

2017

Harford County, MD

2017-2018 IT Strategy

Office of Information & Communication Technology

This document presents the IT Strategy for the Office of Information & Communication Technology in Harford County.



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1. Executive Summary

The Office of Information and Communication Technology (OICT) of Harford County Government (HCG), MD sees 2017-2018 as a period of great opportunity to increase the value of county government to the residents of Harford County, especially through innovative and pragmatic use of technology to improve county services and business processes. The strategies and projects that will be described in this document serve strategic objectives in two ways, extrinsically and intrinsically; i.e. those that directly serve the needs of county government and residents and those that seek to improve internal OICT processes and operations.

Harford County Government has a primary mission to serve the needs and protect the interests of its residents. With this in mind, the OICT team has identified three strategic objectives that further the mission of county government:

1. *Enable open government.* Deliver technology solutions that increase the transparency of county government operations and make it easier for residents to find information and interact with county government functions through as many devices, including mobile, as possible.
2. *Provide equal access.* Build high-performance communication and data network infrastructure that interconnects county buildings and facilities; and improves the ability to connect with affiliated organizations and agencies.
3. *Support public safety.* Invest in technology and projects that increase public safety. Integrate fire and EMS services with county government infrastructure and OICT support processes.

The OICT team is astutely aware of the tight budgetary constraints faced by county government officials and the ongoing mandate to control costs. There is an ever-present need to continually improve the effectiveness of delivering technology services to county government departments, employees, and residents. The three areas of 'internal-OICT' focus that will improve the department's operational effectiveness and efficiency are:

4. *Improve OICT operations.* Mature OICT planning and governance by formalizing key internal IT processes, procedures, and implementing best practices. Extend service and support hours for continuous operations.
5. *Improve OICT cost effectiveness.* Rationalize the OICT application and technology portfolio by eliminating inefficiency and redundancy, and by leveraging existing systems; and technologies more effectively. Refresh or replace aging systems and applications that incur high maintenance, and upkeep costs. Reinvest efficiency gains into continuously improving OICT value.
6. *Mitigate OICT risk.* Focus on data and information security. Build resilient 'always-available' systems. Plan for recovery activities, and test responses to ensure resiliency during unplanned downtime or disasters.

1.1. Scope

This document outlines the 2017-2018 Harford County, MD OICT Strategy. It applies to all HCG OICT projects, capital investments, operation expenditures, and staff considerations. This document will remain in-effect until updated or replaced with newer versions produced through annual strategic planning processes.

Strategic objectives endure for years and are updated or modified over time as county government mandates and requirements change. Individual strategies, supporting projects, and initiatives typically endure for a shorter period of time, and should be updated and revised more frequently, at least annually.

1.2. Mission & Vision

The mission of the OICT is that *“The OICT provides information and communication technology services to Harford County government and its residents.”*

However, its vision looks beyond the basic mission:

“The OICT team delivers innovative technology services and electronic process expertise to Harford County, enabling efficient usage of county government resources and ultimately supporting quality-of-life for county residents.”

1.3. Principles

Through the strategic objectives, projects, and initiatives it undertake; there are several underlying principles that the OICT team follows in serving its mission:

- *Security Always.* Information security and data privacy will always be considered when implementing new technologies and services. Additionally, internal OICT operational processes will follow best practices for securing systems and data.
- *Cloud First.* The OICT has a “Cloud First” approach, which includes partnering with vendors and service providers, where possible, who are better able to provide technology-based capability more effectively, securely and cost-efficiently than with current OICT resources.
- *Innovation.* The OICT team strives to find innovative ways to utilize technology and business processes to meet the continuous improvement needs of county government operations.
- *Partnership.* The OICT team continuously collaborates with other county government departments and agencies to improve county government effectiveness.

