(TO0) OFFICE OF THE CHIEF TECHNOLOGY OFFICER

MISSION

The mission of the Office of the Chief Technology Officer (OCTO) is to empower DC government through technology by providing valued services, advising agencies, and collaboratively governing IT.

Background

As the central technology organization for the Government of the District of Columbia, OCTO provides technology services and support for District agencies to improve services to businesses, residents, and visitors. OCTO's goal is to establish the technology systems, policies, and standards that allow over 100 agencies to operate as one government. A typical workday includes the following:

- Detect and prevent 4.8 million cyberattacks.
- Connect over 650 government buildings with a 100 gigabit network.
- Provide 40,000 WiFi connections.
- Support 36 call centers that handle close to 5,000 phone calls.
- Offer 1,000 datasets available to the public.
- Process over 2 million emails.
- Host over 100 District agency websites, which receive over 68,000 visits.
- Operate over 3,900 servers and hundreds of applications for over 87 agencies.
- Manage enterprise systems that make running the government possible, including the Human Resources system, which
 manages over 37,000 employment records, and the District's citywide procurement system, which conducts over 2,000
 procurement transactions

STRATEGIC COMMITMENTS

Commitment #1: Deliver valued enterprise technology solutions consistently and effectively to be agencies' preferred service provider

Commitment #2: Improve customer outcomes in new projects using innovative, flexible, and user-centric design processes

Commitment #3: Secure data and systems by providing governance, solutions, and developing a culture of vigilance

Commitment #4: Manage, organize, and leverage data to facilitate DC government mission delivery

Commitment #5: Design and leverage enterprise architecture to advise agencies and make strategic technology decisions for DC

SOME FISCAL YEAR 2019 RECENT ACCOMPLISHMENTS

- Completed a controlled failover with the PeopleSoft Enterprise application, successfully moving operations from the
 Production Servers at DC's primary datacenter to the Disaster Recovery (DR) servers at the alternate site datacenter.
 PeopleSoft continued operation on the DR environment for over 3 weeks, prior to switching back to the primary site. During
 the 3 week period, OCFO's Office of Pay and Retirement Services (OPRS) completed 1 full payroll cycle, generating 40,237
 paychecks/ACH deposits.
- Developed an in-house usability testing center and subject matter expertise, and launched quality control tools to help improve both government websites and mobile applications to better serve District residents and business.
- Received "Gold Certification" award by What Works Cities. Launched by Bloomberg Philanthropies, What Works Cities is
 one of the largest-ever philanthropic efforts to enhance cities' use of data and evidence. OCTO was particularly active in the
 area of Data Governance and Open Data.

Elements on this page of the Agency Summary include:

- Funding Tables: Past budget allotments show the allotment balance, calculated as allotments received to date less all obligations (the sum of expenditures, encumbrances, intra-District advances and pre-encumbrances). Agencies are allowed to encumber and pre-encumber funds up to the limit of a capital project's budget authority, which might be higher than allotments received to date. For this reason, a negative balance on a project sheet does not necessarily indicate overspending or an anti-deficiency violation. A negative balance is permitted in this calculation of remaining allotment authority.
- Additional Appropriations Data (\$000): Provides a summary of the budget authority over the life of the project. The table can be read as follows:
 - Original 6-Year Budget Authority: Represents the authority from the fiscal year in which budget was first appropriated through the next 5 years.
 - Budget Authority Through FY 2026: Represents the lifetime budget authority, including the 6-year budget authority for FY 2021 through FY 2026.
 - FY 2021 Budget Authority Revisions: Represents the changes to the budget authority as a result of reprogramming, redirections and rescissions (also reflected in Appendix F) for the current fiscal year.
 - 6-Year Budget Authority Through FY 2026: This is the total 6-year authority for FY 2021 through FY 2026 including changes from the current fiscal year.
 - Budget Authority Request Through FY 2027: Represents the 6-year budget authority for FY 2022 through FY 2027.
 - Increase (Decrease): This is the change in 6-year budget requested for FY 2022 FY 2027 (change in budget authority is shown in Appendix A).
- Estimated Operating Impact: If a project has operating impacts that the agency has quantified, the effects are summarized in the respective year of impact.
- FTE Data (Total budget in FTE Table might differ from actual budget due to rounding): Provides the number for Full-Time Equivalent (FTE) employees approved as eligible to be charged to capital projects by, or on behalf of, the agency. Additionally, it provides the total budget for these employees (Personal Services), the non personnel portion of the budget in the agency's capital plan, and the percentage of the agency CIP budget from either expense category.
- Facility Location Map: For those agencies with facilities projects, a map reflecting projects and their geographic location within the District of Columbia.

