides an integrated public safety suite for CAD and RMS, with supporting network infrastructure to support robust GIS including automatic vehicle location (AVL), automatic vehicle routing recommendations (AVRR), broadband wireless data services and automated field reporting. Savings are achieved in implementing standards for all stakeholders, consolidating system infrastructure, and reducing system tool redundancies from prior independent systems. More importantly, this project greatly enhances Fairfax County's ability to respond quickly and effectively to emergencies that require coordination among the various responder organizations and share information required for collaboration, case management, reporting, remediation and mitigation. The Public Safety Architecture Modernization project supports implementation of an integrated Computer Aided Dispatch (CAD) and Public Safety Records Management Systems (RMS), including public safety communications, as well as Police, Fire and Rescue, and Emergency Medical Services records management. This project provides the underlying architecture for the operational components of a CAD and RMS including network development; augmentation of the enterprise

IT00086 FIRE STATION ALERTING TECHNOLOGY REPLACEMENT

Project Description

The purpose of this project is to provide a turn-key system replacement of fire station alerting components. This alerting system is a critical part of the 911 system and public safety response, and is a requirement specified in the National Fire Protection Association (NFPA) 1221 Standard. Existing station alerting equipment at the County's forty fire and rescue stations is nearing end-of-life and the primary components are not compatible with an Internet Protocol (IP) network infrastructure. This is a technology lifecycle replacement that is required in order to bring the Fire and Rescue Department's station alerting system to a technical level that will permit integration with the selected Public Safety Computer Aided Dispatch and Records Management Systems (CAD/RMS).

Project Goals

The business and operational objective is to purchase and implement a proven fire station alerting system that enables Fairfax County to meet the public safety goals of reduced response times, enhanced communication, and immediate access to relevant and critical information. The goal is to integrate the Fire and Rescue Department's station alerting system with in the Public Safely Communication Center systems. The system will reduce reflex time for response by providing immediate unit based visual and verbal alert indication at time of dispatch and prior to radio voice dispatch, provide safe lighting and alert process throughout station for personnel response to vehicles, provide personnel with immediate relevant information regarding the event by text display and verbal recorded announcement, provide station alerting capabilities as required by NFPA 1221, and streamline maintenance and support for system components.

Progress to Date

The initial investment for the core system infrastructure to interface with the new Computer Aided Dispatch System will replace the end-of-life infrastructure and network components, and is aligned with the Computer Aided Dispatch System implementation plan (Phase I Station Alerting). The replacement and consolidation of the remaining fire station alerting components into this single system architecture will be planned for Phase II. A contract was awarded for the Phase 1 replacement and a project schedule has been accepted by the vendor and County. Upon completion of phase I in May 2009, the project plan for Phase II will be developed and finalized.

Milestones

- *Contract Awarded –October 2008*
- *Design complete- December 2008*
- *Basic Alerting System Tested - January 2009*
- *Install basic alerting in all stations- March – May 2009*
- *Complete Phase I, system tested/accepted as installed- May 2009*

Project Budget

The FY09 project plan called for lease-purchase for full infrastructure replacement requiring a four year financial commitment. The Fire and Rescue Department and DIT together developed a scaled-down and phased implementation where-by out-year costs would be determined by available funding. In FY 2008, $1.3 million in Fire and Rescue Department salary savings were reallocated towards replacement of the most critical of the out-of-date station alerting systems. The remaining $200,067 FY 2009 Fund 104 funding will provide for a phased-in full equipment replacement at the County's fire stations with the oldest infrastructure. Due to budget constraints FY 2010 Funds are not available.

Return on Investment

The Fire and Rescue Department expects to reduce overall response time to emergency incidents through immediate alerting of personnel. The system leverages the Computer Aided Dispatch system and provides immediate unit based alert indications at time of dispatch and prior to radio voice dispatch. The process reduces what the industry calls the "reflex time", or the amount of time between when the call is dispatched and when the response units are boarded by personnel and ready to respond. This is a life-cycle replacement from aging and incompatible equipment to an integrated COTS system. Maintenance and support costs for system components will be streamlined.

3.4 CORPORATE ENTERPRISE

IT0004.2 GIS ORTHOIMAGERY UPDATE

Project Description

This project is part of County's ongoing effort to maintain the aerial imagery in the Geographic Information System (GIS). GIS provides County staff and citizens the means to electronically access, analyze and display land related data. The imagery is used in the My Neighborhood viewer, the Digital map viewer and the new 3-D viewer. The County initiated an update program to its 1997 orthoimagery in 2001 when it updated ¼ of the county. In 2003, 2004 and 2005 it completed its update cycle. The state flew the entire county in 2002 and again in 2007 and appears committed to continuing its update program. The county will cost share with the state in FY 2009 to obtain high resolution (6" pixel) ortho imagery

Project Goal

Project goal is continued implementation a four-year cycle to update orthoimagery for all 407 square miles of Fairfax County and use the data to provide updated Digital Elevation Models and 5' contours.

Progress to Date

With the acquisition of state imagery in FY2007 the four-year imagery update cycle is up-to-date. The County will be flown again by the state in 2009 and state imagery will be upgraded to County standards using existing orthoimagery GIS resources.

Milestones

- *County has flown imagery in 2001, 2003, 2004, and 2005.*
- *The State flew the entire county in CY 2002 and 2007.*
- *The County paid to upgrade the 2007 imagery to 6" pixel resolution*
- *The County will be flown again by the state in 2009, and not again until 2013.*

Project Budget

No new funding for orthoimagery was included in the FY 2010 budget. Existing funds will be used to cost share with the state for the 2009 imagery the state intends to acquire.

Return on Investment

The Orthoimagery project provides a combination of cost-savings, enhanced revenue and non-quantifiable benefits. Multiple county agencies have benefited from the use of orthoimagery data and others are expected to utilize the data to enhance efficiency. Orthoimagery is used successfully in property appeals cases and allows the county to effectively defend increased property assessments and help citizens with home assessment valuations. The imagery serves as a highly accurate quality controlled layer in the GIS to accurately locate features (e.g., building outlines, streetlights, storm water features). Orthoimagery is available in several public web applications, enabling users to view aerial imagery of any area of the County. These applications serve over a million maps per year enabling public users the ability to view parcel outlines, hydrography, as well as major and minor roads.

IT0004.3 GIS OBLIQUE IMAGERY

Project Description

This project provides oblique imagery that allows users to view the sides of buildings and structures in the County and measure their height. This imagery enables agencies such as the Departments of Public Works, Tax Administration, and Public Safety Agencies to reduce field time in assessing and planning, and enables staff to conduct analyses of buildings not previously possible. This imagery augments orthoimagery which is taken directly overhead and does not capture the sides of structures. Both sets of imagery are part of the spatial data in the GIS data warehouse, which gives County-staff access to a wide range of geo-spatial information about Fairfax County required in their business processes. The oblique imagery is also the source of the 3-D imagery of the Tyson's Corner and Reston Herndon areas. This 3-D imagery is essential in meeting a board mandated requirement for 3-D.

Project Goal

This project is a key component of maintenance the County's spatial data warehouse, augmenting the other GIS imagery data. This imagery is oblique, while other imagery provides highly accurate vertical (ortho) imagery. It provides detailed information, both current and historic (older versions) for research and analysis. In addition to being highly valuable to many county agencies, this project also provides the capability to acquire the 3-D imagery.

Progress to Date

The oblique imagery has proven valuable to the initial agencies involved in the analysis and support of the product. In particular the Department of Tax Administration has used of the system extensively. In FY 2010, DTA plans to increase usage of oblique imagery to further reduce field inspection time and costs. Oblique imagery is used in the existing CAD/911 system and will be used to a much greater extent in the new CAD/911 system since it integrates oblique imagery into its software, adding significant value to emergency response.

This project was researched in FY 2002-2003 and has been funded each year since then. The County now has complete oblique imagery libraries for calendar years 2003, 2005, 2007 and 2009 (2009 will be delivered in FY 2010). The dates above are the years when the photography was actually taken, not delivered to the County).

Originally five agencies: Police, Fire and Rescue, Tax Administration, Planning and Zoning, and Information Technology, undertook a substantial review of the technology and data and realized it provided significant value to their operations. These were the original supporters and each agency is now making substantial use of oblique imagery. It usage continues to increase now that it is available internally via the GIS GEM web GIS system. Today there are over 160 unique users of oblique imagery who log over on average over 7,000 hours per month using oblique imagery.

Milestones

- *The first oblique imagery was taken in 2003*
- *New imagery was flown in 2005, and 2007*
- *Imagery will be flown in CY 2009 and delivered later that year, usually by August.*

Project Budget

Existing funds continue the annual update photography and imagery conversion. No new funding available in FY 2010. GIS staff coordinates agency needs, specify requirements, perform QA, and provides training and desktop implementation at no cost to agencies. The updates to the imagery are performed biannually. The County will also be able to share the imagery with the town of Herndon and Vienna since they are within the boundaries of Fairfax County.

Return on Investment

The oblique imagery project provides a combination of cost-savings, enhanced revenue and non-quantifiable benefits. Oblique imagery proves to be particularly useful in public safety since it enables staff to view and measure the sides of buildings to determine risks, site lines, and other key features. It is also helpful to Fire and Rescue to detect small vertical features such as fences which could block fire fighter and fire hose access. Assessors are aided in the ability to determine the siding on buildings – an important component of an assessment. Oblique imagery holds the future potential of developing 3-D imagery since it contains building facades (skins) and elevation information, essential for effective representation of the actual areas.

IT0004.4 GIS PLANIMETIRC

Project Description

The original GIS base map for the entire County was developed from aerial photography flown in the spring 1997 to ensure high resolution and accuracy of base mapping. The GIS aerial base mapping provides mainly two different types of data sets – raster data, i.e., orthoimagery maps (spatially corrected aerial imagery) of the real world, and vector data, i.e., digitized planimetric and terrain relief features (observable features such as building footprints, edges of roads, sidewalks, streams, and the terrain shape from contour lines). Both sets of data are used widely as a back drop to variety of information and applications by County users and the public. County homeowners and businesses are able to compare tax assessments in their communities and access imagery for a variety of needs from across the county. While the County's orthoimagery data has been updated in 2001, 2003, 2004, 2005 and 2007 replacing old 1997 orthoimagery, the planimetric features, DTM, and topographic contouring data still remains old and thus does not reflect topographical change and development activities. Through user surveys agencies have requested regular planimetric data update each year in conjunction with annual orthoimagery update of about one fourth area of the County. The aerial photography source for the data update is provided from the February-March 2008 flight missions. The planimetric updates work initiated in October 2008.

Project Goal

Develop a program to update approximately 25% of the county's planimetric and topographic data annually. The data set will include impervious features such as roads, pools, basketball courts and driveways. It will also include 2' contours. This program is dependent on the availability of current aerial imagery.

Progress to Date

A detailed statement of work was developed and sent out to bid to the five GIS contractors on the IT Services and Expert Assistance contract. The first year will capture the SE quadrant of the county. Results will be available in mid FY 2009. In 2009 an additional quarter, the NW quadrant will be captured.

Milestones

- *Second Quarter FY 2008 – SOW distributed*
- *Third Quarter FY 2009 – contract awarded*
- *First quarter FY 2009 – work initiated*
- *Fourth Quarter FY 2009 – delivery of first quadrant*
- *Third Quarter FY 2009 – initiate work on SW quadrant simultaneously)*

Project Budget

This project is jointly funded by Department of Public Works and Environmental Services (DPWES) and Department of Information Technology (DIT) through fund 104. In FY 2010 $150,000 is recommended in Fund 104 to provide continued support towards year three for a four year planned initiative to update GIS planimetric data in Fairfax County.

Return on Investment

The planimetric, DTM, and topographic contouring at 2' contour interval data update project will provide a combination of cost-savings, enhanced revenue and non-quantifiable benefits. Planimetric, DTM, and contour data has proved extremely valuable in a wide range of county operations. Over the years GIS staff has designed and implemented many engineering mapping projects for several key agencies, DPWES, Park, and also Fairfax County Water, requiring 1' or 2' detailed accuracy DTM and contours data resulting in savings of tens of thousands of dollars. For example, GIS staff provided 1' contour data for flood plain mapping of New Alexandria and Bellview project. Typically design and development of high precision engineering project takes about four to five months provided latest leaf off imagery is available. This planimetric, DTM and contour update project data makes a tremendous impact as it will allow agencies to readily access data needed for engineering design project anywhere in the County, which saves time and money and enhances response, efficiency, and overall productivity. Planimetric data will be an important component of mapping in the County's new Computer Aided Dispatch system. Additionally, capture of many impervious surface features not currently present in the GIS enterprise database is a critical requirement for effective planning, designing, and management of storm water projects. Overall cross agency data sharing for numerous applications will become more cost effective and efficient.

IT0006 TAX / REVENUE ADMINISTRATION

Project Description

This project provides for the information systems development and technology infrastructure required to redesign the County's tax and revenue systems. The Tax/Revenue project facilitates a simpler process for citizens to fulfill their tax obligations and pay for services by modernizing the internal processes used for assessing, billing, and collecting County taxes and other revenues. In FY 2002, the County began replacement of the aging real estate mainframe system with a commercial-off-the-shelf (COTS) called Integrated Assessment System (IAS). Implementation of IAS allowed for a comprehensive overhaul of many existing functions such as real estate administration, account maintenance, assessment, exemptions and adjustments, accounts receivable, and billing. The core system was completed in FY 2004. The current focus of the project is to migrate to the next generation of the IAS product, the WEB based iasWorld

Project Goals

Project goals continue to focus on tax and revenue modernization by implementing the remaining web-based modules of the client server real estate system originally purchased in FY 2002. In FY 2009, the implementation of additional product modules will enhance the efficiency of property assessing and inspection by field staff; will enable a coordinated approach to managing public inquiries and correspondence; will streamline common real estate transactions through customized forms; and will provide the core technical architecture to enable the other interactive modules to operate.

Progress to Date

The assessment administration, CAMA (assessment), accounts receivable and delinquent collection modules of the client server tax system are operational and fully integrated with the County's cashiering system. These modules comprise the core tax system. Implementation of the web-based product, IasWorld, is ongoing.

Milestones

- *Implementation of IAS modules with the exception of the Delinquent Collections Tracking product - February 2004*
- *First installment billing for tax year 2004 using IAS, June 2004*
- *Implementation of the iCare internet real estate property information lookup tool (Internet plug in for IAS) Integration of IAS with the department's cashiering COTS software Revenue Collector, June 2004*
- *Installation of the WEB citizen inquiry tracking system module of iasWorld, iRespond, June 2007*
- *Implementation of the web- based real estate system iasWorld, June 2008*
- *iMaintanin Modlue Implementation- Feb 2009*
- *iField Module Implementation – March – May 2009*
- *iTax Implementation – February – June 2009*

Project Budget

No additional funding is provided in FY 2010.

Return on Investment

The remaining IAS product for installation (iasWorld) will permit improved customer service without the addition of staff. Headcount can be held constant as inquiries and correspondence increase as a result of population growth, changing demographics, and changes in real estate assessments and rates. Citizen inquiries will be more effectively managed, and response turnaround times improved. In addition, real estate appraisal staffs can more accurately collect and record property characteristic data from site inspections, as staff will have the ability to input and transmit data from the field. Improvements in data quality and currency will better equip the County to provide more equitable assessments, defend appealed assessments, and improve the timeliness of revenue generated from the real time recording of property improvements. In addition, the new process eliminates redundant data entry work by support staff, as web-based screens will have consolidated fields from several screens in the client-server system. By operating the real estate application within the County's infrastructure, staff can ensure the security of County data communicated over the internet, monitor the application on a 24/7 basis for optimal availability, and ensure secure access.

IT0011.11 ELECTRONIC ACCOUNTS PAYABLE SYSTEM

Project Description

This project provides a solution that meets the County's goals for an electronic accounts payable process within the current infrastructure using adaptable technology to meet future requirements. Additionally, it provides for a phased-in implementation with minimum impact on existing business processes. The project will develop a methodology to utilize new accounts payable electronic processing methods to dramatically reduce the amount of time and effort it currently takes to process accounts payable transactions. The creation of new methodologies will provide in-depth data analysis, targeted audit procedures, and improved internal controls to identify and correct weaknesses in the county's accounts payable processes.

Project Goals

This project was initiated to improve the operating efficiency of the entire countywide decentralized accounts payable process, and at the same time achieve the Board of Supervisors' mandates to reduce paperwork and support telework. These goals will be achieved by maximizing the County's use of proven imaging, e-signature, and workflow technologies to replace reliance on paper document processing. In addition to the improved process efficiencies and cost savings expected, it is anticipated that this project will increase countywide internal controls and management reporting by utilizing automated reporting techniques to improve analysis of the County's accounts payable processes.

Progress to Date

The electronic invoice package selected as the solution, Imagitek's Prodagio A/P, was installed in the production environment and the first go-live agency (DHR) was October 1, 2007, with rollout to the two other proof-of-concept agencies (DIT and FMD) followed October 9th and October 15th, 2007.
The selected solutions' have proven capable of meeting the requirements with the roll to other county agencies beginning in February 2008 and scheduled for completion by June 2009. The process of incorporating non-purchase order invoices, email and fax invoice input methods and enhanced reporting through existing DART is expected to be complete by June 2009. Other enhancements under consideration are placing all approvals within application, accepting electronic invoice submissions via a standardized file, creating a vendor portal and developing a retention plan for invoice documents.

Milestones

- *Documented Proof-of-Concept Solution, November 2007*
- *Countywide- implementation of Phase I –completion Feb 2008*
- *County wide implementation of PO invoices – June 2008*
- *Enhanced Reporting – July 2008-January 2009*
- *Statement of Work for incorporating email and fax invoices September 2008*
- *Non-PO invoice – pilot-July 2008- June 2009*
- *Documented completed County wide solution for Electronic Accounts Payable July 2009*
- *County wide Non-PO rollout- July 2009-Oct 2009*
- *Email and fax invoices input – September-January 2009*

Project Budget

The FY 2008 funding of $520,000 will continue prior year efforts to implement a decentralized electronic accounts payable process from within the Department of Finance to County agencies. By using imaging software, e-signature capabilities, and workflow technology, the electronic accounts payable solution improves operational efficiencies in the County's financial processes. No new funding is available for FY 2010**.** ***Future technology enhancements will be accomplished through the Legacy Systems Replacement project (IT0079)***.

Return on Investment

This initiative requires the integration of the County's financial and procurement systems and will result in a paperless work process and enhanced management reporting. The greatest financial returns from implementing the electronic accounts payable process will be from reduced staff processing, document filing retrieval time, copier charges and storage costs. According to industry standards, the cost required to scan and index items is less than half of that required to manually file and retrieve folders of information. Based on the county's cost-benefit analysis, the reduction in staff processing time and copier costs would result in an annual savings of more than $2 million. In addition, more than 800 boxes of records are archived annually, which currently require 1,600 square feet of storage space. Based on the monthly standard rate of $22 per square foot for storage, the reduction in storage cost will save more than $400,000 annually. Further faster invoice processing will maximize opportunities to realize vendor discount terms. The electronic accounts payable process will help improve the County's relationship with its vendor community by facilitating communication.

IT0011.13 AUTOMATED BOARD MEETING RECORDS

Project Description

This project will design and implement a document-imaging program in the Clerk to the Board's Office, which will enable the Clerk to the Board's Office to electronically capture Board of Supervisor meeting records and make them available on-line to the public and county staff. In addition, this project plans to digitally scan Board meeting records from the last five years for on line availability.

Project Goal

To electronically capture Board of Supervisor meeting records and make them available on-line to the public and to County staff.

Progress to Date

Currently the project is defining system and user requirements. Additionally, the Clerk's office is evaluating the possibility of partnering with the County's Department of Cable Communications and Consumer Protection. The ultimate goal is to incorporate the Board of Supervisors' meeting videos with the agendas to create a robust easily accessible and searchable on-line record which is easily searchable. Project will utilize the enterprise infrastructure for electronic records management.

Milestones

- *Finalize requirements and purchasing strategy - April 2008*
- *Develop, design, test, Mach 2009*
- *Deployment, training and implementation, June 2009*

Project Budget

FY 2006 funding of $200,000 was provided to plan, design, and implement a document imaging program in the Office of the Clerk to the Board's. No additional funding is required for FY 2010.

Return on Investment

This initiative is expected to increase the efficiency of producing the board matters package including streamlining the process of getting the records on-line; provide a viable, accurate document system for older and one-of-a-kind documents; reduce error rates as much of the manual data entry will be eliminated; and reduce the space requirements for maintaining paper copies of documents.

IT0022.9 CORRESPONDENCE TRACKING AND MANAGEMENT SYSTEM

Project Description

The Correspondence Tracking and Management project enables County agencies to capture communications, track contacts, events, and complaints in order to enhance staff and interagency communication. Since it s initial launch in 1999, this project continues to expand the implementation of a proven Commercial-Off-The-Shelf (COTS) product known as Intranet Quorum (IQ) which has been successfully deployed in several County agencies. IQ is a Correspondence Tracking and Management System that provides an integrated approach to delivering services to citizens, colleagues, and staff. In addition, IQ offers a variety of data points for easy and complete reporting.

Project Goals

Project goals include enhanced communication between County staff, departments and agencies. The system provides an integrated approach to service delivery enabling users to link to other areas within the database, as well as extend outside the IQ system through scheduling, scanned images, email, fax, and incoming/outgoing postal mail. The project enables agencies to automate business processes and workflows, reduce duplication of effort, and enable the sharing the information between agencies using present e-mail methods. These benefits are amplified by the delivery of a seamless constituent interface and enhanced customer service.

Progress to Date

IQ was initially deployed at the offices of the Board of Supervisors, the County Executive, and the Clerk to the Board. Expansion to other agencies (or portions of agencies) has been on going effort. Over time, address data from the Geographic Information System (GIS) has been utilized with IQ to increase agency productivity. To stay current with the County's technical standards, IQ has undergone a total re-write reflecting the County's preferences for web application language, Oracle database versions, Enterprise platform standards, and desktop software suite.

Demonstrating both fiscal responsibility and agency business awareness, migration to the new version – IQ3 has been phased in across user agencies. This allows staff to perfect their migration strategies and application knowledge as well as minimize impact on the agency's productivity. In 2005, the Board of Supervisors directed the County Executive to expand the legislative function by assessing the policy impact and response to proposed federal legislation affecting the County. With growing attention to federal legislation, the need has grown for an automated way to track the issues and specific legislation of interest to the County, report back to the Board in a clear concise manner, and store agency information related to specific issues and/or bills. The stand-alone Federal legislation

tracking module was implemented in FY2009. In FY2010 project work will be primarily concentrated migration to IQ3 for DPWES agencies, Office of the County Executive, Office of Public Affairs, as well as continued support for current IQ users.

Milestones

- *Board of Supervisors and County Executive - correspondence, Implementation 1999*
- *Department of Consumer Protection, Implementation, 2000*
- *Office of the Clerk to the Board, Implementation, 2000*
- *Office of Public Affairs, Implementation, 2002*
- *Human Rights Commission, Implementation, 2002*
- *DPWES – Office of the Director, Implementation 2003*
- *Alternative Dispute Resolution division, Implementation, 2003*
- *Department of Transportation, Phase One Implementation , 2004*
- *Police - Review business process, April 2004*
- *GIS, Geographic infrastructure and interface development/implementation for selected IQ accounts, April 2004*
- *Multi-agency, Roles implementation and workflow enhancements, January 2005*
- *DPWES – Urban Forest Management – Implementation, 2005*
- *DPWES – Solid Waste – Business process analysis and complaint tracking, 2005/2006*
- *Purchasing and Supply Management – Correspondence tracking – Business processes analysis and workflow development - 2006.*
- *FY2008 Solicitation requests automation phase 1 completed.*
- *DPWES – Hauler Complaint tracking – Business process analysis, workflow development and implementation, 2007*
- *County Executive, Legislative Monitor, 2001- upgraded 2007*
- *DPWES – Land Development FOIA tracking, Implementation, 2008*
- *Federal Legislative Monitor- finalized and implemented Nov 2008*
- *Office of Public Affairs and County Executive conversion to IQ, user training, and onsite support - October 2009*

Project Budget

No funding is provided for FY 2010. Existing projects funds will maintain the application.

Return on Investment

Successful implementation of this service-enhancement project provides enhanced communications between County staff, departments, and agencies, thus allowing agencies to share and monitor the status of projects, responses, and track other issues and events as those items progress through the County processes. The project enables agencies to automate business processes and workflows, reduce duplication of effort, and enable the sharing the information between agencies using present e-mail methods. These benefits are amplified by the delivery of a seamless constituent interface and enhanced customer service. In addition, this solution does not preclude installations of applications that support the County's IT architecture, or interact with other agencies' CRM applications.

