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U.S. Department of Education

Office of the Chief Information Officer

Information Resources Management
Strategic Plan

FY 2020 – FY 2024



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1 | Executive Summary

The Department of Education's (ED or Department) mission is to promote student academic achievement and preparation for global competitiveness by fostering educational excellence and ensuring equal access. Critical to achieving this mission is ED's ability to provide world-class technology services to its employees and stakeholders nationwide. The Information Resources Management (IRM) Strategic Plan sets forth the Chief Information Officer's (CIO's) vision on the use of information technology solutions and services in support of ED's mission. The IRM Strategic Plan outlines six strategic goals that reflect methods and approaches towards improving information technology (IT) governance within ED, providing reliable, mission focused IT solutions, strengthening cybersecurity capabilities and privacy protections, improving IT awareness and engagement across the Department, strengthening the Department's IT workforce, and improve data management, enhance the use of data analytics, and promote transparency at the Department. The IRM Strategic Plan also aligns with and supports the achievement of the Agency's Strategic Plan goals, the President's Management Agenda (PMA), and Cross Agency Priority (CAP) goals related to Federal IT initiatives. The six IRM Strategic Goals are:

- **Goal 1: Strengthen the Department's IT Governance**
- **Goal 2: Provide Reliable, Mission-Focused IT Solutions**
- **Goal 3: Strengthen the Department's Cybersecurity Capabilities and Enhance Privacy Protections for Department Data and Information**
- **Goal 4: Improve IT Awareness and Engagement Across the Department**
- **Goal 5: Strengthen the Department's IT Workforce**
- **Goal 6: Improve Data Management, Enhance Data Analytics Capabilities, and Promote Transparency at the Department**

Overall, the IRM Strategic Plan highlights ED's ambitious transformation journey from Fiscal Year (FY) 2020 to FY 2024 that is designed to usher in marked improvements in overall IT service delivery, performance management practices, and enhanced protection of government systems and the data therein.

Table 1 illustrates the Department's FY 2020 – FY 2024 IRM Strategic Goals and supporting Strategic Objectives, and their alignment with the Department's Strategic Plan.



Table 1: IRM Strategic Goals and Objectives

ED FY 2020-FY 2024 Strategic Plan Alignment

Strategic Goal 1: Strengthen the Department's IT Governance

Objective 1.1	Leverage the Department's Enterprise Architecture to Drive IT Modernization	ED Strategic Goal 4
Objective 1.2	Improve Investment Lifecycle Management and Oversight for the Department's IT Portfolio	ED Strategic Goal 4

Strategic Goal 2: Provide Reliable Mission-Focused IT Solutions

Objective 2.1	Enable the Accomplishment of ED's Mission by Providing Effective IT Services	ED Strategic Goal 4
Objective 2.2	Improve the Efficiency and Effectiveness of IT Service Delivery	ED Strategic Goal 4

Strategic Goal 3: Strengthen the Department's Cybersecurity Capabilities and Enhance Privacy Protections for Department Data and Information

Objective 3.1	Mature the Department's Cybersecurity Risk Management Program	ED Strategic Goal 4 (Objective 4.3)
Objective 3.2	Improve Privacy Protections for Education Data in the Educational Community	ED Strategic Goal 3 (Objective 3.2)
Objective 3.3	Enhance Protections for ED's Information Technology Infrastructure, Systems and Data	ED Strategic Goal 4 (Objective 4.3)

Strategic Goal 4: Improve IT Awareness and Engagement Across the Department

Objective 4.1	Promote Awareness of Information Management Requirements and Capabilities	ED Strategic Goal 4
Objective 4.2	Build Stronger Customer Relationships through Increased Outreach and Engagement	ED Strategic Goal 4
Objective 4.3	Improve OCIO's Approach to IT Communications	ED Strategic Goal 4



Strategic Goal 5: Strengthen the Department's IT Workforce

Objective 5.1	Promote a Holistic Approach to IT Training	ED Strategic Goal 4
Objective 5.2	Improve the Effectiveness of the Department's IT Workforce	ED Strategic Goal 4

Strategic Goal 6: Improve Data Management, Enhance Data Analytics Capabilities, and Promote Transparency at the Department

Objective 6.1	Improve Data Governance and Management	ED Strategic Goal 3
Objective 6.2	Advance Data Analytic Capabilities	ED Strategic Goal 3
Objective 6.3	Advance Open Data and Transparency	ED Strategic Goal 3





2 | Introduction

Congress established the Department of Education (ED or Department) on May 4th, 1980 through the Education Organization Act (Public Law 96-88 of October 1979). Under this law, some of ED's primary focuses include, but are not limited to:

- Strengthening the Federal commitment to assuring access to equal educational opportunity for every individual;
- Promoting improvements in the quality and usefulness of education through Federally supported research, evaluation, and sharing of information;
- Improving the coordination of Federal education programs;
- Improving the management of Federal education activities; and
- Increasing the accountability of Federal education programs to the President, the Congress, and the public.

In order to effectively carry out its mission, ED requires effective information technology (IT) services. The Office of the Chief Information Officer (OCIO) is responsible for providing the full range of IT services (including the IT strategy, solutions, guidance, and oversight) needed to effectively support execution of ED's mission.

ED's Information Resources Management (IRM) Strategic Plan fulfills the Office of Management and Budget (OMB) requirement expressed in OMB Circular A-130 for the agency's Chief Information Officer (CIO) to develop and maintain a strategic plan which describes the Department's technology and information resource goals and how they map to the Department's mission and organizational priorities. The goals, objectives, and initiatives outlined in this IRM have been formulated to guide the IT modernization efforts that will transform the agency from its current state to its desired future state.

Execution of this IRM is subject to final approval of corresponding implementation plans as well as the availability of funding and other resources as managed through the Department's IT governance processes. The Department may re-prioritize activities based on internal or external drivers that necessitate changes.





3 | Purpose, Authority & Role of the CIO

3.1 Purpose

The purpose of the IRM Strategic Plan is to establish OCIO's strategic priorities and set forth the CIO's vision for how the Department will use information management resources to support its mission over a four-year time span. The IRM Strategic Plan supports ED's Strategic Plan and details the goals, objectives, initiatives, and targets to effectively prioritize and manage ED's IT investments.

3.2 Authority

The IRM Strategic Plan integrates external policies and directions as defined by Congress and the Administration. The Plan responds to:

- Clinger-Cohen Act of 1996
- Federal Information Technology Acquisition Reform Act (FITARA) of 2014
- OMB, Revised Circular A-130
- Federal Records Act of 1950
- 36 Code of Federal Regulations (CFR) B – Records Management
- OMB/National Archives and Records Administration (NARA) Managing Government Records Directive (M-12-18)
- Federal Information Security Modernization Act of 2014
- Foundations for Evidence-Based Policymaking Act of 2018 (Evidence Act)
- 21st Century Integrated Digital Experience Act (21st Century IDEA)
- Paperwork Reduction Act

3.3 Role of the CIO

As the Department's executive agent for IT resources, the CIO works with multiple organizational Principal Office Components (POCs) in planning and evaluating technology needs and providing advice and assistance to the Secretary of Education on the acquisition and management of information resources. Specifically, the CIO works with ED's Senior Leadership and others to develop a shared vision for conducting and optimizing ED's business processes. The CIO also develops policies to effectively manage information resources, ensures value-added technologies are available to fulfill mission needs, and provides IT services to ED POCs.





4 | IRM Strategic Goals

The CIO's vision is to support ED's mission through the acquisition and effective management of value-added technologies that implement best-in-class solutions. The IRM Strategic Plan describes the strategic goals for IT necessary to achieve the CIO's vision. Through effective implementation of the IRM Strategic Plan, the CIO will ensure that the Department can accomplish its strategic goals and objectives with the support of mission-focused IT solutions.

