CHARLES COUNTY

M A R Y L A N D

2018 Digital Counties Winner

Information Technology
FY19 Strategic Plan

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Fiscal & Administrative Services
Charles County Government
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Table of Contents

Why an IT Strategic Plan is Important

Like many local governments, Charles County Government (CCG) is faced with major challenges and opportunities. These challenges and opportunities are caused by heightened expectations from not only the County's staff, but also residents and the business community who need to interact and conduct business with CCG utilizing modern automation capabilities, combined with the need to leverage and enhance limited staff resources necessary to accomplish the work. These expectations occur within an environment of rapid change and finite resources and, as a result, require strategic planning in order to be met.

To be successful, the CCG Information Technology (IT) resources must be contemporary, flexible, scalable and secure with the ability to respond to ever changing requirements. CCG IT is built on a county wide architecture that supports a variety of needs while maintaining a supportable portfolio of application systems and tools, and operates effectively and efficiently to ensure better services, better products, shorter project life cycles, less cost and more convenience.

To enable and ensure that IT can meet expectations, continued emphasis is placed on ensuring a strong and secure technical infrastructure foundation through which all information technology systems, applications, and services are provided. This strong and secure technical infrastructure foundation allows CCG to communicate effectively internally and externally throughout the community, and allows appropriate and secure access to the County's 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 CCG Commissioner's Annual Goals and Objectives.

This IT Strategic Plan sets a direction for CCG IT and its technology efforts on behalf of all CCG Departments and residents. The plan communicates CCG's strategic IT direction to the County Commissioners, County Administrator, and Department Heads as they make decisions related to information technology.

This IT Strategic Plan provides broad goals and guiding principles outlining the basic roadmap for information technology in the 21st century. It is always a "work in progress" and will be updated and modified each year to adjust to inevitable changes in information technology and CCG's environment. During the last quarter of each fiscal year, this IT Strategic Plan will be completely reassessed. This process will insure that the plan remains a strategic document and a roadmap for the effective use of information technology in the future. This IT Strategic Plan supports the County's governmental functions and will be coordinated with any other CCG strategic plan.

Through the successful implementation of this plan, CCG will make the best use of information technology to meet departmental business requirements and raise County governmental services to an unprecedented level of quality at the lowest possible expense.

Information Technology in Charles County

This IT Strategic Plan strives to apply information technology more consistently across the CCG's Departments and agencies, seizing the opportunities to benefit from cutting edge information technology where appropriate. CCG's IT will continue to assess information technology and make decisions regarding risk on a project by project basis. Although the CCG's IT has proven to be one of the "early adopters" of efficient and effective technologies in the Tri-County area, it views as its challenge the ability to assess the needs of its community and be ready with the right information technology in the future. Realizing the strategic importance of information technology, the Commissioners and senior managers have expressed the desire to continue to be a "cutting edge" organization.

Information Technology Activities

IT's current activities can be classified into the following four categories according to their usefulness in achieving this strategic plan.

1. Internal support activities
   a. **Help Desk Support** for County hardware, software and applications.
   b. **Work Request Support** for user submitted IT Work Requests requesting assistance on an IT related issue.
   c. **Day-to-Day Activities** that indirectly support business processes, such as nightly backups, network workload management, routine security, and new user setup and login maintenance.

2. Enhancement support activities
   These activities are defined by a user submitted Work Request which details a need to modify, update, or improve an existing IT technology.

3. Acquisition support activities
   These activities are requested via a user submitted Work Request and typically involve the implementation of a new IT technology.

4. IT Management activities
   These activities ensure that CCG IT adheres to industry best practices and typically involve IT Governance, standards and IT resource analysis.

In all activities, if there is a need to work with an IT vendor, IT will interface on behalf of the user with the vendor.

Information Technology Architecture

CCG's current information technology architecture consists of a centralized computing platform (IBM Power9) and several Linux and Microsoft servers.

The network topology includes Gigabit fiber, Wireless Microwave, Wi-Fi, and hi-speed cable modem technologies. These various technology topologies together constitute the County's Institutional Network (I-Net). CCG's IT staff manages the I-Net which connects over 100 sites and many government agencies through-out the County. The CCG's I-Net connects to the World Wide Web via the Maryland State Backbone Network (networkMD).