IT0024.1 PUBLIC ACCESS TECHNOLOGY - KIOSK

Project Description

Due to FY2010 Budget constraint and availability of more widely used E-gov channels and internet capabilities, the KIOSK program will be retired in FY2010.

This project supports initiatives that improve public accessibility to government information and services. A comprehensive approach is employed to ensure efficient infrastructure capable of supporting multiple business solutions. In addition to enhancing customer service via their convenience and versatility, public access technologies are capable of limiting staff involvement in providing basic information, thereby allowing staff to perform more complex tasks and respond to requests for more detailed or specialized information. A kiosk is a computer that is placed in a structure to dispense information and services. The kiosk application known as the Community Resident Information Services (CRiS) provides access to regional information in convenient locations and also allows citizens to conduct business. Two kiosks were initially deployed in August 1996. Currently, there are 29 kiosks operational in the County. These kiosks have accounted for over 12.9 million citizen inquiries to date.

Project Goals

The multimedia kiosk is one of the key technologies in the e-government strategy deployed by Fairfax County to assist citizens with access to government information and business transactions.

Progress to Date

- Progressed from a pilot project to a complex, operational program.
- Evolved from a County to a regional kiosk program.
- Continued growth in the area of additional business transactions.
- Incorporated interfaces to state-level business transactions.
- Migrated to a much more user-friendly structure.
- Continued with significant content growth.
- Enhanced technical capabilities of kiosk program in the areas of printing, mapping, location information, user instructions and operations.
- Implemented Metropolitan Washington Council of Government (COG) Commuter Connections on CRiS.
- Added two new partners; INOVA and Economic Development Authority
- Redesigned the application to achieve a new look and feel.
- Developed a video in-house for promoting CRiS.
- Integrated the current application with the Web by introducing a Netkey browser.
- Introduced advanced sound control.
- Completed a feasibility study with DMV to integrate DMV's extraTeller on CRiS.
- Redesigned information architecture for Fairfax County and all our partners.
- Completed replacement of kiosk hardware that included CPUs, printers, monitors, etc., at each kiosk location in FY 2003.
- Completed replacement of enclosures with new enclosures that offer components like keyboard, scanner, and credit card reader etc. in FY 2003.
- Completed Partnership with Town of Vienna and Town of Herndon.
- Networked INOVA kiosk

- Expanded Regional content.
- Continue redesign of hardware/software architecture in order to address security issues in FY 2006.
- Continue enhancement of the GIS and Location information portions of CRiS application in FY 2006.
- Complete deployment of sound domes in FY 2006
- Deployed County's Kiosk in Tyson Corner Community Center FY 2006
- Enhanced the security of kiosk in FY 2007.
- Deployed County's Kiosk in Oakton library FY 2008.
- Started re-design of CRis Application
- Deployed County's Kiosk in Burke Centre Library- FY2009

Project Budget

This project will be retired as a result of FY2010 budget reductions and availability of more widely used E-Gov channels and internet capabilities. .

Return on Investment

This project will continue to provide a single information architecture and supporting infrastructure for all platforms and continue to provide new information and e-services to the public. It will further expand the capabilities of the newly implemented content management system in order to improve automated workflow, revision control, indexing, search and retrieval for enterprise systems. The project will further improve the search capability for citizens and constituents. The County will be able to build applications quicker and more efficiently by maintaining reusable components. Public access technologies will minimize staff resources needed to provide basic information, thereby allowing staff to be deployed to more complex tasks; as well as to respond to requests requiring more detailed or specialized information.

IT0024.2 PUBLIC ACCESS TECHNOLOGY - INTERACTIVE VOICE RESPONSE

Project Description

This project provides funding for initiatives that improve public accessibility to government information and services. A comprehensive approach is employed to ensure efficient infrastructure capable of supporting multiple business solutions. In addition to enhancing customer service via their convenience and versatility, public access technologies are capable of limiting staff involvement in providing basic information, thereby allowing staff to perform more complex tasks and respond to requests for more detailed or specialized information.

Interactive Voice Response (IVR) technology program develops custom interactive telephone applications that can access and update data in a variety of County databases, in addition to providing static information in a timely, convenient manner. The IT project has been deployed to allow citizen's access to Fairfax County services and information via touch-tone telephone service. For those citizens who do not have access to the Internet, the project was established at the request of the Board of Supervisors "to enable the County's customers to conduct business with the County wherever and whenever it is convenient for the customer." It is one of the foundations for enhancing public access to government information and business transactions.

Project Goals

The primary goal is to continue to apply text-to-speech technology for certain applications determined to be resourceful and aligned with e-government goals. Interactive Voice Response enhancements include the continued integration of Web and IVR via XML technology for public use.

Progress to Date

The DIT IVR currently answers more a million calls annually. The system is available approximately 24 hours a day to interact with citizens, giving citizens another option for conducting business with the County after regular business hours. By handling the more routine calls, the IVR allows staff to concentrate on those calls that most need personal attention. It also allows access to a great deal of information even if citizens call after hours or on weekends.

Current Applications:

CEX:	Medical Registry services in 7 different languages
COURTS:	Circuit, General District & Juvenile, Court Information Line (General Information, Traffic and Criminal Fine Payment by credit card, access to specific cases),
CSP:	Consolidate Services Planning survey of services provided,
DPWES:	Building Inspections (Requests and Cancellations),
DPWES:	Permit/Plan/Building Inspection Status Inquiry,
DPWES:	Scheduling Special Pickups of brush or bulk items using customer address,
DTA:	Real Estate Data (spoken data and FAX on Demand by property address),
DTA:	Real Estate and Personal Property Tax Payments
FS:	Survey of services to check the quality of service
FIRE:	Fire & Rescue's Media Information Line (after-hours fire incident updates),
HCD:	Housing & Community Development's Housing Waiting List (gives position on list),
HEALTH:	Health Department Information and departmental transfers,
HR:	County jobs availability and submitted resume status.
LIBRARY:	Library Information Line (Locate Libraries by ZIP code, phone numbers, directions),
OFC:	Office For Children Training and Class schedules registration Line,
OPA:	Public Affairs 324-INFO Line (general County information, phone number search),
POLICE:	Victim Services Information Line (query of offender release date information),
DIT:	IT Help Desk - for all County computer related problems.

Milestones

- *Translation to multiple languages*
- *Add text-to-speech functionality to various applications*

Project Budget

Due to FY2010 budget constraints no additional funding is available. The program requires on-going support from E-Gov and telecommunications staff to plan and configure new systems, and to trouble-shoot telecommunications system problems.

Return on Investment

This project continues to provide a single information architecture and supporting infrastructure for all platforms to deliver new information and e-services to the public. It expands the capabilities of the content management system in order to improve automated workflow, revision control, indexing, search and retrieval for enterprise systems. The project also improves search capability for citizens and constituents, and enables the County to build applications quicker and more efficiently by maintaining reusable components. Public access technologies minimize staff resources needed to provide basic information, thereby allowing staff deployment to more complex tasks involving detailed and specialized knowledge and information.

IT0024.3 E-GOVERNMENT - INTERNET/INTRANET INITIATIVES

Project Description

This project provides funding for initiatives that improve public accessibility to government information and services. A comprehensive approach is employed to ensure efficient infrastructure capable of supporting multiple business solutions. In addition to enhancing customer service for availability anywhere, any time, public access technologies are capable of reducing staff involvement in providing basic information and transactions, thereby allowing personnel to perform more complex tasks and respond to requests for more detailed or specialized information.

Internet/Intranet initiatives provide significant and wide-ranging opportunities to use technology as a means of making information more readily available to the public. Initiatives include research and development of emerging technologies, expansion of Web applications, improvements in search and navigation, integration with internal systems and other public access channels, and sustaining infrastructure.

Project Goals

The project's vision will be achieved by providing new information and services on all platforms, while continuing to build on existing information architecture. The planned functionality will be delivered in support of the County's taxonomy of information and services, using a single supporting infrastructure. The solution is based upon a single content repository for all platforms and agencies. The repository enables various features of content management to provide accurate and reliable information, provide additional search capabilities on the public web site, and enable information sharing. The project includes implementing standards and processes for information engineering so that the same applications and data is used and delivered across multiple platforms, while providing support for county agencies in the development of Web content and applications.

Progress to Date

The County's Public Web site has been extraordinarily successful. The County site receives approximately 52,445 visitors per day, which equates to an average of 297,013 page views per day and an average of 1,632,298 hits per day. Approximately 55 County agencies have a presence on the site. The functionality of the site expanded significantly during the past 12 months with the addition of significant content and information. New and updated business transactions have also been added during this period.

Additionally, the County extended its presence by launching content on three social networking sites:
Facebook (http://www.facebook.com/group.php?gid=7901829756),
Twitter http://twitter.com/fairfaxcounty
YouTube (http://www.youtube.com/user/fairfaxcountygov).

1 - Public Web Site Search and Navigation

During the first phase of the project over 120 content contributors were involved in migrating information from the old site to the redesigned site within a six-month period. The Project team defined a basic Information Architecture for the site, which was then validated by 14 citizen and business focus groups. A "look and feel" template was developed for the redesigned site and migration of over 20,000 files to the new templates was coordinated by the project team. Most importantly, the establishment of working inter-agency groups for the development and dissemination of standards related to site design, application development and implementation proved critical in the project's success. As part of the redesign, a "Contact Us" database was implemented, which provides citizens with direct contact information to county staff from a single search interface. Additionally, site search functionality was enhanced.

In FY 2003, the main subject area pages (Living, Doing Business, Visiting and Government) were developed. Enhancements of the site included: News & Information section, Emergency Information, Local Weather and improved navigation. In FY04, a robust and secure environment that facilitates delivery of integrated and accurate information to citizens was built. In FY 2005, several new applications were added including Child Care training, My Neighborhood applications, Kids and Teen portal, Seniors and Disability portal, Crime Mapping, and revamped DTA e-pay and Consumer Protection pages. In FY 2006, a new search on the public web site was implemented making site accessible via mobile devices.

In FY 2009, the public web site was redesigned to improve the architecture and functionality with a fresh look and cutting edge enhancements. To provide easy access to county wide services and information, consistent left- side navigation was introduced throughout the site. The implementation of the Google Search Application augmented the overall search functionality of the web site. Additionally a highlighted news section provides easy access to information categorized by topic, and brings into focus various County agencies, County wide initiatives, and featured County services. The public web site is part of the "Going Green Initiative" and provides a conduit for carrying out on-line business with the County around the clock. Additionally, in order to improve ergonomics and enhance accessibility a new color palette as well as text only, printer friendly, and text resizing features were introduced.

2 - Infrastructure Architecture and Management

The following Internet/Intranet Infrastructure initiatives are on-going:

- *Secured network settings on all 34 servers to minimize risk of intrusion*
- *Implemented a statistical reporting system for both Internet and intranet servers*
- *Refined the server monitoring system*

3 - Interoperability

As a participant in the Government without Boundaries cross-jurisdictional project, Internet Services staff installed ASP.Net and created a Web Service, which generates XML data from a SQL database using a collaboratively defined schema. This project allows Fairfax County to share park-related data with other local, state, and federal jurisdictions. Additional critical work on regional interoperability for

homeland security linking Emergency Operations Centers and CAD functions began in FY 2005 with implementation of a pilot prototype in FY 2006. In FY 2010 efforts will continue with the Department of Homeland Security towards development of a data exchange hub for public safety computer aided dispatch information in the metropolitan region.

4 - Infoweb Redesign

The look and feel of the main page of the Infoweb (Intranet site) was redesigned, and continues to be enhanced. This is an on-going process that links with agency operational improvements.

Approximately 55 County agencies now have a presence on the site, offering more than 11,000 HTML documents, 12,500 PDF documents, and 15,000 images on the Internet site. Most agencies have Web content contributors. Internet Services staff supported content creation efforts for those agencies without a dedicated Web presence. The County Infoweb will continue to be updated with additional access to enterprise data and interactivity. It will also be expanded to become a viable alternative for full transaction-oriented applications. The addition of new information and increased business functionality is essentially an ongoing project. Based on conversations with a wide range of County managers, it is also expected there will be numerous concurrent application development requests from a dozen or more agencies for core Web-enabled applications as the benefits of the technology become more widely recognized. These requests for support are handled on an as-needed basis based on priority, visibility and functionality, and highest Return on Investment

5 - Web Content Management

Web Content Management will deal with refining the site's information architecture, defining and implementing replicable workflows, as well as designing and implementing the supporting infrastructure for Web content contribution. A COTS solution was purchased and is being implemented.

6 – e Services

Internet Services prototyped new application development platforms and developed standards and best practices for the current environment. DIT supported other agencies in the development of Web content and applications. New and updated business transactions supported by the Internet Services staff over the last year include:

- *HS/OFC Institute for Early Learning Training (IFEL)*
- *HS/OFC Child Care Management System - Modification in FY04*
- *ICARE DTA Real Estate Assessment and Information Query*
- *DHR Applicant Information Management System (AIMS)*
- *Public Meeting Calendar*
- *GIS Digital Map Viewer - Modified in FY04*
- *DTA ECheck - Modified in FY04*
- *Contact Us - Modified in FY04*
- *Library Historical Newspaper Index*
- *Library Booklists*
- *Library Picturebooks*
- *DTA TaxEvaders*
- *HS HIPPA*
- *DPZ eComplaints - Modified in FY04*
- *Infoweb - IBusiness Enterprises (iBE)*

- *Infoweb - DFS Independent Living Program (FILP)*
- *Infoweb - DAHS Facility / Site Profile*
- *Infoweb - DFS Account Receivable (FAMSAR)*
- *Infoweb - HS eAssist - Modified in FY04*
- *Infoweb - HS FCPMS / IAS - Modified in FY04*
- *County WEB – Kids and Teens portal, FY05*
- *County WEB – Crime Mapping, FY05*
- *County WEB – Child Care training, FY05*
- *County WEB – My Neighborhood, FY05*
- *County WEB – Seniors and Disability portal, FY05*
- *County WEB – Sheriff Service Civil Process, FY06*
- *County WEB – Enterprise Search, FY06*
- *County WEB – Public web site accessible via wireless, FY06*
- *County WEB – Boards, Authorities and Commissions, FY06*
- *County WEB – EPartnerships, FY06*
- *Infoweb - Courts Electronic Wayfinding - Circuit Court Docket, FY06*
- *Infoweb - Sign-in and Course Evaluation System (SACES), FY06*
- *Infoweb - Courts Scheduling System, FY07*
- *Infoweb – RSSFeeds, FY07*
- *County WEB - Athletic Facilities Application Requests (AFAR), FY07*
- *County WEB - FAQ's, FY07*
- *County WEB – RSSFeeds, FY07*
- *County WEB – Podcasting, FY07*
- *County WEB - Special Needs Registry, FY08*
- *County WEB - Social Needs Registry, FY08*
- *County WEB -Library Audio Books , FY08*
- *County WEB -Library Video, FY08*
- *County WEB -Contact Us - modified, FY08*

Milestones

- *Provide additional search capabilities on the public web site*
- *Enhance the public web site to make it more compliant with Section 508 for accessibility*
- *Continue to provide support to county agencies for e-gov initiatives*
- Continue support and expansion of e-payment transaction

Project Budget

Due to FY2010 budget constraints no additional funding is recommended. The project requires on-going support from Public Access staff and infrastructure staff to help plan and re-configure new systems.

Return on Investment

This project will continue to provide single information architecture and supporting infrastructure for all platforms and new information and e-services to the public. It will further expand the newly implemented content management system to improve automated workflow, revision control, indexing, search and retrieval for enterprise systems. The project will further improve the search capability for citizens and constituents while enabling the County to build applications faster and

more efficiently by maintaining reusable components. Public access technologies will minimize staff resources necessary for providing basic information, thereby allowing staff deployment to more complex tasks requiring more detailed or specialized information.

IT0072 CRM -CALL CENTER INTEGRATION

Project Description

This project provides the foundation for a comprehensive call center technology solution which will be based on an open architecture, providing an opportunity for sharing process, resources and critical information across multiple Fairfax County call centers. This project will also address the service needs by remedying existing business problems while improving operation efficiency and upgrading the technology infrastructure for all county call centers. The milestones are the approval of additional funding, actual procurement and subsequent implementation of these tools.

Project Goals

The goal of this project is to implement a comprehensive CRM application which will use industry standard call center technologies and incorporate existing county automated tracking systems. The objective of county call centers is to provide timely and appropriate assistance based on the citizens' needs. Additionally the goal is to provide an opportunity to leverage call center resources through virtual sessions. This project does not build or consolidate existing call centers nor create a central county call center site. The concept provides a central technical architecture and infrastructure foundation supporting call center processes, integration, and sharing of resources as appropriate in improving overall services. This project is complimented by the telephone modernization project, which will improve the telephony technology foundation needed to distribute and track calls.

Progress to Date

A project steering committee consisting of DIT and agency staff that use or have interest in call center functionality has been established to manage the implementation and integration of the CRM software within the County's infrastructure environment. CRM application was deployed to support three Office of Public Affairs customer center sites. Frequently requested information and telephone numbers for county services and home owner association data has is available in a centrally used knowledgebase to support consistent distribution of information. The Office of Public Affairs has been processed over 33,550 requests for county information and resources in the past year and half. The Office of Public and Private Partnerships (OPPP) is the clearinghouse for partnership information in Fairfax County. Efforts in OPPP have consolidated disperse contact lists, business partners, and resources enabling staff to utilize the system as a data depository for contacts, accounts, cases, service requests, solutions, correspondence, activities, and management of allocated staff and volunteer resources. Seible CRM solution was piloted, staff was trained and the application was implemented in the Lee and Dranesville District Board of Supervisor offices in October 2008.

Milestones

- OPA Pilot Implementation completed.
- Agency Assessments – March, 2008
- Agency Integration/Training – June, 2008
- Agency Deployments – December, 2008
- Implementation of Computer Telephony Integration and on line user training- July 2009

Project Budget
Due to FY 2010 Budget constraints funding is not available for this project.

Return on Investment
Return on Investment is realized from increased productivity from automation and/or streamlining of telephone processes, improved and reliable data capture required for mandatory service reporting, enhanced citizen communication and issues resolution, as well as delivery of improved operational efficiencies. Using CRM for the 3-1-1 Citizen Contact will allow improve historical data tracking through one system, increase awareness and insight to ensure appropriate follow up of citizen needs and concerns. It will offer a more holistic view and aid in making well informed decisions about service delivery and improve communication.

IT0079 LEGACY SYSTEMS REPLACEMENT

Project Description
Fairfax County government and school system have embarked on a multi-year, joint initiative to modernize the portfolio of enterprise systems that support finance (FAMIS), human resources (government: PRISM/schools: LAWSON), budget (BPREP), procurement (CASPS) and related administrative applications with an integrated approach that has the flexibility to meet current and future requirements. The project seeks to mitigate the risk that antiquated and disjointed systems pose for system failure and inferior data.

The current 'stovepipe' legacy business systems are on various, old technology platforms using a variety of hardware and software architectures integrated through a number of interfaces and reporting tools. Previous assessments of these aging systems revealed that they are past their projected useful lifecycle, no longer meet today's technology standards, and do not meet the demands of resource and financial management and decision-making. System limitations continue to drive a proliferation of multi-step tasks to produce desired data and the development of numerous 'workaround' systems to gain necessary functionality currently not available. This has also resulted in an exponentially increased risk for fraud and security vulnerabilities. Due to their age, many of these systems have no vendor support and rely on retirement eligible in-house staff for maintenance. The systems are written in technical code that is outdated, they are not practiced by the vast majority of the industry labor pool and they are unable to be integrated with future mandated requirements.

Of these systems, the County government's Personnel Resource Information System Management (PRISM) is the most vulnerable to immediate obsolescence issues. It is over 20 years old and highly customized based on historical County operational practices to the extent that it cannot be further enhanced. Further, attrition of in-house technical staff as they reach retirement age is jeopardizing future support for maintaining this legacy application - with the other systems approaching a similar expert support dilemma. Due to the impending lack of support, it is anticipated that PRISM is the first of the legacy systems that will be replaced.

Project Goal
A governance body of senior officials of the County and school system stakeholder agencies has endeavored to identify the optimal strategy to pursue in its effort to procure an integrated financial/procurement/human resources/budget suite that will support agencies in the delivery of government and school services and activities, take advantage of best practices, provide the

opportunity for multi-faceted data-driven decisions, significantly improve the efficiency and effectiveness of existing processes, enhance e-government initiatives and promote telework opportunities, and aid in the transformation and standardization of financial and human resource processes. This initiative will foster an environment of change and redesign to allow for more efficient and effective processes.

Previous funding was provided to begin an assessment of the legacy systems used to support core business functions; identify, review and streamline existing business processes currently supported by the legacy systems; perform and analyze a review of existing and future trends in the software and systems implementer marketplace; and identify and refine functional business requirements necessary in the future software.

Progress to Date

A joint Steering Committee and project team comprised of County and School personnel has been formed. The Government Financial Officers Association (GFOA) is currently under contract to provide direction and resources in the identification of current processes, creation of requirements, and preparation and review of the procurement phase. During this past year, the project completed the development of its' strategic design and began to implement the prerequisite planning phases - business process mapping, requirements gathering and requirements validation. Business process mapping involved the production of more than 200 diagrams to document 64 key current business processes. More than 400 County and school staff from a cross section of the user community including functional managers, subject matter experts and end users assisted in this effort. Requirements gathering and validation involved examining 17 core processes in the finance, procurement, budget and human resource/payroll areas to identify what users need in a new system, followed by validation of those requirements. This provided the documentation necessary to move into the procurement phase of the project, which commenced in December 2008. During the last half of FY 2009, the project team will be evaluating software products and system implementer services.

Project Budget

FY 2009 funding of $7,000,000 is provided to continue the investment in this initiative, positioning the project to award the software and systems implementer contracts. Due to budget constraints FY 2010 funding is not available.

Return on Investment

The project seeks to mitigate the risk that antiquated and disjointed systems pose for system failure and inferior data. Automation and modernization will empower both employees and managers to execute processes more efficiently, and make the best strategic decisions based on the most timely and accurate information. This shifts the orientation of the system from that of a data repository to one of an information system solution. With the migration to a more standard, supportable database and development environment that incorporates workflow and Web technology, the project expects to:
Create a collaborative environment where access to data and information, even from remote locations, is based on system “look and feel” flexibility, intuition, data definition, data stewardship and security;

- Provide a seamless integration of a new system with existing applications;
- Reduce the number of shadow systems and reconciliations between systems;
- Align the reporting strategy with the County government and school system overall data management and data warehousing strategy. This must enable and support performance reporting and consistent information management throughout the organizations;
- Incorporate fully integrated best business practices;

- Develop a system that is user-friendly and that empowers users to improve their business processes;
- Add and improve functionality in back-office functional areas;
- Improve the quality and accessibility of information for decision support;
- Reduce redundant data entry, storage, and paper processing;
- Support the countywide balanced scorecard initiative;
- Improve operational effectiveness and productivity;
- Enhance web self-service and improve customer service; and
- Retire existing legacy and back office systems and tools.

3.5 TECHNOLOGY INFRASTRUCTURE

IT0050 PUBLIC SERVICE COMMUNICATIONS REPLACEMENT

Project Description

This project provides continuing support for the new Public Service Communications System, which provides two-way radio communications for all County non-public safety agencies as well as the Fairfax County Public School Transportation Department (school buses), FASTRAN and the Fairfax County Water Authority, with updated technology that meets the needs of user agencies. The completed system provides adequate call processing capacity and area coverage to more than 90 percent of the area within the jurisdictional boundaries of Fairfax County. The 20-year old Public Service Communications System was based on a design that used two transmitter tower locations and twenty radio channels, with ten channels at each tower. The transmitter tower sites for the former system were located in Lorton, on the Energy/Resource Recovery Facility smokestack, and in Fairfax City, on the rooftop of the Massey building. The old system only provided geographical coverage for approximately 60 percent of the County and had limited call-processing capacity, frequently resulting in unavailability for users. In addition, the old system required users to manually select the correct radio channel based on their location within the County, requiring knowledge of the coverage each channel provided to the different parts of the County. There are large geographic areas where radio communications were not possible and many of these locations are heavily populated areas of the County. The old network did not meet the user needs for additional coverage nor provide for future growth or for advanced features, such as mobile data communications.

Project Goals

The new radio system eliminates severe geographical coverage problem for County agencies, and provides reliable communications for the County fleet, back-up and interoperability supporting emergency management activities, and communications for an increasingly mobile workforce. The new system also provides a fully independent backup radio system for public safety agencies.