The six Strategic Goals defined in the IRM Strategic Plan are:

- 1. Strengthen the Department's IT Governance** | Ensure IT investments are appropriately managed through their lifecycle – from initiation to retirement – and foster transparency across the IT portfolio to effectively support ED's mission objectives while delivering business value.
- 2. Provide Reliable, Mission-Focused IT Solutions** | Strive to meet or exceed customer expectations in a variety of settings through the acquisition and deployment of reliable technology solutions that will assist customers in accomplishing ED's mission.
- 3. Strengthen the Department's Cybersecurity Capabilities and Enhance Privacy Protections for Department Data and Information** | Strengthen ED's ability to protect and safeguard the personal and financial data housed within its systems, optimize ED's risk posture, and mature the organization's ability to identify, protect, detect, respond, and recover from cybersecurity threats.
- 4. Improve IT Awareness and Engagement Across the Department** | Ensure that Department staff are aware of IT resources and requirements through increased outreach, engagement activities and effective IT communications.
- 5. Strengthen the Department's IT Workforce** | Optimize the IT capabilities of the Department's workforce through training and professional development activities, while also identifying strategies for expanding the IT workforce itself.
- 6. Improve Data Management, Enhance Data Analytics Capabilities, and Promote Transparency at the Department** | Improve ED's data governance and management, advance data analytics capabilities, and advance open data and transparency.



Table 2: Strategic Goal Overview

Strategic Goal Overview

Strategic Goal	Goal Leader
Strategic Goal 1 – Strengthen the Department’s IT Governance	OCIO Director, Information Technology Program Services
Strategic Goal 2 – Provide Reliable, Mission-Focused IT Solutions	OCIO Director, Enterprise Technology Services
Strategic Goal 3 – Strengthen the Department’s Cybersecurity Capabilities and Enhance Privacy Protections for Department Data and Information	OCIO Director, Information Assurance Services
Strategic Goal 4 – Improve IT Awareness and Engagement Across the Department	OCIO Chief of Staff
Strategic Goal 5 – Strengthen the Department’s IT Workforce	OCIO Chief of Staff
Strategic Goal 6 – Improve Data Management, Enhance Data Analytics Capabilities, and Promote Transparency at the Department	ED Chief Data Officer





5 | IRM Strategic Objectives

As previously mentioned, several actions must take place to effectively execute the IRM Strategic Plan. The following sections provide a detailed look at the strategic objectives and corresponding initiatives that address the IRM Strategic Goals.

5.1 Strategic Goal 1: Strengthen the Department's IT Governance

GOAL LEADER: OCIO DIRECTOR, INFORMATION TECHNOLOGY PROGRAM SERVICES

Goal Overview

OCIO is responsible for establishing and operating the agency's IT governance framework, which is cross-functional in nature and integrates all aspects of IT investment management (ITIM) to include capital planning, lifecycle management of IT investments and projects, and Enterprise Architecture (EA). This governance framework links standalone processes managed by Chief Executive Officer (CXO) entities (Budget, Acquisition, Human Resource Management, etc.) with OCIO IT management functions such as operations management, cybersecurity and privacy. The purpose of the IT governance framework is to facilitate enterprise governance and increase rigor in the procurement and lifecycle management of IT resources to better inform decision makers and improve the effectiveness and efficiency of the IT portfolio.

Anticipated Outcomes

Implementing a common and integrated approach to IT governance and investment management practices will enable ED to: (1) assess the technologies required to support the strategic goals and priorities of the Department, (2) select IT resources that provide maximum value to business operations, (3) monitor the agency's ability to meet established cost, schedule and performance parameters for IT projects, and (4) prioritize funding needed to address the modernization and enhancement of IT services in a timely and cost effective manner.



Table 3: Strategic Goal 1 Overview**Strategic Goal 1 – Strengthen the Department’s IT Governance**

Strategic Objective	Objective Leader
Objective 1.1 – Leverage the Department’s Enterprise Architecture to Drive IT Modernization	ED Enterprise Architect
Objective 1.2 – Improve Investment Lifecycle Management and Oversight for the Department’s IT Portfolio	OCIO Branch Chief, Investment and Acquisition Management Team

5.1.1 Strategic Objective 1.1 – Leverage the Department’s Enterprise Architecture to Drive IT Modernization

A key component of effective IT governance is a sufficiently defined EA, updated on a continual basis and available for ED staff to use in the planning and implementation of IT modernization and performance improvement initiatives. ED’s current EA contains artifacts that describe the business processes, information and data flows, and IT systems and technologies in the IT portfolio. Through the initiatives described below, OCIO will further integrate EA into IT planning activities by defining ED’s current and desired future state, along with the identification of investments and transition activities required to move from the current to the future state.

Table 4: Strategic Objective 1.1 Overview**Strategic Objective 1.1 – Leverage the Department’s Enterprise Architecture to Drive IT Modernization**

Strategic Initiative	Initiative Leader
Initiative 1.1.1 – Implement an automated Enterprise Architecture to enable access to ED’s technological capabilities through a self-service portal	ED Enterprise Architect
Initiative 1.1.2 – Drive digital transformation of ED’s services to the public through web modernization and other services in accordance with requirements of the 21 st Century IDEA	ED Enterprise Architect
Initiative 1.1.3 – Develop an enterprise cloud strategy	ED Enterprise Architect





5.1.1.1 Initiative 1.1.1 – Implement an automated Enterprise Architecture to enable access to ED’s technological capabilities through a self-service portal

OCIO will develop and launch an EA platform and associated processes that will provide greater transparency and understanding of existing and future IT solutions across the Department. This initiative supports effective IT planning and evaluation by improving transparency within the Department’s EA repository for ED stakeholders when evaluating business needs. The automated EA will help avoid duplication of technology solutions and promote shared service opportunities.

5.1.1.2 Initiative 1.1.2 – Drive digital transformation of ED’s services to the public through web modernization and other services in accordance with requirements of the 21st Century IDEA Act

OCIO will support the implementation of the requirements of the 21st Century IDEA Act by facilitating the modernization of ED’s web platforms, with the goal of enhancing service delivery and improving customer engagement experiences via sites that enable business flexibility through mobile devices and the automation of paper-based transaction services.

5.1.1.3 Initiative 1.1.3 – Develop an enterprise cloud strategy

ED’s IT Modernization Roadmap calls for the consolidation of the number of cloud service providers and provides the overarching strategy for how ED will use cloud computing services. This initiative will expand ED’s adoption of cloud service models and services by establishing an enterprise portfolio of cloud service offerings that are centrally authorized and managed. Through IT governance and in conjunction with ED’s IT Modernization Roadmap, the Department will evaluate applications and systems on an ongoing basis to identify further opportunities for cloud migration.

5.1.2 Strategic Objective 1.2 – Improve Investment Lifecycle

Management and Oversight for the Department’s IT Portfolio

Effective IT governance depends on the successful implementation of ED’s IT governance framework, and the cooperation and engagement of cross-functional governance bodies that include senior executives to ensure ITIM functions are unified (Capital Planning and Lifecycle Management). To successfully accomplish this, it will be essential to mature ED’s



governance framework to strengthen comprehensive reviews of the acquisition, planning, performance and risk management of the IT portfolio.

Table 5: Strategic Objective 1.2 Overview

Strategic Objective 1.2 – Improve Investment Lifecycle Management and Oversight for the Department’s IT Portfolio

Strategic Initiative	Initiative Leader
Initiative 1.2.1 – Mature ED’s enterprise IT governance framework	OCIO Branch Chief, Investment and Acquisition Management
Initiative 1.2.2 – Implement an enterprise Program Management Office (ePMO)	OCIO Branch Chief, Project Management
Initiative 1.2.3 – Use Technology Business Management to improve cost transparency	OCIO Branch Chief, Investment and Acquisition Management
Initiative 1.2.4 – Facilitate implementation of FITARA to improve IT portfolio management	OCIO Branch Chief, Investment and Acquisition Management

5.1.2.1 Initiative 1.2.1 – Mature ED’s enterprise IT governance framework

OCIO will mature the IT governance framework by operationalizing cross-functional IT governance boards to improve oversight and the efficient acquisition and use of IT, as well as promote the use of standardized investment and project management. Increasing the scope of oversight and improving the reporting for the IT portfolio will allow OCIO to better identify opportunities to optimize acquisition strategies and the use of emerging technologies and reduce the use of duplicative or inefficient IT systems and services.

