



Department of Education Information Technology (IT) Governance and Investment Management Guidance

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Document Revision History

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1.1	March 2019	<ul style="list-style-type: none">• Alignment to FITARA Common Baseline Activities throughout• Added Alignment with Budget, Acquisitions, and EP MR• Added PortfolioStat• Added TechStat• Added CIO Risk Rating• Restructured the Document for flow• Described OCIO investment reviews• Described pre-budget process in more detail• Added new Cybersecurity Policy	IAMT-OCIO
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Document Approval

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1 Executive Summary

The Department of Education (Department or ED) budgets more than \$700 million annually for Information Technology (IT). The efficient and effective management of IT resources requires that the Department implement a common and integrated approach to IT Governance and Investment Management practices to: (1) assess technologies required to support the strategic goals and priorities of the Department, (2) ensure selected IT resources provide maximum value to business operations, (3) monitor our ability to meet established cost, schedule and performance parameters for IT projects, and (4) ensure funding resources are prioritized to address the modernization and enhancement of IT resources in a timely and cost effective manner. In accordance with provisions of the Federal Information Technology Acquisition Reform Act (FITARA), the Department's Chief Information Officer (CIO) is the senior accountable official responsible for the overarching management of IT resources ensuring the effective and efficient use of IT. This IT Governance and Investment Management Guidance is published by the CIO and defines the collaborative management practices and roles and responsibilities of the CIO and Chief Executive Officers (CXO) used to adhere to Office of Management and Budget (OMB) circulars for the management and reporting of IT resources and helps achieve the FITARA's legislative mandate.

This guidance implements an IT Governance framework that is cross-functional in nature and integrates all aspects of IT Investment Management (ITIM) to include capital planning and lifecycle management of IT investments and projects. This governance framework links typically standalone processes managed by CXO entities (Budget, Acquisition, Human Resource Management, etc.) with Office of the Chief Information Officer (OCIO) IT management functions such as operations management, cybersecurity and privacy. The framework facilitates the Department's strategy to promote enterprise governance through the enhancement of Capital Planning and Investment Control (CPIC) activities and increased rigor in the procurement and lifecycle management of IT resources. This is supported using established performance management evaluation criteria to assess the health of IT, leveraging qualitative and risk-based analysis to inform data-driven decisions on the IT portfolio. Additionally, the framework provides direction for the preparation of information and supporting documentation, e.g. budget exhibits, Enterprise Architecture (EA) artifacts, and business cases required to comply with applicable laws, policies, and regulations governing the management of IT investments. It also facilitates the Department's efforts to rationalize the IT portfolio through the identification and elimination of legacy, duplicative or inefficient investments that no longer meet the Department's strategic goals and objectives.

ITIM serves as the foundation of the IT Governance framework that fully implements the CIO's FITARA authorities. Functionally, the CIO has designated ITIM to be managed by the IT Program Services (ITPS) Division within the OCIO. ITIM is comprised of two major components: CPIC and the Department's lifecycle management process, Enterprise Program Management Review (EPMR). Collectively, these two processes provide governance controls around IT investments and associated projects. ITIM is executed in an integrated fashion throughout the budget formulation and planning, budget execution, acquisition, and human resources activities as mandated by the FITARA common baseline.¹

¹ [Federal Information Technology Acquisition Reform Act, Attachment A: Common Baseline for IT Management and CIO Assignment Plan](#)

This guidance centers on the principles and objectives highlighted in the President’s Management Agenda, e.g. IT modernization to increase efficiency and enhance the cybersecurity posture of the IT portfolio, data-driven technology management to support continuous performance improvement, shared service enablement to promote economies of scale, and Technology Business Management (TBM) to improve cost transparency and accounting across Government agencies. TBM is a private-industry practice that is being championed by the Department to provide better benchmarking across the Department’s IT investments as well as with other public sector spaces.

This guidance supersedes ITIM Guidance issued by the Department.