Progress to Date

Prior year activities have consisted of the completion of a consultant study with recommendation for the replacement system, the development of requirement specifications, contract award, tower site acquisition, and FCC licensing requirement activities, construction, and activation of transmitting

tower sites, and the migration of schools and county fleets to the new system. The entire network and the remaining migrations were completed in FY 2007.

Milestones

- *Final Consultant's Report received, November 2001*
- *System Design begin, December 2001*
- *Contract Award and Execution, December, 2002*
- *Licensing and Tower Site Acquisition begin, January 2002*
- *Licensing and Tower Site Acquisition complete, 2005*
- *Site Preparation, 2005*
- *Network Equipment Installation, 2005*
- *Reliability and Functional Testing, 2006*
- *System Acceptance, 2006*
- *Procurement and installation of more than 3,600 new mobile and portable radios, 2006*
- *Old system retired, September 2005*
- *Full implementation and completion, June 2007*

Project Budget

The FY 2010 project cost is estimated to be $2,053,989 and includes the *sixth-year of a seven-year annual lease-purchase payments* for the new radio network infrastructure, including the increase of radio repeater locations from two to seven sites, to ensure greater than 90 percent call coverage, and for operating costs during the year. The new network eliminates the two zones within the County and provides for seamless coverage on one system regardless of location, as well as provides ample reserve capacity for peak use periods and future fleet expansion. Based on a portion of project costs, derived from the number of radios users that will be operating on the system as a percent of the total number of radios; $1,272,088 will be recovered from Non-General Fund Supported agencies, the Fairfax County Public Schools and Fairfax County Water Authority *in FY 2010, netting in a general fund cost to the County of $781,901.*

Return on Investment

The return on investment for this system upgrade results from the enhanced reliability and coverage that has been obtained. The replacement system provides reliable radio coverage to many areas of the County that were not covered by the older radio system. This provides the necessary protection and safety for bus drivers and other staffs that depend on reliable communications, improves customer service to County citizens and other County agencies, and reduces reliance on commercial wireless networks in addition to future cost avoidance and other non-quantifiable benefits. The new system is fully compatible with the mobile and portable radios used by the County's public safety radio system. This allows for direct communication between public safety and public service users for incident or disaster management, and provides a separate back-up system for the Public Safety system should that system fail. The County realized a cost avoidance of over $3 million by using the public service system to serve as the back up to the public safety system, rather than modifying the public safety system.

IT0058 REMOTE ACCESS

Project Description

This project continues funding to enhance and expand the capability of internal users to access the County's systems from remote locations, service field activities, and telework, and possible pandemic outbreak access. To accomplish this, the telecommunications infrastructure must be flexible in its modes of access, while maintaining a stable and secure communication environment. Because of the varied hardware and software capabilities of prospective telecommuters and the architecture of agency specific applications, the remote access solution uses a variety of technologies including dial-up modems, Secure Sockets Layer (SSL) Virtual Private Network (VPN) technology, and Citrix servers to meet the various access requirements of remote access and telecommuter users.

This project supports capability enhancement and expansion of Citrix using thin client technology. Since a number of project use Citrix to access county information, the telecommunications infrastructure must be flexible in its modes of access, while maintaining a stable and secure environment.

Project Goals

An enterprise-wide standardized remote access control methodology provides a solution for employees and external system users, and also is intended to be expanded to partners and County customers and residents to authenticate their identity in order to gain access to relevant data and do business in a secure manner. All user authentication and authorization management is policy based and centrally managed allowing for comprehensive audit and reporting services to support and log information on the extensive user base. This product increases security, simplifies management, speeds reporting and data analysis, and provides secure access from remote locations.

Progress to Date

Required software licenses were obtained. Business units participated in the first phase of the rollout, and project activity is on-going. Expanded Citrix farm will prepare the County for continuity of operations in case of catastrophic events such as pandemic flu, weather related disasters, etc.

Milestones

- *Purchase the required software licenses to ensure compliance with license agreements, July 2004*
- *Identify business units to participate in the first phase of the rollout, July 2004*
- *Install and test hardware and software, August 2004*
- *Full production services to all selected users, November 2004*
- *Citrix farm expanded, FY 2007*
- *Additional licenses purchased, FY 2007*
- *Additional applications added to farm, FY2007*
- *New improved farm with latest technology implemented, FY2008*

Project Budget

In FY 2007, funding of $100,000 was provided to continue the build out of the telework environment and to increase the number of applications that can be accessed remotely. Additional Citrix licenses, Microsoft licenses and consultant services were required in addition to Security Token Cards and application software licenses. No funding is available for FY 2010.

Return on Investment

This project provides a cost effective approach to enhance the County's infrastructure to offer flexibility for a variety of types of end-user devices that may be used by County staff, and to encourage more employees to take advantage of telecommuting in line with regional goals supported by the Board of Supervisors.

IT0060 TELECOMMUNICATIONS MODERNIZATION

Project Description

Voice communications is a critical tool used by all Fairfax County Government agencies. Whether it is citizen access via e-government, efficient management of government information, the advancement of education, the safety of our children on school buses, or homeland security, voice communications plays a critical role. The County's current infrastructure has served the County well, but is in need of replacement. Additionally, the current infrastructure does not serve all County locations nor does it support a number of key goals identified by the County as meeting the needs of citizens and employees. As a result, the County is embarking on an ambitious plan to completely modernize and revitalize its voice technology infrastructure.

In May 2006, Fairfax County selected Avaya Inc. to provide a new voice communications platform for the County. Avaya Inc. designs, builds, and manages communications networks for more than 1 million businesses worldwide, including over 90 percent of the FORTUNE 500®. Focused on businesses large to small, Avaya is a world leader in secure and reliable Internet Protocol (IP) telephone systems and communications software applications and services. Avaya currently serves numerous local, state and federal government clients across the country, including the District of Columbia, Loudoun County, and Montgomery County local governments within the metropolitan area. The Avaya solution will provide many new applications that will benefit both County employees and citizens alike.

Project Goals

The strategic goals of this project is to move the County towards a long-term, flexible voice solution that will underwrite the use of Voice over Internet Protocol (VoIP) while maintaining complete TDM (current technology), functionality. An IP enabled enterprise-class platform will provide the County with the ability to adopt newer value added features from the maturing IP telephony environment. Any new architecture must yield a flexible yet stable infrastructure that can meet immediate telephony needs and support future enhancements. This new platform will be the foundation for eventual movement to a converged network environment. Over the life-cycle of this transformational project, change will be introduced in more manageable increments than would be possible in a massive change out of technology, applications and processes. The following six strategic goals for Fairfax County voice services were developed and reviewed with senior County technology managers:

Goal 1: Optimize the total life cycle cost for voice services.
Goal 2: Provide common voice architecture, Countywide.
Goal 3: Provide secure remote access for voice and data to expand Telework
Goal 4: Provide compatibility with "best-in-class" citizen access technologies.
Goal 5: Develop a survivable architecture that is scalable and flexible.
Goal 6: Prepare for the convergence of voice and data onto one logical network.

Milestones

- RFP issued, September 2005
- Winning bidder selected, December 2005
- Contract negotiations completed, March 2006
- Contract executed, May 2006
- Installation at Immediate Relief/Proof of Concept sites begins, September 2006
- Installation of Massey Core Switch completed, September 2006
- Installation of Immediate Relief/Proof of Concept sites completed, February 2007
- Installation at Lab Switch completed, March 2007
- Installation of Government Center Core Switch completed, May 2007
- Phase 1 Implementation completed, November 2007
- Implementation of Emergency Survivable Server Network, February 2008
- Phase 2 Implementation completed, June 2008
- Phase 3 Implementation completes, June 2009
- Phase 4 Implementation completes, June 2010
- Phase 5 Implementation completes, June 2011
- Phase 6 Implementation completes, June 2012
- Phase 7 Implementation completes, June 2013

Progress to Date

Following the contract award in May 2006, Fairfax County and Avaya, Inc. launched an aggressive "Immediate Relief/Proof of Concept" implementation at 7 sites. These sites were chosen to eliminate the escalating degradation of service in some of the County's oldest equipment. To date the following agency/locations have been migrated completely to the Avaya platform:

- Community Services Board – North West Center
- Chantilly Regional Library
- Community Services Board - Lincolnia Center
- Alcohol and Drug Services - Crossroads
- DIT Radio Shop
- Community Services Board - Springfield Mental Health
- Alcohol and Drug Services Administration
- Housing and Community Development Headquarters
- Opportunities Alternatives and Resources – City Square
- Facilities Management Department – Burke Station Rd. (6 Buildings)
- Massey Campus
  - Volunteer Fairfax
  - Finance Building – Annex
  - Juvenile Detention Center
  - Juvenile and Domestic Court
  - Police Annex
  - Massey Building – Police / Fire and Rescue HQ
  - Legal Aid – Finance Annex
  - Jennings Judicial Center
  - Burkeholder - Center
  - Burkeholder - Annex
  - Office of Sheriff
  - Jennings Building

- Administration
- Juvenile Court
- Massey Building
- Adult Detention Center

Government Center Building

- Dept of Information Technology
- Dept of Tax Administration
- Dept of Management & Budget
- Dept of Public Works and Environmental Services
  - -Capital Facilities
  - -Clean Fairfax Council
  - -Construction Management
  - -Land Surveying Branch
  - -Office of Waste Management
  - -Solid Waste - Disposal
  - -Solid Waste - Recycling
  - -Storm Water Management
  - -Utilities Planning & Design
- Human Resources
- Internal Audit
- Human Rights Commission
- Equity Programs
- Cafeteria
- Civil Service Commission
- Alternative Dispute Resolution
- Credit Union
- Dept of Vehicle Services
- Fitness Center
- Library Administration
- Office for Women
- Planning Commission
- Purchasing & Supply Mgmt
- Dept of Cable Communications and Consumer Protection
  - -Consumer Services
  - -Policy & Regulation
  - -Production Division
  - -Mail Room
  - -Print Shop
  - -Publications Sales
  - -Board Auditorium
  - -Board Control Room
  - -Conference Center & Rooms
  - -Security phones in Garages
  - -Loading Dock
  - -Penthouse
  - -Security Offices
- Office of Finance
  - -Risk Management
- Mount Vernon Mental Health

- Board Satellite Offices - Gov Center
  - -Board conference rooms
  - -Board reception area
- Chairman's Office
- Clerk to the Board
- Office of Public and Private Partnerships
- Office of Public Affairs
  - -Information Desk
  - -Press Room
- County Attorney
- County Executive Cabinet
- Electoral Board / General Registrar
- Auditor to the Board
- Storm Water Management
- Bailey's Affordable Health Center
- Police - Organized Crime and Narcotics
- Criminal Justice Academy
- Cameron Glen - (North County)*
- Suicide Crisis Center - Woodburn Rd
- Burke Library
- Joseph Willard Health Center
- New Beginnings
- Retirement Agency

Goals for Remainder of FY 2009:

- Springfield District BOS Office
- Lee District BOS Office
- Braddock District BOS Office
- Providence District BOS Office
- Hunter Mill District BOS Office
- Sully District BOS Office
- Dranesville District BOS Office
- Mason District BOS Office
- Mt. Vernon District BOS Office
- Implementation of RedSky employee location solution
- Implement Meet Me Conferencing
- Implement Meeting Exchange Conference Services
- Implement Broadcast Voice Mail Solution
- Beta Test Speech Access

FY 2010 Goals:

- Pennino Building
- Herrity Building
- Implement Enterprise-wide Mobility Solution

The replacement of the current voice communications infrastructure is anticipated to be a 5 - 7 year project that when completed will touch approximately 12,000 Fairfax County employees. The

installations will occur in phases which will allow multiple opportunities and avenues to prepare the Fairfax County Government community for the transition, and thereby ensure a smooth change of voice platforms. Successful implementation will require accurate and consistent communications regarding project status, system features and functionality, dialing plan information, and changes that users (both employees and citizens) can expect.

Project Budget

$2,100,000 is recommended to support continued implementation of the Voice Modernization Project in FY2010, of which $1,000,000 will come from the County's Cable Fund (105).

Return on Investment

The benefits derived from the implementation of this project are quantifiable and substantial. Direct cost savings include: a reduction in leased circuit costs; a reduction in message unit costs for outside phone calls; and a reduction in overall maintenance costs, including moving phones, adding new phone lines and changes to existing phone service. In addition, the new voice infrastructure will allow Fairfax County to leverage embedded technology assets and to improve service delivery quality. Business processes will be streamlined because of the ability to share information over an integrated communications Platform.

IT0061 IT SECURITY

Project Description

This project supports the County security architecture, designed to provide an appropriate level of protection for all County information-processing resources regardless of technology platform. Aimed at ensuring that county systems and information and the confidentiality of legally mandated information are not compromised, new technologies need to be employed to meet current and future security challenges. The Fairfax County Information Technology Security Policy, the mandated specifications of the Commonwealth of Virginia Information Technology Security Policy and Standards, and the Health Insurance Portability and Accountability Act (HIPAA) Security Rule, along with other mandated privacy laws and County internal audit priorities, are examples of governing legal precedence and policy that dictate a requirement for audit controls to record and examine activity in information systems. Such audit controls will protect the integrity and sensitivity control on the information contained within the County's technology infrastructure. This project will provide security analysts and managers with advanced tools to proactively build and measure comprehensive security best practices within agencies and across the County.

Additionally this project will afford Fairfax County to manage connectivity to its infrastructure through controlled network connections that will interrogate unknown devices for verification of anti-virus, patch management, and licensing standards. Devices found not to be in compliance will quarantined/or refused access until they can be placed in compliance.

Project Goals

Through this project IT will continue enhancements to the County's modular network infrastructure that will allow for incorporation of necessary levels of security to be embedded in specific functional areas. In order to manage the modular infrastructure and the additional firewalls, intrusion detection systems and networking devices a Network Access Control (NAC) solution will be deployed to identify non-standard and non-secure systems that are a threat to the security of the infrastructure and County data. This ability is required and will be implemented in appropriate areas of the system. Additionally,

the on-site support of highly skilled network engineers must be deployed in order to roll out a simplified security design and create a manageable security architecture that allows for security devices to function optimally and provide identification of specific threats. A standardized and centralized secure authentication and authorization methodology for web-based applications will be implemented.

The Distribution Node Intrusion Prevention System (IPS) solution will provide the proactive ability to block and detect malicious traffic before it spreads across the county's Wide Area Network. Combined, these efforts will lower the risk that the availability, integrity, and confidentiality of county information technology assets will be compromised. These projects will continue enhancements to the County's modular network infrastructure that will allow for incorporation of necessary levels of security to be embedded in specific functional areas. An enterprise-wide standardized access control methodology will provide a solution for employees and internal system users, and also is intended to be expanded to partners and County customers and residents to authenticate their identity in order to gain access to relevant data and do business in a secure manner. User authentication and authorization management is policy based and centrally managed and allows for comprehensive a countywide security monitoring and audit control process including audit and reporting services.

The Fairfax County Information Technology Security Policy, the mandated specifications of the Commonwealth of Virginia Information Technology Security Policy and Standards and the HIPAA Security Rule, along with other mandated privacy laws and County internal Audit priorities, are examples of governing legal precedence and policy that dictate a requirement for audit controls to record and examine activity in information systems.

Progress to Date

Work associated with planning, design, and initial proof of concept in a development environment has started for the NAC project; and planning and design is complete for the IPS project. The required technology tools will be implemented in phases based on infrastructure engineering needs, business function priorities, and legal mandates aligned with county e-business projects.

Project Budget

Due to budget constraints FY 2010 funding is not available.

Return on Investment

This project will ensure system compliance with security policies, provide for centralized real-time auditing, provide a solution for managing users and their Web application access, ensure timely access to business assets through an authenticated identify, and provide for an immediate response to technology threats. The information security and internal audit offices will have the capability to perform security management audits and analysis centrally across platforms and verify progress in security management protection via software reporting capability. The implementation of the IPS at the Distribution Nodes will help mitigate the risk of malware propagation that results in a Denial of Service (DOS) condition. In addition, botnet traffic could also be detected and blocked.

These projects will significantly decrease the staff time required for manual auditing and IT security investigations. Both projects will also grant the ability to provide enterprise-monitoring capabilities as a safeguard to improve reliability and reduce downtime. Non-standard and non-secure systems will be identified as a threat to the security of the infrastructure and County data. The solutions address multiple regulations with minimum resources by implementing and measuring compliance through automated analysis.

3.6 HUMAN SERVICES

IT0011.9 DOCUMENT MANAGEMENT & IMAGING - DFS

Project Description
This project will support the transition within the Department of Family Services (DFS) from manual process to file, store and access records using document management and imaging technology. This project will use the enterprise electronic records management platform technology to achieve its goals, with business-specific components planned for Family Self-Sufficiency and Children, Youth, and Families programs.

Project Goals
Goals of the project are: a) to provide a reliable and secure system for cataloging, archival and retrieval of sensitive Human Services documents in fulfilling case management needs of County residents, and, b) improve response times for client inquiries of case records. In addition, the project will allow for the management and preservation of DFS records in accordance with State and Federal mandates, and avoid non-compliance issues associated with the degradation, damage, or loss of paper files.

Progress to Date
This is a multi-year and multi-phased project. As with similar initiatives, the phases will be delivered in smaller, modular components as each component and the necessary infrastructure is ready. By implementing smaller parts instead of the entire phase at a time, disruption to business operations is minimized. In FY 2005 and FY 2006, Infrastructure components were developed to support the delivery of the initial component for Family Self Sufficiency began requirements definition. FSS functional requirements and a prototype design were completed in FY 2007. Also in FY 2007, requirements definition began for Children, Youth, and Families, for the integration of the Commonwealth's SPIDeR system, and for the replacement of a data feed to a key financial systems. In FY 2008 system design and initial development/configuration tasks were completed for FSS.

Phase I - Self-Sufficiency:
Production rollout of the Document and Case Management solution planned for December 2008.

Phase II - Children Youth and Families:
The division planned to conduct internal business process mapping and reviewing statement of work proposals for vendor-engaged requirements analysis. **However, due to FY2010 budget constraints this phase of the project is deferred.**

Project Budget
In FY 2005, funding of $1,179,567 was provided to automate the DFS record/document management processes. No additional funding was provided in FY 2006 and FY 2007. Additional funding is anticipated to support future phases to enable the use of document management technology within the Department of Family Services (DFS). Due to budget constraints funding is not recommended.

Return on Investment
Cost savings will be realized as a result of improved processing of paper documents, improved use of staff time, and improved error rates related to more effective, efficient document management.

These funded initiatives of the imaging and workflow project are expected to increase the security of records, protecting them from unauthorized access; promote telework; reduce error rates as much of the manual data entry will be eliminated; and reduce the space requirements for maintaining paper copies of documents. With the increased availability of accurate, available closed records, the Fraud Unit will be able to more easily investigate cases that may result in increased reimbursement. Accurate, timely processing of services and records are necessary to insure reimbursement for provision of services.

IT0011.10 DOCUMENT MANAGEMENT & IMAGING – OFC

Project Description

This project will provide for the second phase of the Office for Children's (OFC) Electronic Records Management system. In FY 2007, the project transitioned Community Education and Provider Services, and the Child Care Assistance and Referral program to document imaging technology. The second phase of this project will include the Head Start and School Age Child Care program. Head Start maintains files for over 500 children and families in multiple locations. With this technology field staff and federal auditors will have the ability to review files electronically without traveling to multiple locations. The School-Age Child Care Program provides direct services to over 14,000 children in 134 centers throughout the county. Files are maintained on all staff, children and centers. This transition to an electronic system will ensure that citizens receive the most efficient, highest quality of service across OFC program divisions, and that all legal mandates are satisfied regarding record archival and citizen and client privacy. Phase III includes imaging the files in the Directors office.

Project Goals

This project provides for a structured enterprise approach to the development of imaging and workflow capabilities in agencies that have identified an opportunity to: provide increased security and integrity of their records; reduce the labor intensive record retrieval and re-filing process; expedite workflow processes through an electronic workflow management system; provide simultaneous and instant access to records; and reduce costs associated with space and shelving for storage of paper requirements.

Progress to Date

Community Education and Providers Services, Child Care Assistance and Referral program and SACC Registration are currently in production. Head Start, SACC Licensing, the Director's Office and SACC children's files were planned as Phase 3. **However due to FY 2010 budget constraints Phase 3 is deferred at this time.**

Project Budget

No additional funding is provided in FY 2010.

Return on Investment

These funded initiatives of the imaging and workflow project are expected to increase the security of records, protecting them from unauthorized access; reduce staff time required to retrieve and re-file documents; reduce processing time as many of the workflow efforts will streamline the reviews required; provide a viable, accurate document system for old and one-of-a-kind documents; promote telework; reduce error rates as much of the manual data entry will be eliminated; and reduce the space requirements for maintaining paper copies of documents.

IT0015 HEALTH DEPARTMENT MANAGEMENT INFORMATION SYSTEM

Project Description

The Avatar PM system replaced the Health Management Information System (HMIS) functionality supporting patient care services, community health care network, and fiscal processing. The Health Department currently uses the AVATAR Patient Management System as the central database for collecting and maintaining patient information. The core functionality was released in May of 2005, with a second phase released in February 2007. Phase II involved implementing Avatar for the Community Health Care Network, and providing a critical interface between the CHCN program CAP system and Avatar. Also the Health Department's Adult Day Health Centers billing is now performed in Avatar. Completion of the electronic billing process for Medicare and Medicaid is the only remaining module. With the implementation of Avatar, and the extraction of key historical data from the legacy system, HMIS, Patient Care Services programs are now completely operational in Avatar and no longer require HMIS for everyday processing.

Project Goals

This project supports the information management needs of the Health Department. The AVATAR system provides required interfaces to link to other health systems and provide a comprehensive set of services to the public.

Progress to Date

This project was divided into four phases. Phase 1 represents core functionality for patient care and financial services and was implemented in May 2005. Phase 2, implemented in December 2006 expanded patient care services by implementing three additional health care clinics saving uninsured and under insured residents. The third and fourth phases provided for electronic billing and support for Adult Day Care centers. By the end of the 2008, the Medicare/Medicaid billing was in place and the original scope of the Avatar implementation complete. Funding was provided in FY2008 to upgrade the Avatar software and database and to obtain appropriate fail over and disaster recovery hardware. The software upgrade component of this project was completed in July 2008. The hardware component of this project has not yet been scheduled, as this requires consultation and planning with appropriate emergency planning and disaster recovery staff.

Milestones

- *Electronic Billing Complete – June 2008*
- *Software Upgrade Complete – July 2008*
- *Complete Upgrade Functional adjustments - November 2008*
- *Complete Electronic Medicare/Medicaid Billing - December 2008*
- *Planning for hardware upgrade - January-March* 2009
- *Remaining Avatar modifications- March 2009*

Project Budget

In FY 2008, funding of $280,785 provides for a backup location for the AVATAR system's hardware and software. Funding will be used to procure additional hardware, such as servers, for the application. No funding is provided in FY 2010.

Return on Investment

AVATAR is used as the Health Department's central database for collecting and storing patient information. The system has eliminated duplicate data entry; minimized risk involved with using multiple stand alone systems, and reduced errors in transcription of patient information. Additionally the AVATAR system assures compliance with privacy laws and County regulations. The availability of the AVATAR system will be critical in the case of a natural or man-made emergency event that would compromise County network technology. If a catastrophic event were to occur, a backup facility will help to ensure that the Health Department's central systems remain operational and that confidential patient information is secured.

IT0054 SYNAPS

Project Description

SYNAPS was developed for the Fairfax-Falls Church Community Services Board (CSB) to improve client tracking and client and third-party billing, enhance client demographic and staff productivity data, and provide for the opportunity to comply with the Health Insurance Portability and Accountability Act (HIPAA) of 1996.

Project Goals

The enhanced SYNAPS system will be upgraded to current technology specifications and reflect improved security technology to ensure continued data protection.

Progress to Date

Efforts in FY 2008 and FY 2009 included bringing the database and supporting application servers into current technology. Roll-out of new hardware has been base lined as an incremental just-in-time rollout so that hardware and licensing come on-line as CSB staff are trained and join usage of the system. Currently the project is upgrading SYNAPS software and architecture components in order to maintain operations and update infrastructure.

Milestones:

- *Purchase 10 New Citrix Servers and Replacement Application server(s) (2) Fail-over capable Production, (1) Test/QA/Training, (1) Report- July 2008*
- *Installation of Hardware - September 2008*
- *Purchase Requests for 400 Terminal Server Licenses, 400 Citrix Client Attachments, 400 Merteck SQL Drivers, Hardware Configuration, O/S and Software Install – Environment Testing, Oct 2008*
- *User Testing - November 2008 thru February 2009*
- *Deployment to Production - March 2009*

Project Budget

FY 2008 funding of $500,000 provides for the replacement and scaling-out of application servers and introduction of a more reliable environment to meet expected growth and increased utilization as the single Electronic Health Record for the CSB, with a maximum user population of 800 users. No additional funds required for FY 2010.