As part of the enhanced IT governance framework, OCIO will develop and promote the use of standardized evaluation criteria for IT investments or projects, allowing for improved performance evaluation for IT investments. This approach will utilize established entry and exit criteria to evaluate progress against expected outcomes and require the development of IT investment performance metrics to effectively measure the costs and benefits of the IT portfolio.



5.1.2.2 Initiative 1.2.2 – Implement an enterprise Program Management Office

OCIO will move forward with implementing a standard approach for planning, managing, and governing IT project delivery through its lifecycle, providing a comprehensive and effective methodology to guide IT program and project management. This approach will promote and support the timely, effective, multi-disciplinary review of IT projects using proven project management practices to deliver IT systems or services in a cost-effective manner. Maturation of this initiative will include the establishment of an enterprise governance board to oversee project lifecycles, develop a program management dashboard, and document standards, policies, and guidelines to aid successful delivery of ED's IT projects.

5.1.2.3 Initiative 1.2.3 – Use Technology Business Management to improve cost transparency

Through the adoption and maturation of Technology Business Management (TBM), OCIO will integrate the management of ED's IT budget and IT spending to improve overall IT cost transparency and the understanding of factors that drive IT costs. Implementation of TBM will provide decision-makers with the needed information to allow ED to optimize its IT footprint by retiring legacy platforms, accurately evaluate the ongoing costs of maintaining an IT system and better identify modernization opportunities.

5.1.2.4 Initiative 1.2.4 – Facilitate implementation of FITARA to improve IT portfolio management

OCIO will mature ED's processes for ensuring transparency of IT resources by 1) assessing risks for all applicable IT investments through a consistent, repeatable, and recurring process to ensure that risk ratings reflect the current level of risk for the investment's ability to accomplish its goals and 2) completing reviews (e.g., TechStat) for troubled or at-risk investments. OCIO will also improve the rigor and documentation of the CIO's review and approval of all acquisition plans, acquisition strategies, or other contract actions that contain IT by updating various ITIM policies and procedures.

5.2 Strategic Goal 2: Provide Reliable, Mission-Focused IT Solutions

GOAL LEADER: OCIO DIRECTOR, ENTERPRISE TECHNOLOGY SERVICES

Goal Overview



In order to achieve its mission, ED relies on OCIO to provide the IT services necessary to effectively and efficiently perform the day-to-day work needed to serve the nation's students, teachers, and communities. As the work of the agency continues to evolve, there is a constant demand from ED components for new or modified IT solutions to accomplish ED's mission. Equally important, the IT services and solutions provided must be both reliable and accessible, as disruptions in IT services inevitably undermine ED's ability to deliver the essential services to communities and individuals across the nation. Objectives and initiatives under this goal reflect efforts and projects aimed to improve the quality, diversity, and capabilities of the IT solutions available for ED staff, while also improving the quality, consistency, and timeliness of IT service delivery.

Anticipated Outcomes

As a result of the strategic objectives and corresponding initiatives under this goal, the Department will achieve the technical flexibility and agility needed to easily address new and changing mission needs. Through improved service delivery processes and enhancements in customer service capabilities, OCIO hopes to improve customer satisfaction with the delivery and usability of IT services and solutions.

Table 6: Strategic Goal 2 Overview

Strategic Goal 2 – Provide Reliable, Mission-Focused IT Solutions	
Strategic Objective	Objective Leader
Objective 2.1 – Enable the Accomplishment of ED's Mission by Providing Effective IT Solutions	OCIO Branch Chief, Technology Solutions
Objective 2.2 – Improve the Efficiency and Effectiveness of IT Service Delivery	OCIO Branch Chief, Technology Implementation and Integration

5.2.1 Strategic Objective 2.1 – Enable the Accomplishment of ED's Mission by Providing Effective IT Solutions

The IT services provided by OCIO are essential for not only ED staff to complete their duties but the nation's public to access and interact with ED services. Employees rely on the desktop, printing, network, and telecommunication services OCIO provides to complete their work and communicate with colleagues and individuals across the nation. The nation's public and education entities rely on ED IT solutions to be effortlessly accessible,



dependable and secure. As technology continues to evolve, new challenges and opportunities frequently arise that warrant development and deployment of new solutions intended to improve the capabilities and efficiency of agency services. The following initiatives are focused on ensuring ED's core IT infrastructure and supporting business processes are updated to reflect the changing needs of the organization and position ED to fully execute and achieve the desired outcomes of ED's IT Modernization Roadmap.

Table 7: Strategic Objective 2.1 Overview

Strategic Objective 2.1 – Enable the Accomplishment of ED's Mission by Providing Effective IT Solutions

Strategic Initiative	Initiative Leader
Initiative 2.1.1 – Modernize the Department's core IT infrastructure	OCIO Branch Chief, Operational Support Services
Initiative 2.1.2 – Modernize and consolidate network operations	OCIO Branch Chief, Technology Services
Initiative 2.1.3 – Mature ED's ability to leverage cloud services	OCIO Branch Chief, Operational Support Services
Initiative 2.1.4 – Enhance mobility of the ED workforce	OCIO Branch Chief, Operational Support Services

5.2.1.1 Initiative 2.1.1 – Modernize the Department's core IT infrastructure

The predominant method by which OCIO supports ED's mission is through the design, provision, and operation of ED's core IT infrastructure – network, telecommunications, end-user computing, email, data center, helpdesk, disaster recovery, and printer services utilized by Department staff in the conduct of their business. In order to modernize this core infrastructure, in FY 2019 OCIO transitioned ED from a single service provider to multiple service providers. Specific outcomes of this transition and modernization effort included migrating personal storage to cloud-hosted storage, decommissioning legacy circuits and upgrading to Ethernet circuit, Wi-Fi bandwidth upgrade, implementing on-demand cloud printing services and managed print services, deploying improved desktop solutions, and updating and improving the integration of voice services and video conferencing with other IT components.

The transition to new services provided a number of operational and cost effective capabilities to the Department. For example, the migration of storage to a more cost-



effective cloud-hosted storage solution reduced storage costs by 92%, and the upgrade of circuits and other associated infrastructure allowed for the Department to smoothly transition to 100% telework in response to the Covid-19 Pandemic.

5.2.1.2 Initiative 2.1.2 – Modernize and consolidate network operations

In FY 2019, OCIO will begin the process of transitioning ED's networking and telecommunication services from the current legacy contract to a new contract vehicle. The initial stage of this process, to be completed during FY 2020, will allow for a consolidation of networking and telecommunication services. Additional network and telecommunication modernization efforts to include the migration to the new General Services Administration (GSA) Enterprise Infrastructure Solutions (EIS) contract will be undertaken in FY 2021- FY 2023.

In the transition period there will be like-for-like service migration to support streamlined continuity of operation for various core services. In the following years, there will be infrastructure modernization projects that will provide several state-of-the-art network capabilities to the Department.

5.2.1.3 Initiative 2.1.3 – Mature the Department's ability to leverage cloud services

A key element of ED's IT modernization effort involves increased utilization of cloud computing services; cloud services improve the mobility, flexibility, and cost effectiveness of ED's IT services. The adoption of increased cloud service offerings will provide ED's customer's with ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources that can be rapidly provisioned and released with minimal management effort or service provider interaction.

5.2.1.4 Initiative 2.1.4 – Enhance the mobility of the ED workforce

The option of mobile computing gives greater flexibilities to employees and can enhance overall productivity, allowing ED to leverage talent from all over the country, while also enabling ED employees to be agile in response to agency needs. Key components of this initiative will include utilization of virtual desktops, enabling compatibility and interoperability across multiple hardware devices, and utilization of cloud services to make applications and software accessible from multiple devices across multiple locations.



The enterprise laptop refresh provided equipment that significantly reduced boot up times while improving accessibility and security. As a result, employee downtime due to slow laptop boot up was reduced by nearly 96%.