CCG makes use of a centralized midrange computer, an IBM System i5 model 9406-520 (i5 520) to run a series of integrated application packages from New World Systems, Inc. in support of the County's enterprise financial software.

IT continually evaluates and improves CCG's computer architecture to increase reliability, performance and compatibility with department requirements. Hardware and software standards were developed to help maintain consistent, effective and efficient operations and ensure better Help Desk support.

Information Technology Organization and Responsibilities

The Information Technology Division's primary responsibilities are the acquisition, design, development, maintenance, enhancement and security of technology infrastructure, applications, data and telecommunications in support of County Government operations and services to Charles County residents. As of FY19, the Information Technology Division has 23 full-time technical positions The division is divided into four areas: Applications, Network Services, Security Services and Project Management.

The Applications area is responsible for managing the County's enterprise software system, various internally developed and vendor acquired business applications, the County's internet and intranet sites, and GIS applications.

The Network Services area is responsible for the County's network infrastructure, which includes multiple Local Area Networks (LANs) connected via the County's Institutional Network (I-Net), all County computers, desktops and network print services, County telecommunications, which includes IP phones and mobile devices, the IP camera and video conferencing networks, various desktop applications, including the enterprise e-mail system, CCGTV support and the IT HelpDesk.

The Security Services area is responsible for protecting and safeguarding the confidentiality, integrity and availability of County information assets.

The Project Management area monitors major IT projects and other projects which impact both the Applications and Network Services areas. This area also ensures that IT best practices are being followed and documented in applicable policies and/or procedures.

IT Service Commitments

Meeting the expectations of every county employee is one of the most challenging efforts IT faces. To provide the appropriate level of service, IT has developed the following service commitments:

- All minor work requests will be assigned to one or more IT staff members within one (1) working day after final approval by the submitting department

- Work will be started or an estimated start date will be assigned within three (3) working days after it has been assigned

- If an estimated start date cannot be met, it will be reviewed with the user before changing

- IT will provide a fix for, or temporary replacement of, a downed Desktop Computer connected to County wide I-Net Infrastructure within 24 hours of notification

- IT will install all capital outlay equipment approved during the fiscal year it is budgeted

- To the extent of IT's capabilities, IT will assure that Desktop Computers are no more than 5 years old.

Goals and Objectives

The most difficult challenge facing CCG IT at any given time is keeping abreast of advancements in technology and incorporating appropriate advancements into County operations in a cost effective and manageable manner, while continuing to ensure that current technology services are being delivered and are operating at expected levels.

A primary concern in the decision to implement new technologies is the potential longevity of the technology. Will the technology provide a viable solution for the County long enough to recoup the time, money and effort invested in its implementation? If it is determined that a technology has lasting value, other critical factors, such as integration with current infrastructure, security, impact on current business flows and processes, retraining, etc. must be taken into consideration before the decision can be made to implement the technology. In consideration of the above, CCG IT operates both in an exploratory and cautious mode in the implementation of new technologies.

The broad goals of the CCG IT Division are:

- provide our residents and internal users the most efficient and effective technology tools possible
- work in support of the Commissioners' annual Goals and Objectives
- continue to be a leader in the area of technology amongst comparable jurisdictions
- ensure that IT best practices are being followed

Identified objectives to meet the above goals are detailed below in no particular order.

CCG Website Improvements

The CCG website is a critical communication tool for our residents. The website must not only display current and correct information regarding CCG programs, upcoming events, legislation, etc., it must also provide effective tools for the retrieval of that information.   Improvements to the CCG website will be ongoing during every fiscal year.

Mobility

As the use of mobile technology has permeated our culture, CCG IT is committed to increasing the use of mobile tools for both our residents and our internal users.

Citizen Notification System

Our Citizen Notification System is a state-of-the-art solution which provides the ability for Charles County to send emergency and information texts, emails and phone calls to residents while also simultaneously posting to our social media sites and County website.

Network Activities

Maintenance and improvements to our network infrastructure and supporting tools are critical in order for CCG IT to be able to offer high quality technology solutions to our both our residents and our internal users. Improvements to the CCG network will be ongoing during every fiscal year.