	Funding By P	hase - Prio	r Funding		Α	pproved Fu	nding					
Phase	Allotments		Enc/ID-Adv	Pre-Enc	Balance	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	6 Yr Total
(01) Design	113,281	113,380	0	0	-99	0	0	0	0	0	0	0
(02) SITE	4,352	4,350	0	0	2	0	0	0	0	0	0	0
(03) Project Management	153,454	153,397	0	0	57	0	0	0	0	0	0	0
(04) Construction	185,218	185,182	0	0	36	0	0	0	0	0	0	0
(05) Equipment	411,685	411,076	165	0	445	0	0	0	0	0	0	0
(06) IT Requirements Development/Systems Design	102,274	88,621	6,801	0	6,853	11,370	3,220	0	0	0	0	14,590
(07) IT Development & Testing	42,481	38,075	3,342	100	964	7,001	0	0	0	0	0	7,001
(08) IT Deployment & Turnover	14,452	11,382	906	211	1,952	0	0	0	0	0	0	0
TOTALS	1,027,195	1,005,462	11,213	311	10,208	18,371	3,220	0	0	0	0	21,591

F	unding By So	or Funding	Α	Approved Funding								
Source	Allotments	Spent	Enc/ID-Adv	Pre-Enc	Balance	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	6 Yr Total
GO Bonds - New (0300)	686,101	685,002	372	100	626	0	0	0	0	0	0	0
Pay Go (0301)	19,490	19,370	119	0	0	0	0	0	0	0	0	0
Equipment Lease (0302)	119,724	119,724	0	0	0	0	0	0	0	0	0	0
Alternative Financing (0303)	21,865	21,865	0	0	0	0	0	0	0	0	0	0
Short-Term Bonds – (0304)	92,019	71,823	10,722	211	9,263	10,371	3,220	0	0	0	0	13,591
ARPA-Local Revenue Replacement (0318)	0	0	0	0	0	8,000	0	0	0	0	0	8,000
Certificate of Participation (0340)	61,634	61,634	0	0	0	0	0	0	0	0	0	0
Federal Payments (0353)	1,450	1,450	0	0	0	0	0	0	0	0	0	0
Cap Fund - Fed Pmt (0355)	7,455	7,136	0	0	319	0	0	0	0	0	0	0
ARRA (0356)	17,458	17,458	0	0	0	0	0	0	0	0	0	0
TOTALS	1,027,195	1,005,462	11,213	311	10,208	18,371	3,220	0	0	0	0	21,591

Additional Appropriation Data	
First Appropriation FY	1998
Original 6-Year Budget Authority	778,748
Budget Authority Through FY 2026	1,035,423
FY 2021 Budget Authority Changes	0
6-Year Budget Authority Through FY 2026	1,035,423
Budget Authority Request Through FY 2027	1,048,787
Increase (Decrease)	13,364

Estimated Operating Impact Summary									
Expenditure (+) or Cost Reduction (-)	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	6 Yr Total		
No estimated operating impact									

Full Time Equivalent Data			
Object	FTE	FY 2022 Budget	% of Project
Personal Services	0.0	0	0.0
Non Personal Services	0.0	18.371	100.0

TO0-DSM22-DIGITAL SERVICES MODERNIZATION

Agency:OFFICE OF THE CHIEF TECHNOLOGY OFFICER (TO0)Implementing Agency:OFFICE OF THE CHIEF TECHNOLOGY OFFICER (TO0)

Project No: DSM22

Ward:

Location: DISTRICT-WIDE Facility Name or Identifier: DISTRICTWIDE

Status: New Useful Life of the Project: 10

Estimated Full Funding Cost: \$4,051,000

Description:

The Office of the Chief Technology Officer (OCTO) is requesting funding to create a Master Capital Project to design, develop, implement and enhance new or existing application services in 3 major areas: 1) Digital Services Modernization 2) Master Data Management (MDM) and 3) Infrastructure Automation.

OCTO's Digital Services Modernization (DSM) will focus on initial capital eligible projects reviewed, vetted and approved by the Investment Review Board and further refined through Cluster based IT Planning. Initial efforts will include projects such as MDM for the Health and Human services cluster to enhance the reliability and trust in reporting and dashboards, OCTO automation and orchestration of infrastructure, networking and security services to enhance self-service capabilities for all IT projects dependent on OCTO services.

DSM will standardize IT projects to adhere to security policies, ensure that systems are interoperable, that code is reusable and that user-centered design is the intent to ensure value.