2 Purpose

This guidance is established to define the policies and processes developed by the CIO, in coordination with the CXO community, to uphold the provisions of the FITARA as identified in the common baseline. It is a living document that sets forth procedures, standards and evaluation criteria used to implement IT management best practices to govern the Department’s IT portfolio. It establishes an integrated enterprise approach among the CIO, the Chief Financial Officer (CFO), the Chief Acquisition Officer (CAO), and Chief Human Capital Officer (CHCO), enabling them to play a significant role in the strategic planning, programming, acquisitions, budgeting, execution, and management oversight of Federal IT per 40 U.S.C. § 11319(b)(1)(A). This guidance provides for the monitoring and controlling of IT resources prescribed in the FITARA and OMB Circulars, e.g. A-11 and A-130, while providing stakeholders the flexibility to adapt to agency processes and unique mission requirements. Appendix B outlines the legislative mandates that are supported by this guidance.

This guidance will be reviewed and updated as necessary to keep pace with emerging technology needs and business practices that enhance the Department’s ability to support the effective management and delivery of IT solutions, support and services.

3 Applicability / Scope

This guidance applies to all Principal Offices (PO), Segment Owners, Program/Project Managers (PM) involved in the selecting, evaluating, controlling and monitoring of IT investments, to include organizations conducting business for and on behalf of the Department through contractual relationships when procuring or maintaining such IT resources or services.

A PO is a business unit, supported by IT, that represents the Department’s mission delivery groups. Principal Office Coordinators (POCs) are points of contact within a PO that serve as spokespersons for the business mission needs of proposed IT investments.

A Segment Owner is a subject matter expert (SME) responsible for managing a group of investments which are aligned together to form a line of business for the Department. Segments are defined by the Enterprise Architecture group within OCIO.

A PM is the IT Governance identified Federal Acquisition Certification for Program and Project Managers (FAC-P/PM) IT manager of a single project or a group of related projects managed in a coordinated manner to obtain benefits not available from managing them individually.

An IT investment is represented by the formal Exhibit 53 CPIC IT business case tracked in Electronic Capital Planning and Investment Control (eCPIC) and represented by a Unique Investment Identifier (UII). An investment may be comprised of one IT project or a collection of IT projects (known as an IT program).

The content of, and compliance with, this guidance shall be used to establish similar policies and guidance issued by POs. This guidance does not prescribe business processes for PO governance processes. However, POs that manage Investment Review Boards (IRB) or review forums should (to the maximum extent practicable) mirror this guidance to create standardization to help achieve integrated business outcomes.

This guidance applies to all IT investments and IT projects throughout their entire lifecycle, whether owned and operated by the Department or operated on behalf of the Department. In addition, this guidance is intended to complement policies and directives that uphold investment management practices and principles, such as the ITIM Process Guide and the EPMR.

This guidance and all other supplemental documents are posted publicly at <https://www.ed.gov/digitalstrategy/>, included as a downloadable dataset in the agency's Public Data Listing, and shared with OMB through the Integrated Data Collection.

4 IT Governance Framework

The Department's IT Governance structure encompasses the full scope of management controls for IT, realized through cross-functional IT Governance bodies that include senior executives to ensure ITIM functions are interrelated. The framework is established and implemented at the direction of the CIO and allows for a comprehensive review of the acquisition, planning, performance and risk management of the IT portfolio necessary to prioritize and manage information resource needs. The CIO has a significant role in the establishment and oversight of all IT Governance boards.

ITIM is the mechanism used by the CIO and carried out through the IT Governance framework, to establish and define development processes, milestones, review gates and overall policies for CPIC, EA, project management and reporting of IT resources. ITIM is the core foundation of IT Governance at the Department. ITIM is rooted in the CPIC process and strengthened by the EPMR process to provide a more robust evaluation of how the Department is selecting, evaluating, controlling and monitoring IT resources. The result is a collaborative approach to oversight of IT investments that provides unified policy controls, aligns with strategy, and provides a standard approach to business needs identification and the selection, control, and evaluation of IT resources. This section outlines, at a high level, the

governance bodies that oversee the two core ITIM processes, CPIC and EPMR, and additional governance controls that manage IT resources.

The framework is supported by additional governance controls that are integrated throughout both ITIM processes. These controls include compliance with EA, investment management, lifecycle management, acquisitions, records management, infrastructure, information assurance, privacy, and human capital. Other considerations such as audit findings from various compliance reviews are also factored into the management of IT resources.