5.2.2 Strategic Objective 2.2 – Improve the Efficiency and Effectiveness of IT Service Delivery

The broader Department relies on OCIO to not only identify the technology solutions necessary to facilitate the agency's mission, but also to ensure that those services are reliable, resilient, consistent, accessible, and able to be fully utilized in the course of accomplishing ED's mission. OCIO maintains primary responsibility for ensuring that technology solutions operate efficiently, that changes and updates are implemented effectively and without disruption of services, that customer issues are addressed timely and professionally, and that users understand how to fully utilize and operate provided services. As such, it is essential that OCIO continue to explore strategies to improve its IT service delivery, including its customer service capabilities. Through the initiatives outlined below, OCIO will implement new tools and processes to improve the timeliness, responsiveness and efficiency of its IT service delivery.

Table 8: Strategic Objective 2.2 Overview

Strategic Objective 2.2 – Improve the Efficiency and Effectiveness of IT Service Delivery

Strategic Initiative	Initiative Leader
Initiative 2.2.1 – Ensure Department users have access to IT solutions and assets that meet mission needs	OCIO Branch Chief, Operational Support Services
Initiative 2.2.2 – Implement tools to improve IT service delivery	OCIO Branch Chief, Operational Support Services
Initiative 2.2.3 – Ensure effective use of IT solutions through targeted training opportunities	OCIO Branch Chief, Technology Implementation and Integration

5.2.2.1 Initiative 2.2.1 – Ensure Department users have access to IT solutions and assets that meet mission needs

OCIO has a responsibility towards the rest of the agency to ensure that IT solutions and assets that are deployed for use throughout the agency are accessible and useable for their



intended beneficiaries, whether for specific users, for the entire Department, or for the public. As such, it is important that OCIO ensure that its IT service delivery processes include an emphasis on verifying accessibility and operational capabilities for IT solutions during the deployment process. Through this initiative and working with the Enterprise Architect, OCIO will work to reduce the amount of time needed for IT service deployment and ensure smooth transitions for existing services and onboarding of new services and solutions.

5.2.2.2 Initiative 2.2.2 – Implement tools to improve IT service delivery

OCIO is fundamentally a customer service-focused organization; the IT services and solutions provided are intended to meet the needs of the rest of ED, who effectively take on a customer relationship with OCIO. As such, OCIO will implement new tools and processes, including a self-service customer service portal and expanded IT service catalogs, to improve the customer service experience, decrease the response times for customer service requests, allow POCs direct access to IT service information, and enhance monitoring of service delivery efforts.

5.2.2.3 Initiative 2.2.3 – Ensure effective use of IT solutions through targeted training opportunities

To effectively implement technologies for the Department, the technologies not only have to be accessible, flexible, extensible, and integrated, but users need to know how they can be used to support their business processes and functions. OCIO will provide training on specific technologies to ED users to ensure they have the skills to effectively navigate new and legacy systems and datasets, and to execute critical business and mission processes. OCIO will also educate business process owners on IT solutions that could automate their manual processes or improve inefficient processes.

5.3 Strategic Goal 3: Strengthen the Department's Cybersecurity Capabilities and Enhance Privacy Protections for Department Data and Information

GOAL LEADER: OCIO DIRECTOR, INFORMATION ASSURANCE SERVICES

Goal Overview

Cybersecurity is critical to the business and mission of an organization. A lack of focus and investment in cybersecurity can directly impact ED's ability to serve the public. Cyber threats



and incidents cause disruption in day-to-day operations incurring the additional burden to repair affected systems all resulting in financial and reputational loss. By improving cybersecurity capabilities, the Department can better manage cybersecurity risks to:

- Protect data and assets from unauthorized access;
- Improve business and continuity management;
- Improve stakeholder confidence; and,
- Improve recovery times in the event of a breach.

This IRM Strategic Goal is aligned with ED’s Strategic Objective 4.3. ED’s Strategic Objective 4.3 requires the agency to strengthen its cybersecurity more generally by focusing on providing proactive cybersecurity services, improving continuous monitoring and threat intelligence capabilities, and strengthening ED’s cybersecurity workforce.

Anticipated Outcomes

Within the below stated objectives, ED’s cybersecurity strategy identifies eight key initiatives, which will encompass several projects over the next four years that will reduce the risk of cybersecurity incidents. This strategy also serves as an established guide and approach needed to drive both short and long-term priorities for ED’s enterprise cybersecurity program. Finally, this strategy will provide a roadmap to improve the Department’s posture and protect its systems, applications, infrastructure, and information from cybersecurity threats.

Table 9: Strategic Goal 3 Overview

Strategic Goal 3: Strengthen the Department’s Cybersecurity Capabilities and Enhance Privacy protections for Department Data and Information

Strategic Objective	Objective Leader
Objective 3.1 – Mature the Department’s Cybersecurity Risk Management Program	OCIO Branch Chief, Governance, Risk and Compliance
Objective 3.2 – Improve Privacy Protections for Education Data in the Educational Community	OCIO Director, Information Assurance Services
Objective 3.3 – Enhance Protections for ED’s Information Technology Infrastructure, Systems and Data	OCIO Branch Chief, Cyber Operations



5.3.1 Strategic Objective 3.1 – Mature the Department’s Cybersecurity Risk Management Program

To ensure that cybersecurity risks are known and managed across ED, cybersecurity risk will need to be considered in all phases of ED’s IT governance framework. Enhancing ED’s policies, processes, standards, and guidelines as it pertains to cybersecurity risk management is key to growing and improving ED’s cybersecurity risk management program. OCIO will work to reduce ED’s cybersecurity risk through the development of policies and processes that will directly influence and enable monitoring of ED’s cybersecurity hygiene. OCIO will also design and implement cybersecurity requirements, measures, and solutions which will harden ED’s enterprise, and align those activities with cybersecurity risk assessments to identify, categorize, and prioritize risk to drive decision making. The implementation of automated tools, strengthening of internal controls, and standardization of processes and reporting will further reduce ED’s cybersecurity risk.

Table 10: Strategic Objective 3.1 Overview

Strategic Objective 3.1 – Mature the Department’s Cybersecurity Risk Management Program

Strategic Initiative	Initiative Leader
Initiative 3.1.1 – Enhance organizational capabilities to manage cybersecurity risk	OCIO Branch Chief, Governance, Risk and Compliance
Initiative 3.1.2 – Enable cybersecurity data dominance to inform decisions	OCIO Branch Chief, Security Engineering and Architecture
Initiative 3.1.3 – Develop and implement enterprise controls to reduce risk	OCIO Branch Chief, Security Engineering and Architecture

5.3.1.1 Initiative 3.1.1 – Enhance organizational capabilities to manage cybersecurity risk

OCIO will formalize ED’s Cybersecurity Risk Management governance processes through the incorporation of cybersecurity risk management into ED’s IT investment management, project management, procurement, and resource management processes. OCIO will also enhance its Cybersecurity Framework (CSF) Risk Scorecard to mature and modernize data points captured to improve cybersecurity planning, awareness, and risk posture visualization around the IT portfolio. An additional key focus will be to increase phishing awareness and exercise reporting rates while reducing susceptibility to phishing attacks through lessons learned and increased vigilance.



5.3.1.2 Initiative 3.1.2 – Enable cybersecurity data dominance to inform decisions

OCIO will continue to foster its advanced analytics and innovative techniques to track, collect, and analyze risk to demonstrate the effectiveness of risk reduction measures across the ED enterprise. Through the development of a Cyber Data Lake and enhancements to ED's Continuous Diagnostics and Mitigation (CDM) capabilities, OCIO will continue to augment its data analytics capabilities around the cyber-space. OCIO will also establish data models and data quality standards to ensure the quality, accessibility, and use of data to inform cybersecurity risk decisions. Additionally, OCIO will identify, develop and provide training on policies, procedures and practices that emphasize data-driven decision-making specific to cybersecurity.

5.3.1.3 Initiative 3.1.3 – Develop and implement enterprise controls to reduce risk

OCIO will continue to mature ED's Common Controls Catalog to ensure that its use is integrated into risk management processes and that governance processes around shared risks are established. OCIO will also continue to improve on standards around identity and access management, incident recovery, and contingency planning, to include the implementation of an enterprise-wide Identity, Credentials, and Access Management (ICAM) solution and integration of ED systems with this solution. OCIO will mature the existing sets of security controls, including the implementation and integration of CDM capabilities for Department systems. OCIO will continue exploring and adapting modern types of controls, with a focus on controls that will result in cybersecurity risk reduction on an enterprise-wide scale, such as the adoption of Zero Trust controls and the maturation of Trusted Internet Connection (TIC) 3.0 capabilities.