I-Net Management

The CCG Institutional Network (I-Net) has been a critical factor in making CCG IT a leader in the area of technology amongst jurisdictions of our size. Our I-Net connects over 120 County and State agencies located in Charles County, including government buildings, school, libraries, fire stations, etc.) CCG IT manages the I-Net and its extensions. Over the years, these extensions have allowed CCG IT to provide services to our residents which other jurisdictions have not been able to provide. Focus on our I-Net and possible expansions to it will be ongoing during every fiscal year.

Cybersecurity

The growing threat from various entities that could harm Charles County Government via cyber threats is a real and present danger. In recent years, major security attacks continue to make national news. Major attacks have successfully been launched against both onsite and cloud services. At the County, we safeguard critical data including employee data, financial data, infrastructure data and communication data. We invest many man hours in researching security threats, as well as analyzing and implementing the appropriate security tools to safeguard County data and infrastructure.

Application Enhancement and Modernization

On-going maintenance, enhancement and modernization of existing CCG applications (both desktop and business process) are critical in order to provide our internal users with efficient and effective technology tools. With over 100 different business applications supported by the Applications division, including the enterprise Financial System, and 300 different desktop applications/versions supported by the Network division, including the enterprise e-mail and office automation applications, this objective in itself is almost a full time job. Focus on Application Enhancement and Modernization will be ongoing during every fiscal year.

Document Imaging

Expansion of the County's Document Imaging efforts into new areas in the County results in reduced paper usage and document redundancy, better use of office space due to reduced storage needs and the ability to easily provide access to shared documents across County agencies.

Continuity of Government

In technology, continuity of government focuses on detailing the steps required to reestablish the needed technologies which will allow our internal users and residents to resume critical operations in the event of a disaster..

Residents' Access to High Speed Internet

As a result of the County's cable franchise agreements with Comcast and Verizon, many Charles County residents enjoy high speed internet service at their homes. However, there are also many residents who are not covered by these agreements and must depend on other avenues, frequently more costly and less reliable, to receive internet access. IT is consistently focused on researching possibilities which might provide high speed internet to County residents.

Some of the projects which are related to this area include working with the cable providers in regard to their coverage areas, working with wireless providers to understand their wireless networks within the County and learn about products which can take advantage of those expanded networks, looking for organizations which might partner with Charles County to provide internet service and working with the last mile provider members of the Maryland Broadband Cooperative (MdBC) to leverage the MdBC fiber laid in conjunction with the ARRA fiber.

Providing high speed internet to residents is a difficult task as Charles County does not have the funds or capabilities to develop a County owned fiber or wireless network.   This is a long term, ongoing effort.

IT Best Practices

IT is an industry full of best practices and it is an objective of this staff to research IT best practices as a whole and implement those which would be applicable to CCG IT.

IT strives to follow IT best practices, including:

- Six month review and update of all internal IT policies; annual review & update of all external IT policies
- IT Strategic Plan reviewed annually
- IT Financial Management strategies
    - IT staff time tracked by project/help desk call for justification. IT staff time tracked by agency, department, and division for cost allocation of IT resources to appropriate areas
    - IT Asset Management System in place; annual IT asset physical inventory done
- IT Software Tracking System in place
- IT Project Management staff & documented IT Project Management guidelines in place to oversee large IT projects
- IT Access Control Procedures in place; annual access audit done
- Strive to be paperless, Electronic Document & Records Management System in place (Laserfiche)
- Annual IT audit conducted by external IT Auditors
- Quarterly review of mobile device usage & costs
- Regular testing of disaster recovery processes
- Desktop replacement policy - replace desktops every 5 years
- Annual switch replacement project - ensures that critical network switches are replaced on a regular basis, before they (1) reach end of life or (2) crash and burn
- Use of reputable open source technology whenever possible for cost savings
- Software development:
    - Use of agile software development model

- o Improve mobile offerings during development stage
    - o Properly manage application lifecycle through maintenance stage
- Use of cloud service for appropriate technologies/applications
- Stay current with all technology tools upgrades/releases, for both security and functionality purpose
- Follow quarterly maintenance schedule for network downtime for patches, upgrades, releases, etc.

