

County of Frederick

Information Technologies
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To: Board of Supervisors
From: Technology Committee
Date: November 3, 2017
Subject: Technologies Committee Report and Recommendations

A Technologies Committee meeting was held in the First Floor Conference Room at 107 N Kent Street on Wednesday, November 1, 2017 at 8:15 a.m. Members present were Gary Lofton, Chairman, Judith McCann-Slaughter, Board Member, Bill Ewing, Board Member, and Todd Robertson, Citizen Member. Members absent were Quaiser Absar, Citizen Member, and Lorin Sutton, Citizen Member. Also in attendance were Jay Tibbs, Deputy County Administrator, Scott Varner, IT Director, Benny Tyson, MIS Director, Patrick Fly, GIS Manager, Michelle Nugent, Network Operations Manager, and Alisa Scott, Administrative Assistant.

INFORMATION ONLY

1. The IT Director provided copies of the IT 3 Year Budget Overview and the proposed IT FY19 Budget. Details for the 3 Year Budget Overview included funding for a 3-year network switch hardware replacement schedule, Fire & Rescue and Sheriff's Department (PSB) field PC replacement schedule, Windows 10 upgrades, and Network Security and Firewall Auditing.
2. The proposed IT FY 19 Budget included line-item detail that equates to the funds being requested to answer pertinent questions that support the request. Details included the GIS Intern, Maintenance Service Contracts, and the travel line item that covers training-only items.

Respectfully Submitted,

INFORMATION TECHNOLOGIES COMMITTEE
Gary Lofton, Chairman
Judith McCann-Slaughter

Bill Ewing
Quaiser Absar
Lorin Sutton
Todd Robertson

By: _____
Scott Varner, IT Director

Frederick County Department of Information Technology and MIS
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BUDGET PLAN REQUEST

FY 19 AND BEYOND

The Frederick County Department of Information Technology and MIS is dedicated to providing and supporting reliable technologies and technology-based services in a timely, high-quality, cost-effective manner to all clients of County Government.

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Letter of Transmittal

The Department of Information Technology and MIS (ITMIS) continue to improve the core technological infrastructure of Frederick County. As stated in the FY2018 budget, the department will be targeting several areas of needed improvement over the next three fiscal years. The budget presented here is a three-year outlook with a proposed FY2019 budget and projected budgets for FY2020 and FY2021. Over the next 3 fiscal years there are several major projects that need to be addressed. The larger projects are highlighted below. An Excel workbook will also accompany this document that will illustrate how we arrived at our budgetary figures.

- 3-year project to replace all network switches (FY2019, FY2020, FY2021)
- Windows 10 upgrades (FY2020)
- Network Security and Firewall Auditing (FY2020)
- Encompass Public Safety Field Machines into the PC Replacement Program (FY2019, FY2020, FY2021)

FY2019 PROJECTS

Network Switch Replacement – 012200-8007000-003 (Integ. Tech. Equip. – Network)

After conducting an audit of our network switching environment, which included the Kent building, Public Safety Building, and the Northwestern Regional Adult Detention Center, it was determined that we are past the End of Life on all switch models and will go past End of Support over the next 3 years. We have created a 3-year replacement plan to spread out the cost of the project as well as the work hours necessary for implementation. We would replace our core switches and firewalls in the first year of the project (FY2019).

Public Safety PC Replacement (Field Machines) –

The field machines for the Frederick County Sheriff's Office and Fire and Rescue were not to date included in the PC Refresh program of the County. The current rugged laptops for Sheriff's Deputies are now seven years old and in need of replacement. By employing a lease option, the FCSO could replace all 130 machines up front and pay the lease over 5 years. The warranty of the rugged laptops is for five years. This replacement would also include 7 rugged laptops for the Fire Marshalls with a 3-year lease. We are suggesting the lease option in order to spread the cost over a longer term due to the cost of the rugged machines.