2. Strategic Objectives

Primary Beneficiary		Strategic Objective	Summary Description
Constituent Centric	County Residents	<i>Enable Open Government</i>	Information systems should promote appropriate transparency of government. This includes open sharing of information with constituents and developing systems that allow for easier interfaces with county government.
	County Agencies	<i>Provide Equal Access</i>	Develop the “Community Cloud”. This includes countywide communication and data networks, shared information systems, and telephony. Provide robust high-speed network connectivity to county facilities and affiliated agencies.
	County Residents	<i>Support Public Safety</i>	Support public safety by investing in relevant projects and information technologies, focusing initially on fire and EMS agencies. Where appropriate, leverage existing county technology resources to improve fire and EMS capability.
Internal OICT Centric	OICT	<i>Improve IT Operations</i>	Continue to develop or mature OICT planning, asset management, service & support capability, governance processes, standards, policies, procedures, and project management discipline.
	OICT	<i>Improve IT Cost Effectiveness</i>	Continuously evaluate current systems and processes looking for ways to improve utilization of existing investment or structure. Identify and eliminate redundancy and inefficiency in the OICT systems landscape.
	OICT	<i>Mitigate IT Risk</i>	Focus on delivering applications and systems that are secure and reliable. Identify and mitigate information security threats and system reliability issues.

Table 2-1: OICT Long-Term Strategic Objectives

2.1. Enable Open Government

OICT will provide technology and information systems that foster an open government approach for the residents of Harford County to interact with county government. This includes not only exposing public information on external facing systems, but also providing access methods to get to open data and systems. The OICT team will work with other county government departments and affiliated agencies, to help them develop processes for working more easily with the county and community services. The primary goal is to improve ease of interacting with Harford County government, and increased transparency of government matters through as many different devices, including mobile, as possible.

2.2. Provide Equal Access

OICT will build high-performance county government owned and operated communication and data networks within Harford County. This infrastructure will be utilized to cost-effectively connect county facilities, partner agencies, and other parties with OICT provided information systems and communication services. The initiative is dubbed “Community Cloud”; it has a primary goal of delivering information and communication services to county constituents, agencies, and partners.

2.3. Support Public Safety

The health and safety of county residents is at the forefront of government responsibilities. OICT will support this by enabling county fire and Emergency Medical Services (EMS) with technology infrastructures, systems, and applications that improve operational effectiveness and ability to quickly respond to public safety issues and events. While the initial focus may be on fire and EMS, the OICT team can help any public service agency that is charged with public safety.

2.4. Improve OICT Operations

OICT realizes that it must further mature internal OICT operational processes if it wishes to continue to improve the delivery of information and communication technology services to its customers. There are several areas of focus within this objective:

- Continue to develop service desk and support service capability, including expansion of support hours from current ‘business day’ model to 24x7.
- Continue to develop technology and application planning discipline, including budgetary and asset management practices.
- Establish tighter governance discipline to ensure compliance with plans, policies, and procedures.
- Continue to develop project planning and execution methodologies, including a PMO.
- Increase training in areas of contract management (specifically cloud and out-sourced), governance and project management for the OICT staff
- Continue to develop strategies for staff retention and cultivation to adopt to ever changing industry shifts

2.5. Improve OICT Cost Effectiveness

Continued pressure on county government operating budgets impacts all county departments. OICT realizes that it must continue to fulfill its mission in the most cost-effective manner possible. At the core, this implies a strong driver to develop more efficient and effective ways to deliver OICT services to county government customers. Cost effectiveness can be improved in a variety of ways:

- Leveraging existing investment in technology, infrastructure, systems, and applications.
- Consolidating platforms and systems; eliminating unnecessary redundancy.
- Upgrading, replacing, or phasing-out systems and technology with high support costs.
- Improving and automating internal OICT operational processes.
- Selective partnering with cloud and IT service partners who can provide OICT capability less expensively than compared to traditional 'in-house' or 'on premise' methods.
- Continue to monitor the right balance between competitive bid processes and the speed by which the needed systems and services can be procured.

2.6. Mitigate OICT Risk

As pervasive usage of information and communication technology services by county government departments and agencies increases, the risk associated with information security breaches or system outages and failures is also pervasive. OICT places a strong focus on providing applications, systems, and infrastructures that are architected to be resilient and secure. Where deficiency exists, steps will be taken to close the gaps and mitigate the risk exposure for county government operations.

3. OICT 2017-2018 Strategies

The OICT 2017-2018 operating strategy supports OICT long-term strategic objectives. As demonstrated in the following table, several strategic objectives are supported with each strategy element.