OCTO's internal focus on Infrastructure Automation will ensure that all DSM projects, as well as other projects through any funding mechanism, benefit from our approach to creation of modern government services. Our automation efforts will create self-service centers to orchestrate IT services requests related to infrastructure, networking and security. This will enhance our documentation and recovery capabilities of system configurations and help create a more robust availability framework for all OCTO customers.

Justification:

OCTO has a statutory role in ensuring the District Government is delivery technology in an efficient and effective manner. OCTO has proposed this project to increase its capabilities to modernize IT systems. This master project will execute on all capital phases including design, analysis and planning activities, implementation, testing and enhancement through post-implementation project work such as final documentation, creating of training collateral and hand-off to operations and maintenance. OCTO will execute on improvement requests that the Employees, Residents, Business and Visitors demand in a manner that will reduce operational costs. Standard development methods allow us to measure success against documented metrics and ensure service delivery goals are met.

Progress Assessment:

New project

Related Projects:

None

F	Funding By Phase - Prior Funding							Approved Funding					
Phase	Allotments	Spent En	c/ID-Adv	Pre-Enc	Balance	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	6 Yr Total	
(07) IT Development & Testing	0	0	0	0	0	4,051	0	0	0	0	0	4,051	
TOTALS	0	0	0	0	0	4,051	0	0	0	0	0	4,051	
F	Funding By Source - Prior Funding Approved Funding												
Source	Allotments	Spent En	c/ID-Adv	Pre-Enc	Balance	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	6 Yr Total	
Short-Term Bonds – (0304)	0	0	0	0	0	4,051	0	0	0	0	0	4,051	
TOTALS	0	0	0	0	0	4.051	0	0	0	0	0	4.051	

Additional Appropriation Data	
First Appropriation FY	
Original 6-Year Budget Authority	0
Budget Authority Through FY 2026	0
FY 2021 Budget Authority Changes	0
6-Year Budget Authority Through FY 2026	0
Budget Authority Request Through FY 2027	4,051
Increase (Decrease)	4,051

Estimated Operating Impact Summar	y						
Expenditure (+) or Cost Reduction (-)	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	6 Yr Total
No estimated operating impact							

Milestone Data	Projected	Actual
Environmental Approvals		
Design Start (FY)	10/1/2021	
Design Complete (FY)		
Construction Start (FY)		
Construction Complete (FY)		
Closeout (FY)	12/30/2028	
- '		

Full Time Equivalent Data			
Object	FTE	FY 2022 Budget	% of Project
Personal Services	0.0	0	0.0
Non Personal Services	0.0	4,051	100.0

TO0-DSM20-DIRECTORY SERVICES MODERNIZATION

 Agency:
 OFFICE OF THE CHIEF TECHNOLOGY OFFICER (TO0)

 Implementing Agency:
 OFFICE OF THE CHIEF TECHNOLOGY OFFICER (TO0)

Project No: DSM20

Ward:

Location: DISTRICT-WIDE

Facility Name or Identifier: INFORMATION TECHNOLOGY

Status: In multiple phases

Useful Life of the Project: 7

Estimated Full Funding Cost: \$6,975,000

Description:

The goal of this project is to implement a modernized consolidated Active Directory environment that can be used to authenticate any device and/or user that access the District's enterprise-wide Information Technology and Communications network. A consolidated Active Directory environment enables user mobility, common user provisioning processes, consolidated reporting, and unified management of machines as well as Single Sign-On (SSO). As part of the Directory Services Modernization effort a modernized Identity Management System (IDMS) will be implemented that can be used to authenticate any device and/or user that access the District's enterprise-wide Information Technology and Communications network. The identity management system will also be leveraged to provide DC residents with access to government facilities and programs by improving authentication for systems such as DC One card.

Justification:

Justification:

- · Consolidation of Active Directories
- o Consolidated AD model is a more elegant approach to district wide user management.
- o Results in user portability, shared GAL (Global Address List) and consolidated reporting enhance productivity
- o Enables multi-factor authentication
- ☐ Greatly reduce the risk of successful phishing attacks against the District.
- ☐ Enable the use of single sign-on while reducing the risk that a single stolen password unlocks multiple District applications

Progress Assessment:

Progressing in multiple phases

Related Projects:

None

F	unding By Phase -	Prior Fun	ding		Α	pproved F	unding					
Phase	Allotments	Spent I	Enc/ID-Adv	Pre-Enc	Balance	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	6 Yr Total
(07) IT Development & Testing	4,025	1,033	2,952	0	40	2,950	0	0	0	0	0	2,950
TOTALS	4,025	1,033	2,952	0	40	2,950	0	0	0	0	0	2,950
Funding By Source - Prior Funding												
Fi	unding By Source -	Prior Fun	nding		Α	pproved F	unding					
Source Ft	unding By Source -		nding Enc/ID-Adv	Pre-Enc	A Balance	pproved Fi	unding FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	6 Yr Total
-				Pre-Enc				FY 2024	FY 2025	FY 2026	FY 2027	6 Yr Total 2,950

Additional Appropriation Data	
Additional Appropriation Data	
First Appropriation FY	2020
Original 6-Year Budget Authority	5,575
Budget Authority Through FY 2026	5,575
FY 2021 Budget Authority Changes	0
6-Year Budget Authority Through FY 2026	5,575
Budget Authority Request Through FY 2027	6,975
Increase (Decrease)	1,400

Estimated Operating Impact Summar	у						
Expenditure (+) or Cost Reduction (-)	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	6 Yr Total
No estimated operating impact							

Milestone Data	Projected	Actual
Environmental Approvals		09/1/2019
Design Start (FY)		02/1/2020
Design Complete (FY)		09/1/2020
Construction Start (FY)		03/1/2021
Construction Complete (FY)	09/30/2022	
Closeout (FY)	12/30/2023	
,		

Full Time Equivalent Data			
Object	FTE	FY 2022 Budget	% of Project
Personal Services	0.0	_ 0	0.0
Non Personal Services	0.0	2,950	100.0



TO0-DR018-DISASTER RECOVERY & COOP IMPLEMENTATION

 Agency:
 OFFICE OF THE CHIEF TECHNOLOGY OFFICER (TO0)

 Implementing Agency:
 OFFICE OF THE CHIEF TECHNOLOGY OFFICER (TO0)

Project No: DR018

Ward:

Location: DISTRICT-WIDE

Facility Name or Identifier: INFORMATION TECHNOLOGY

Status: In multiple phases

Useful Life of the Project: 5+

Estimated Full Funding Cost: \$21,590,000

Description:

The purpose of this ongoing project is to deploy a redundant and highly available infrastructure to host the failover systems for all the District critical applications, to include those associated with public safety.

The Disaster Recovery and Continuity of Operations (DR-COOP) project will also focus on implementing a highly-available, and scalable virtual platform to supporting the critical DC Government enterprise applications and services. Single points of failure (SPOF), end of life (EOL) and end of support (EOS) systems will be replaced with new and supported versions deployed in a redundant architecture (multiple fault and update domains) to achieve increased uptime (99.999% availability) and prevent system impact or downtime related to maintenance or upgrade related activities.

Justification:

Recently, during a quick exercise with some public safety agencies, we discovered that there are multiple critical application including public safety systems that are currently single threaded with no secondary / failover location and no proper Disaster Recovery strategy.

For example: The existing infrastructure deployed at the OUC only, is inadequate to meet the failover and business continuity requirements for critical public safety applications. To ensure that all critical applications including public safety applications are fully redundant with proper backup strategies, the OCTO team will conduct a detailed analysis of all agencies and work with them to make every critical application fully redundant. If this effort is not implemented, key District applications that are currently not redundant or have backup systems, will continue to run single threaded; resulting in a risk to public safety functions that that will directly impact citizens.

Progress Assessment:

In FY22, the DR-COOP project will be focused on establishing failover and DR capabilities to the DC Metrpolitan Police Department and Enterprise services provided by OCTO.

All end of life/end of support equipment server, disk storage arrays and enclosures and data protection equipment will be replaced with newer supported equipment, deployed in a highly available and redundant architecture (multiple fault and update domains). This will eliminate single points of failure (SPOF) and significantly reduce downtime and impact to critical enterprise systems during scheduled maintenance or upgrade activities.

The ultimate goal of the DR-COOP project is to ensure OCTO is able to seamlessly move critical data and workloads within and across datacenters without user or service impact (achieving 99.999% availability).