5.3.2 Strategic Objective 3.2 – Improve Privacy Protections for Education Data in the Educational Community

Given ED's responsibilities as a steward of the data it collects in conducting its mission, it is essential that the agency has protections in place to ensure that the increased use of data for program evaluation and policymaking is accompanied by improved privacy protections and better transparency of data practices both within ED and throughout the education community, in accordance with Strategic Goal 3 of ED's Strategic Plan. As such, OCIO will develop increased knowledge of all the data types within the ED enterprise, and improve its understanding of how data is stored, collected, and processed. OCIO's efforts to improve



ED's privacy protections will focus on processes and procedures that will assist in driving day-to-day tasks throughout the enterprise.

Table 11: Strategic Objective 3.2 Overview

Strategic Objective 3.2 – Improve Privacy Protections for Education Data in the Educational Community

Strategic Initiative	Initiative Leader
Initiative 3.2.1 – Strengthen protections around the Title IV funds ED provides to borrowers through Institutions of Higher Education	OCIO Director, Information Assurance Services
Initiative 3.2.2 – Partner with external non-government organizations to strengthen information systems and services	OCIO Director, Information Assurance Services
Initiative 3.2.3 – Implement strategies around General Data Protection Regulation and offensive cybersecurity	OCIO Director, Information Assurance Services

5.3.2.1 Initiative 3.2.1 – Strengthen protections around the Title IV funds ED provides to borrowers through Institution of Higher Education

OCIO will evaluate and pursue opportunities to strengthen agreements with Institutions of Higher Education (IHE) to ensure greater protection of funds to reduce threat to borrowers from fraud and misuse. This strategic initiative requires the collaboration and support of stakeholders across the Department and a close partnership between OCIO and Federal Student Aid (FSA).

5.3.2.2 Initiative 3.2.2 – Partner with external non-government organizations to strengthen information systems and services

ED's technical and cybersecurity leadership will develop and implement an engagement approach to assist IHEs and other non-government organizations (NGO) in identifying effective strategies for protecting assets entrusted to them and to help build cyber resilient services. While the focus of this initiative is on the protection of information systems that process, store, and transmit financial assets on behalf of ED, the collaboration and information sharing could have much broader and positive impact on the cybersecurity of information systems that support and contribute to the educational journey of the nation's students.



5.3.2.3 Initiative 3.2.3 – Implement strategies around General Data Protection Regulation and offensive cybersecurity

OCIO will work to enhance awareness of the General Data Protection Regulation (GDPR), and current and future privacy safeguards. OCIO will identify gaps and plan future projects to further improve the program to ensure compliance with new requirements. New processes will be developed to ensure data protections are being adhered to, as well as providing a notification mechanism to automate both proactive and reactive process requirements. Under this initiative, OCIO will also increase the ability to conduct full life-cycle audits and maintain associated audit trails.

5.3.2.4 Initiative 3.2.4 – Implement integrated and comprehensive privacy and risk Department-level scorecard and reporting

OCIO will work to enhance current risk and privacy scoring capabilities to fully integrate NIST Privacy framework constructs. In collaboration with the Department's Senior Agency Official for Privacy (SAOP), OCIO will establish a plan for the development of an integrated Risk and Privacy scorecard to further improve the program and ensure compliance with new requirements. New privacy scoring processes will be developed and integrated within the CSF Risk Scorecard to ensure comprehensive cybersecurity risk, privacy, and data breach risks are quantified and prioritized, as well as providing a notification mechanism to automate both proactive and reactive process requirements.

5.3.3 Strategic Objective 3.3 – Enhance Protections for ED's Information Technology Infrastructure, Systems and Data

A central element of ED's Strategic Plan is the need to enhance and evolve ED's cybersecurity program in alignment with the functions outlined in the National Institute for Standards and Technology's CSF. As such, the following initiatives are intended to allow ED to make incremental and continuous progress towards increasing levels of maturity for each of the CSF components. The goal of these efforts is to achieve the "managed and measurable" maturity level in each CSF area, and to achieve "optimized" where practical.

OCIO has identified enterprise-wide cybersecurity situational awareness geared towards gaining actionable intelligence as a critical need. To this end, the focus of this Strategic Objective is to provide a unified and standardized approach to cybersecurity data collection and shared analytics through collaboration and Security Operations Center (SOC) maturation. OCIO will work with stakeholders such as FSA to consolidate and streamline



SOC processes where possible and with the Department's Federal Senior Intelligence Coordinator (FSIC) to enhance the insider threat capability as it pertains to counterintelligence and enhanced threat management.

Table 12: Strategic Objective 3.3 Overview

Strategic Objective 3.3 – Enhance Protections for ED's Information Technology Infrastructure, Systems and Data

Strategic Initiative	Initiative Leader
Initiative 3.3.1 – Strengthen ED's threat management and counterintelligence capabilities	OCIO Branch Chief, Cyber Operations
Initiative 3.3.2 – Security Operations Center maturation initiative	OCIO Branch Chief, Cyber Operations

5.3.3.1 Initiative 3.3.1 – Strengthen ED's threat management and counterintelligence capabilities

OCIO will take a phased approach to implement heightened threat management and counterintelligence capabilities. Enhancements to the Department's insider threat capability will promote communication and decision-making within all ED environments to include policy, protections, and resource allocations. OCIO will create insider threat technology policies, processes, and procedures to establish insider threats as a core competency objective to protect IT applications, systems, and networks. OCIO will work to develop quantitative metrics to address the core competencies of the insider threat capability for senior leadership awareness. OCIO will monitor emerging technical threats and vulnerabilities as part of continued process improvement to modify measures as needed for enhance safeguards. Evolution of ED's threat management and counterintelligence capabilities will be accomplished in concert and collaboration with the FSIC, as appropriate.

5.3.3.2 Initiative 3.3.2 – Security Operations Center maturation initiative

To increase the overall maturity of ED's SOC capability, improve the protection of High Valued Assets (HVAs), and improve the security of ED's IT environment, ED plans to consolidate the SOC operations and incorporate continuous process improvements. This initiative will streamline Tier I, II, and III incident response operations to optimize process execution while reducing process duplicity. Through common processes and team



consolidation, the improved SOC environment will increase Tier III capabilities in advanced threat analysis, identity and access management, enhanced digital forensics, and security data collection and analysis. Through maturation, the SOC function will result in enterprise-wide governance, human capital, staffing, and training plans. The maturation of SOC functions will be guided by common processes and procedures across all environments; increasing core competencies to include data loss prevention, intrusion prevention, incident triage, and incident management.

5.4 Strategic Goal 4: Improve IT Awareness and Engagement Across the Department

GOAL LEADER: OCIO CHIEF OF STAFF

Goal Overview

For OCIO to execute its mission of effectively providing IT services for the Department, it is essential that OCIO ensure all Department staff are aware of IT and information management requirements, understand the full range of IT resources and assets available to meet their needs, and that OCIO's relationship with other POCs encourages bi-directional communication and continuous engagement.

Anticipated Outcomes

Through the objectives and initiatives described below, OCIO will ensure that it maintains effective and consistent communication and engagement with the rest of the Department. Specific outcomes to be achieved in conjunction with this effort include:

- Optimization of OCIO communication channels to prevent information gaps from developing and to ensure full accessibility of relevant information disseminated by OCIO
- Standardization of OCIO's communication planning and dissemination processes to improve the quality and consistency of OCIO's communications
- Increased frequency and quality of outreach efforts to improve the relationship between OCIO and other parts of the Department, which will help address communication barriers and increase awareness and investment in OCIO services

Ultimately, through these efforts, OCIO hopes to improve overall awareness and engagement by the broader Department with respect to IT resources and requirements,



which in turn should improve the utilization of services, compliance with applicable requirements, and return on IT investments.