Figure 1 depicts the CIO’s IT Governance framework and the interrelationship between CXO communities, various governance bodies and supporting functional areas that provide additional governance controls.

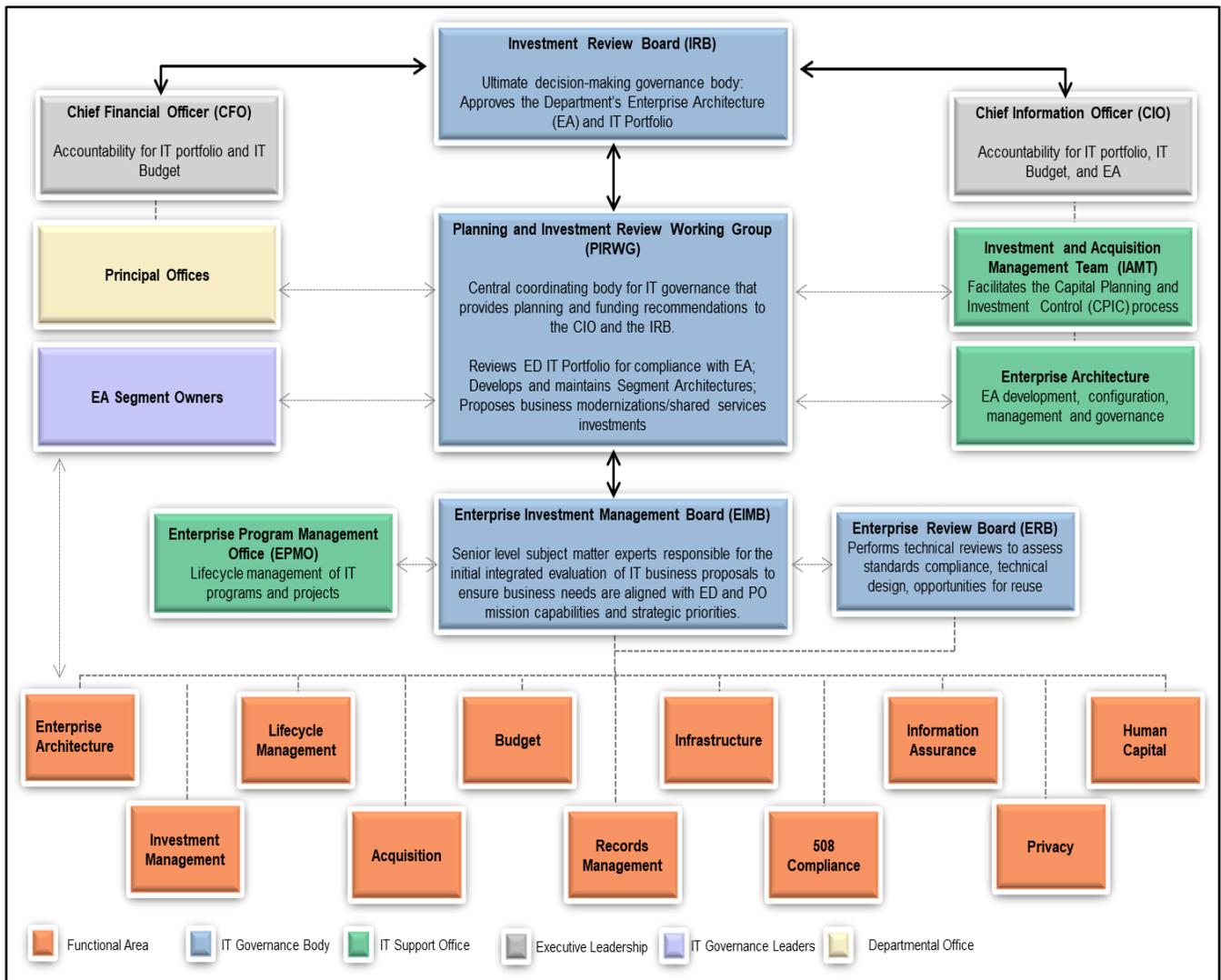


Figure 1 – Integrated IT Governance Framework

4.1 Capital Planning and Investment Control Process

CPIC is a federally mandated IT management and decision-making process that ensures IT investments integrate strategic planning, budgeting, procurement, and management of IT in support of agency mission and business needs. The Department's CPIC process is managed by Investment and Acquisition Management Team (IAMT), a branch within the ITPS Division, as designated by the CIO. The CPIC process provides investment oversight by emphasizing reporting on cost and schedule variances from approved milestones and funding, and highlights issues requiring executive decisions. It enables the IRB to make sound investment decisions based on the results of clear, comprehensive analysis and evidence. To accomplish this, CPIC is carried out in the following four phases:

- Pre-Select Phase: Assesses the validity of a newly identified business need to determine if the need supports the Department's strategic goals and objectives and delivers a necessary capability for the broader Department IT portfolio;
- Select Phase: Ensures that the IT investment portfolio is comprised of the appropriate range of investments that will best support the mission and strategic goals of the Department;
- Control Phase: Ensures that adequate management oversight and quality control processes are in place to increase the probability of success for the Department's IT initiatives; and
- Evaluate Phase: Assesses whether operational IT investments have met their stated outcomes/objectives by delivering the benefits and requirements outlined in the business case.

It is under these four phases of the CPIC process that many of the IT Governance boards collaborate to ensure that the CPIC data used to monitor and analyze ongoing investments is relevant, accurate, and timely in order to provide a thorough evaluation of new investments, and to ensure existing investments support Department strategic business needs.

The CPIC process also merges with TBM, as driven by OMB's adoption of this cost accounting framework that is intended to provide greater cost transparency and align CIO and CFO functions by mapping costs according to a financial view (IT Cost Pools) and to an IT view (IT Towers).

The following sections describe the governance boards and functional working groups that carry out CPIC processes at the Department.

4.1.1 Investment Review Board

The IRB is the Department's senior executive governance body for management and oversight of the IT portfolio and is co-chaired by the CIO. The IRB is supported by principal advisors from the CXO communities who assist the CIO in ensuring IT investments are selected and rationalized using an enterprise-wide, portfolio-based approach that promotes IT modernization and the use of shared services. It provides guidance and direction for IT strategic planning; establishes funding priorities for input into the CIO's and CFO's joint review and approval of major IT investments in the IT budget; and serves as the final decision authority on the construct and content of the IT portfolio. Members of the IRB include:

- The Deputy Secretary;

- The Chief Information Officer;
- The Assistant Secretary for Management;
- The Chief Financial Officer;
- Budget Service Director; and
- The Chief Operating Officer of Federal Student Aid.

The IRB reviews, selects, and approves all IT investments, as well as commissions modernization efforts to optimize the portfolio in support of the Department's business mission. The IRB convenes quarterly meetings to review major segments of the IT portfolio to improve visibility of planned expenditure and reporting to the CIO prior to contracts containing IT are awarded; assess the performance of IT investments in relation to cost, schedule and performance parameters; and identify opportunities to optimize the portfolio through shared services, consolidation or modernization.

Part of the CIO's role on the IRB is determining which IT projects or initiatives should be tracked through the EPMP, modified or terminated and making these recommendations to the IRB for approval.

4.1.2 Planning Investment Review Working Group

The Planning and Investment Review Working Group (PIRWG) serves as an advisory board to the CIO and provides oversight and recommendations to the CIO on the strategic direction of the IT portfolio with an emphasis on timeliness, cost, schedule, performance, security, business value, and strategic alignment. The PIRWG is also the IRB's principal working group responsible for providing cross-functional oversight of IT initiatives and assisting POs in improving operating efficiency by best leveraging IT to support departmental and PO mission requirements. The PIRWG uses data-driven analysis to make recommendations to the IRB on IT investments and associated funding. The data for such analysis derives from ITIM data collection, reviews, and recommendations. These recommendations are provided to the CIO for review and to the IRB for approval.

The PIRWG plays a significant part in assisting the CIO and IRB to fulfill their role in conducting IT planning, programming and budgeting management of the enterprise IT portfolio through the assessment of proposed and existing investments, ensuring emerging business requirements are responsive to changing technology trends, and the EA roadmap and the associated Segment architectures are consistent with the Department's strategic direction for IT.