Return on Investment

The enhanced system will provide greater system reliability and end user satisfaction upon implementation. The final phase will also produce a more reliable and less labor-intensive application.

IT0069 INTEGRATED HOUSING MANAGEMENT SYSTEM

Project Description

Housing and Community Development (HCD) deployment of a comprehensive housing management system, will result in a redesign effort consolidating 17 programs, six computer systems, six separate databases, and a host of manual processes. This effort streamlines requirements for HCD's compliance with U.S. Housing and Urban Development's (HUD) reporting structure, incorporates all HCD partnership program financial information on one technology platform, and enables project-based reporting requirements for all Public Housing Authorities. Much of the data for the new system can be automatically extracted from the existing County financial and procurement system, eliminating the need to enter data manually and reducing reporting of inaccurate data or the omission of pertinent financial data.

Project Goals

Project goal is to automatically extract information from the existing corporate enterprise systems, eliminating the current manual process of entering data which often results in the reporting of inaccurate data or the omission of pertinent financial data.

Progress to Date

Initial business review and Statement of Work for two phases has been completed. Phase I which commenced in March 2007 automated postings transactions originating in Yardi to FAMIS. The initial HUD mandated modifications were completed July 2007, remaining modifications continued through December 2008. Currently phase I performs interface postings of four to six thousand transactions from Yardi to FAMIS with little human intervention including automated reconciliation and reporting. Phase II will automate postings transactions originating in FAMIS to Yardi as well as additional FAMIS to Yardi alignment functions.

Milestones

- *Signed Statement of Work, January 2007*
- *Requirements' Analysis Phase I, March 2007*
- *First Integration Code commence February 2007*
- *HUD Mandates Completed – July 2007*
- *Requirements Analysis Phase I continued, August 2007*
- *Testing First Integration, April 2008*
- *First Integration Complete, December 2008*
- *Requirements Analysis Phase II, May 2008*
- *Second Integration Code commence June 2008*
- *Testing Second Integration May 2008*
- *Second Integration Complete, December 2009*

Project Budget
FY 2006 funding of $160,000 was provided to develop an interface between the financial module of the HCD management system and the County's financial and procurement systems. Additional funding of $222,500 was provided in FY07 to complete the interface and ensure compliance with HUD mandates. No additional funds were requested for FY 2010.

Return on Investment
The principal return on investment for this project involves savings related to staff time and improved customer service. The implementation of this system will reduce compensatory pay and overtime for staff involved in the time consuming dual-entry of financial information. Clients will receive better customer service when inquiring about payments made or Housing Assistance payments they expect to receive, landlords and housing assistance clients will be able to access this information through the Web, and payments can be processed as needed, rather than the current weekly batch processing. Landlords who receive rental payments and clients who receive utility assistance will receive their payments in a timely manner. This project provides Housing Management staff remote access to up-to-date information which improves customer service. Furthermore, capital project expenditures will be monitored more closely by project managers, potentially decreasing the risk of overages. Each housing project and program's financial situation is monitored individually, allowing Housing Management to make more informed decisions regarding performances.

IT0075 PARTICIPANT REGISTRATION SYSTEM

Due to budget constraints, this project is deferred as part of the FY2010 Advertised Budget.

Project Description
This project will allow the Department of Community and Recreation Services (CRS) to implement a centralized, web-based participant registration and tracking system at all community centers, senior centers, and teen centers. The current manual and outdated method of registering and tracking participants leads to inconsistent data reporting, participant confusion and complaints, and programmatic disruption. Implementation of a centralized system will significantly address these issues.

Under the planned system, participants will be issued identification cards with bar codes that they will scan upon entrance to any CRS center. This will enable staff to verify program/center eligibility and track participant attendance at both the center and the individual activities offered at the facility. The system will also interface with existing financial systems in order to manage program and related fees. CRS will be able to use the data recorded in the system to meet state and local reporting requirements, and to assist in program development and strategic planning. The system will also ensure the security and confidentiality of participant information.

Project Goals
Project goals aim to implement standardized data collection on participants for all centers, ease the registration process for participants who use CRS centers more than once or at more than one location, provide the ability to sort multiple data fields and develop reports for use in program development, strategic planning and improved customer service for citizens using CRS centers. In addition, the enhanced system will provide an interface with existing county financial systems.

Progress to Date
An RFP will be issued in the spring of 2008, and the agency planned to enter into negotiations with selected vendors. However, given the FY 2010 budget constraints and since no contractual obligations were entered into and work had not begun, this project is deferred at this time.

Project Budget
Project is deferred and existing balances will be reallocated to meet other County priorities and obligations.

Return on Investment
This effort will improve customer service and efficiency, ensure accurate data reporting, and improve data security. This project will significantly reduce the burdensome paper registration process that currently exists for the public. Participants will no longer have to wait in lines to sign paper attendance sheets. The centralized information will provide for better and more accurate data reporting and ensure that confidential participant data is protected. Additionally, a reduction in the staff time required to process registrations and compile data for reporting purposes is expected.

IT0085 LOAN PROCESSING SYSTEM (LPS-IDMS) REPLACEMENT

Project Description
The Fairfax County Department Of Housing and Community Development (HCD) provides loan assistance to resident homeowners under a number of County and Federally sponsored programs. These Loan programs are made available to assist low-to-middle income residents in securing and maintaining affordable housing. Loan programs are provided, accounted for, and controlled under existing subfunds.

Project Goals
To replace HCD's twenty three-years old Loan Processing System with a COTS program that facilitates both current loan processing and tracking need, as well as retaining Mainframe connectivity and DOF functionally. Through the years both the functionality and technology associated with the existing system have become dated and the Agency's needs for a more robust loan processing system have grown. Implementing a current loan servicing system that utilizes web technology to properly account, service and report on the excess of $46 million in loans in the HCD portfolio, many of which are not captured in LPS, will allow for enhanced revenue, and compliance with federally mandated HUD programs.

Progress to Date
A Request for Proposal was issued in December 2008.

Project Budget
FY 2009 funding of $126,000 was provided to replace existing Department of Housing and Community Developments software used for its loan processing. FY2010 funding is not requested.

Return on Investment
To address current shortcomings of the LPS system, the County would need to invest one to one and a half years of time at an estimated cost of $300,000 and $500,000 in programming fees alone and discontinue its plan to phase out the inefficient IDMS and its associated maintenance costs, which

would still leave it with antiquated system that would be costly to maintain and enhance. Procuring and implementing a loan servicing system that utilizes web technology is needed to properly account, service and report on the excess of $46 million in loans in the HCD portfolio, many of which are not captured in LPS. It would also allow for enhanced revenues through the use of database matches (e.g., the Clerk of the Court, DPZ, etc.) which would allow HCD to independently determine if the conditions for loan repayment have become due. Given the large dollar amounts in our Proffer and various deferred loan programs the opportunities to enhance revenues or deter the loss of funds justify the need for this new system.

3.7 PLANNING AND DEVELOPMENT

IT0011.12 COMPREHENSIVE PLAN/ZONING ORDINANCE AUTOMATED WORKFLOW

Due to budget constraints, this project is deferred as part of the FY2010 Advertised Budget.

Project Description
The Comprehensive Plan is a 5-volume document comprised of over 2000 pages of text and more than 1000 graphics in the form of maps. The Plan text currently exists as several Microsoft Word files. The graphics are stored as 220 dpi bitmap files which are inserted into the Word files. The Word documents are currently considered unstable due to several generations of conversions from legacy word processing applications. The Plan is amended multiple times during the year as amendments are approved by the Board of Supervisors and the Planning Commission. A Document Management System (DMS) will provide an audit trail for these amendments that is necessary to conduct research on Plan history to determine when a particular amendment was adopted. This audit trail will make research more efficient. The Zoning Ordinance exists as several Word documents for a total of approximately 1500 pages of text and seven pages of graphics. Similar to the Comprehensive Plan, the Zoning Ordinance is updated on a regular basis as amendments are adopted by the Board of Supervisors and the Planning Commission.

Project Goals
The workflow component of a Document Management System will save staff time and reduce paper by allowing for an electronic circulation of draft staff reports, amendments, memos, letters, and other staff documents for review, editing and approval. DPZ staff work results in the production of many types of documents such as paper copies for publication or distribution to the public, as well as Web pages and other electronic products. A DMS will increase efficiency in the production of staff work. It would also improve the speed at which staff can make updates to the Plan available. Currently the Plan exists on the Web as approximately 40 large PDF documents (most from 2 to 5MB in size). The Zoning Ordinance exists on the Web as approximately 30 PDF documents. A hybrid Web Content/Document Management System will offer improvement in presentation, search functionality, and performance for both the Comprehensive Plan and Zoning Ordinance on the Web.

Progress to Date
Staff has prepared preliminary process flows for both the Comprehensive Plan review and amendment process and the Zoning Ordinance amendment process.

Milestones

- *Conduct discussions with contractor to document the requirements for security, user interface and navigation, search, versioning and infrastructure, October 2008*
- *Prepare design documentation to address application configuration and customization items that have been identified during the requirements analysis phase, January 2009*
- *Provide a design for the technical infrastructure required to support this application, March 2009*
- *Conduct required application configurations and/or customizations, May 2009*
- *Facilitate the County's testing of the solution within the County's environment, July 2009*
- *Train DPZ and other relevant County staff, September 2009*
- *Transition of application from a test environment into production, October 2009*

Project Budget

No additional funding is requested for FY 2010.

Return on Investment

A Document Management System (DMS) will save staff time and reduce paper by allowing for an electronic circulation of draft staff reports, amendments, memos, letters, and other staff documents for review, editing and approval. DPZ staff work results in the production of many types of documents such as paper copies for publication or distribution to the public, as well as Web pages and other electronic products. A DMS will increase efficiency in staff work. It would also improve the speed at which staff can make updates to the Plan available. The current system used for management of the Comprehensive Plan (the Plan) and Zoning Ordinance are outdated and do not take advantage of the level of technology used in many "e-Government" organizations today. A move to a hybrid Web content/Document Management System will provide Fairfax County with a state-of the art solution for presentation, management, storage, retrieval and archiving for the Plan and the Zoning Ordinance both in-house and on the Web. The acquisition of a hybrid Document Management System (DMS) is in line with the Board's desire to become a paperless e-Government entity.

IT0055 FAIRFAX INSPECTIONS DATABASE ONLINE (FIDO)

Project Description

The Fairfax Inspections Database Online (FIDO) project replaced the legacy mainframe Inspection Services Information System (ISIS) in DPWES and multiple stand-alone databases in other agencies. This new system provides a foundation for future E-government applications related to land development, building construction, fire inspection services, environmental health services, and complaints management. This multi-agency project enabled data sharing between agencies and enhances one-stop-shopping for the customer. The enhanced cross-agency information flow provided by the new system significantly simplified the permitting process by streamlining multi-agency review and approval processes. The new system also enabled staff to develop a focus and orientation towards individual construction projects as opposed to maintaining a focus on the permit process itself.

Project Goals

The goal of the FIDO Project was to provide a single database solution that met the needs of the involved agencies in shared and similar processes. The new FIDO system was integrated with numerous systems (Land Development System, Integrated Assessment System, and Master Address

Repository System, GIS) to provide a more seamless process throughout the lifecycle of construction projects. Other goals for this project included enhancing customer service by streamlining the permitting process, reducing the timeframes for permit issuance, plan review, and inspections, and allowing the customers and County agencies more direct access to the permitting process and data.

Progress to Date

In addition to the replacement of ISIS, FIDO replaced four legacy complaint (i.e. land use code enforcement) tracking systems previously used by DPZ, FRD, DPWES and the Health Department. FIDO is currently being used by these agencies (and the recently established Strike Team) to investigate complaints regarding alleged violations of the County's Zoning, Noise, Fire Prevention, and Health and Safety Menace Ordinances.

- The contractor licensing phase of the FIDO project was successfully completed and has been in production since 2004. The contractor licensing module features system interfaces with both the State's Contractor Licensing database and the Fairfax County Business License database; allowing the state mandated license verification process to be streamlined for permit issuance. The FIDO licensing module also replaced antiquated contractor licensing systems used by DPWES and the Health Department for the issuance of local contractor licenses.

- FIDO's Permits Module replaced the mainframe-based ISIS system at DPWES in March 2006, and was expanded in S at the Fire and Rescue Department (FRD) in September 2006 to include the License and Use modules. These particular modules support the issuance of Fire Prevention Code Permits by the Office of the Fire Marshal for activities that present a higher risk of fire; i.e., tents, blasting, propane, hazardous materials, etc. ..

- FY 2007 FIDO deliverables included the implementation of the Permits and Cashiering Modules at the Health Department's Environmental Health Division to support the issuance of pool permits, and licenses for beauty salons, hotels and camp grounds.

- In October 2008, FRD building reviews and inspections were seamlessly integrated into the existing DPWES Building Permits module to further enhance information available across county agencies with respect to construction issues.

- Follow-up FY 2008 Permit Module tasks focusing on web based permit application submission capabilities for customers, and providing additional DPWES permit types (elevators, NON-Residential Use Permits, Residential Use Permits) are in progress.

- FY 2008 activities also included the expansion of the Code Enforcement Module (i.e., Complaints Module) at the Department of Public Works, and the Fire and Rescue Department.

- A wireless field inspection system for DPWES's building inspectors that will interface with FIDO is currently under development.

- During FY2009, the expansion and implementation of the Permits and License modules was completed at FRD and HD (including the replacement of the 25 year old HMIS system), respectively. In addition, new permits supporting Residential and Non-Residential Use Permits were installed at DPWES and DPZ. Remaining items for FIDO include the design and

implementation of web-based permit applications, and improved email notification capabilities for permit applicants and permit related inspection requests.

Milestones

- *Implementation of DPZ Complaints Management System , September 2003*
- *Integration of FIDO with GIS, October 2003,*
- *Implementation of Contractor Licensing Module, January 2004*
- *Expansion of Complaints Management System - Health Department, September 2004*
- *Integration of the new system with the LDS database, December 2004*
- *Traditional ISIS replacement, Permitting, Plan Review, inspections, March 2006*
- *Expansion of Permitting, Inspections and License Modules - FRD, September 2006*
- *Expansion of Complaints Management System - FRD and DPWES, Spring 2007*
- *Integration of FRD Building reviews and inspections with DPWES Permit Module, Fall 2008*
- *Expansion of Permitting, Inspections Modules -Health Department, Spring 2008*
- *Integration of FRD building reviews and inspection with DPWES Building Permits, October, 2008*
- *Design and Installation of FIDO Dynamic PORTAL (i.e., Web) for Permits and Inspections is ongoing and will be implemented for each agency*

Project Budget

Additional funding is no available in FY 2010.

Return on Investment

Savings will be realized through a streamlined system that will enable the development and construction industry to work more productively within the County and in turn enhance the tax revenue base. The development and construction industry will recognize significant cost reductions that are presently incurred due to construction delays and delays in occupancy or use of buildings. The County's revenue stream is also enhanced by increasing the speed in which commercial and residential buildings are processed through the system and brought to completion, i.e. the sooner buildings, homes and tenant spaces are completed, the sooner they become a source of revenue for the County. The development and construction process of the County will be perceived as being more business friendly and will attract additional businesses to bolster the tax base. It should also be noted, that the replacement of the ISIS system was necessary to create a platform for future e-permitting and e-government initiatives that may more directly enhance revenue (e.g. charges for access to data, charges for enhanced optional services, etc.).

IT0064 PROFFER DATABASE AND STATUS SYSTEM

This project is deferred as part of the FY2010 Advertised Budget.

Project Description

The proposed proffer system will provide an adaptive technical architecture that will supplement Fairfax County's existing proffer business architecture. The system will help enable the implementation of reengineered Proffer monitoring, implementation, and fulfillment processes and activities. The objective of PRODSS is to provide a quick response reporting tool that will summarize and display key proffer data elements in a format that is flexible, user-friendly and project-specific.

Project Goals
The primary goal of PRODSS is to provide County staff with a proffer monitoring tool to help streamline the process of verifying proffer compliance, enhance the communications and coordination between responsible agencies, and to help provide reliable and accurate proffer status and information. The project will also provide a foundation for future e-government initiatives related to proffer monitoring and enforcement through improved proffer business processes.

Progress to Date
FY 2005 funding provided for the initial phase of the project which included a requirements analysis, assessment of existing systems, business process redesign (BPR) recommendations, and high level database design. This phase was completed in 2006. Follow-up DPWES Phase I activities have focused on an impact analysis of the BPR recommendations on DPWES and inter-agency proffer processes given existing budget and resource levels. Senior management in DPWES is assessing any future changes in the proffer process.

Milestones
- *Requirements analysis and review of existing County proffer business architecture, September 2005*
- *Assessment of existing systems/proffer support capabilities, November 2005*
- *Recommendations to improve the current business process to ensure proffer fulfillment and effective interaction with proposed system, January 2006*
- *BPR Impact Analysis, June 2006 - September 2008*

Project Budget
FY 2005 funding of $188,700 was provided to support the design of a database to make proffers easily accessible to all those who create, enforce, research, and track proffers. Additional FY2006 funding of $450,168 provided for the system construction phase of the project. FY 2007 funding of $137,715 provided infrastructure modifications to support the project. No additional funding is requested in FY 2010.

Return on Investment
Though additional time will be required to enter data into the database, review staff will spend significantly less time researching paper records to determine the existence and fulfillment of proffers. The county will avoid potential costs associated with failure to enforce or implement a proffer. Staff will input data on proffers electronically; status on proffers will be available electronically, improving access to citizens, the board of supervisors, and developers. Proffer triggers such as RUP and Non-RUP estimates will be automated. An up-to-date accounting of proffer status will be maintained.

IT0065 FACILITY MAINTENANCE MANAGEMENT SYSTEM

Project Description
This project supports the acquisition of an Integrated Facilities and Grounds Management System as a single, integrated facilities information resource for the Facility Maintenance Department (FMD) and the Fairfax County Park Authority (FCPA). An updated system will increase the effectiveness and efficiency of staff and the utilization of capital resources required to maintain and manage County and Park facilities and properties. The new system will support the goals of the project through the enhancement of data collection methods and tools, improved warranty tracking, elimination of

redundant facilities information databases, user friendly interfaces for internal and customer access, and a strong reporting system.

Project Goals

The goals of this project are to acquire and implement a state of the art Computer Integrated Facilities Management (CIFM) System. FMD and FCPA hold the greatest portion of responsibility for the maintenance of the County's largest and most valuable physical assets: its properties, facilities, and the subsystems that keep them operational. The maintenance aspect must be fully integrated with the management of those assets by encompassing all of the functional components and activities that support Lease Management, Space Management and scheduling, Inventory Control, Grounds Management, Contracts Management, Utilities Management, Physical Security, and Emergency Preparedness/Disaster Recovery. By implementing a web based, "one stop shop" for facilities information, we will be able to improve internal efficiencies as well as provide more accurate, complete, and timely information to customer agencies. By consolidating the redundant facilities tables and databases maintained by various branches within FMD as well as by the participating "partner" agencies, the County will gain the benefit of more consistent data and improved interagency coordination of information.

Progress to Date

Phase I – Portfolio and Demand Maintenance – was implemented in March 2007. Implementation of Planned Maintenance, Inventory bar-coding, space management and configuration of handhelds is planned for June 2009; Real Estate Leases module for August 2009, and Capital Projects phase by December 2009.

Project Budget

FY 2009 funding of $188,218 supports integration services required for the completion of project milestones. FY2010 funding is not recommended.

Return on Investment

Extensive savings will be realized through the streamlining of communications and processes throughout FMD and the Park Authority, the most quantifiable savings derived from time saved by field personnel (crafts, trades and grounds personnel) and Work Control Center staff within the agencies. The replacement system will provide bar coding and wireless technology to greatly improve the speed and consistency of data collection necessary to better utilize field staff by the elimination of excessive hand recording of information that is entered into the system at a later time and/or by a different individual. Accurate and timely data collection plays a vital role in improving time management for field staff and will ultimately work to extend the life cycle of equipment. Improved data collection in the field, along with a web based customer request and inquiry interface will save time for staff in terms of handling customers' status inquiries and work order processing from initiation to close out. With the implementation of this system, duplicate work orders, work performed by vendor for inventory that is under warranty and multiple tasks on a work order will all equate to savings by cost avoidance.

IT0067 STORMWATER MAINTENANCE MANAGEMENT SYSTEM

Project Description

This project will consolidate a number of stand-alone databases used for work order, complaints, and infrastructure inventory in the Maintenance and Stormwater Management Division (MSMD) into one streamlined, integrated maintenance management system. Data is currently captured in multiple, mostly stand alone, applications, some of which are in old technology programs and unable to be run on a network. Most of the data is not linked, requiring repetitive input of information, costing staff time and increasing the likelihood of input error. Non-integrated data also makes it difficult to consolidate and provide information necessary to meet mandated reporting requirements.

Replacement of existing databases with an integrated system will tie together work orders, materials, equipment, complaints, GIS and infrastructure inventories; allow data sharing across agency and with partner agencies; result in better customer service by allowing residents, Board of Supervisor member offices, and others easy web-based access to information concerning complaint status, work order status, and infrastructure maintenance history by location (e.g., history of flooding at a particular site).

Project Goals

Project goals seek to increase operational efficiency by streamlining the work order, inventory tracking, and reporting processes; improve decision-making through the increased availability of pertinent information and enhanced analysis; provide synchronization of GIS data for services requests, work orders and asset management, and also allow cross-referencing of inventory with other GIS data layers, creating maps for work orders, providing more detailed information to staff and customers; reduce data entry to reduce errors and allow better quality control/quality assurance of data; provide better tracking of "trouble spots" (i.e., systems or structures with recurring maintenance problems); and consolidate reporting capabilities for budget preparation and performance measurements.

Progress to Date

The Requirements Analysis Phase for this project was completed during FY 2007. Based on the results of the Requirements Phase, FY 2008 activities included a market analysis of compatible COTS packages. During FY 2009 an existing COTS package at DPWES's Waste Water Management system was selected for modification and expansion to support the Stormwater Divisions new work order and asset tracking systems. Project is expected to be complete in FY2010.

Project Budget

FY 2006 funding of $335,993 supported the completion of the Projects' Requirements Analysis phase, and the remaining balance is expected to support the procurement and implementation of the COTS solution. FY2010 funding is not recommended.

Return on Investment

The benefits of an integrated system include reduced operational costs, migration of aging legacy systems to a modern database, integration of agency data, decreased reliance on preprinted forms and photocopies, an improved level of completeness and accuracy in data collection efforts and improved access to information for decision making. The benefits cannot be obtained with the current technologies and applications. Data will only be entered once at the source. Cost savings will result from the elimination of data entry redundancies existing between the present materials, daily labor time entry and work order databases. Web-based customer complaint/maintenance request and customer inquiry interface will save time for staff in terms of handling customer's initial reporting of

problems, status inquiries and work order processing from initiation to close out. In addition, the proposed system will provide public access to data in appropriate cases such as on-line complaint/maintenance requests and work order status, thereby eliminating significant call-taking functions, as well as providing customers direct access to data.

IT0077 LAND DEVELOPMENT INDUSTRY ENHANCEMENTS

This project is deferred as part of the FY2010 Advertised Budget.

Project Description

In FY 2005 the Board of Supervisors approved a series of fee increases for Land Development Services (LDS). The industry supported these increases and requested that, as part of their support, the Land Development Process Improvement Initiative be created. The Initiative is a partnership among Fairfax County government, the Northern Virginia Building Industry Association, the National Association of Industrial and Office Properties, and the Engineers and Surveyors Institute. The committee was tasked with evaluating and recommending improvements to the County's land development process. The Board's Development Process Committee has been updated periodically on this initiative's recommendations as requested by the Board of Supervisors.

These recommendations included technology and policy/programmatic improvements. They suggest exploring the implementation of queuing management and customer flow software that can better manage the flow of transactions and throughput. The queuing system will inform staff that someone is waiting for a particular category of service and track customer wait time. The customer will be directed by display systems where to go next. The system will generate metrics on service levels to assist in staffing decisions. Other recommendations include online capability for Engineers/Developers to review comments from Site Review in Land Development Services (LDS) and other review agencies. In addition, triggered and automatic e-mails will provide Engineers/Developers notification of site-related plans that have reached certain milestones in the life cycle of the plan.