FY2020 PROJECTS

Windows 10 Upgrades – 012200-3010-000-000 (Other Contractual Services)

The majority of County desktops and laptops are running Microsoft Windows 7 as the operating system. The end of extended support for Windows 7 is January 14, 2020. To complete the upgrades by that date, we have to start no later than July of FY2020. The Windows 10 licenses will be rolled into our Microsoft

Office 365 subscriptions and much like the O365 subscription we will no longer have to worry about purchasing the next update. Machines will receive the update automatically.

Network Security and Firewall Auditing – 012200-5413-000-003 (Other Operating Supplies-Network)

Cyber-attacks continue to rise and protecting citizen data is our number one priority. We have experienced several ransomware exploitations in the last year. The switch replacement project is part of shoring up our network security. To ensure we are following best practices and doing all we can to protect the information stored in our data center and the work stored on employee desktops, we need to test our network for weaknesses and continue to educate our employees on how to avoid becoming a victim of viruses, malware, and ransomware. The Department will engage a cyber security firm to perform penetration testing of our network and help us formulate a plan to address any weaknesses found. We will also develop a cybersecurity training plan for all employees that will be required on a yearly basis.

This budget and departmental priorities continue to support the Frederick County Strategic Plan. In that effort, line items have increased for tuition assistance and technical training. The department has several gaps in technical knowledge that need to be addressed as we move forward. Although ITMIS affects almost every focus area of the strategic plan, ITMIS will concentrate on **Well Planned Infrastructure** by continuing to explore and promote broadband options for citizens and businesses and provide the tools and consulting necessary to support **Communication and Citizen Engagement**. ITMIS will pursue technological solutions to make citizen and business participation in government convenient and meaningful and promote further governmental transparency through system automation.

The included sections of the ITMIS budget will provide a more in-depth picture of the overall budget, operational areas, key performance indicators, and measured outcomes for the department. I look forward to the opportunity to discussing the budget further with the Information Technology Board of Supervisors Committee.

Allen Scott Varner
Director of Information Technology and MIS
November 2, 2016

Department Summary Information

The Frederick County Department of Information Technology and GIS (ITMIS) provides and supporting reliable technologies and technology-based services in a timely, high-quality, cost-effective manner to all clients of county government. In the process of contributing to an efficient and productive County government, the department has established the following guiding principles to provide focus for the delivery of this mission.

ALIGN IT AND GIS WITH ORGANIZATION GOALS

Information Technology has become a vital component in every department's service delivery methods. As strategic plans are developed for each facet of County government, Information Technology will play a key role in ensuring the advancement of the overall organizational goals. The adoption of new technology will be driven by this organizational need and the necessity to provide public service that is dramatically more effective.

INCREASE USEFUL SERVICE LEVELS

Information Technology's role in County government is to serve as internal consultants providing high-quality responsive service. The very nature of technology being a core component of each department's mission demands superior service and reliability. Attention will be given to the effective use of customer service methodologies to promote the effective use of technology.

DELIVER APPROPRIATE TECHNOLOGY

County government needs to exploit new technologies to improve service without incurring research-and-development costs. Budget limitations demand that the implementation of new technologies be done using best practices methods. Aligning IT with organizational goals will ensure that projects are performed to promote service and not for technical acclaim.

SIMPLIFY TECHNICAL WORKING ENVIRONMENT

The industry-wide technical environment is growing in breadth and complexity every day. Serving a diverse organization with multiple objectives can easily lead to the creation of separate islands of information and technology. Standardization of the technical environment is essential in providing appropriate solutions and support. Again, aligning IT with the overall goals of the organization will provide a focus on installed technology and support.

CAPITALIZE ON EXISTING SOLUTIONS TO ENHANCE PRODUCTIVITY

Many solutions exist today for County government applications that were not available just a short time ago. Information Technology will work to determine the known best practices to improve the effectiveness of each department's technical solutions.