Table 13: Strategic Goal 4 Overview

Strategic Goal 4 – Improve IT Awareness and Engagement Across the Department	
Strategic Objective	Objective Leader
Objective 4.1 – Promote Awareness of Information Management Requirements and Capabilities	Agency Records Officer
Objective 4.2 – Build Stronger Customer Relationships and Improved IT Awareness through Increased Outreach and Engagement	OCIO Director, Enterprise Technology Services
Objective 4.3 – Improve OCIO's Approach to IT Communications	OCIO Chief of Staff

5.4.1 Strategic Objective 4.1 – Promote Awareness of Information Management Requirements and Capabilities

One of the key roles for OCIO is to ensure that all ED staff are aware of their responsibilities for managing the information that they collect, produce, and disseminate. This includes insuring that Department staff are appropriately classifying and storing all records and making information accessible both internally and externally to individuals with disabilities. Doing so ensures not only that ED meets its statutory requirements, but also that the information managed by ED is effectively and efficiently managed and readily accessible for those who need it.

Table 14: Strategic Objective 4.1 Overview

Strategic Objective 4.1 – Promote Awareness of Information Management Requirements and Capabilities	
Initiative	Initiative Leader
Initiative 4.1.1 – Ensure understanding and awareness of records and information management requirements	Agency Records Officer
Initiative 4.1.2 – Ensure accessibility factors are considered for information resource deployment	OCIO Branch Chief, Information Management



5.4.1.1 Initiative 4.1.1 – Ensure understanding and awareness of records and information management requirements

Through the development of a directive and operational manual ED will gain a better understanding of how to handle sensitive information associated with functions such as grants, personnel and loans. This new directive and its associated operating procedures will standardize how ED protects its most sensitive information. OCIO will enhance the Department's Federal records management directive and information retention policies to enable ED to transition its business and recordkeeping processes to a digital environment. OCIO will also launch a new joint Federal records management and Controlled Unclassified Information (CUI) training program to enable employees to understand what information they create and how it should be protected. Finally, OCIO will launch a change management initiative to determine how employees, contractors and partners are affected by CUI requirements and what is necessary to remedy any challenges.

5.4.1.2 Initiative 4.1.2 – Ensure accessibility factors are considered for information resource deployment

Through updates to current policies and procedures to officially establish, maintain and promote requirements in Sections 504 and 508 of the Rehabilitation Act of 1973, ED will ensure that information technology will continue to be accessible to people with disabilities, including employees and the public. OCIO will establish a community of action to proactively assist POCs in navigating the complicated requirements of the Rehabilitation Act.

5.4.2 Strategic Objective 4.2 – Build Stronger Customer Relationships and Improved IT Awareness

Given the nature of OCIO's mission as a service provider, it is essential that OCIO utilize an effective approach for engaging its customers to ensure fidelity of service delivery, understanding of IT requirements, and effective management of ED's IT assets. While OCIO regularly engages staff, including both IT professionals and non-IT professionals, additional efforts could improve the feedback received and outcomes achieved for OCIO provided services.

Table 15: Strategic Objective 4.2 Overview



Strategic Objective 4.2 – Build Stronger Customer Relationships and Improved IT Awareness through Increased Outreach and Engagement

Strategic Initiative	Initiative Leader
Initiative 4.2.1 – Increase the quality and frequency of customer outreach and engagement activities	OCIO Branch Chief Operations Support Services
Initiative 4.2.2 – Revise customer needs assessment approach to better identify Department IT needs	OCIO Branch Chief Operations Support Services

5.4.2.1 Initiative 4.2.1 – Increase the quality and frequency of customer outreach and engagement activities

OCIO has recently embarked upon a series of engagements with Department customers structured as “OCIO Town Halls,” as well as bi-annual visits to the Department’s regional offices. The initial feedback on these efforts has been positive, and there is potential to expand OCIO’s engagement strategy to include more focused outreach efforts. This initiative will concentrate on the development of a new customer engagement strategy to strengthen its relationships and engagement levels with ED’s lines of business stakeholders, and regional offices, allowing OCIO to get a better sense of the IT needs and issues in the execution of their mission, allow for collaboration to identify appropriate IT solutions, and obtain direct feedback on services being provided on a continuous basis.

5.4.2.2 Initiative 4.2.2 – Revise customer needs assessment approach to better identify Department IT needs

To ensure that IT solutions and services are utilized to accomplish ED’s mission, it is important that OCIO have processes in place to assess the agency’s IT needs and verify that provided solutions are meeting identified needs. While, in many instances, OCIO learns of customer needs through requests from across the agency, OCIO will establish improved procedures for proactively working with ED stakeholders to identify IT needs and opportunities for IT service improvements that could enhance the agency’s ability to execute its mission.



5.4.3 Strategic Objective 4.3 – Improve OCIO’s Approach to IT Communications

OCIO will engage Department stakeholders to implement a holistic IT communications strategy. This initiative will include a comprehensive review of communications channels and delivery methods to identify opportunities to consolidate, streamline, and improve OCIO’s overall effectiveness in keeping our customers informed of strategic and tactical changes as they relate to IT. This initiative also looks at the bi-directional nature of communications to ensure that our customers know how to engage OCIO and obtain the assistance and services they need across each of OCIO’s IT service areas.

Table 16: Strategic Objective 4.3 Overview

Strategic Objective 4.3 – Improve OCIO’s Approach to IT Communications

Strategic Initiative	Initiative Leader
Initiative 4.3.1 – Standardize OCIO’s internal communications framework	OCIO Chief of Staff
Initiative 4.3.2 – Improve accessibility and visibility of OCIO enterprise IT communications	OCIO Chief of Staff
Initiative 4.3.3 – Strengthen OCIO’s communication planning process for new projects	OCIO Chief of Staff

5.4.3.1 Initiative 4.3.1 – Standardize OCIO’s internal communications framework

Effective communication is impossible without a clear and consistent communication process and standards. Predictable communication standards and dissemination channels allow staff to better ensure that communications are consistent, timely, of high quality, and sufficiently accessible to intended audiences. As such, efforts will be made to improve the clarity and efficiency of OCIO’s communications framework, including:

- Standardizing the communication clearance process;
- Providing communication templates and quality standards; and
- Implementing enhanced messaging controls through consolidation and streamlining of OCIO communication channels.

Collectively, these changes should both improve the overall quality of OCIO communications and decrease the time and effort needed for communication development and clearance.



5.4.3.2 Initiative 4.3.2 – Improve accessibility and visibility of OCIO enterprise IT communications

Regardless of the quality or clarity of the communications OCIO generates, the effectiveness of those communications will be limited if they are not accessible to the intended audiences. Currently, OCIO utilizes three primary tools to disseminate digital communications – OCIO’s connectED site, OCIO’s ED.Gov site, and email. Given that OCIO services have continued to evolve in recent years, there is a need to evaluate the structure and content articulated through these channels to maximize their utility.

5.4.3.3 Initiative 4.3.3 – Strengthen OCIO’s communication planning process for new projects and initiatives

Each new initiative, process, or project pursued by OCIO will inevitably involve communications. Improving oversight of communication planning and facilitating effective planning through improved tools and clearly articulated expectations will help ensure that communication gaps do not undermine the effectiveness of OCIO solutions and services.

5.5 Strategic Goal 5: Strengthen the Department’s IT Workforce

GOAL LEADER: OCIO CHIEF OF STAFF

Goal Overview

The effectiveness of IT operations is highly dependent on having a workforce that has the skills, competencies, and engagement of both the IT and non-IT workforce. Due to the ever-changing IT workforce, it is necessary that IT professionals are afforded the opportunity to seek out state-of-the-art training opportunities, receive training funds and attend those training opportunities. It is essential that investments are made to ensure that ED’s workforce is sufficiently prepared to meet the technology needs of their work. For ED’s IT professionals, this means taking steps to verify that there are clear expectations and standards and that all IT professionals must meet a full range of knowledge needed to successfully execute their responsibilities, and that any skill or talent gaps are identified and aggressively met. For non-IT professionals, there is also a need to ensure that training is provided regarding IT requirements and IT capabilities to create the baseline IT competency needed to minimize cybersecurity risks and foster correct utilization of ED IT assets and



information. It is also necessary that non-IT professionals receive non-IT training that enable maintaining certifications and in meeting other critical work-related needs.