Strategies	Strategic Objectives Supported					
	Open Gov	Access	Safety	IT Ops	IT Cost	IT Risk
<i>Modernize county IT systems.</i>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Rationalize IT infrastructure, application & DB portfolio.</i>			<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Utilize "Cloud" and "XaaS" whenever possible.</i>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>Leverage Document Management Systems.</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Mature IT planning, governance, and operational processes.</i>	<input type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Efficient and mobile client-computing environment.</i>				<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
					Directly Supports	<input checked="" type="checkbox"/>
					Indirectly Supports	<input type="checkbox"/>

Table 3-1: 2017 OICT Strategies

The focus on internal OICT is evident in the 2017 strategy. The rationale for the inward looking approach is that stronger and more mature OICT processes will allow the OICT team to be better positioned to meet the strategic objectives that ultimately serve external constituents. It is reasonable to view this intrinsic approach as ‘foundation strengthening’ activity.

3.1. Modernize County IT Systems.

Harford County has numerous legacy information and communication technology systems that are increasingly difficult and expensive to support. Additionally, as these systems age they become more unreliable and prone to outages and downtime.

The first of the systems to be modernized is the IBM mainframe. This initiative involves migrating county business applications that currently run on the mainframe to other supported platforms.

Additional opportunities include telephony, network, storage, and server upgrades/replacements to refresh aging infrastructure hardware.

3.2. Rationalize OICT Portfolio.

The OICT team will evaluate the entire portfolio of county government applications, systems, and infrastructure to identify opportunities for consolidation and elimination of unnecessary redundancy within the OICT landscape. The primary goal of all rationalization activity is to maximize the utilization of existing investments in OICT, which increases the efficiency of investment dollars; while maintaining business continuity.

Additionally, within the database and application landscapes, there is significant opportunity to leverage common hosting and infrastructure platforms. Essentially, disparate and distributed applications and data can be effectively centralized into the primary data centers.

The key question to ask before investing in additional technology or building and deploying new systems: “Is there something already in use that can be utilized to meet the requirement, without impacting performance or resiliency”.

3.3. Utilize Cloud and IT Service Providers.

The OICT team will identify opportunities to selectively utilize cloud services and other IT service providers to deliver commodity services and infrastructure. The approach mitigates the need for capital investment and, perhaps more importantly, relieves unnecessary utilization of OICT team member time and attention. By freeing capital and OICT team focus from the non-valuable activities associated with day-to-day management of commodity infrastructure and services, the OICT team is better able to invest scarce time and energy into strategic OICT initiatives.

Additionally, because of scale and solution focus, cloud providers offer services that are generally more cost effective with higher levels of reliability than what can be achieved in-house along with risk mitigation. Of course, implementation planning and deployment architecture greatly impacts

the success rate of cloud services so the OICT team must become educated consumers and architects of cloud services. This requires a shift in focus from 'building and maintaining' to 'architecting and managing'.

3.4. Leverage Document Management Systems (DMS).

Our document management systems hold the promise to deliver tremendous business value to county government. As a common core platform it has the ability to support numerous other strategic objectives and operating strategies. In fact, every 2017-2018 strategy element would benefit in one way or another from increased utilization of the iShare portal including lower costs on implementation and licensing.

The list of possible benefits is long, but a representative subset of use cases includes:

- Content management, document management.
- Business process optimization with integrated workflow.
- Data analytics, reporting, interfacing with other backend data sources.
- Communication and collaboration portal.

3.5. Mature OICT Planning and Governance.

OICT will focus on developing more mature planning and governance processes in 2017. Planning is a broad area of initiative, but even modest efforts have the potential to yield significant gains in OICT efficiency. Executing without a plan will produce undesirable results and issues. Therefore, the OICT team will focus on a 'plan-then-execute' approach to conducting its business.

Governance as an initiative is equally broad in scope, but at its heart; governance has the basic goals of reducing risk and waste and ensuring that routine processes and procedures are followed. This pertains not just within OICT, but also by all that consume OICT services.

3.6. Efficient and Mobile Client Computing.

The end user will also get focus in 2017. This includes evaluating emerging technologies and architectures for end-user platforms. Desktop virtualization, thin terminals, BYOD, mobile office space and endpoint security top the list of initiatives that will improve the end-user experience.