Project Goals

The goal of this project is to expedite the process by which site-related plans are cycled through plan intake, review, and multiple resubmissions. This system is planned to be completed over a two year time period.

Progress to Date

The email notification feature to apprise Engineers/Developers of the status of Site Plan lifecycle milestones was completed during the fourth quarter of FY 2007. Web based review capabilities of LDS and Review Agency comments for Engineers/Developers were completed.

A request for proposal (RFP) for the queuing and customer flow management system was prepared in 2007 and vendor selection was anticipated in the 4th quarter of FY 2008. In FY2009, prior to entering into any contractual obligations, the agency suspended efforts related to the Customer Flow Management project. **This project is deferred.**

Project Budget

FY08 funding of $150,000 will support the procurement, installation, and configuration of queuing system management and customer flow software. This figure includes hardware and professional services required to complete the project. FY2010 funding was not requested.

Return on Investment

Automatic notification will significantly streamline the process for industry and relieve some of the workload of County staff. Engineers/Developers and their staff must travel to the County to physically retrieve their comment letters from reviewers. This results in project delays and inefficient use of time. Enabling Engineers to download comments from the web will be a significant improvement to customer service. Currently, most outside agencies send their comments by courier. The courier generally operates only a few times a week. There are approximately 20 agencies involved in the review of site-related plans. Having comments available electronically to both applicants and County reviewers will significantly improve the efficiency of the exchange of comments and the review process as a whole. The queuing system will better manage the flow of customers and staff and will have a significant impact on wait times. Currently, the variability in types of permit applications to come in from day-to-day or at different times of the year can be difficult to manage due to the variability in types of permits and the knowledge level of customers and technicians. Furthermore, not all technicians are proficient in processing all permit types. There is a wide range in the complexity and processing time of individual permit types. Optimizing customer flow will improve customer service and will create a more relaxed atmosphere for all customers and for staff as well.

IT0082 LAND USE INFORMATION ACCESSIBILITY INITIATIVES

Project Description

During January 2006, the Board of Supervisors established the Land Use Information Accessibility Advisory Group ("Advisory Group"). The purpose of the Advisory Group was to review the ways in which land planning and development information is made available currently to the public, to make recommendations for accessibility improvements, and to develop a high-level plan of action. The Advisory Group made a number of recommendations which were accepted by the Board of Supervisors in January 2007. See http://www.fairfaxcounty.gov/landusecomm/ for the final Advisory Group report.

Project Goals

Project goals are to improve the ability of citizen and business constituents to easily access information concerning land use planning and development activities in their communities.

Progress to Date

During FY 2007 LDSNET web page enhancements were made to provide two new inquiries; the Search Land Use Information by Address, and the Search Land Use `Information by Magisterial District. Both of these functions also supported searching by, and accessing spatial views of land development information on a map. During FY 2008 staff addressed several Advisory Group recommendations that included:

- Improving navigation between the LDSNET & GIS My Neighborhood web pages for common data elements,

- Expanding the Search by Address/Search by Magisterial District features to incorporate building permits and additional Plan types/Plan history,
- Expanding the LDSNET web page to include Site and Rezoning plan summaries in downloadable PDF files,
- Documenting requirements for citizen email notification of Site/Rezoning plan submissions, and 3D imagery tool integration for the My Neighborhood web page.

In FY 2009, a 3-D web-based application was purchased and a web site implemented. The site enables users to view key GIS data such as parcels and road centerlines along with the 3-D models that have been developed for over 3 sq .miles of Tyson's Corner and over 5 sq. miles of the Reston/Herndon Toll Road corridor. The application enables users to incorporate 3-D models on their local computers and view 3-D models available from web libraries, and also assists users to view and evaluate the spatial impact of proposed land use development. Future plans include further enhancements to the 3-D web viewer and the GIS My Neighborhood web page improvements to include rezoning information, site plan submissions, and building permit information relevant to address-specific web inquires. This will include summary reports and GIS map displays of active land use activities along with community information concerning elected officials, school pyramids, parks and recreation facilities, and public safety locations (i.e. police and fire/rescue stations).

Project Budget
FY 2010 funding is not available.

Return on Investment
The project streamlines constituent access to relevant land use information, enhances navigation and provides more intuitive and web-based visualization tools for understanding the spatial environment. These efforts exhibit Fairfax County's commitment to make land use process and information more open, inclusive, and citizen-oriented. These projects further enable citizens' awareness of land use information impacting their neighborhoods and facilitate citizen participation in the process. Information on these systems is available 24/7 over the County's website.

IT0087 PARKNET SECURITY UPGRADE

Project Description
The project is an IT hardware and software integration project to upgrade and bring ParkNet, Fairfax County Park Authority's aging business application into compliance with the recently enacted Payment Card Industry Standards (PCI) and replace aging hardware and operating system platforms with a County-compliant, Windows-based hardware and operating system platform to serve the Park Authority and its citizen-customers.

Project Goal
The project goal is the replacement of the ParkNet hardware and operating system platforms with a County-compliant, Windows-based hardware and operating system platform to serve the Park Authority and its citizen-customers. This initiative ensures conformity with current supportable IT architecture and security standards as well as compliance with the Payment Card Industry mandates for accepting credit card payments over the internet and IVR.

Project objectives include: securing the Parknet application from the threat of virus infection by using County-standard tools for anti-virus protection; securing the ParkNet application from threat of environmental mishap and promote Continuity of Operations Planning (COOP) by relocating it from

the Herrity Building to the Enterprise Operations Center; increase availability to staff and citizens, placing the administration of the ParkNet platform under the auspices and standards of the agency's organizational unit; providing a faster application for agency staff (which benefits county citizen-customers); and eliminating the need for special DEC Alpha Cluster and Open VMS skill for Automation Services Branch staff.

Progress to Date
Procurement is underway for software and hardware components. The project will use existing County infrastructure resources for implementation.

Project Budget
FY 2009 funding of $179,571 was provided to address project needs collaboratively with the Fairfax County Park Authority. FY 2010 funding was not requested.

Return on Investment
The ParkNet application represents a significant investment of resources in the core software product and in the custom enhancements which have been specified and implemented over the years the agency has owned the product. The migration from the current hardware and operating system platforms to a new Windows Server 2003-based platform preserves the investment the agency has made without replacing the core software product.

The ParkNet system is critical to a range of agency core functions including recreation center and golf course point of sale activities to program and camp registration via the internet and IVR portal, nature centers, and lake front parks. This initiative ensures conformity with current supportable IT architecture and security standards, as well as compliance with Payment Card Industry mandates for accepting credit card payments over the internet and on the IVR. Opportunities exist for enhanced revenue because of increased uptime and availability of the ParkNet system and the Internet class registration capability. The project protects the application, agency information, and citizen information by moving the server the County's Enterprise Operations Center (EOC), and promotes Continuity of Operations Planning (COOP) by involving County staff and resources in the protection of the data.

MANAGEMENT CONTROLS AND PROCESSES

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SECTION 4

MANAGEMENT CONTROLS AND PROCESSES

4.1 IT MANAGEMENT FRAMEWORK

Background
In FY 1994 the Fairfax County Board of Supervisors created a citizen Information Technology Advisory Group (ITAG) to study the use and management of Information Technology (IT) by the County government. The ITAG was composed of eight private sector executives from Fairfax County based companies. Two committees supported the ITAG, one made up of staff from their own corporate organizations and the other comprised of County staff.

The work of the ITAG resulted in the creation of the Department of Information Technology (DIT). By consolidating several separate County organizations already involved with application programming, infrastructure, data center operations, telecommunications, Geographic Information Systems (GIS), mapping and technical training, the Department of Information Technology was formed. The new DIT also included centralized resources for system security, standards, architecture, e-government, technology planning and administration. ITAG also recognized that larger County departments would still need to retain some IT staff in addition to utilizing central DIT resources, and that agency business specific projects such as technology based industrial systems or small scale point solutions would be better handled by the agency rather than DIT. For these instances DIT would serve as a consultant, mentor or project partner. However, departmental IT standards, planning and budgeting would continue to follow the direction set by the County to ensure consistency and investment value.

ITAG further recommended that:

- *The County create a Chief Information Officer (CIO) position to oversee DIT and technology Countywide*
- *The CIO should report directly to the County Executive as a Deputy County Executive level position*
- *IT be treated as an investment and given consistent funding annually*
- *The CIO be responsible for IT planning County-wide and the expenditure of major IT project funds*
- *The County create a funding mechanism to ensure IT employees are trained properly and their skills are kept up to date*
- *An annual IT plan is written to detail IT direction, projects and project portfolio budgets.*

When ITAG recommended the technology modernization fund, it recommended that the County provide funding of approximately $20 million per year for investment in IT in order to sustain the Board's goals for service efficiencies and effectiveness at optimal cost. This fund provides money for the software, hardware and services included to deliver the projects. The modernization fund represents the County's enterprise wide and key departmental projects, which are closely tied to business process improvement and strategic goals.

Based on the initial ITAG recommendations, the following initiatives have been implemented:

- *Centralization of the major IT functions for the County (FY 1995)*
- *Creation of a CIO function (FY 1995)*
- *Standardization of technology investments across the County (FY 1995)*
- *Annual technology project review as part of the budget process (FY 1995)*
- *Creation of a technology modernization fund (FY 1996)*
- *Funding for technology training (FY 1996)*
- *Project steering committees, formal project reporting and governance framework (FY 1996)*
- *Creation of a permanent private sector advisory group (FY 1998)*
- *Creation of an internal Senior Executive IT steering committee (FY 1999)*
- *Launch of an internal project management certification program (FY 1999)*
- *Creation of an enterprise technology architecture committee (FY 2001)*
- *Creation of an IT Investment Portfolio management position in DIT (FY 2002)*
- *Creation of an enterprise technology architecture function in DIT (FY 2002)*
- *Development of strategic planning alignment process (FY 2003)*
- *Strengthening and reorganization of IT Security leadership and capability (FY 2003 and 2004)*
- *Merger of information architecture, web services and document management functions(FY 2004)*
- *Establishment of Architectural Review Board in DIT (FY 2005)*
- *Reorganization to establish resource capability that addresses regional homeland security interoperability requirements, and creation of a position dedicated to integrated Public Safety and Emergency Management strategy (FY 2005)*
- *Establishment of a Public Safety IT Governance Board (2005).*
- *Re-designated CIO position as Deputy County Executive (DCE) for Information Departments and designated Director of DIT as Chief Technology Officer (FY 2006)*
- *Established E-Gov Executive Committee (FY 2007)*
- *Created Customer Service function for enhanced Help Desk end-user tech commodity devices in DIT (FY 2007)*
- *Established Services-Oriented Architecture Team (FY2007)*
- *Adopted ITIL Framework for Service Support (FY 2007)*
- *Established Deputy Director to enhance executive capacity on IT service delivery and operational efficiency, and emergency support initiatives (FY F2007)*
- *Establish Court Technology Leadership position and Governance structure (FY2007)*
- *Enhance Change Management and Configuration Management Processes (FY2008)*
- *Released new strategic plan and updated Systems Development Life Cycle Standards (FY2008)*
- *Established Leadership for National Capital Region Interoperability Initiative (FY 2007)*
- *Legacy Replacement System (County and Schools) Steering Committee (Fy 2008)*
- *Develop Technology Strategy Map (2008))*

Executive Governance

The Deputy County Executive (DCE) is responsible for the overall direction of technology and information initiatives. The Board of Supervisors has expanded the role of the DCE since the position was created as CIO in FY 1995. Today, the DCE is responsible for a broad range of information-related departments.

The Director of the Department of Technology is also the County's Chief Technology Officer (CTO). The CTO develops strategy, policy and processes for technology county-wide. The CTO creates the agenda for IT and communications technologies, and directs the activities in the Department of Information Technology.

The Senior IT Steering Committee is the County's executive technology oversight body, providing policy, asset and resource authorization and guidance for the County's IT program. This group includes the County Executive, Deputy County Executives, Director of the Department of Information Technology/CTO, and Director of the Department of Management and Budget. The committee gets additional input from the County's Senior Management Team made up of all agency heads. The committee meets monthly to look at specific IT initiatives, opportunities and issues, sets the County's IT strategy based on the Board of Supervisors' direction, and approves the annual IT investment plan which is delivered by the CTO to the Information Technology Policy Advisory Committee (ITPAC) for its endorsement. The annual ITPAC agendas provides information about both existing portfolio initiatives as well as planned initiatives and opportunities, most of which require IT investment support in either upcoming or future budget planning cycles.

The e-Government Steering Committee provides guidance and direction for new capabilities provided via the Web and other public access channels. The DCE is the chair and champion of this committee, which includes the CTO, E-Government Manger, Directors of the Department of Cable Communications and Libraries, and the Office of Public Affairs. The committee considers the impact of emerging trends such as the public's adoption of social networking and other information mechanisms in forming the County's strategy for enablement of and governance over related e-Government initiatives.

Finally, major investments such as the Public Safety Information Systems project and Legacy Systems Replacement project have governance boards typically chaired by the sponsoring Deputy County Executive with membership including the affected directors of sponsor departments and the CTO. These boards/committees oversee, provide guidance and resolve related policy issues to their agencies project manager(s) and teams to ensure scope and delivery.

Project Investment Prioritization and Execution

The Senior IT Steering Committee establishes funding priorities for technology projects. Based on changes in social and economic paradigms, and state mandates that must be fulfilled, the following priorities are adopted as guidelines for project funding decisions:

- Mandated Requirements
- Leveraging of Prior Investments
- Enhancing County Security
- Improving Service Quality and Efficiency
- Ensuring a current and supportable Technology Infrastructure

The process is managed by the IT Project Portfolio Office in the Department of Information Technology. For each fiscal planning cycle, Initial project recommendations are submitted by County departments as part of the annual budget process. A two-phase approach was implemented to assist in the preparation and evaluation of information technology project proposals submitted for funding. Project proposals must meet the following requirements:

- *Submission of viable projects: minimize project requests that may be beneficial to County business conceptually, however lack substantive information in critical project areas such as staffing plans, technical architecture, project deliverables and benefits;*

- *Ensure that proposed project timeframes, areas of responsibility and funding accurately reflect County procurement, budget and existing IT project commitments, as well as clearly identify the impact of the project on agency business and technical staff, and agency operations;*
- *Identify potential savings by utilizing exiting County-owned technologies or by jointly reviewing similar individual project requests to minimize IT software and hardware duplication and leverage technology investments already made;*

- *Ensure that proposed project schedules are feasible, and/or that ongoing projects are within scope and budget, and are on schedule.*

Early in the process, agencies are requested to submit both a business and technical viability analysis for each proposed project. The business analysis, reviewed by staff from the Department of Management and Budget (DMB), includes such factors as business objectives, return on investment (including cost savings, cost avoidance, enhanced revenue, non-quantifiable service benefits, staff savings and staffing efficiencies), indicators to measure success, estimated costs, business related risks and alternatives to the proposed project.

The technical analysis, reviewed by staff from the Department of Information Technology (DIT), includes such factors as proposed system architecture and its compatibility with the County's technical architecture standards, impact on existing systems, data conversion and electronic interface requirements, and staffing requirements for development, enhancement and maintenance of the project. After review by DMB and DIT, recommendations and suggestions for improvement are made to the project sponsors. Following the submittal of final project proposals, interviews for a final review are conducted by DIT and DMB senior management, who then make funding recommendations for consideration by the Senior IT Steering Committee. This process is guided by the five information technology priorities established by the Senior IT Steering Committee.

The Senior IT Steering Committee reviews the recommendation for inclusion in the County Executive's annual proposed budget. ITPAC's recommendations are included as part of the Budget Adoption process. ITPAC develops a letter supporting the strategy and themes for the proposed project funding package to the Board of Supervisors. The Board makes the final decision on funding based on alignment with the Board's goals and recommendation of the County Executive.

As stated previously, IT funding in the modernization budget represents the strategic and enterprise-wide initiatives for the County. If during the project review process a project is identified that is not strategic, does not have enterprise wide benefits, but does benefit a single department or County function, funding may be placed into departmental budgets. The department can then use these funds to undertake the project internally with existing staff or contract for services if necessary. Agencies can request that DIT manage the project if that is the best course. Departmental projects must follow the established IT standards, methodology and architecture requirements with DIT providing advisory consultation, infrastructure resources, and/or standards compliance.

Once projects are approved for funding, a steering committee is created for each project. This committee can vary in size and membership, based on the dollar value and the strategic importance of the project. A project manager is selected from the department sponsoring the project and a technical project manager is assigned from DIT and/or the user agency's technical group if one exists. Project managers are required to hold regular meetings and report progress and issues. All projects must follow the County's standards and project methodology as defined by the DCE in the IT standards. Formal architecture standards have been developed that provide further guidance to the project managers. This process is managed by the IT Portfolio Manager in DIT.

The County formally certifies project managers through a project management certification course developed by DIT, which certifies project managers to lead projects at different dollar thresholds. Once certified and assigned to an approved project, the project manager's compensation may be adjusted to reflect enhanced organizational contribution. The certification focuses on project reporting and administration, contract negotiation and management, technical architecture, business process redesign, task planning and other topics. Certification is also required for technical project managers. DIT assigns a Technical Project Manager that works with the agency Project Manager to approve the technical solution, help develop the schedule, coordinate implementation activities in DIT, and execute the technical solution. The Technical project manager is involved in the solution selection process and contract negotiations.

In addition to the Project Steering Committee, DIT may conduct periodic project reviews to track progress and support conformance to standards. DIT has established the Architectural Review Board to assist agencies in determining viability of solutions and compatibility with architectural standards and the county's infrastructure as a part of the solution competition and acquisition process. This includes members participating on Selection Advisory and Technical Advisory panels. Major IT projects with increased risk, higher strategic value, or a material degree of external visibility may receive oversight in tracking project performance and technical guidance from the PMO function in DIT.

Project investment prioritization and execution is based on the following elements that work together to create an enterprise wide process and focus for IT in Fairfax County. The process is inclusive of all agencies and ensures that selected IT solutions align with the enterprise strategic goals:

- *Executive Management*
- *Private sector and internal County board of directors roles*
- *Executive IT Steering Committee*
- *County-wide planning and review of technology investments*
- *Focus on standards, training and certification*
- *Project Steering Committees*
- *Collaboration between agencies and DIT*
- *Portfolio management*
- *Architectural Review Board*
- *Skilled project management*
- *Performance management*

In any organization, a wide range of business processes and practices support all information technology projects directly or indirectly. They are integral to both the development and the delivery of flexible, cost-effective and reliable solutions. The following sections provide a brief description of three of these processes, which have been crucial to the successful implementation of information technology solutions in the County's service environment. These processes are:

- *Strategic Planning Process*
- *Information Technology Architectural Planning and Execution*
- *IT Investment Portfolio Management*
- *Systems Development Life Cycle Standards; and*
- *Information Technology Project Management Program*

Each process is briefly discussed in terms of its origins, its larger operational context, the primary functions performed, principal business benefits achieved and future directions.

4.2 STRATEGIC PLANNING PROCESS

In FY 2004, DIT assembled a Strategic Planning team of staff across the IT organizational specialties to gather input on values, needs, and expectations related to the future provision of information technology solutions and services. The team was organized into external communications team, internal communications team, and IT research and development team. The resulting efforts of this initiative complemented the annual process for development of the IT Plan and operations of the Department of Information Technology.

The focus of the planning process is to ensure a comprehensive approach to IT across the enterprise, taking into consideration a number of important influences (both internal and external) of relevance to the organization. Influential factors include changing requirements and channels for G2G interaction, the need for business integration and interoperability for cross-cutting county initiatives, the rise of e-government opportunities, industry and economic trends, and similar imperatives. The strategic thinking and planning process provides a framework to make decisions around alignment of IT resources to meet the needs of county government. The Strategic Plan provides the County forethought for long term technology commitments and allocation of limited resources to achieve business objectives. This process is necessary to keep and update technology, analyze appropriateness of the technology refresh cycles, and the effectiveness and sustainability of technology investments.

Keeping up with the pace of change in technology and using technology effectively to meet government business requirements and expectations are still the most critical challenges facing information technology providers. Advances in technology enable the workforce to provide better and faster service at a reduced cost, but changes in technology are expensive and complex. New technology must be adopted carefully and integrated wisely into the existing technology infrastructure of an organization in order to maximize the benefits in a cost-effective manner. To give focus and direction to staff within the technology department and to better plan for the future, a vision statement was adopted that aligns with the County's vision statement:

'*We are a skilled, forward thinking and responsive organization that builds partnerships in the delivery of a strong and innovative technology environment. We pursue and embrace opportunities to creatively enable and strengthen service delivery throughout Fairfax County."* Values were developed along with strategic goals and initiatives. To review these values, goals and initiatives, refer to the Department of Information Technology Strategic Plan, October 2003. Seven major trends impact technology solutions and enrich the County's current technology architecture. These trends maximize IT capability for users and stakeholders while presenting some deployment challenges in the face of IT resource limitations:

1. *The workplace is more mobile, therefore, job functions can be performed without being tied to a physical location.*
2. *Communication, collaboration, and information sharing methods are increasingly automated.*
3. *Information resources must be managed from a full life cycle perspective.*
4. *Security for information and communications systems and privacy of information are critical priorities.*
5. *Technical architectures are facing increased capacity and flexibility demands.*
6. *Citizens require "around the clock" access to information and services through a variety of convenient delivery channels.*
7. *Interoperability requirements drive a need for data standards and open information architecture.*

To accomplish DIT's mission and vision, strategic initiatives are categorized within three strategic focus areas to ensure well-defined purpose. Essential components of each initiative are identified to facilitate the development of agency policies and processes as DIT seeks to achieve its key objectives. The successful adaptation of these strategic initiatives positions DIT to provide an effective technology infrastructure and efficient customer service support. The overall outcome promotes County agencies working together with partners, maximizes County agency resources to provide diverse government services and optimize accessibility to county constituents and customers.

Collaborative initiatives are focused around governance structure and processes, technology rollout, interoperability framework, technology portfolio management and marketing. **Customer Service Delivery initiatives** are designed to improve customer service delivery and increase customer satisfaction and improve continually the quality, responsiveness and cohesiveness of products and services delivered. The third set of initiatives, **Staff Improvement initiatives**, revolves around resource allocation of personnel and skills ownership and accountability.

A major challenge is the development of comprehensive performance measurement systems. Working to overcome these challenges is a strategic priority as the importance of developing performance measurements is fully recognized. Projects have been launched for both initiatives and performance measures that will result in improvements and alignment with the intended direction of the department and the County over the next three to five years. DIT is in the process of refreshing its strategic plan and developing a balanced score card approach. Key elements of the updated plan will include more focus on the strategic direction of the agencies served, and how agency strategies will necessitate changes in DIT's future infrastructure plans and the deployment of DIT resources.

4.3 ARCHITECTURAL PLANNING AND EXECUTION

DIT is faced with the constant challenge of staying nimble while aligning the County's information technology strategy with the agencies' evolving business requirements. Rapid changes in business requirements can outstrip the capabilities of the IT infrastructure. Whether it takes an upgrade, an enhancement or a completely new system to meet new business requirement, it is DIT's job to deliver the solution – on time and within budget.

Disparate decisions and infrastructure investments can easily create a complex and fragile computing environment that is intolerant of change. Given the rapid pace of today's business innovation, no agency can afford to be locked into an environment that is resistant to change. There is an industry-wide emphasis to shift toward developing operational agility. In that effort, the modern IT function has to lower the cost of future changes while managing the total cost of ownership for each solution.

IT Architectural Planning breaks out of this loop by creating an adaptive architecture that "engineers out" everything that inhibits change, while "engineering in" a high tolerance for the unanticipated. Specifically, an IT Architectural Plan maximizes the effectiveness of IT, while minimizing the risk associated with IT investments, and sets a clear direction for the future acquisition and deployment of information technology in Fairfax County. IT Architecture introduces a set of architectural best practices to guide IT in the process of designing a flexible technical infrastructure, which frees the organization to provide an IT environment that will meet business requirements and address business issues.

Execution of the IT Architecture Strategic Plan insures the following benefits:

- *Better alignment of IT assets with business goals to create a shared enterprise-wide vision*
- *Supercharging the infrastructure with leading-edge technologies and "on-demand" capacity*
- *Developing a consistent framework for future technology decisions*
- *Making more effective IT investments and optimizing IT funding processes*
- *Resolving emerging business problems while leveraging the existing technology investment*
- *Reducing unnecessary database, hardware and application software redundancy, thereby providing the potential to reduce the cost of IT(DIT recognizes that some redundancy is necessary and beneficial to promote availability, reliability, and recovery of systems)*
- *Promoting data sharing between agencies and across IT platforms; improving interoperability and the potential for agency resource sharing*

In FY 2001, a Strategic Architecture Committee composed of DIT and technical and/or business representatives of County departments was formalized. Committee members selected had knowledge of contemporary information technology (IT) direction and the role IT plays in the vision or mission of their agency.