This Strategic Goal aligns with the PMA CAP Goal related to IT Workforce for the 21st Century. The PMA CAP Goal on IT Workforce emphasizes effective and efficient mission achievement and improved service to America through enhanced alignment and strategic management of the Federal IT workforce. OCIO's IT workforce goal focuses on:

- Partnering with the Department's Chief Human Capital Officer (CHCO) in conducting a workforce review that will culminate in identifying both IT and non-IT skills and experience needed for mission accomplishment.
- Investing in and developing the workforce based on identification of emerging and mission critical skills,
- Reskilling and redeploying employees from lower value work activities to higher value work-activities; and,
- Ensuring a comprehensive and coordinated approach to skill and competency development and deployment across the agency.

IT workforce development strategies need to closely align with the CHCO's overarching strategy for enterprise-wide workforce development and leverage any applicable policies, guidance, processes, and tools.

Through working with the CHCO, OCIO will also partner with the Department's OHR in undertaking a Workforce Planning Project. The Workforce Planning Maturity Model, that OCIO will use will assess our current state and to measure progress in implementing effective workforce planning across OCIO, as well as our Workforce Planning Approach and it will include timelines.

It is important to note that the OCIO's partnership with OHR will drive reviewing the Workforce Planning (WFP) process, Maturity Model, and the OCIO WFP Package contents. This project will be launched in the spring of 2020 and it will continue throughout the summer as OCIO will be conducting a baseline assessment and develop an action plan, which will be approved by OCIO senior leadership and the Chief Human Capital Officer (CHCO).

Anticipated Outcomes



The intended outcome of the objectives and initiatives outlined above will result in improvements in the competencies and skills of the Department's workforce, both for IT and non-IT professionals, which will in turn lead to improvements in the utilization of IT services and establish a significant return on the IT investments. Improved understanding of IT requirements and cybersecurity practices will also help minimize cybersecurity risk and improve agency compliance with important IT rules and regulations.

Table 17: Strategic Goal 5 Overview

Strategic Goal 5 – Strengthen the Department's IT Workforce

Strategic Objective	Objective Leader
Objective 5.1 – Promote a Holistic Approach to IT Training	OCIO CHIEF OF STAFF
Objective 5.2 – Improve the Effectiveness of the Department's IT Workforce	OCIO CHIEF OF STAFF

5.5.1 Strategic Objective 5.1 – Promote a Holistic Approach to IT Training

One of the key responsibilities of OCIO is to ensure that all ED staff, both IT professionals and non-IT professionals, have the full range of IT skills and competencies needed to effectively and efficiently execute their assigned duties. The key mechanism to accomplish this objective is through holistic, realistic and need based training and professional development opportunities. Historically, IT trainings has been developed in response to specific identified needs – the imposition of a new IT requirement or a specific cybersecurity threat, for example. However, in order to ensure that the full range of professional development needs of the agency are addressed, OCIO will work towards a more holistic approach to IT training and proactively identify and work to address the full range of needed trainings for all ED staff. Future training must be designed around having identified training that builds on current skills or fills skill gaps.

Table 18: Strategic Objective 5.1 Overview

Strategic Objective 5.1 – Promote a Holistic Approach to IT Training

Strategic Initiative	Initiative Leader
Initiative 5.1.1 – Establish standards and guidance for the development and delivery of IT training	OCIO CHIEF OF STAFF



Initiative 5.1.2 – Ensure all Department staff receive appropriate role-based IT training	OCIO CHIEF OF STAFF
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5.5.1.1 Initiative 5.1.1 – Establish standards and guidance for the development and delivery of IT training

OCIO provides a broad range of IT training for ED staff – from trainings on specific IT systems to Department-wide modules related to best practices for avoiding cybersecurity threats. For any of these trainings to be successful, it is important that they are of sufficient quality and appropriately targeted for their intended effect. To ensure that any training OCIO offers meet needed quality and professional learning standards, OCIO will develop standards and guidance for creating new or updating existing training modules.

5.5.1.2 Initiative 5.1.2 – Ensure all Department staff receive appropriate role-based IT training

ED staff, including staff across OCIO, require training and development opportunities based on the needs of their specific role within the Department. Accordingly, OCIO will develop a strategy for mapping the specific IT trainings based on the various roles of individual staff at ED, including the trainings needed for all staff and for individual positions or categories of positions. Such an approach will ensure that training resources are focused and targeted to meet identified training needs.

5.5.2 Strategic Objective 5.2 – Improve the Effectiveness of the IT Workforce

ED relies on a wide range of IT professionals, both within and outside OCIO, to ensure the effective operation of the agency's IT assets and compliance with all IT requirements. As ED's IT needs and requirements are constantly changing, the agency's IT workforce must continue to evolve as well.

Table 19: Strategic Objective 5.2 Overview

Objective 5.2 – Improve the Effectiveness of the IT Workforce

Initiative	Initiative Leader
Initiative 5.2.1 – Establish standard performance expectations for IT professionals	OCIO Chief of Staff



Initiative 5.2.2 – Identify innovative strategies for optimizing the Department’s IT workforce	OCIO Chief of Staff
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5.5.2.1 Initiative 5.2.1 – Establish standard performance expectations for IT professionals

OCIO, in collaboration with the CHCO, will identify and implement standard performance elements for key IT roles. The partnership will ensure that standard performance expectations are established and incorporated into individual performance plans for members of the IT and non-IT workforce.

5.5.2.2 Initiative 5.2.2 – Identify innovative strategies for optimizing the Department’s IT workforce

In FY 2019, OCIO collaborated with OMB to spearhead a Cybersecurity Reskilling effort in support of the PMA. The Cybersecurity Reskilling Academy provided an opportunity for non-IT federal employees to develop the basic skills necessary to transition into cyber careers. Based on the results and lessons learned from the initial reskilling effort, OCIO will identify other potential avenues for reskilling or redeploying IT and non-IT professionals to meet workforce needs.

5.6 Strategic Goal 6: Improve Data Management, Enhance Data Analytics Capabilities, and Promote Transparency at the Department

GOAL LEADER: ED CHIEF DATA OFFICER

Goal Overview

In the course of executing its mission, ED collects, acquires, generates, manages, and uses extensive data relating to education services, finances, and performance from across the Department and the nation. Given the volume of data relevant to fulfilling the ED mission, organizing, managing, and making data available for staff and stakeholders represents a significant challenge and requires investment in processes, tools, and solutions to ensure timely and predictable data access. Further, effective management and use of data are key elements of ED’s responsibilities for data stewardship and evidence use, helping ensure that data are used transparently for their necessary purposes while preserving privacy and confidentiality when promised.



The importance of data governance and management is highlighted by the Foundations for Evidence-Based Policymaking Act of 2018 (Evidence Act) and related guidance on its implementation, which indicates that “the Evidence Act mandates a systematic rethinking of government data management to better facilitate access for evidence-building activities and public consumption.” The guidance further mandates an ED Data Governance Body, chaired by the Chief Data Officer (CDO), which must be included in the Strategic Information Resources Management Plan.

These requirements are further echoed in ED’s 2018-2022 Strategic Plan Goal 3 to “strengthen the quality, accessibility and use of education data through better management, increased privacy protections and transparency.” Through this Strategic Goal, ED has committed to improving how staff and stakeholders access, use and share meaningful data on education, improving public access to the information needed to evaluate educational outcomes, and ensuring that decisions are made internally using information that is accurate and reliable.



Anticipated Outcomes

The intended outcome of the objectives and initiatives under this goal is to better leverage the use of data across ED by improving data governance and management, building staff and technological capabilities for data analytics, and promoting open data and transparency. Improving data governance and management will help ensure that ED data are available to internal and external stakeholders, coordinated to maximize interoperability across ED offices to leverage data sources in combination for improving programs and operations, and of high enough quality to rely on for analyzing priority agency questions and meeting stakeholder needs. Building staff and technological capabilities for data analytics will support meaningful analyses resulting in customer-focused reports to inform decisions for program administration, Department operations, and other policy matters. Promoting open data and transparency will increase public dialogue and trust and unleash the power of data for commercialization and public use. By using data more effectively to drive decision-making, ED should be able to better target its efforts, understand the impacts and outcomes of its programs, and identify redundancies or inefficiencies.