4. OICT Projects

Example projects with linkage to objectives and strategy.

Project	Strategic Objectives Supported					
	Open Gov	Access	Safety	IT Ops	IT Cost	IT Risk
<i>ERP.</i> Implement a new enterprise resource planning system that will integrate various county accounting and financial business areas.	<input checked="" type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	
<i>Budget Builder.</i> Implement a cloud SaaS based budget building application that will increase collaboration and reporting capabilities.	<input checked="" type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	
<i>HMAN Resources.</i> Utilize existing countywide fiber network. Provide applications and cloud based services to subscribers.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>Data Center to the Cloud.</i> Utilize virtual and cloud environments within the county.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Cyber security.</i> Adopt secure best practice policies and procedures. Implement security technology solutions to improve the security posture of county government.			<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Energov CAP.</i> Implement a new customer access portal that provides citizens real-time information on permits, plans and inspections.	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<i>GIS Enterprise.</i> Design and build a new environment that will allow the county to leverage GIS information across departments and share with the public.	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
<i>W&S Billing.</i> Implement a new system that improves the process for reading water usage, bill creation and processing payments.	<input checked="" type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	
					Direct Support	<input checked="" type="checkbox"/>
					Indirect Support	<input type="checkbox"/>

Table 4-1: Key 2017 OICT Projects

5. Appendix

5.1. Document Control & Distribution

The IT Strategy should be updated annually in accordance with applicable OICT and county government policies and procedures. Updates and modification to the published IT Strategy must be tracked and approved prior to release.

Document Version Control					
Release #	Date of Release	Summary of changes	Prepared by	Reviewed by	Approved by
0.1	Unreleased	Draft	Ted Pibil	Not reviewed	Unapproved
0.1.1	Unreleased	Draft	Ted Pibil	Not reviewed	Unapproved
0.9	Unreleased	Draft	Ted Pibil	Not reviewed	Unapproved
1.0	04/21/2014	Prepare for release	Joan Ingold	Ted Pibil	Ted Pibil
1.1	04/30/2014	Edits from review	Ted Pibil	Ted Pibil	Ted Pibil
1.11	05/05/2014	Minor edit	Ted Pibil	Ted Pibil	Ted Pibil
2.0	02/07/2017	2017 updates	Ted Pibil	Ted Pibil	Ted Pibil

Table 5-1: IT Strategy Version Control

Every approved version should be published and released in accordance with appropriate OICT and county government policies and procedures. At minimum, updated documents must be distributed to the following:

- All staff within OICT Department.
- Other county leaders.

Document Distribution Control				
Version	Release Date	Released To	Released by	Approved by
1.0	04/21/2014	Peer Review	Ted Pibil	Ted Pibil
1.0	04/26/2014	OICT Team Leads Review	Ted Pibil	Ted Pibil
1.1	04/30/2014	Director of Administration	Ted Pibil	Ted Pibil
1.11	05/05/2014	Public Document	Ted Pibil	Ted Pibil
2.0	02/07/2017	Public Document	Ted Pibil	Ted Pibil

Table 5-2: IT Strategy Release Control

5.2. Abbreviations

Abbreviations	
Abbreviation	Meaning
OICT	Office of Information and Communication Technology

AD	Active Directory
DMS	Document Management Systems
DES	Department of Emergency Services
BYOD	Bring Your Own Device

Table 5-3: Abbreviations

5.3. Definitions

Definitions	
Word or Term	Definitions
Business Continuity Plan (BCP)	BCP is the preparation and testing of measures that protect business operations and also provide the means for the recovery of technologies in the event of any loss, damage or failure of facilities.

Table 5-4: Definitions

5.4. Related Documents & Information

Related Documents		
Document	Purpose	Location
Cyber Security Plan		//ishare.harfordcountymd.gov/ict/cybersec
OICT COOP Plan	BCP for OICT	//ishare.harfordcountymd.gov/ict/dr
Incident Response Plan	Cyber security Incident Response	//ishare.harfordcountymd.gov/ict/cybersec

Table 5-5: Related Documents