4.1.3 Investment and Acquisition Management Team

The IAMT is responsible for enterprise level management of the CPIC process. This supporting body is managed by the IAMT Branch Chief who reports to the ITPS Director. The IAMT is the functional group that issues and administers investment management guidance updates for PMs in accordance with the latest OMB capital planning guidance. This team is comprised of investment liaisons that interact with PMs across the Department to ensure that business needs are properly identified and tracked in the Pre-Select process. The IAMT also carries out all select, control, and evaluate reviews for investments, and assists in the oversight of projects tracked through the EPMP and CPIC reporting. The IAMT

provides various investment and IT portfolio reviews on a monthly, quarterly, annual, and ad-hoc basis (i.e. TechStat) to feed analysis that help determine the health of investments regarding performance and planning. This analysis is provided to the PIRWG to help form recommendations to the IRB who makes the final determination on actions made to IT investments and the portfolio as a whole.

4.2 Enterprise Program Management Review Process

Effective program and project management is essential for managing investments throughout the stages of planning, acquisition, development, implementation, operations and maintenance, and retirement. To accomplish this, the EPMR is a high-level lifecycle management process used to provide oversight and controls around the delivery of systems development projects and other high-risk, high visibility IT projects that are approved by the IRB as valid business needs. The EPMR complements the CPIC process and provides oversight from a System Development Lifecycle (SDLC) perspective to include mandating the use of SDLC methodologies such as agile or incremental. Because EPMR incorporates many CIO and CXO functions, it aids in the full implementation of FITARA's accountability, governance, guidance and oversight and enables the CIO to regularly engage with PMs and to ensure investments are effectively managing IT resources.

The EPMR is a time-phased, structured process that calls for several project management activities to take place, dependent upon the lifecycle phase of the IT project and/or investment. It establishes entry and exit criteria for phase-gate reviews designed to manage cost, schedule, technical and performance risks, and gauge the readiness of IT projects to move to various stages of a lifecycle prior to delivery of an IT solution.

The EPMR is supported by the Enterprise Program Management Branch (EPMB) and the Enterprise Investment Management Board (EIMB), which is a management-level board. The EPMB and EIMB carry out the above-mentioned activities, and the EIMB provides recommendations to the PIRWG and ultimately to the IRB in the case of approval of business needs, additional funding, program stoppage, or retirement of an IT investment or project.

4.2.1 Enterprise Program Management Branch

The CIO provides oversight of the Department's EPMR SDLC process through its EPMB. The EPMB manages the implementation of the EPMR process and is responsible for establishing and implementing best practices and maintaining standards related to project management planning and execution. The EPMB serves as the CIO's central hub for project documentation, guidance and success metrics, and establishes enterprise-wide project management principles, standards and templates to assist PMs in successfully managing IT projects under the EPMR framework to ensure they deliver expected business outcomes in accordance with cost, schedule and performance thresholds. The requirements defined by the EPMB are consistent with industry best practices for project lifecycle management and are in alignment with the requirements outlined by the OMB.

4.2.2 Enterprise Investment Management Board

The EIMB is a cross-functional governance board of senior level SMEs responsible for conducting the initial review and evaluation of IT business proposals to assess the validity of IT business needs. It also supports the internal planning processes for how the agency uses IT resources to achieve its objectives. The EIMB works with the CPIC team to ensure proposed technology requests align with departmental and PO mission capabilities, plans and strategic priorities. It consists of SMEs from the functional areas of EA, investment management, program management, information assurance, privacy, records management, IT operations, Section 508 compliance, acquisitions, budget and human capital management. The EIMB works with PMs and various IT management stakeholders, e.g. EA, to evaluate project proposals for new services to determine if there is an existing capability to meet proposed needs and avert duplicate service offerings to help optimize the use and adoption of existing services. The EIMB helps inform the PIRWG's recommendations and the IRB's decision to invest with respect to what new initiatives should be undertaken, or which legacy investments should be prioritized for modernization.

4.2.3 Enterprise Review Board

The Enterprise Review Board (ERB) consists of similar technical SMEs found in the EIMB that support the EPMR SDLC process by providing management oversight of approved investments or IT projects throughout their lifecycle. The ERB provides more technical considerations rather than business considerations and furthers the EIMB's efforts by bridging the gap from initial assessment to assisting PMs navigate the development and delivery stages of project management. The ERB also assists with selection and fit-gap analysis of technologies and requirements for hosting environments to help implement IT resources that best meet business needs.