Related Projects:

None

	Funding By Phase	- Prior Fu	nding		Α	pproved F	unding					
Phase	Allotments	Spent	Enc/ID-Adv	Pre-Enc	Balance	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	6 Yr Total
(06) IT Requirements Development/Systems Design	15,000	11,423	2,867	0	710	3,370	3,220	0	0	0	0	6,590
TOTALS	15,000	11,423	2,867	0	710	3,370	3,220	0	0	0	0	6,590
Funding By Source - Prior Funding Approved Funding												
	Funding By Source	- Prior Fu	ınding		Α	pproved F	unding					
Source	Funding By Source		Inding Enc/ID-Adv	Pre-Enc	Balance	pproved F	unding FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	6 Yr Total
Source Short-Term Bonds – (0304)			Enc/ID-Adv	Pre-Enc				FY 2024	FY 2025	FY 2026	FY 2027	6 Yr Total 6,590

Additional Appropriation Data	
First Appropriation FY	2018
Original 6-Year Budget Authority	16,766
Budget Authority Through FY 2026	21,590
FY 2021 Budget Authority Changes	0
6-Year Budget Authority Through FY 2026	21,590
Budget Authority Request Through FY 2027	21,590
Increase (Decrease)	0

Estimated Operating Impact Summar	у						
Expenditure (+) or Cost Reduction (-)	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	6 Yr Total
No estimated operating impact							

Milestone Data	Projected	Actual
Environmental Approvals		
Design Start (FY)		10/1/2018
Design Complete (FY)		09/30/2019
Construction Start (FY)		10/1/2019
Construction Complete (FY)	12/30/2024	
Closeout (FY)	09/30/2025	

Full Time Equivalent Data			
Object	FTE	FY 2022 Budget	% of Project
Personal Services	0.0	0	0.0
Non Personal Services	0.0	3,370	100.0

TO0-ESI00-MP - ENTERPRISE CYBER SECURITY INITIATIVES

Agency:OFFICE OF THE CHIEF TECHNOLOGY OFFICER (TO0)Implementing Agency:OFFICE OF THE CHIEF TECHNOLOGY OFFICER (TO0)

Project No: ESI00

Ward:

Location: DISTRICT-WIDE

Facility Name or Identifier: INFORMATION TECHNOLOGY

Status: Ongoing Subprojects

Useful Life of the Project:

Estimated Full Funding Cost: \$8,500,000

Description:

Description: The Enterprise Cyber Security Initiatives Master project will provide the necessary budget for a group of projects supporting the District's central IT system and a variety of needs designed to protect our system and data. Cybersecurity or IT security, is the protection of computer systems from the theft or damage to the hardware, software or the information on them, as well as from disruption or misdirection of the services they provide. It includes controlling physical access to the hardware, as well as protecting against harm that may come via network access, data and code injection and due to malpractice by operators, whether intentional, accidental, or due to them being tricked into deviating from secure procedures

Justification:

Individual projects, which are specific District assets, collectively provide and account for budget needs to continue to provide needed protection to our system and is components so that it can be maintained and operated with current technology. As projects are planned and ready for implementation, budget allocation requests will be made – through the Office of Budget and Planning – from the Master project, so that expenditures are properly recorded to the correct asset.

Progress Assessment:

Progressing in multiple phases

Related Projects:

Sub-Project No	Sub-Project Title
EQ103C	IDENTITY AND ACCESS MANAGEMENT SYSTEM
N9101C	DC GOVERNMENT CITYWIDE IT SECURITY PROGRAM
NTU02C	UPGRADE END OF LIFE NETWORK ELECTRONICS

Fund	ing By Phase -	Prior Fu	nding			Approved F	unding					
Phase	Allotments	Spent	Enc/ID-Adv	Pre-Enc	Balance	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	6 Yr Total
(06) IT Requirements Development/Systems Design	500	0	0	0	500	8,000	0	0	0	0	0	8,000
TOTALS	500	0	0	0	500	8,000	0	0	0	0	0	8,000
Fundi Source	ng By Source - Allotments		nding Enc/ID-Adv	Pre-Enc	Balance	Approved Fi FY 2022	unding FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	6 Yr Total
Short-Term Bonds – (0304)	500	0	0	0	500	0	0	0	0	0	0	0
ARPA-Local Revenue Replacement (0318)	0	0	0	0	0	8,000	0	0	0	0	0	8,000
TOTALS	500				500	8,000						8,000

Additional Appropriation Data	
First Appropriation FY	2019
Original 6-Year Budget Authority	500
Budget Authority Through FY 2026	500
FY 2021 Budget Authority Changes	0
6-Year Budget Authority Through FY 2026	500
Budget Authority Request Through FY 2027	8,500
Increase (Decrease)	8,000

Estimated Operating Impact Summar	у						
Expenditure (+) or Cost Reduction (-)	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	6 Yr Total
No estimated operating impact							

Projected	Actual
	Projected

Full Time Equivalent Data			
Object	FTE	FY 2022 Budget	% of Project
Personal Services	0.0	0	0.0
Non Personal Services	0.0	8.000	100.0