Table 20: Strategic Goal 6 Overview

Strategic Goal 6 – Improve Data Management, Enhance Data Analytics Capabilities, and Promote Transparency in the Department

Strategic Objective	Objective Leader
Objective 6.1 – Improve Data Governance and Management	Associate Commissioner, Administrative Data Division
Objective 6.2 – Advance Data Analytics Capabilities	Deputy Chief Data Officer for Analytics
Objective 6.3 –Advance Open Data and Transparency	Deputy Chief Data Officer for Governance

5.6.1 Strategic Objective 6.1 – Improve Data Governance and Management

Historically, data governance and management has been relatively decentralized within ED; individual POCs have identified their own processes for the data they collect and acquire and have been responsible for the stewardship of those data including appropriate protections and effective use to validate taxpayer investments. The establishment of a CDO



with the responsibilities prescribed under the Evidence Act presents the requirement for even more conscious design of roles, processes, policy, and technology necessary to fulfill the agency's overall responsibilities and leverage Department data as a coordinated, managed asset.

Table 21: Strategic Objective 6.1 Overview

Strategic Objective 6.1 – Improve Data Governance Management

Strategic Initiative	Initiative Leader
Initiative 6.1.1 – Identify high priority leverage points for improving data governance and management	Associate Commissioner, Administrative Data Division
Initiative 6.1.2 – Fund and develop enterprise technology solutions for high priority leverage points	Associate Commissioner, Administrative Data Division

5.6.1.1 Initiative 6.1.1 – Identify high priority leverage points for improving data governance and management

ED, under the direction of the CDO, has established formal enterprise-wide data governance through the Department Data Governance Board (DGB). The scope of the DGB's authority covers all data created, collected, acquired, maintained, shared, or disseminated by ED or entities governed by the Department's regulatory purview, pursuant to relevant statute and regulation. The DGB will assist the CDO in assessing and adjudicating competing proposals for high priority leverage points aimed at achieving and measuring desirable Departmental outcomes and priorities. The DGB, with support from the office of the CDO, will assess the Department's existing data and related infrastructure maturity using an framework that fits the Department's needs, and develop a final Data Maturity Level Findings report with conclusions, strategies, and next steps for planning and improvement.

5.6.1.2 Initiative 6.1.2 – Fund and develop enterprise technology solutions for high priority leverage points

ED has wide-ranging responsibilities in managing data assets, ensuring maximum use of data in the agency, engaging agency employees, the public and contractors in using public data assets, and encouraging collaborative approaches to improve data use. The DGB is developing an ED Data Strategy as a roadmap for priority actions and investments for data management and governance. Many of the priority leverage points identified will require technological solutions that build on process and policy



improvements. The Department intends to invest in high impact solutions that leverage IT in full or in part to meet emerging agency needs such as master data management, data standards, data quality controls, data storage, and data user support.

5.6.2 Strategic Objective 6.2 – Advance Data Analytic Capabilities

Effective data governance and management is a necessary precursor to effective data access and use. In addition to data governance responsibilities, the Evidence Act requires the CDO to “ensure that, to the extent practicable, the agency maximizes the use of data in the agency, including for the production of evidence...and the improvement of agency operations.”

To fully leverage the use of data as a strategic asset, it is critical to assess and improve the Department capability for data analytics. This broadly includes the need to increase data skills throughout the Department, improve the capacity of ED data professionals to access and analyze data, and identify new and emerging technologies that support access to and use of Department data while protecting privacy as required by law.

Table 22: Strategic Objective 6.2 Overview

Strategic Objective 6.2 – Advance Data Analytic Capabilities for the Department

Strategic Initiative	Initiative Leader
Initiative 6.2.1 – Design and implement programs to increase staff capacity for data analytics	Deputy Chief Data Officer for Analytics
Initiative 6.2.2 – Leverage modern technologies to facilitate access to and use of Department data	Deputy Chief Data Officer for Analytics

5.6.2.1 Initiative 6.2.1 – Design and implement programs to increase staff capacity for data analytics

The burgeoning field of data science is geared toward using analytics to make meaning from large and sometimes unstructured administrative datasets. Recognizing the value that can be generated simply by leveraging existing data in new ways, in 2020 the Department developed and administered the ED Data and Evidence Use Survey aligned with professional development opportunities. Because of its education mission, the Department is uniquely positioned to collaborate with external partners around education and training for data professionals. This initiative will also identify opportunities to collaborate with university data science programs, industry leaders in



analytics, and foundations around increasing the supply of qualified data professionals with the skills to use state-of-the art data analytics to improve policy and practice.

5.6.2.2 Initiative 6.2.2 – Leverage modern technologies to facilitate access to and use of Department data

The Evidence Act requires the CDO to “review the impact of the infrastructure of the agency on data asset accessibility and coordinate with the CIO of the agency to improve such infrastructure to reduce barriers that inhibit data asset accessibility.” In line with this requirement, ED will explore how modern technologies can facilitate the merging of data and creation of analytic extracts to support the production of evidence related to Department programs and operations. While the focus of this initiative is on modern technologies, the Department recognizes that it currently has a stable infrastructure which includes existing technologies supporting data access and use. Potential activities under this initiative include the development of a data lake to hold and integrate data from the Department’s many disparate sources and an analytics platform that will facilitate combining and analyzing Department data in new ways. The Department will also investigate new methods to securely link and analyze confidential data, such as secure multi-party computation, and emerging methods to make meaning out of large volumes of unstructured data.

5.6.3 Strategic Objective 6.3 –Advance Open Data and Transparency

Data is a valuable national resource and a strategic asset to the Federal Government, its partners, and the public. Making government data accessible, discoverable, and usable by the public can help fuel entrepreneurship, innovation, and scientific discovery and expands the value of data assets. In supporting the public to leverage data resources, the Congress, by way of the Evidence Act, now requires federal agencies to create strategic plans for implementing open data efforts and make their data “open by default.”

Among several requirements, open data plans must account for how government will improve the timeliness, completeness, consistency, accuracy, usefulness, and availability of data assets and should include strategies for acquiring technology, providing training for employees, and implementing procurement standards that allow for the acquisition of innovative solutions from the public and private sectors.

Table 23: Strategic Objective 6.3 Overview

Objective 6. 3 –Advance Open Data and Transparency



Initiative	Initiative Leader
Initiative 6.3.1 – Develop, publish, and execute an Open Data Plan	Deputy Chief Data Officer for Governance
Initiative 6.3.2 – Develop, maintain, and enhance technology solutions that foster open data access, public dialogue, and a culture of transparency	Deputy Chief Data Officer for Governance

5.6.3.1 Initiative 6.3.1 – Develop, publish, and execute an Open Data Plan

ED will develop, publish, and execute an Open Data Plan consistent with the Evidence Act and, when issued, supporting OMB guidance. In developing its plan, ED will leverage lessons learned from both prior and current efforts to establish an enterprise strategy that ensures compliance with requirements, fosters innovation and civic engagement, and balances data access with privacy protections.

5.6.3.2 Initiative 6.3.2 – Develop, maintain, and enhance technology solutions that foster open data access, public dialogue, and a culture of transparency

ED has already started development of notable enhancements to technology solutions that advance public data access and transparency. For example, the College Scorecard has engaged the public with government data that helps inform student choice and was expanded in the fall of 2019 to enable additional transparency and student decisions among not only institutions but within academic fields of study. The Department's Open Data Platform, launched in summer 2020, will enable a comprehensive view of all data assets created by, collected by, under the control or direction of, or maintained by the Department while at the same time enabling appropriate access to public data assets in a machine-readable form. The portfolio of open data and public dialogue solutions will ultimately be aligned with the Open Data Plan developed in Initiative 6.3.1. ED will further promote transparency by ensuring that the data assets lists in its comprehensive data inventory are made available to the Federal Data Catalogue in line with "open-by-default" requirements.