The purpose of the Architecture Committee is to address information technology (IT) architecture issues Countywide and to propose IT architectural goals, standards and guidelines for consideration in implementing IT projects and initiatives throughout the County. In addition to assessing conformance of proposed solutions, the committee's review process provides an opportunity to emphasize the need for interoperability of systems and processes that cross agency or functional lines.

The Committee also works with County departments to ensure that participation and inclusion in decisions that affect the annual IT planning process. Responsibilities of the Committee include:

- Provide information technology architectural leadership to Fairfax County Government in supporting the on-going development of a strong, flexible, interoperable and secure technology environment.

- Ensure an integrated view between the County's architectural direction and technology initiatives and implementation plans.

- Work closely with DIT and other County IT groups to identify IT architectural issues related to business needs and IT projects, and propose approaches to address them.

- Propose IT architectural plans and standards to DIT, the DCE and the Senior IT Steering Committee for Countywide implementation.

In FY2005, a new organizational team was created within DIT to provide oversight of all County architecture and infrastructure standards, policies, and directions. The responsibilities of the

Architecture Review Board include application development architecture, infrastructure and information architectures, security architecture, emerging technology, process and data modeling, integration and interoperability methodologies, technical standards, and SDLCS compliance. ARB's role is extremely important and valuable given the need to leverage solution platforms and processes across the enterprise and provides scalability, repeatable processes, and seamless interoperability for achieving cross agency business initiatives and county-wide initiative goals.

4.4 SYSTEMS DEVELOPMENT LIFE CYCLE STANDARDS (SDLCS)

The County published Standards for documenting the development and implementation of applications. The original standards included written means of conveying information about the planned application, to allow for controls, performance, data integrity, appropriate infrastructure and operational procedures required to place the application into production.

As new technologies emerge and become part of the County's systems portfolio new application development techniques and application architectures using the newer and emerging technologies are required. These SDLC standards were enhanced in 2007 to include updates and additional components. As part of the document update, the SDLC will incorporate new development, wireless and interoperability standards, updated security standards, reviews for e-government and GIS, and requirements for Continuity of Operations (COOP) plan and related disaster recovery information as a requirement for deployment of any new system.

The Systems Development Life Cycle Standards form the basis for making the development of applications a consistent, repeatable process. The SDLCS provides a framework for application developers as to what are the important procedures and universal requirements necessary to complete an application. As an example, web applications must conform to Section 508 and ADA requirements, which enable the use of assistive technology such as screen readers for the blind.

The Standards apply to all applications developed for use by Fairfax County Government. These include, but are not limited to, enhancements on legacy applications, client server; WEB based applications, wireless technologies, communications systems and taxonomies. All staff and contractors developing and maintaining applications for County Government must comply with the Standards. In order to assist non-technical staff in using them, a glossary is included on the Web site.

A value implicit in the SDLCS is the importance of using the expertise of the project manager to select the appropriate outputs. While a minimum number of document deliverables are mandatory, the manager must select others appropriate to the individual project. Furthermore, SDLCS promotes accountability. The last phase of the Standards, the Evaluation Phase, includes a post-implementation review to ensure that the project has met its requirements and lessons learned on how the application development standards can be improved. Periodically, selected IT projects are reviewed internally by DIT business and technical staff. In addition, the Fairfax County Internal Auditors will review randomly selected projects.

Description of the Standards

The eight phases of the Fairfax County Systems Development Life Cycle are:

1. Preliminary Plan
2. Define Requirements
3. Design
4. Develop
5. Test
6. Implement
7. Support
8. Evaluate

Each phase contains multiple steps. Each step has one or more outputs. In the Design phase, for example, the step Design Technical Architecture has five outputs, two of which are: Check list for Technical Architecture Installation and Network Infrastructure Plan. The description of each deliverable document includes its purpose, content, recommended techniques and tools, and, where appropriate, a template or sample.

The first step in following the Systems Development Life Cycle Standards is for both the technical project manager and user project manager, to complete a check list selecting which outputs are relevant to their project. A core set of outputs is mandatory for the different types of development. For example, for Web development, project managers must complete the following:

- *Project management plan [Outputs 1.2.1, 2.6.1]*
- *Statement of scope [Outputs 1.2.2]*
- *User requirements [Outputs 2.7.1]*
- *A data model (if there is a database) {Outputs 2.3.1, 3.2.1]*
- *A process model [Outputs 2.1.1, 2.2.1, 3.1.1]*
- *And a test plan [Outputs 5.1.1]*

The project manager and Division Director approve the completed outputs. In addition to the eight phases described above, the Web site contains the Checklist and a Glossary of terms used in the Standards, and an Introduction. The Glossary facilitates the use of the Standards by the user staff involved in application development. The Introduction covers how to access and use this document. It includes: the purpose of the standards, what they are to be used for and how to use them, a suggested sequence for completion, recommended input documents and a sample of available commercial tools. The Introduction also contains a checklist of all the outputs from which project managers will select those relevant to their project. Because of the variation of size, type and platforms of applications, the DIT and user agencies' Project Managers start the development of the application by selecting outputs applicable to that particular project. The selections are scrutinized and approved by both DIT and user agencies' management.

The standards can be found on the Fairfax County Web Site on the Department of Information Technology Main page at the following address: www.fairfaxcounty.gov/gov/dit/sdlcs.htm

The Systems Development Life Cycle Standards form the basis for making the development of applications in Fairfax County a consistent, repeatable process. The SDLCS provides a framework for application developers outlining the important procedures necessary to complete an application. Using SDLCS as a starting point, the Architecture and Planning team leads the effort to re-formulate a methodology on what procedures should be followed, and how they should be executed. The methodology will expand upon this. Each year, staff will go through a process of review and refinements to the SDLCS as necessitated by changes in technologies. Ensuring the quality of

applications provides consistent and all encompassing standards that apply to all phases of application development. The Architecture and Planning team integrates the application development process standards, and the technology architectural standards that affect the development of systems including identification of standards that need to be updated and where new standards need to be developed.

4.5 IT PROJECT MANAGEMENT TRAINING PROGRAM

Managing an information technology project to successful completion on time and within budget is extremely challenging, even for experienced IT professionals. Successful completion of complex initiatives is dependent upon project managers possessing not only knowledge and understanding of the highly technical aspects of an IT project but also the skills associated with managing projects in a dynamic environment. An IT Project Manager specification (position series) is included within the County's personnel classification system.

During the late 1980's and early 1990's the County's internal audit office reviewed several information technology projects, and recommended that the County:

> *Establish a Countywide IT Project management-training program in consultation with IT Project Management professionals. Provide training to both DIT and agency personnel prior to undertaking extensive IT projects."* AND *"--- establish industry approved guidelines for assignment to the role of IT project manager.*

This need was further highlighted in late 1996 in a consultant's report released on December 17, 1996 entitled, "Renewing Fairfax County: An Organization and Staffing Evaluation of Fairfax County Government." On March 7, 1997, the Acting County Executive's response to the Board of Supervisors about the study included:

> *(1) "The DIT will establish an Information Technology (IT) Project Manager training and certification program within 3 months ---, with certification of a cadre of IT Project Managers within 6 months."* AND
>
> *(2) "DIT and agency personnel would not be assigned project management responsibilities until certification requirements have been completed. Curricula will include classroom and on-the-job training elements."*

In early 1997, the Department of Information Technology (DIT) reviewed other organizations' project management practices and conducted a survey of County information technology managers to determine the type of knowledge and skills needed to enable County staff to function effectively as project managers. Based upon the results of the review and survey, a County project management training program and the associated course content was designed and implemented.

In 2001, the County's IT Project Management (ITPM) training program was redesigned to include the project management core competencies outlined in the Project Management Institute's (PMI) body of knowledge (PMBOK). PMI is the recognized leader and credentialing organization for project management professionals. Fairfax County's new ITPM training program has incorporated current industry approved ITPM practices to ensure sound high quality project outcomes. Additional enhancements are made each year as technology and best practices evolve. Additional focus has been placed in recent years on managing risks, IT security, organizational change management, and business process redesign.

The new and improved training program consists of ninety-six (96) hours (12days) delivered over the course of 8 weeks by County staff and a project management professional. The overall objective of the IT Project Management course is to provide IT project managers with a foundation in basic project management concepts, principles, and practices to effectively and efficiently manage IT projects.

The core content areas covered are:

- *IT Project Management Fundamentals*
- *Project Leadership and Communication*
- *IT Project Plan Development*
- *Microsoft Project*
- *Solutions Delivery Framework for Information Systems*
- *Project Budgeting and Cost Management*
- *Information Security, Risks and Controls*
- *Project Procurement and Contract Management*
- *Project Risk Management*
- *The Technology Delivery Process*
- *Business Process Redesign*
- *Information Systems Audit and Control*
- *Group Presentation & IT Systems Case Study*
- *Best Practices and Lessons Learned*

Training is provided to those individuals who are currently, or will soon be managing an information technology project. Staff are identified by their agency director and selected through a formal nomination process. The training program is currently institutionalized and is normally conducted once a year. Approximately two hundred and fifty (250) County of Fairfax and local government IT professionals have completed the program and met certification requirements.

The Fairfax County IT Project Management Certification is awarded to participants in recognition of full participation in the ITPM course. The County's certification is customized for its IT Project Management operations. Certification is based upon class participation and achievement of the course objectives. The project manager acquires a clearly defined set of core competencies related to ITPM by attending all IT project management classes in their entirety. This includes the successful completion of a hands-on Microsoft Project desktop training course. Certification in IT Project Management is the basic requirement for managing all levels of IT projects in Fairfax County. Once certified, an individual is given direct responsibility and authority for all phases of the project management process from initiation to closure. Support for applying project management methodology is available to new project managers who may benefit from mentoring.

Project management success is the completion of IT projects that are delivered to customers in the allocated time period, within the budgeted cost, and at the user's specified performance level. The use of effective project management skills is critical to the successful completion of IT projects. The County's IT Project Management training program provides the methodology for achieving high quality IT results utilizing County and contracted resources effectively and efficiently. Working with DIT, graduates of the IT Project Management Certification program have established a Project Management Forum to share information about on-going projects, experiences and ideas, and to refresh knowledge and assist making improvements to the Certification curriculum.

In FY 2006, DIT began developing and delivering a new series of one-day seminars to Fairfax County Project Management personnel. The ITPM Seminar Series, also known as the ITPM "refresher", provides

the opportunity to offer follow-up training for those IT project managers that took the classes prior to 2001 and others as needed. The goals of this initiative are to hone existing project management skills, increase the likelihood that County projects will be completed within allotted time and cost constraints and improve each project manager's ability to identify and mitigate project risks. This series of independent, interactive seminars, allows 25 students per day to learn about and practice current project management techniques. Also, the brevity of each seminar allows the County to train a larger group of personnel by scheduling more than one seminar session per topic as demand may warrant; to offer seminars more than once during the fiscal year; and to allow project managers the opportunity to "refresh" themselves in specific topic areas as needed. DIT has developed plans to develop a full curriculum of Seminar Series classes.

The first Seminar Series topic areas delivered were IT Project Integration and IT Project Communications. It is critical that IT project managers have tools available to move quickly to establish project guidelines, create initial project documents, and organize themselves and the project team for success. Because communication happens naturally between most project stakeholders, many Project Managers do not consider formal communications planning in developing an overall project plan. A hypothetical case study project is included as part of the new Seminar Series.

Program enhancements are planned for FY 2008 and FY 2009 to provide new tools and techniques for managing projects that have enterprise-level impact, influence, or reliance. The County's increased focus on providing training and certification in the application of project management techniques to information technology projects is a critical and proactive effort directed at ensuring successful application of information technology to assist the County in meeting the needs of its citizens in the 21st Century and beyond.

INFORMATION TECHNOLOGY ARCHITECTURE

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SECTION 5
INFORMATION TECHNOLOGY ARCHITECTURE

5.1 ENTERPRISE ARCHITECTURE

This section identifies the current information technology architecture implemented in Fairfax County. The County's technology architecture is a strategic asset that defines technology components necessary to support business operations and the infrastructure required for implementing new technologies in response to the changing needs of government business. It is a multi-layered architecture that includes:

- Application and Data Architectures
- Platform Architecture
- Network Architecture
- Internet Architecture
- Security Architecture

IT ARCHITECTURE PROCESS MODEL

Fairfax County has adopted Enterprise Architecture (EA approach) as the blue print or roadmap by which specific technology solutions are developed. Architecture defines the manner in which technology is used to enable business solutions that are flexible, and allow expansion and change as requirements evolve or technology is updated or becomes obsolete. Architecture as a foundation and roadmap enables the County to assess the impact of new requirements and evolving technologies and allows for the incorporation of new technology as part of an updated blueprint that benefits other solutions. Enterprise Architecture improves the efficiency and effectiveness of technology investments by reducing redundancy, and promoting the sharing of knowledge and best practices across county government.

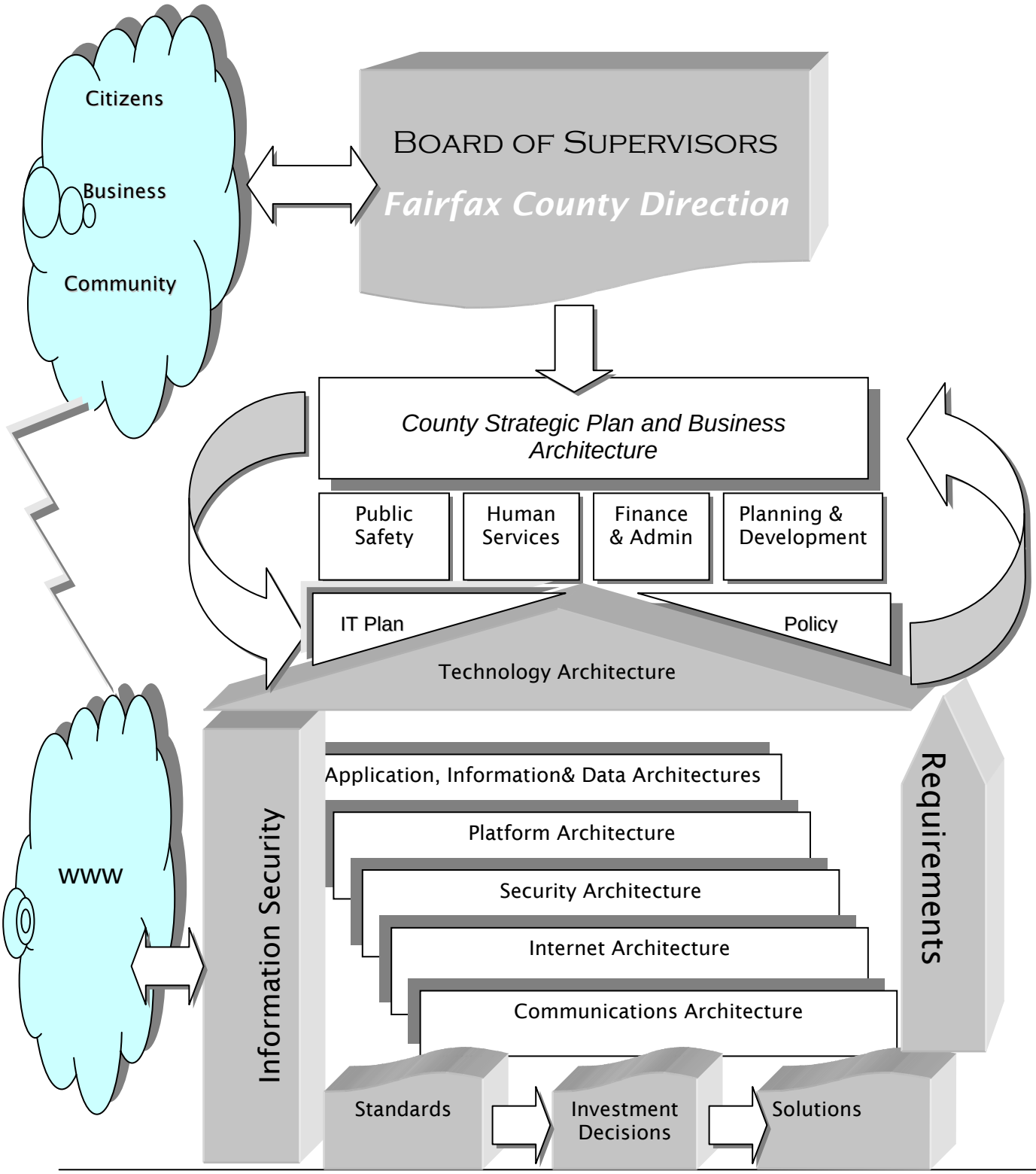
The Enterprise IT Architecture Process Model on the following page illustrates the inter-relationships between the County's IT and business architectures, and the iterative processes involved to ensure the development of an IT architecture that is efficient, cost-effective and business driven. For the purposes of the County's model, the business processes have been grouped into four major functional areas; Human Services (HS), Public Safety (PS), Planning and Development (PD), and Finance & Revenue (F&R), which reflect the compartmentalization of County services for delivery as well as evaluation purposes.

The model is based on the mission statement for Information Technology, specifically:

> *"Delivery of quality and innovative information technology solutions for agencies and those doing business with Fairfax County Government."*

This mission directs the County's information technology activities. Every effort undertaken is framed against this mission statement.

Enterprise IT Architecture Process Model



5.3 APPLICATION & DATA ARCHITECTURE

Application architecture defines the design and correlation among applications. Architecture promotes common development and presentation standards, enables optimum system integration, provides shared opportunities for storage and retrieval of data, facilitates the reuse of components, and the rapid deployment of applications in response to changing business requirements. Application Architecture includes elements of technology architecture that converts business process to business intelligence to support the County's goal of delivering timely, efficient and cost effective services. In Fairfax County a vast inventory of enterprise-wide and agency specific production applications reside on mainframe, server, and desktop computer platforms. New applications and application enhancements are constantly being evaluated, developed, acquired, and implemented as older "legacy" applications retire.

The County's goal is to use and create industry standard application development tools and language environments that are adaptive in client/server and Web-enabled models. Application architecture protects the County's investment in 'classic' systems by providing enhancements that facilitate enhanced user-friendliness, improved data manipulation, reporting, and end user controls. In addition, by keeping abreast of emerging technologies such as Web Services, XML, the County positions itself to take advantage of emerging opportunities offered by these technologies. An exhaustive discussion is beyond the scope of this section; however, some examples of the County's application architecture and some recent developments are described here.

As the County moves toward a balance between Commercial-Off-The-Shelf(COTS) vs. in-house development, there is a transition to a new framework for application development. The new framework incorporates Software Engineering, Information Architecture and Application Development Methodology. These principles and techniques are used to augment the current Systems Development Life Cycle Standards (SDLCS). The resulting approach encompasses application life cycles from "cradle to grave"; that is, from the earliest stages of planning, through requirements and design, to implementation and post-implementation support. New applications will be built on the most current and promising platforms and an architectural framework based on the future of IT. While support for existing legacy systems will continue, a dramatic move is also underway to embrace new development platforms such as .Net and emerging standards such as XML and Web Services.

The .Net platform provides the foundation for the next generation of both departmental and enterprise-wide applications and offers a stable application environment with more opportunity for componentization of business logic, sharing of common components and the integration of business processes across application boundaries. A new class of tools such as Visual Studio.Net provides County developers with a robust and flexible development environment. Encapsulating both existing and new business logic into "Web services" provide the ability to expose business processes across organizational and application boundaries, within the County, other local jurisdictions, the state, the federal government, as well as business partners. XML provides the common "glue" to hold together and provide consistent information across boundaries to facilitate data sharing among disparate platforms and systems. Enterprise Application Integration (EAI) products such as WebMethods allows virtually unlimited ability to share, incorporate information and business process from older, mainframe and client/server applications into the new environment. With the ability to extend business processes further through the use of ASP code, the end product will be greater than the sum of the parts. A detailed "Architectural Framework" document has been developed, and is intended to be an organic document flexible enough to reflect and incorporate rapid advances in information technology.

Office Systems - Fairfax County uses the MS Office Suite installed on PCs attached to LAN-based servers, appliances and printers to facilitate shared file and printing requirements for word processing, spreadsheet, groupware presentation software, workflow database applications, project management and collaborative group work process and workflow. E-mail is MS Outlook on the desktop supported by Microsoft Exchange on an enterprise-class server.

Production Applications - Fairfax County is in the midst of overhauling and updating many of its administrative applications as well as acquiring new applications. Key applications in the midst of development or further enhancement include the County's land development systems, tax systems, public safety systems, various human services systems, and human resources management systems. DIT maintains approximately 65 mainframe-based classic applications for Fairfax County agencies that support finance, purchasing, personnel, public safety, and planning and development of business operations. Most of these applications are modified package software, that run under CICS, using programming language architectures such as COBOL, SAS and EASYTRIEVE PLUS, with DB2, IDMS and VSAM databases. Efforts are underway to convert IDMS based applications to new technology. The current mainframe ('enterprise server') is an IBM 9672 with 3 terabytes of storage, running z/OS. Access to the mainframe systems is provided via the county's LAN by mainframe terminal emulation software on the desktop. The mainframe systems utilize text–based screens with user knowledge required of the application commands and function keys.

DIT deployed Web-enabled GUI front-end versions of several mainframe applications to facilitate easier access to system data. In addition, the classic COTS financial suite has been enhanced through the use WebMethods, the County's middleware EAI software tool which ties the two COTS together. The change created an integrated process for entering financial transactions through a modern, user friendly Windows interface. There are several projects underway to use EAI and Web-enable other corporate systems to build in web services, work flow and desktop reporting capabilities, meeting end user demands for GUI access to County business data. DIT also provides first tier support for over 100 server-based applications for agencies that provide Windows GUI access to a server resident database. Most of the server applications are "fat client" in nature with ORACLE or SQL as the primary database residing on UNIX and/or Windows servers. Some of these are being upgraded to web-based applications.

There are also "fat client" and web-based agency specific applications that are maintained separately by agency IT staff. The large majority of the small agency applications use Microsoft Access or Microsoft SQL Server as their database and programming language architecture. The IT standards call for complex, Internet accessible or high access databases to use Microsoft SQL Server, Oracle or DB2 as appropriate. Most agency server-based systems reside on Windows 2003 servers that support both applications and file and print server-sharing requirements.

Geographical Information System Applications (GIS) - GIS is a specialized system for storing, retrieving and analyzing an array of digitized map layers that collectively record the topographic, demographic and other features of every location in the County. GIS can be used to identify the shortest route from one location to another, generate school bus and sanitation truck routes, locate sewer lines and other utilities, plan development and many other useful tasks. Our system currently has over 200 layers of GIS data. The County continues to develop its GIS data and implement new applications in support of agency functions. GIS is supported on the UNIX platform.

5.3.1 The Application Tools

Application tools are the information technology components used to develop and support application functions.. Application tools include the support systems required to facilitate work planning and communications.

Programming/Development Tools - New applications are currently under development using fourth generation object oriented languages and tools. This approach will continue as additional client/server applications are developed and as Commercial-Off-The-Shelf (COTS) system components are purchased. Standard life-cycle methodologies are employed to define, develop and implement new systems. The models, design, and documents created are updated throughout the system development and maintenance life cycle. In specific instances, expert system technology is used to incorporate complex rule based functionality into systems. Third and fourth generation languages and tools are used in only a few specific development efforts and as utility programs on the mainframe tier of some client/server systems. New developments use ASP and ASP.NET and *Dreamweaver* for the presentation layer. The County uses webMethods, a suite of tools to assist in the integration of applications at the presentation, business logic, and data layers. Documentum is the County's enterprise content and document management software solution. The County also supports REAMS imaging solution. Software Engineering technologies are being incorporated into the Systems Development Life Cycle Standards (SDLCS) to provide a disciplined and consistent development approach.

Database Management Systems (DBMS) – The County uses several database management systems to support its business applications. Mainframe classic and legacy applications use DB2, IDMS, and/or VSAM databases. DB2 is the preferred database solution for new mainframe hosted applications. For UNIX or Windows platforms, Oracle and Microsoft SQL Server are the County's database standards. Oracle Gateway, Neon's Shadow Direct, and webMethods are used to enable access of mainframe DB2 databases. Relational database design activities, such as developing entity-relationship diagrams, data dictionaries, process models, logical and physical data models, and database definition languages, are supported through the COOL: BIZ and ER/WIN tools.