The ERB is responsible for performing time sensitive program management reviews, such as milestone, technical readiness and production reviews. In this capacity, the board provides approval authority for IT project phase-gate reviews and conducts performance management and readiness reviews to ensure projects are prepared to enter and exit appropriate phase-gates. The ERB provides assessment reports used to inform the PIRWG and CIO on a project's status and progress on activities and / or risk mitigation strategies to address problems related to requirements, cost, schedule, performance and scope management issues to help ensure projects are proceeding according to plan. The ERB's efforts support the CIO's role in recommending the modification, termination, or pause of IT projects or initiatives to the IRB for approval.

5 ITIM Process

ITIM consists of the CPIC and EPMR processes and defines the development process, milestones, review gates and overarching activities for capital planning and program review. Both processes work throughout the CPIC and system development lifecycles to manage IT resources in their pre-budget, budget formulation, budget execution and acquisitions, and program review activities. ITIM is rooted in CPIC methodology and oversees IT investments through four distinct CPIC phases: Pre-Select, Select,

Control and Evaluate. CPIC tracks the cost, schedule, performance and risk of IT resources. The EPMR provides enhanced visibility into development, modernization, or enhancement projects tracked within CPIC's IT investments, particularly those projects that are high priority due to spend, impact, or high-risk of failure. The EPMR process consists of three phases including planning, sprint & staging, and operations & maintenance. Both processes, CPIC and EPMR, are streamlined to provide robust oversight over IT investments and projects. CPIC data serves as the definitive source for investment capital planning data and the EPMR serves as the definitive record of project management data.

The Department's IT portfolio is comprised of investments which are a collection of IT resources – both products and services that are managed together to produce a specific business result or set of results. Grouped investments that provide related functionality for the Department are identified as segments which form the basis of the Department's EA. Segments can be viewed as a group of investments that together form a line of business for the Department. Through the ITIM's IRB process, SMEs from the segments are identified and serve as Segment Owners, managing a group of related investments to ensure they are in alignment with the Department's strategic goals for the business and IT. The investments that make up the Department's overall IT portfolio fall under one of three classifications, defined by OMB, and are governed through performance-based portfolio reviews. The IRB decides on the appropriate classification of an investment.

Major IT Investment refers to any IT investment that is critically important to the mission and function of the Department and meets one or more of the following criteria:

- Investments with total lifecycle costs greater than \$10M (including full-time equivalents) over a three-year period;
- Authoritative financial systems which are given high visibility with the agency head and CFO to ensure that these systems are effectively implemented; or
- An IT investment identified as major by the CIO, IRB or the Secretary of Education.

Non-major IT Investment refers to any investment that does not meet one of the criteria of a Major or a Standard investment.

Standard Investments are common IT service delivery functions such as IT Management, IT Security, and IT Infrastructure (Network, End-User, Data Center, Application, Output, Delivery, and Platform).

An investment's initial classification is determined by the IRB. However, an investment may be reclassified by the IRB should the breadth, cost and / or scope dictate.

IT investments are led by personnel with appropriate FAC standards, including specialization in IT as defined by the ED CFO, Office of Federal Procurement Policy (OFPP), and ITIM. The PIRWG ensures that all investments are managed by the appropriate level certified PM. The OCFO IT certification process allows for the certification of PMs who may not be currently assigned to an IT investment. The PIRWG tracks these PMs to serve as part of the Department's IT acquisition cadre of certified IT PMs.

The following sections focus on the CPIC process of ITIM and outlines, at a high level, the activities and Department-wide inputs and policies that govern IT resources as they move through the CPIC phases. The following sections also reference the touchpoints with the EPMR process.