Guiding Principles

In implementing the goals and objectives under this IT Strategic Plan, Information Technology will adhere to the following principles:

- With the resources available, provide residents, the business community, County wide agencies, Charles County Departments and their employees with timely, convenient access to appropriate information and services through the use of information technology

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

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

- Manage information technology as an investment. 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. Limit resources dedicated to "legacy systems" -- hardware and software approaching the end of its useful life -- to absolutely essential or mandated changes. Designate systems as "legacy" and schedule their replacement. This approach will help focus investments toward the future rather than the present or past. Invest in education and training to ensure the technical staff in IT understand and can apply current and future technologies

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

- Hardware and software will 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

- Approach information technology undertakings as a partnership of IT and the Charles County's Departments providing for a combination of centralized and distributed implementation. Combine the responsibility and knowledge of IT, Charles County's employees, as well as outside contract support within a consistent framework of Charles County's IT standards. Establish strategic cooperative arrangements with public organizations to extend limited resources

- Emphasize the purchase and integration of top quality, commercial-off-the-shelf software (COTS) -- with minimal customization – to speed the delivery of new business applications. This may even require redesigning some existing work processes to be compatible with off-the-shelf software packages. Utilize modern efficient methods and laborsaving tools in a cooperative

application development environment. A repository for common information objects (e.g., databases, files, records, methods, application inventories) will be created, shared and reused.

- 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

- The scale and pace of the plan execution will be subject to the availability of resources and budgeted funds

- Strategic planning is an iterative process; this plan will be continuously updated to reflect new objectives. A new strategic plan will be published within the first quarter of each fiscal year reflecting the updates along with the previous year's accomplishments.

Appendix A – Commissioners Goals and Objectives

Charles County Board of Commissioners Goals and Objectives
2019-2021

Goal 1: Economic Development and Supportive Services
- Commercial Development: International Trade, Commercial Tax Base Expansion, Business Attraction, and Opportunity Zone Enhancements
- Industry Diversification: Research and Development, Biotech, Sustainable Natural Resource Based Industries, Tourism, and Entertainment Industry
- Infrastructure/Services: Broadband Access, Water and Sewer, Transportation Network, Workforce Development, and Business Support

Goal 2: Institutional Governance and Policy
- Operational Excellence: Smart City / County Concept, Streamline Services / Comprehensive Zoning Review, Diversity / Cultural Competency, County Branding (Image/Identity), Employee Engagement, Citizen Engagement, Automated Technology / Cyber Security, Equitable Program Funding, Information and Data Programing, and Form of Government from Code Home Rule to Charter
- Public Policy: Legislation, Governance Leadership, Resource Stewardship (including Asset Management and Fiscal Responsibility), and Buy Local (Minority Business Enterprise)

Goal 3: Environment
- Conservation Programs: Forest Conservation, Agriculture Land Preservation, Rural Legacy, REPPI (Aquaculture, Agriculture, Forest), Transferable Development Rights (TDR), and Climate Change Best Management Practices
- Natural Resource Management: Expand Solar Energy, Provide Incentives, Rainwater Collection, Expand Commercial Recycling, and Reduce Impervious Surface
- Environmental Management: Wastewater Treatment, Clean Water Supply, and Storm Water Management

Goal 4: Education
- Board of Education: Funding and Formal Collaboration (Board of Education and Board of Commissioners)
- Education Advisory Board/Committee
- Workforce Development: College of Southern Maryland, and Tri-County Council
- Human Resource Development (County)

Goal 5: Quality of Life
- Public Safety: Collaboration (Sheriff's Dept./Fire/EMS)
- Healthcare: Accessible and Affordable Healthcare, Collaborate with Non-profits, Collaborate with Health Department (Opioid Prevention, Treatment, Enforcement)
- Recreation and Entertainment: Parks and Amenities, Stadium, Agritourism, Waterway Recreation, Festivals, and Marshall Hall Park
- Affordable/Workforce Housing: Housing Authority Committee, and Equitable Housing
  In conclusion, the Commissioners identified two top priorities of this administration. Emphasis will be placed on "Economic Development and Supportive Services" and "Institutional Governance and Policy" as drivers of the remaining goals.

Appendix B – IT Organization Chart