Departmental Reporting – Business Objects/Crystal Reports, SAS, QMF, SQL Reporting Services and Easytrieve Plus are the current tools supported for basic ad-hoc query and departmental reporting.

Enterprise Decision Support Systems and Business Intelligence - The County's portfolio currently contains over 20 different products used for reporting, analytics, and decision support. Many of these products were brought into the environment through purchase of a COTS solution with embedded tools. As a result, the County's business intelligence capability is built on department-class rather than enterprise-class technology. The proliferation of tools and the associated support, training, and infrastructure costs present a strong business case for rationalizing the portfolio. The County's strategy in this regard is to provide shared enterprise capability and infrastructure for decision support. To that end, the County is currently assessing a variety of platform solutions including SAS, Business Objects, and others that could facilitate the consolidation of isolated point solutions. As standards are defined for the County's enterprise solution(s), the portfolio will be rationalized into fewer products over time. This approach will enable DIT to upgrade and modernize the existing portfolio while creating economies of scale for improved support and cost control.

Office Automation/Workstation Software - The County has adopted Microsoft Office Suite for general productivity automation tools including Word for word processing, Excel for spreadsheets, PowerPoint for presentations, Access for desktop application databases, Exchange/Outlook for e-mail/groupware, and Internet Explorer for Web browsing. Other desktop software includes Microsoft Project for project management/tracking, VISIO, and Symantec Antivirus. Agencies may have other desktop based software for special requirements.

GroupWare/Collaborative Software - The County uses Group Systems as its primary collaborative group software in the Group Decision Support Center. Groups use the computer-supported meeting center and its software to conduct process improvements, strategic planning, program evaluation, and vendor selection sessions. Other software is used to support activities dealing with the group output/results, e.g., Microsoft Exchange, Word, Excel, databases, presentation and process modeling software.

GIS Software - The ARC/INFO software provides high-end workstation tools and functionality to the GIS analyst. The software integrates visual or graphic data in the form of maps, with descriptive or attribute information from an organization's internal databases. ARC/INFO provides the tools for analysts to access, visualize, and query both graphic and tabular data for better analysis and decision-making. Additionally, ArcView GIS provides mid-range desktop GIS tools to the skilled-user for map creation and analysis of the County's geographic data sets. And finally, MapObjects and the Internet Map Server provide a method for distributing highly customized GIS based applications through the Internet /Intranet.

IT Service Desk software - The IT Service Desk provides County employees a centralized point of contact for computer support. InfraEnterprise is the WEB based solution used to support the Service Desk function using the ITIL framework. The Automatic Call Distribution telephone system is used to route calls. The Service Desk also uses diagnostic tools such as Microsoft Technet, the InfraEnterprise Knowledge Bank, and technical documentation for resolution of incidents involving key systems supported by DIT in the IT inventory. The IT Service Desk has a high percentage rate of first-call resolution.

5.4 PLATFORM ARCHITECTURE

Platform architecture defines the technical components of the infrastructure including server and client platforms, the operating systems and interfaces supported, as well as other software tools and equipment used to operate the applications. Fairfax County's platform architecture includes over 600 servers: z/OS mainframe, UNIX (IBM AIX, Sun Solaris and Unisys ES) and Microsoft Windows 2003. Over 12,000 PC's provide end-user access to County systems. Laptops, Blackberries and other PDAs and hand-held devices also support employee access to Agency business systems.

All Personal computers are standardized using Windows XP Service Pack 2 and the Microsoft Office 2003 to support office automation requirements. VISTA is being rolled out in a few agencies with a careful full deployment strategy. Total server storage requirements have grown from 394 gigabytes in 1998 to the current total of over 300 terabytes. The County also uses state and other non-County hardware platforms as necessary. The following paragraphs describe the major features of the County's platform architecture.

5.4.1 The Platforms

Desktop PCs, Workstations and Peripherals - DIT prescribes hardware platforms and desktop applications standards as well as procurement vehicles to optimize support and costs. Desktop computers (PCs) are replaced in accordance with the County's four-year PC Replacement Program cycle using adopted standards bundled with the MS Suite. THe PC Replcement strategy applies to all agencies and provides the County economies of scale as well as a more robust, effective support environment.

The current desktop computer platform standard consists of Pentium 4 and above processors running the Microsoft Windows XP Service Pack 2 operating system. County PCs are used for office productivity software, enterprise e-mail and groupware, application client software, Internet/Web access, and mainframe emulation. Office configuration standards are depicted in the diagram on the next page followed by a table listing all County IT Standards for desktops and servers. The next wave of PC replacements to be deployed is Windows Vista. This will be approximately one-fourth of the installed base. Windows 7 and MS Mobile Web will be evaluated for the next deployment enhancement.

Desktop and network printing is accomplished through a large inventory of stand-alone and network printers and appliances. Agencies use a variety of laser-jet type desktop and high speed LAN based printers in offices. In 2003, the county's copier inventory became an enterprise multi-function copier/printer/scan/fax machine asset. In FY 2005, this program was moved to the Department of Information Technology and incorporated into an enterprise printing solution strategy. DIT incorporated the County fleet of over 500 network attached multi-function multi-user machines, and 1500 workgroup based local printers.

LAN-based Network Servers - Fairfax County LAN server environment utilizes Microsoft Active Directory services as a standard for directory services, authentication and authorization, which are essential components of the Microsoft Windows 2003/2008 architecture. In addition to the current Windows 2003 servers the County also supports UNIX servers that are used for those large agency specific applications and enterprise infrastructure applications that require a more robust server platform. SUN is the preferred UNIX server; however, the IBM p-Series is still supported. The County supports virtualization as a standard platform for LOB and infrastructure applications where feasible. Enterprise-class Intel-based server technology (e.g. UniSys ES 7000, DELL/IBM Blade servers) supports some of the County's enterprise infrastructure applications such as Exchange, SQL, Citrix, etc.

CITRIX Presentation Servers are used for many of the business applications that require "thin-client" technology to minimize Wide Area Network traffic, optimize the efficiency of fat client-server applications, and streamline desktop PC support activities. CITRIX also support secure access for remote access users and telework. Details on managed LAN-based servers:

Mid range Platform	*Number of Servers*
AIX	12
W2K3/W2K	700
Solaris	25
Unisys	6

Mainframe (Enterprise Server) - Fairfax County supports its major business and legacy applications on an IBM mainframe running the z/OS operating system. It is partitioned into logical machines, serving over 20,000 agency and schools users at over 200 locations
.

Device	*Machine*
Mainframe Computer	IBM zSeries, Z890 Model 240 8GB Real Storage
Tape Subsystem	IBM 3494 Automated Tape Library IBM 3590E Drives IBM 3480 (cartridge)
Printers	IBM 4100 Laser IBM 3900 Laser IBM 6400 Line Matrix

5.4.2 Storage Area Network

In FY 2002, Fairfax County implemented its first Storage Area Network (SAN). This enabled data to be stored in a centralized location, with redundancy and failover, mitigating the risk of data loss due to hardware failure. Data from all servers (mainframe, UNIX, Solaris and INTEL) could now coexist on the same disk subsystem. In 2006, the County refreshed the enterprise disk arrays and fabric with EMC DMX-3 disks and Cisco fabric. The refresh positions the County for future growth and to meet the strategic initiatives for Data Lifecycle Management.

Storage Management requirements addressed by the SAN are:

- Scaleable storage capacity that allows users to increase their storage as needed.

- Modular, adaptive architectures which allows users to deploy storage in a variety of centralized and distributed environments with re-deployment capabilities as needed.
- Highly available architectures to prevent downtime.
- Cross-platform solutions that support a variety of operating systems, allowing users to reduce costs by standardizing on a single enterprise storage solution, rather than operating system specific solutions.
- Higher levels of performance to support the ever-growing volume of online data.
- Higher performance backup and restore operations to support shrinking backup windows.
- The ability to share data across the enterprise rather than building "islands of data."
- Easy to use, centralized management tools that allow hardware and data to be "distributed."

Storage Area Network Details:

Device	***Machine***
Disk Subsystem- Intel & Unix	EMC DMX3 EMC CX500, CX3-80
MS Exchange environment	EMC CX700
Tape Subsystem	IBM 3494 Automated Tape Library IBM 3590E Drives Spectra Logic 64K Tape Library SpectaLogic 20K

5.5 NETWORK ARCHITECTURE

The County's communications infrastructure includes voice and data technologies and the various topologies, transmission services and protocols necessary to facilitate the interconnection of server platforms, intra-building and office networks (LANs), and inter-building and campus networks (WANs). The County's voice and data networks continue to grow, in terms of cost, sophistication, and increased demand on the County's communication staff.

The Communication Group in DIT supports over 12,500 data ports and over 15,000 voice ports. Additionally, initiatives already in place and those planned have resulted in many significant changes with many more occurring in the future. The Gartner Research Group and others now document that

network technologies refresh every 18-24 months. This will provide more challenges for County fiscal and staff resources, as the County strives to keep network standards in line with evolving business requirements, security and other support needs. The communications plan strives to take into account growth, based on the needs of County agencies as programs expand, which in turn require new or expanded network resources to provide both intra and inter County links. The Internet and Web-enabled applications have rapidly expanded. This expansion and the need for business continuity required the expansion from a single high capacity DS3 to two full 45 Mbps circuits connected to two separate ISPs. Future initiatives and technologies, such as e-Government applications, streaming video, teleconferencing, and more integrated and complex applications drive the requirements for the County's communication infrastructure and its components, thus the requirement to update and/or enhance annually. During FY 2004 the County replaced its Wide Area Frame Relay network with a new ATM logically meshed network. The desire for increased network security has resulted in the County employing Network Address Translation (NAT) to add another security layer to protect its Enterprise Network.

The goal is to provide a network that is responsive and reliable for the user and the user's application and allows for the uninterrupted flow of voice, data, and video information. To this end, the County is working on several projects that will boost and consolidate the underlying physical infrastructure supporting voice, data, and video, while at the same time providing increased, cost-effective bandwidth potential, and improved output. The best opportunity recognized is through the implementation of the I-NET, a metropolitan fiber ring that connects over 400 County and Schools facilities. The County views a strong, viable communications infrastructure as a vital component in the overall IT strategy toward maintaining its success in deploying cost-effective solutions that optimizes its business goals, and maintains its reputation as a leader in technology.

5.5.1 Enterprise Data Communications Network

The Enterprise Data Communications Network for Fairfax County Government serves as the data communications backbone that provides countywide access to information technology resources. Operated by the Department of Information Technology Infrastructure Division, the Enterprise Data Network connects approximately 14,000 computer devices in over 300 locations. These computer devices include personal computers, printers, network servers, communications equipment (routers and switches), modems, UNIX workstations and servers, mini-computers, and the mainframe computer. Additionally, various wireless technologies are rapidly expanding throughout the County's network. The County began a project utilizing commercial broadband wireless infrastructure to support wireless applications, data, images, and live video to the field and mobile devices supporting primarily public safety responders and evolving for other key business areas.

All supported network systems are based upon open standards, and compliance with published standards is required for any network-connected device or system. The County standard network protocol is TCP/IP. Gigabit Ethernet is the standard backbone speed in the County and 100MBPS is the standard desktop speed.

The Enterprise Wide Area Network (WAN) is built of two different architectures. One: I-Net or Institutional Network utilizing the dark fiber provided to the County through the COX and Comcast Cable Franchise Agreements. I-Net spans seven hub sites and two key resource centers, Massey Public Safety Campus and the Government Center. These sites are networked via a 10 gigabit DWDM

fiber optic backbone. The I-Net DWDM backbone provides connectivity to 180+ remote sites running a 1 gigabit uplink from the backbone to the site. I-Net also employs MPLS (Multiprotocol Label Switching) to allow I-Net to service many types of diverse traffic whether it is enterprise, public access, or voice over IP. Through MPLS each type of traffic can be separated logically for security support, as in enterprise vs. public access, or prioritized in the case of voice traffic. I-Net has now positioned the County Data Communications Network to respond quickly to the ever-changing technology needs of its customers. The remaining WAN sites are supported via Verizon ATM and TLS services.

The County also utilizes both ISDN and DSL technologies for small sites such as group homes and park maintenance shops. The decision to use these technologies is based on staff size and data requirements of the staff. Use of the ISDN technology is being phased out in favor of I-Net, ATM, of DSL.

The creation of a Public Access Network in FY 2005 was an addition to the Enterprise Wide Area Network (WAN) Architecture. This network provides public access computers to the citizens of Fairfax County providing them access to County and Internet resources while protecting Fairfax County's Enterprise Network. The Public Access Network includes all public libraries and community and recreation services sites. The design provides for separate physical networks at each site while sharing the existing WAN infrastructure and using logical separation on the WAN. A firewall between the Enterprise Network and Public Access Network allows for County IT staff to manage the infrastructure down to the desktop for each site. This model will be the standard for any new facilities requiring both enterprise and public access.

The County will continue to implement wireless LANs and wireless data over commercial systems, when this technology makes good business sense. The County carefully evaluates the use of this technology to ensure all County data is protected from unauthorized access. Currently, non-broadcast SSID's, MAC address registration, and digital certificates are required to gain access to the private WLAN. VPN technology is employed to protect data over commercial services.

Network Management is currently supported on four platforms:

1. CISCO Works 2000 – Monitors all Cisco installed equipment.
2. Orion Solarwinds -- Monitors I-Net infrastructure for up/down alerting and performance issues.
3. Verizon Managed Services – provides fault reporting of all ATM sites.

Currently, mainframe connectivity is achieved through two primary gateways. First, a Cisco router using CIP (Channel Interface Processor), connects directly to the IBM Mainframe through a fiber-optic channel and supports a majority of the TN3270 (Telnet) sessions to the mainframe; second, an IBM 3745 Front End Processor is used to support the legacy SNA network sessions. The 3745 is being replaced during FY 2008 by moving this type connectivity directly onto the new Mainframe over native Ethernet, a capability not previously available.

The County has implemented a 'SAFE' architecture dividing our perimeter into five business groups E-Commerce, Internet Access, Partners, Emergency Operations, and Public Access. Each group has its own physical firewall tailored for that specific business area. The E-Commerce business group supports all public facing web services providing access to county resources for both citizens and businesses. The Internet business group is used to control county employee access to the internet and allow for content and virus scanning. The Partners business group allows for connections to external "Trusted

Partners" to include Fairfax County Public Schools, Fairfax County Water Authority, Commonwealth of Virginia (State Police, State Health, Department of Social Services, Supreme Court, Department of Juvenile Justice, and State Board of Elections) as well as public safety connections for several adjoining jurisdictions. The Emergency Operations group was setup to secure the Emergency Operations Center providing IT resources to the Department of Emergency Operations. The final group Public Access was established to secure the Public Access network built for the Libraries and Community and Recreation Services. By doing so the County has increased firewall performance and limited exposure to each business group.

Remote access via dial-up, VPN, and Citrix services provides access to the County's Enterprise Network resources for telecommuters, vendors, remote access users, or business travelers, as well as several small Fairfax County offices. Security for remote access is managed through a Remote Access Server using security tokens and PIN numbers.

5.5.2 Institutional Network (I-Net)

Over the past year the County has designed and implemented a new network (I-Net) utilizing dark fiber provided to the County through the Cable Franchise Agreements with COX Communications Northern Virginia and Comcast of Virginia

Fairfax County's I-Net is one of the largest and most complex local government networks in operation. This carrier-class network comprises of over 4,000 km of single mode fiber (SMF), in a ring, hub and spoke topology. There are seven Hubsites that are redundantly connected in a ring.

The I-Net is one of the most viable, cost-effective and technologically advanced solution that the County has experienced since computers first appeared in the County's technology inventory. The fiber optic infrastructure enables the County capabilities to transport data, voice and video. Through the I-Net the County will reach its ultimate goal of converged voice, data and video technologies. The I-Net can provide services such as high speed data, Voice over IP (VoIP), broadcast video, video conferencing, streaming video, and distance learning. The network has several origination points, and facilities for controlling the switching and routing of data, voice and video signals among all participating sites.

Although broadband service is available through local telecommunication companies, it comes at a significant price, a loss of flexibility, and for some services, only limited availability. The I-Net provides bandwidth that is virtually "unlimited" while meeting the County's present and future communication requirements. The I-Net is becoming the "super highway" for the County's internal video, voice and data communications. The virtually "unlimited" bandwidth provided by the I-Net allows the County to amortize its cost over the life of the I-Net with an overall long-term operating cost savings.

I-Net Voice/Data Service

See sections 5.5.1 and 5.5.3 for detailed information.

I-Net Video Network

The Video Network is a scalable integrated video transport system. The Video Network provides a high quality image delivery system with scalable bandwidth, capacity, and growth potential for future Fairfax County Government and Fairfax County Public School applications. The Video Network provides video services to over 400 Fairfax County Government and Fairfax County Public School facilities.

The I-Net video network transport has two distinct communication links. Coarse Wave Division Multiplexing (CWDM) is the transport technology to provide forward and reverse transport for I-Net enabled County facilities.

The forward (downstream) transport provides select cable TV operator channels and local origination content produced by the Video Production facilities for services such as distance learning. Each I-Net enabled facility is equipped to transmit reverse (upstream) video to the County's video production facility for processing.

5.5.3 Voice Communications Network

The County's Voice Communications Network provides voice communications services to all Fairfax County Government agencies, as well as various affiliates via County-owned systems located in buildings throughout the County, connected via telephone company lines and several direct County-owned connections serving several campus locations. Voice communications services are managed centrally through the network, supporting local and long-distance calling, call centers, IVR (Interactive Voice Response) systems, voice mail, conference bridge and audio-video teleconferencing, hot-lines and special '800' numbers for specific programs, industrial systems monitoring devices, and residential services for County-operated group homes and apartments. Management and voice communication support are also provided for the primary and backup '911' communications centers. In addition cell phones are centrally managed.

The total environment includes approximately 400 sites, comprised of two major campus environments, several large Human Services centers, Parks, Libraries, Police, Fire and Rescue stations, "911" Centers, Public Health Centers, etc. Additionally, there are lines to over 300 water, sewage and HVAC systems end points, as well as links to various agencies of the Commonwealth of Virginia and other local jurisdictions.

DIT supports over 20,000 phones, until the completion of the Telecommunications Modernization project which spans several fiscal cycles, uses a combination of CPE platforms. During an average month the County places over 1.3 million calls excluding intra-building calls. Below is a brief, but by no means complete, summary of the current County's voice communications infrastructure (much of the assets detailed below will be replaced by the Telecommunications Modernization Project).

The main government centers and large buildings are serviced by Siemens PBXs and Nortel Meridian Option 61C PBX systems; all having integrated voicemail systems. Fairfax County's main Government Center's voice traffic is served with a four-node legacy Siemens 9751-70 and the County's Public Safety Center located at the Massey campus with a two-node Siemens 9751-70. These systems, as well as several other large building systems are interconnected via DS1 tie lines, which reduce some of the message unit charges from Verizon. **This will be replaced with the new enterprise Avaya platform during fiscal year 2009 (see below).** An IP-enabled Nortel PBX is located at the South County

Government Center which also supports an office two miles away via a remote shelf. About 10% of the telephones are IP sets.

A Nortel Networks Succession 1000M has been installed at the Health Department's Kelly Square location. This IP enabled PBX not only gave the department advanced capabilities, but it also took a significant resource load off the Massey PBX. This system was implemented several years ago, prior to the enterprise project. Voice communications to our smaller remote sites, including Libraries, Parks, Public Health Centers, etc., are served by various Toshiba systems and Siemens "Redwood" systems, all with integrated voicemail and Mitel SX-200.

A Nortel PBX is located at the PSCC (Public Safety Communications Center) for emergency calls, while administrative calls at this location are processed by a Nortel Succession 1000 PBX. The 911 Center will receive new equipment as part of their move into the new Public Safety Transportation Operations Center (PSTOC).

Police and Fire and Rescue stations – are on a Public Safety Voice network which is independent of the other county agencies. These are being upgraded to Nortel BCMs and are networked to a Succession 1000M configured as a Network Gateway Controller which will be integrated with the Health Department sites. This will allow Public Health and Public Safety personnel, located in different buildings across the County, to be integrated into a contiguous "First Responders" telephone network.

Other platforms include a ninety-six (96) port computerized conference bridge is located at the PSCC for predominately Police and Fire and Rescue operations. This conference bridge is provided by Octave, and is expandable to 192 ports; voice needs of our very small offices, i.e., small Human Services and community services sites are supported by carrier provided POTS service and single-line analog sets (some of these will be converted to IP phones off the enterprise system project). Various agencies also use centralized IVR services with connectivity provided via Verizon T-1 and numerous channel banks at distant sites. These services have greatly improved Fairfax County government's ability to provide quality services to its citizens and business clientele.

The County's VDS systems used to capture ACD historical statistics has been replaced with new hardware and a new application which provides Call Center statistics and metrics. This capability will eventually be replaced as a part of the Voice Modernization Project, but greatly improves the necessary statistics used by our Call Center managers to evaluate the County's response to County citizens.

The County is implementing a new Telecommunications Management System- Anchor Point which will significantly improve the management of the County's telephony systems and dramatically improve inventory, work order, and billing processes.

The convergence of voice, data and video traffic into a single network is the ultimate goal for the County's communication architecture (see section under Network Communications and I-Net). The County developed a strategic plan for replacing the disparate systems with an enterprise-wide voice communications solution. Implementation of the new voice solution is in its second year. The solution will use the latest technology that includes VOIP and will use the I-Net (fiber-optic network) as the

backbone network that connects County facilities, to ultimately lower the County's circuit costs. A framework for a strategic direction to evolve the Counties communications capabilities and services was developed during an FY 2002 comprehensive study of the telecommunications architecture, including support issues, unique applications, and opportunities made available through the I-Net. FY 2006 saw the expansion of this strategic plan into a Request for Proposal (RFP) for the design, engineering, and implementation of a new County-wide voice platform. These plans and programs will help the County to meet the telephony needs and requirements of our citizens and employees. Eventually leveraging the high speed – high bandwidth connectivity provided by the County's fiber-optic network – I-Net, Fairfax County will have a fully integrated video, data and telephony Enterprise.

In FY 2007, the County began implementation of a new telephone architecture with and enterprise-wide VOIP capable system. This project will eliminate the diverse network of disparate legacy telephone systems with a contemporary telecommunications solution that will send call traffic over the County's I-Net infrastructure and integrate with the county's messaging platforms and IP based telephony applications. This effort will span several fiscal cycles.

5.5.4 Emergency Communications Network

The emergency communications networks that the County maintains are divided into two categories: Public Safety Radio Network and Public Service Radio Network.

Public Safety Radio Network

Voice Network - The County operates a digital, 800MHz trunked voice radio system that supports the operations of the Police, Fire and Rescue, and Sheriff's Departments, with more than 3,000 mobile and portable radios. This system infrastructure is also utilized by the County's Public Schools Security Department, and by the independent police department of the City of Fairfax, and the Towns of Herndon and Vienna. Equipment is located at eleven locations throughout the county, and all sites are linked together by a redundant VERIZON SONET network. The system provides for voice interoperability with and between the public safety agencies of Arlington County, City of Alexandria, Metropolitan Washington Airports Authority as well as the District of Columbia Fire department.

Mobile Data Network - To support operations of the various public safety agencies, the County operates a 450MHz mobile data communications system (MDCS) that ties the response vehicles of the Police, Fire and Rescue and Sheriff's departments to the County's Computer-Aided Dispatch (CAD) system, as well as access to various databases maintained by the Commonwealth of Virginia and the Federal Bureau of Investigation. This system consists of more than 900 Mobile Computer Terminals (MCT) and Vehicular Radio Modems (VRM) in vehicles of the various agencies, with transmitting equipment located at six sites in the County.

Public Service Radio Network

The County operates a second 800 MHz trunked radio system that supports more than 3,000 radios for the Department of Public works and Environmental Services, Public Schools Transportation (school buses), Park authority, FASTRAN, the CONNECTOR bus system, and other non-public safety County

agencies. This seven-site system replaced a 1980s-era system that had limited coverage and performance in 2005.

Continuing in FY 2009, the County will remain fully involved in the FCC mandated 800MHz re-banding effort. This project is challenged by the need to do this while maintaining regional radio interoperability.

5.6 INTERNET ARCHITECTURE

The Fairfax County Internet architecture supports the County's e-Government program providing significant and wide-ranging opportunities to utilize emerging technology as a means of making information more readily available to County staff, citizens, and businesses. In addition, the interactive nature of the technology allows residents and others to conduct business (e.g., pay taxes, apply for permits, etc.) with the County at their convenience and from their location. Likewise, Internet technology allows access to enterprise data (real estate assessments, Human Services resource database, etc) without the need for a resident to call or visit the County Government center complex.