REALIZE EFFECTIVE RETURN ON TECHNOLOGY INVESTMENTS

Constant attention must be given to technology trends and cycles to get the most value for the investment placed in technology. Increased use and complexity of technology has not always resulted in an increase in funding. Continual budget planning will guarantee that the investment is worthwhile while keeping the technology current and effective.

REFINE RAW MATERIALS INTO A SUPERIOR SERVICE ORGANIZATION

The product of an effective service organization is the infrastructure of personnel and equipment that supports the operation. Increased funding for personnel and equipment has provided the foundation. Emphasis on service delivery and an increased value on staff, clients, and vendors will provide the opportunity to maintain and promote the IT workforce as a superior service organization.

To provide a manageable level of service and the ability to correlate performance indicators, ITMIS has organized service delivery into the following programmatic/priority areas:

IT OPERATIONAL AREAS

Infrastructure Services

Help Desk

Application Services

Communication Services

Interagency Services

GIS OPERATIONAL AREAS

Addressing Services

Mapping Services

GIS Application Services

Help Desk

Expanded cyber-security threats, limited notification of end-of-support systems and changing mandates lead to unpredictability in the information technology industry. With budgetary cycles requiring identification of fiscal needs a year in advance of deployment and the rate of industry advancement, ITMIS finds itself frequently adjusting fiscal needs and priorities to keep up with the industry.

As the commercial industry expands mobile access to data, the expectation for mobility within the County enterprise expands. Additionally, County agencies have recognized the benefits of digitizing data, which can lead to better access, more productivity and expanded efficiencies. ITMIS's challenge is to balance these accessibility options against the need to protect County data from expanding cyber-security threats and other forms of data loss.

Program Plans

INFORMATION TECHNOLOGY

Infrastructure services

Provides organizational computer, server, and network design, engineering, maintenance, repair and support services. Supports the following technical areas:

Network (LAN & WLAN)	Servers	Voice over Internet Protocol (VOIP) and Fax
User Devices (Hardware)	Email	

Help desk

Provides technology customer support for Tier 1 and 2 issues to include network account management, PC software and hardware support, and voicemail account support. Supports the following technical areas:

Application Support	PC Support (Software)	Training
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Application services

Analyzes, develops, tests, integrates, manages, and supports organizational mission critical business systems and applications. Supports the following technical areas:

Custom Applications (Development and Support)	Import & Export Routines	Business Intelligence Reporting
Database Administration and Programming Services	3 rd Part Application Support	

Communication services

Supports and governs the County mission to provide timely communication to staff and citizens by utilizing current communication methods used in today's mobile and desktop environment. Supports the following technical areas:

Social Media Governance	Surveys	Cable Franchise Support
Emergency Notifications	Website (Internal & External)	

Interagency services

Support agencies outside the County organization chart as part of state mandates and interagency support of critical County functions. State Agencies include the Social Services Department, various court units, Pretrial and Probation, and the Health Department. Supports the following technical areas:

Frederick County Sheriff's Office	State Agencies
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GEOGRAPHIC INFORMATION SYSTEMS (GIS)

Addressing Services

Responsible for addressing of all structures and parcels in Frederick County and maintaining addressing database to ensure proper distribution of address numbers in accordance with GIS policy.

Mapping Services

Provide professional services for creating parcels by metes and bounds to fully digitize the entire county map. As requested, create custom maps for internal departments as well as external agencies and citizens. Supports the following technical areas:

Parcel Mapping	Custom Map Creation	Map Books for Public Safety
Analysis Projects		

GIS Application Services

Promote and support the use of GIS applications and services to enhance County business processes and land based needs. Supports the following technical areas:

ArcGIS Support	Database Administration	Pictometry
3 rd Part Software Support	ArcGIS Integration Support	Reporting Services
Training	Dispatch	Laserfiche