The e-Government architecture defines the standards, technologies and guidelines for public access, and conducting electronic business among County agencies, state agencies and outside entities. The County's Internet architecture is comprised of the following:

- **High Speed Connection to the Internet -** The County's fractional DS-3 connections to the Internet provides access to the Internet for County staff as well as outside access to the County's Web server(s) by residents, business, and others via the Internet.
- **Public Access Web Server -** The County's Public Access Web Server provides Internet users with a vast amount of information made available by various agencies within the County. The Web server can be viewed as an "on-line service counter" where residents and others may obtain information related to services, licenses, taxes, recreation, court filings, and so on. The Web server also acts as the distribution or collection point for information obtained from or provided to enterprise databases via an "Application Server."
- **Intranet Web Server -** The County InfoWeb Intranet Web server provides a portal access to County information and applications for agency and employee use.
- **Application Servers** - provide the gateway between the County Web servers and the information stored in County enterprise databases. The application servers do the work of communicating with various databases on the County mainframe and other platforms, accessing and collecting the requested information, formatting the information, updating the database where appropriate, and returning the result to the Web server for dissemination to the requestor. Application servers also provide additional levels of security to ensure that only allowable information is accessible.
- **The WebBoard Server(s)** - provide a mechanism for visitors to the County site to engage in ongoing discussions in either "real time" chat or, more commonly, by use of a localized version of Internet "newsgroup-style" discussion forums. These forums provide residents the opportunity to discuss a range of topics among themselves as well as with County officials and staff.
- **Interfaces** - between the County Application servers and the enterprise databases provide the link that allows access to data residing in a wide array of sources. The interfaces make it possible to access data from virtually all of the County databases: DB2, Oracle, SQL, MS Access and VSAM. The interfaces are comprised of "Application Program Interfaces" (APIs), Open DataBase

Connectivity (ODBC), SOA, and other standards that enable the access layer of the web architecture.

5.7 SECURITY ARCHITECTURE

The Information Security Office defines the security standards and policies necessary to protect the information assets of the County. The security layer employs security principles coupled with a hardware and software infrastructure supported with applicable policies, plans and procedures. This architecture is designed to provide an appropriate level of protection for all County information processing resources regardless of platform and includes incorporation of industry best practices for overall reduction of risk.

The objectives of the information security program are to ensure confidentiality of information, integrity of data, systems and operations, technical compliance for HIPAA and PCI, privacy and to ensure availability of information processing resources. The information security program utilizes a multi-faceted approach to meet these objectives that includes research and implementation of threat reduction techniques, technological and managerial solutions when possible as well as implementation of awareness raising activities. The basic elements of identification and authentication, access control and monitoring of information processing activities are employed throughout the enterprise.

In view of the dynamic environment of information technology, the security architecture continues to evolve to meet the challenges arising with new technologies necessary to conduct e-Government activities. Identification and authentication, access control, and auditing functions are performed on the specific platforms using the capabilities inherent in the appropriate operating system. Policies, standards, software, hardware and processes are continually evaluated to modernize the infrastructure to permit the County to participate in e-Government activities while still providing secure access to County resources. Fairfax County has implemented a network architecture that takes a greater defense-in-depth approach to network security design.

Firewall technology is used as the main perimeter defense with all access from the Internet routed through the County's system of firewalls. In addition, the County uses broad filtering and routing at the firewall portion nearest the Internet connectivity, while more granular filtering and routing is exercised nearest the internal network connection. Classic authentication for each internal user is based upon a unique UserID (also called a sign-on or log-on) combined with a unique password. To improve the secure access and authentication to web-based applications as well as backend servers, the County has procured products to provide a solution that resolves today's security issues and positions DIT to leverage this investment and framework in the future. eTrust, through its SiteMinder module, provides a software platform of shared services that includes reduced sign-on, authentication management (who are you), and entitlement management (what you are allowed to do on the site) for web-based applications. eTrust also provides a secure reverse proxy solution that passes requests to enterprise backend content servers, and returns resources to the requesting client, thus allowing for a practical solution to the protection of internal assets. With Identity Management also being put in place, the County will be in a position to manage user profiles for both internal staff and public access, making personalized e-Government a reality. eTrust will continue to be expanded to provide a secure access and end-user authentication platform for internal and external users.

The County's network employs a private/public network model. Sensitive and critical assets are located on the private portion of the network while information and services available for public use are located on the public section. DIT will continue implementation of modularized, multiple firewalls

supporting a variety of specialized application requirements. The County provides Dial-Up, VPN and Web Access technologies for remote users. Each of these requires security tokens and LDAP authentication for access. Remote access is approved at the same level as if the user were physically at his or her work site. Remote access is granted to those individuals who are approved telecommuters, users who periodically need to access County Systems from home or other locations, and individuals who need access while traveling. To enable the county to further realize return on investments made in remote access technology, the remote access program is being expanded to accommodate continuity of operations planning.

The County has implemented an Intrusion Detection System (IDS) to detect intrusions within the network and is in the planning stages of implementing an Intrusion Prevention System (IPS). IPS differs from IDS in their function of prevention versus detection. IPS devices are able to detect signs of an intrusion or an intrusion attempt and pro-actively prevent it from happening. IPS provides capacity to perform real-time analysis of Intrusion attempts to determine if sensitive data, systems or network devices are being attacked or if a breach in confidentiality, integrity, or availability has occurred. The primary objective of Intrusion Prevention is to reduce possible damage and isolate /contain the malicious traffic. With the large quantities of log and alarm data generated by firewalls and sensors, the need for a specialized application to support the role of correlation was chosen and is in place. The IPS solution conducts a comprehensive threat assessment and allows for quick identification of credible threats to the organization in order to facilitate expedited response and containment of intrusions and malicious activity.

As mandates such as HIPAA and Procurement Card Industry standards become effective, the consequences of employees mishandling sensitive and confidential data have changed with new enforcement ramifications. Information security awareness activities are being implemented to effect a culture change for all employees. Through security conscious employees, realization of return on investment in security technologies can be leveraged further as overall risk to data and systems is reduced.

Security will continue to be a fundamental component of the County's e-business strategy. Fairfax County's secure network architecture takes a greater defense-in-depth approach to network security design. A method of network partitioning and the development of a modular infrastructure are being deployed to better shield important resources within the network. This modularity achieves the ability to control the traffic that flows to and from one area of the network to any other. In the process of creating these partitions, the County information technology assets utilized will be designed and configured with specific security requirements based upon their level of trust in order to serve specific purposes.

STANDARDS

FEATURED IN THIS SECTION:

Fairfax County Information Technology Standards

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Fairfax County Data Communications Standards 9

Fairfax County
Information Technology Standards

OVERVIEW

The Department of Information Technology establishes, updates, and retires technical standards throughout the year to ensure alignment, consistency, and modernization in the selection and design of business solutions across the county.

A product or platform is established as a standard through a governance process. This approach enables DIT to define and develop a portfolio of technology solutions that can be effectively managed and supported given available resources. Typically, projects in the concept stage come before DIT's Architectural Review Board (ARB) to discuss the technical approach and business objectives. Where the concept relies on new products or non-standard configurations, the details are assessed to establish general conformity to enterprise objectives. The ARB may steer the solution back to conformance, or it may authorize the use of a new product or configuration by granting a waiver. The ARB may alternatively recommend that the new product replace an existing standard, or that it be added to the list of supported standards. When DIT's executive management approves a recommendation, the standards are updated accordingly. Once adopted, the new product and its former standard, if any, are further classified as emerging (new), current (established), twilight (becoming obsolete), or sunset (retiring from support as of a known date).

When a standard is established, it means that the designated technology will be supported by DIT as applicable, and that the selection is in alignment with broader IT goals, objectives, and strategic direction. In some cases, a standard may be adopted in advance of procurement or deployment, to provide strategic direction for emerging business needs. Adoption of a standard is not intended to convey endorsement for, or recommendation against, any specific product.

Declaration of a standard indicates DIT's strongest recommendation for selection of the listed product(s) over any alternatives that may be similar or comparable. Generally, any solutions that will rely on the systems enterprise infrastructure, connect to the network, or depend upon DIT support must be fully conforming. Agencies using or selecting non-standard solutions may apply to the Architectural Review Board for a waiver on the basis of business needs and justification.

Standards are essential to sound cost controls in software licensing and maintenance, hardware, services, training, and integration. Having fewer platforms in use enables allocated resources to better support the information systems under management. Agencies are encouraged to invite DIT members to participate in selection and technical advisory committees for the Request for Proposal (RFP) process. In some cases, DIT and its ARB should be consulted in advance of an RFP, to help explain technical alternatives and develop the proposal language to support conformance with existing and emerging standards.

The standards shown here do not represent a comprehensive view of all the products in use across the County. The list is intended to convey the primary standards for the major solutions to be supported by DIT and/or delivered with DIT resources.

Fairfax County
Information Technology Standards

PLATFORM ARCHITECTURE STANDARDS:

END USER SOFTWARE

COMPONENT	CURRENT STANDARDS
Operating System	Windows XP/Vista
Word Processor	Microsoft Word 2003/2007
Spreadsheets	Microsoft Excel 2003/2007
Presentations	Microsoft PowerPoint 2003/2007
Database	Microsoft Access 2003/2007
E-Mail Client	Microsoft Outlook 2003 / Outlook Web Access (latest release)
Project Management	Microsoft Project Professional 2007
Graphics	Microsoft Visio Professional 2007
Web Browser	Microsoft Internet Explorer (latest release)
Antivirus	Symantec AntiVirus (latest release) for Workstations and Servers
Patch Management	Microsoft System Center Configuration Manager (SCCM) 2007 Windows Server Update Services (WSUS)
Mainframe Terminal Emulation	3270 Emulation
Thin Client Access	Citrix Presentation Server 4.5
Other	Must be approved for Business Unit standard image/requirements

PLATFORM ARCHITECTURE STANDARDS:
END USER HARDWARE

COMPONENT	DESKTOPS	LAPTOPS
Power	Single	Single
CPU	Intel Core 2 Duo Processor 800GHz FSB	Intel Core 2 Duo T7500 (2.20GHz, 4MB L2 Cache)
Disk Configuration	80 GB , SATA drive	80 GB, 7200 RPM Hard Drive
Media Drive	16X DVD R/W combo drive	8X DVD CD-R/W combo drive
Memory	4 GB, Non-ECC SDRAM, 4 DIMMS	4 GB RAM (2 DIMMS)
Monitor	19" SVGA, Ultra Sharp, Flat Panel, DVI/VGA	Wide Screen WXGA+ LCD Panel
Video Card	Dedicated 256MB ATI Radeon, dual monitor capable DVI	dedicated 128 MB NVidia
Interface Card(S)	Ethernet 10/100/ 1000 Base- T	Built-in Ethernet card
Operating System	Windows XP/Vista	Windows XP/Vista
File System	NTFS	NTFS
Maintenance	4 Year on-site, next business day	4 Year on-site, next business day
Additional Hardware Requirements	Sound bar	Port replicator, external mouse, keyboard and monitor if used as desktop. Security Lock
Platform	Dell	Dell

PLATFORM ARCHITECTURE STANDARDS:

HAND HELD MOBILE DEVICES

COMPONENT	CURRENT STANDARDS
Platform	RIMM/Blackberry
Software Compatibility	Outlook Exchange (Downloadable), Active Sync, Date Book, Address Book, To do List, Memo Pad, Calculator
Connectivity	TCP/IP Internet or USB enabled

PLATFORM ARCHITECTURE STANDARDS:

GENERAL SERVER STANDARDS

COMPONENT	CURRENT STANDARDS
Procurement	Servers are procured by DIT as warranted by many factors, including current utilization of existing infrastructure, the requirements of planned projects, and the availability of specific funding for new equipment. Some platforms will share components and others will not, depending upon the unique circumstances for each project and product. Sharing and re-use are promoted when feasible. Agency Project Managers work with DIT to develop a technical task plan and budget estimate for the project's hardware, software, middleware, peripherals, storage, maintenance, and connectivity. DIT will assess the requirements in light of the current environment (and other factors) to confirm which components must be purchased, and which will be paid for through DIT funding.
Operating System	Microsoft Windows Server 2003 Standard Edition Microsoft Windows Server 2003 Enterprise Server (clustering or servers with 4 processors or more); Windows Server 2008 Solaris (latest release) z/OS 1.4
Thin Client Access	Citrix Presentation Server 4.5
Hardware	Intel (Windows) SUN (UNIX) IBM Z-Series (Mainframe)
Backup	Tivoli Storage Manager 5.2 z/OS DFSMS
Storage	SAN
E-Mail	Microsoft Exchange Server 2003 Enterprise Edition L-Soft LISTSERV
Web/Application Servers	Preferred: Microsoft Internet Information Server (latest release) Apache Web server (if required by COTS package) Tomcat (if required by COTS package) JBOSS BEA Systems WebLogic Microsoft BizTalk
Communications Protocol	TCP/IP
Configuration/Change Management	Infra Enterprise – ITIL Service Management

PLATFORM ARCHITECTURE STANDARDS:
FILE / PRINT / WEB SERVERS

COMPONENT	FILE / PRINT SERVERS	WEB SERVERS (INTEL)	WEB SERVERS (UNIX)
Type	INTEL	INTEL	UNIX
Power	Redundant, UPS required if not EOC-resident	Redundant, UPS required if not EOC-resident	Redundant, UPS required if not EOC-resident
Fault Tolerance / Disk Configuration	Operating System Drives - Raid 1 (Mirrored) Database / Application Drives - Raid 5 utilizing SAN if EOC resident	Operating System Drives - Raid 1 (Mirrored) Database / Application Drives - Raid 5 utilizing SAN if EOC resident	Operating System Drives - Raid 1 (Mirrored) Database / Application Drives - Raid 5 utilizing SAN if EOC resident
CPU	Dual 3.0 MHz	Dual 3.0 MHz	Dual 1.5 GHz
Network Interface Cards	Dual Ethernet 1000 Base-T	Dual Ethernet 1000 Base-T	Dual Ethernet 1000 Base-T
Operating System	Windows 2003 Server	Windows 2003 Server; Windows Server 2008	Solaris (latest release)
Monitor	17" SVGA Color, if non-EOC site Not required if EOC resident	17" SVGA Color, if non-EOC site Not required if EOC resident	Rack mountable Flat LCD monitor Required if EOC resident
RAM	4 GB Minimum Cache 256MB	4 GB Minimum Cache - Database/Application specific	4 GB Minimum Cache - Database/Application specific
File System	NTFS	NTFS	Solaris
Third Party Software Requirements	Symantec Antivirus, Enterprise Edition MS SMS Client	Symantec Antivirus, Enterprise Edition eTrust SiteMinder Agent MS SMS Client	Symantec Antivirus, Enterprise Edition eTrust SiteMinder Agent
Web Server Software	N/A	Internet Information Server (latest version) Tomcat (if required by COTS package) BEA Systems WebLogic	Apache (if required by COTS package) Tomcat (if required by COTS package)
Platform	Dell	Dell	Sun
Maintenance	5 Year, 24/7, 4 hour on-site, parts & labor included	5 Year, 24/7, 4 hour on-site, parts & labor included	5 Year, 24/7, 4 hour on-site, parts & labor included
Additional Hardware Requirements	Raid Controller Rack mountable rails if EOC resident Minimum 3 Open Slots to facilitate system expansion HBAs (if connected to SAN)	Raid Controller Rack mountable rails if EOC resident Minimum 3 Open Slots to facilitate system expansion HBAs (if connected to SAN)	Raid Controller Rack mountable rails if EOC resident Minimum 2 Open Slots to facilitate system expansion Dual HBAs (if connected to SAN); DVD-ROM & Tape Drive (DDS-4)
Pre-Install Options	None	None	None
Storage And Backup	Tivoli Storage Manager Enterprise Backup Client	Tivoli Storage Manager Enterprise Backup Client	Tivoli Storage Manager Enterprise Backup Client

PLATFORM ARCHITECTURE STANDARDS:- DATABASE / APPLICATION SERVERS

COMPONENT	DATABASE SERVERS (INTEL)	DATABASE SERVERS (UNIX)	APPLICATION SERVERS (INTEL)	APPLICATION SERVERS (UNIX)
Power	Redundant, UPS required if not EOC-resident	Redundant, UPS required if not EOC-resident	Redundant, UPS required if not EOC-resident	Redundant, UPS required if not EOC-resident
Fault Tolerance / Disk Configuration	Operating System Drives - Raid 1 (Mirrored) Database / Application Drives - Raid 5 (utilizing SAN if EOC resident)	Operating System Drives - Raid 1 (Mirrored) Database / Application Drives - Raid 5 (utilizing SAN if EOC resident)	Operating System Drives - Raid 1 (Mirrored) Database / Application Drives - Raid 5 (utilizing SAN if EOC resident)	Operating System Drives - Raid 1 (Mirrored) Database / Application Drives - Raid 5 (utilizing SAN if EOC resident)
CPU	Quad 3.0 Mhz	Quad 1.5 Mhz	Dual 3.0 Mhz	Dual 1.5 Mhz
Network Interface Cards	Dual Ethernet 1000 Base-T	Dual Ethernet 1000 Base-T	Dual Ethernet 1000 Base-T	Dual Ethernet 1000 Base-T
Operating System(s)	Windows 2003 Server Windows 2003 Advanced Server (Clustering)	Solaris (latest release)	Windows 2003 Server Windows 2003 Advanced Server (Clustering); Windows Server 2008	Solaris (latest release)
Monitor	17" SVGA Color, if non-EOC site Not required if EOC resident	Rack Mountable LCD Flat monitor Required if EOC resident	17" SVGA Color, if non-EOC site Not required if EOC resident	Rack Mountable LCD Flat monitor Required if EOC resident
RAM	8.0 GB Minimum Cache - Database/Application specific	8.0 GB Minimum Cache - Database/Application specific	4.0 GB Minimum Cache - Database/Application specific	4.0 GB Minimum Cache - Database/Application specific
File Systems	NTFS	Solaris	NTFS	Solaris
Third Party Software Requirements	Symantec Antivirus, Enterprise Edition MS SMS Client	Symantec Antivirus, Enterprise Edition	Symantec Antivirus, Enterprise Edition MS SMS Client, SCCM Client	Symantec Antivirus, Enterprise Edition
Platform	DELL	SUN	DELL	SUN
Maintenance	5 Year, 24/7, 4 hour on-site, parts & labor included	5 Year, 24/7, 4 hour on-site, parts & labor included	5 Year, 24/7, 4 hour on-site, parts & labor included	5 Year, 24/7, 4 hour on-site, parts & labor included
Additional Hardware Requirements	Raid Controller Rack mountable rails if EOC resident Minimum 3 Open Slots to facilitate system expansion HBAs (if connected to SAN)	Raid Controller Internal Tape Drive for Root Volume Backup Minimum 2 Open Slots to facilitate system expansion Dual HBAs (if connected to SAN); DVD-ROM, Tape Drive(DDS-4)	Raid Controller Rack mountable rails if EOC resident Minimum 3 Open Slots to facilitate system expansion HBAs (if connected to SAN)	Raid Controller Internal Tape Drive for Root Volume Backup Minimum 2 Open Slots to facilitate system expansion Dual HBAs (if connected to SAN); DVD-ROM, Tape Drive(DDS-4)
Storage And Backup	Tivoli Storage Manager Enterprise Backup Client TDP for Oracle or SQL server	Tivoli Storage Manager Enterprise Backup Client TDP for Oracle or SQL server	Tivoli Storage Manager Enterprise Backup Client	Tivoli Storage Manager Enterprise Backup Client

APPLICATION ARCHITECTURE STANDARDS:

APPLICATION DEVELOPMENT

COMPONENT	MAINFRAME	UNIX	INTEL	INTERNET / INTRANET	GIS
Database Software	DB2	Oracle 10g	SQL Server (latest release) Oracle 10g	N/A	Oracle 10g Oracle Spatial DB
Application Development Frameworks	N/A	Java	.NET Framework (latest release) Java	.NET Framework (latest release) Java	.NET Framework (latest release) ESRI
Virtualization	N/A	Zones/Containers	VMware	VMware	N/A
Software And Development Tools **(Report Writing Products Are Listed On Page 8.)**	COBOL CICS TSO JCL	N/A	Microsoft Visual Studio 2005 Eclipse	Microsoft Visual Studio 2005 Eclipse	ArcGIS 9.1 & Extensions ERDAS 9.0 ARC Internet Map Server 4.0/9.1 ArcSDE 8.3/9.1 ArcPad 7 Microsoft Visual Studio 2005
Version And Release Control	SCLM	Serena Version Manager	PVCS	PVCS	PVCS
LDAP / Directory / Authentication	RACF	Native operating system (Solaris, Linux, AIX)	Active Directory e-Trust SiteMinder	Active Directory e-Trust SiteMinder	Native Operating system
Data And Process Modeling	MS Visio Professional 2007 Allfusion Erwin Data Modeler	MS Visio Professional 2007 Allfusion Erwin Data Modeler	MS Visio Professional 2007 Allfusion Erwin Data Modeler	MS Visio Professional 2007 Allfusion Erwin Data Modeler	MS Visio Professional 2007 Allfusion Erwin Data Modeler
Middleware (EAI)	webMethods Jacada	webMethods	webMethods MS BizTalk	webMethods Jacada MS BizTalk	N/A
Workstation Requirements	3270 Emulation TCP/IP Connectivity	Oracle Client Suite ODBC Drivers	Oracle Client Suite ODBC Drivers	MS Internet Explorer (latest release)	Terminal Server Client Citrix Metaframe Client Active X Plug-in Active Directory Tools

PLATFORM ARCHITECTURE STANDARDS:
ENTERPRISE SOLUTION PLATFORMS

PLATFORM	CURRENT STANDARDS
Report Writing: **Departmental Reporting Needs**	Business Objects Microsoft SQL Reporting Easytrieve Plus
Statistical Analysis	SAS
Enterprise Reporting **Business Intelligence**	Selection Pending
Document Scanning/Imaging	Documentum Enterprise Content Management / Captiva
Web Content Management	Documentum Web Content Management
Web Search Engine	Verity K2 Enterprise
Survey Instrument Software	SNAP 8.0 ProNet Edition (w/Scanning module)
Correspondence Tracking	Intranet Quorum
CRM	Siebel
IT Services Management	Infra Enterprise – ITIL Service Delivery
GIS	ArcGIS 9.1 & Extensions ERDAS 9.0 ARC Internet Map Server 4.0/9.1 ArcSDE 8.3/9.1 ArcPad 7
Voice Communications	Avaya S8700s and G700s Servers

FAIRFAX COUNTY DATA COMMUNICATIONS STANDARDS

NETWORK PROTOCOLS

CURRENT	FUTURE
TCP/IP	TCP/IP only
SNA (DLSW)	

CABLING STANDARDS (Structured cabling based on the ANSI/TIA/EIA and ISO standards)

Horizontal (cabling and pathways)

CURRENT	FUTURE
CAT5/5e UTP and SCTP	CAT6 UTP and SCTP

Outlets

CURRENT	FUTURE
Category 5 / 5e Cabling	Category 6 Cabling
Siemens 4 outlet modular faceplates	
Color-coded inserts *(to identify the media being used in each outlet)*	
Voice and data terminated at the same faceplate	

Between Buildings/Backbone

CURRENT	FUTURE
Dependent on Distance	Investigating wireless between buildings and within certain areas of buildings
12 strand "single-mode" OFNP, single mode optical fiber.62.5/125 and 5/125 OFNP multi-mode and single-mode optical fiber	

DATA NETWORK STANDARD EQUIPMENT

The Fairfax County Enterprise Data Network is standardized on Cisco networking platform. Below are the specific models of equipment that are currently in use on the enterprise network. Platform families may be added or modified.

ROUTING
Cisco 2600 Family
Cisco 2800 Family
Cisco 3800 Family
Cisco 4500 Family (Layer 3 Sup Engine)
Cisco 6500 Family (MSFC)
Cisco 6500E Family (Sup720-3b – Fabric Switch Enabled line cards)

SWITCHING
Cisco 2950 Family – Wire Closet (Small to Medium IDF)
Cisco 3500 Family
Cisco 4000 Family – Wire Closet (Medium to Large IDF) - being phased out
Cisco 4500 Family – Wire Closet (Medium to Large IDF)
Cisco 6500 Family – Core applications (MDF)

DWDM SWITCHING
Cisco ONS 11454 – I-Net Core

FIREWALLS
Cisco PIX Family (505, 515, 525)
Cisco ASA Family (5510, 5540)

CONTENT/CACHING ENGINE
Cisco 7305-K9

CONTENT SERVICES SWITCHING/LOAD BALANCING
Cisco CSS-11500 Family