Help desk

Provides technology customer support for Tier 1 and 2 issues to include GIS/Laserfiche hardware and software support. Supports the following technical areas:

Application Support	Training
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Program Summary Financial Data

IT

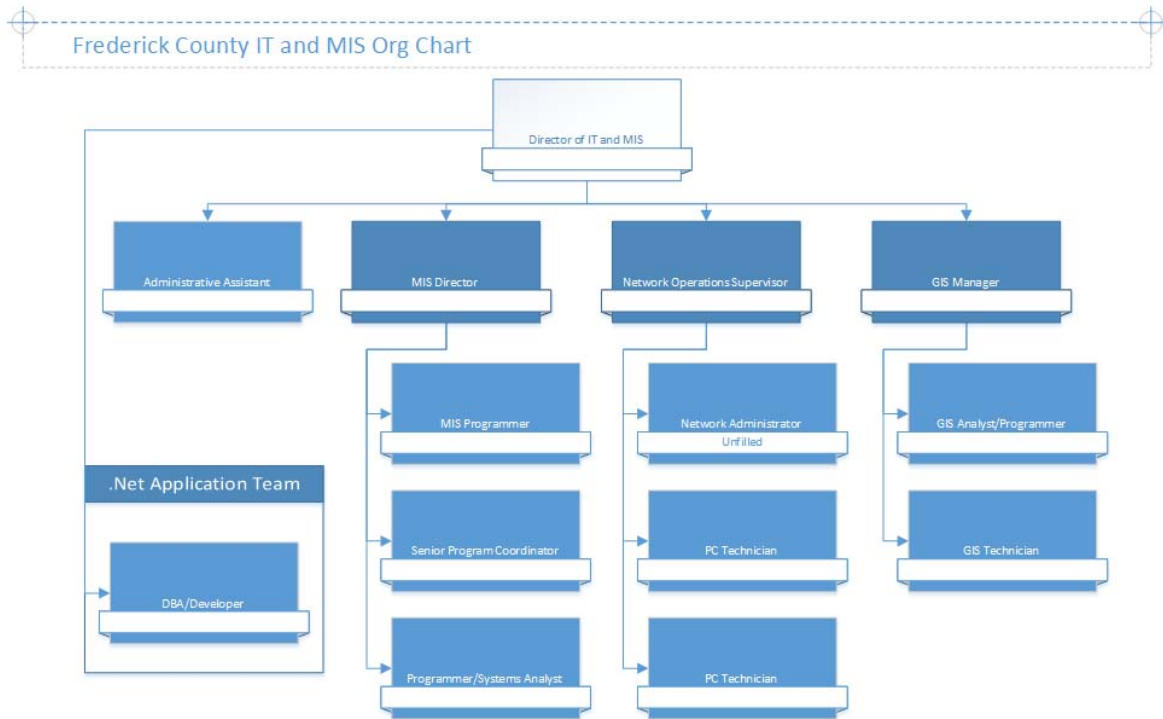
Program/Operational Area	Director	Network Operations Manager	IT Specialist	IT Specialist	Database Admin.	Admin. Assist.	Pers. Program Total
	FTE	FTE	FTE	FTE	FTE	FTE	
Infrastructure Services	20%	50%	45%	25%	0%	0%	
Help Desk	10%	10%	45%	30%	25%	60%	
Application Services	25%	5%	0%	35%	50%	0%	
Communication Services	10%	20%	0%	0%	25%	0%	
Interagency Services	5%	15%	10%	10%	0%	10%	

GIS

Program/Operational Area	Manager	GIS Analyst	GIS Technician	Pers. Program Total
	FTE	FTE	FTE	
Addressing Services	5%	5%	80%	
Mapping Services	30%	25%	10%	
GIS Application Services	35%	50%	5%	
Help Desk	10%	10%	5%	

Personnel Supplement Data

Organizational Chart



November 28, 2016

Position Allocation

IT - 10 FTE

MIS - 4 FTE