5.1 Pre-Select

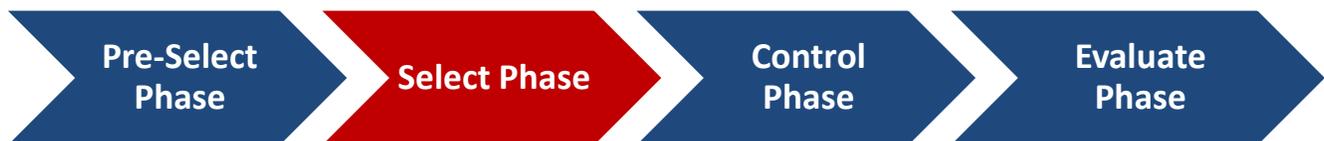


The purpose of the **Pre-Select Phase** is to assess the validity of newly identified IT business needs to determine if the proposed need supports the Department’s strategic goals and objectives and does not duplicate an existing IT business solution. The Pre-Select Phase is the entry point of all Department-wide planned activities that include IT resources and facilitates the CIO’s visibility of planning and programming IT business needs as a pre-budget decision. All new IT business needs must enter through the Pre-Select Phase by notifying IAMT. IAMT will facilitate an EIMB review of all business needs to assess whether they include IT and whether the need should be addressed through a new or existing IT solution. The EIMB is comprised of SMEs who serve as IT Governance Leaders from across the Department to weigh in on the scope, impact, and risk associated with the IT business need. Some of criteria the EIMB uses to determine the validity of an IT business need include, but is not limited to:

- Descriptive identification of business need or problem;
- Benefits and goals;
- Estimated lifecycle costs;
- Risks and issues; and/or
- Legislative mandates, Department strategic priorities, and Secretarial priorities.

If a new IT solution is determined to be valid, the IT business need is further defined in a full IT business case to inform the planning phase of the EPMR. Once the business case is developed, it enters the Select Phase of CPIC and is either captured under an applicable IT investment or a new IT investment is created to track the new IT business case.

5.2 Select



The purpose of the **Select Phase** is to ensure that the Department’s IT portfolio is comprised of the appropriate range of investments that help achieve its mission and strategic goals. Through the cross-functional IT Governance framework and collaboration from Budget, Acquisition, Human Resources, Security and project management processes, the Select Phase informs the IRB’s prioritization and approval of investments for budget formulation and programming. The development (or update) of a

comprehensive business case is required at this stage for new and existing investments which are evaluated by the PIRWG using a myriad of criteria to make recommendations to the IRB.

The evaluation criteria for investment selection include, but are not limited to:

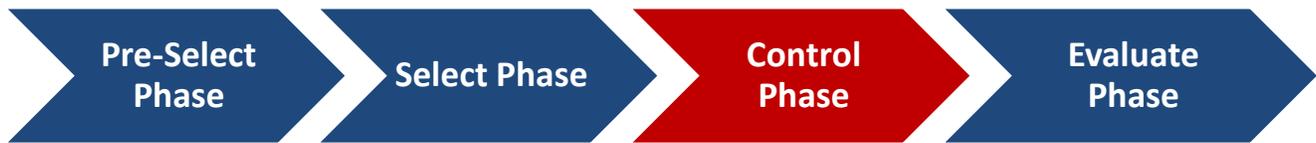
- New and existing IT initiatives are evaluated, selected, or de-selected from the IT portfolio in order to ensure all business needs are supported and that the current mix of investments are performing to achieve their intended outcomes;
- Steady state investments, where applicable, and those in Development, Modernization, and/or Enhancement (DME) are continuously reviewed against the business case to determine if the selected solution remains a viable alternative to meet business needs, and to evaluate whether potential duplication of an initiative exists within the inventory;
- Each investment is evaluated for technical adequacy, compliance with incremental development requirements, EA alignment with other IT systems, projected cost, schedule and performance parameter variances, business benefit, and risks;
- New and existing IT investments are evaluated for suitability for cloud computing services and opportunities for cost savings and avoidance as related to cloud adoption;
- Each investment is reviewed for its use of unsupported technologies such as operating systems, databases and applications;
- Each investment is evaluated to ensure that IT initiatives are 508 compliant allowing persons with disabilities to have access to and use of information and data; and/or
- Records Management considerations are also in place to ensure the proper retention of the Departments temporary and permanent records.

In the Select Phase, the budget formulation process is the mechanism by which the Department plans for and requests funding from Congress to meet its mission and business operations requirements. The CIO and CFO have jointly developed a comprehensive IT budget formulation process that enables collaboration across the CIO, CAO, and CFO communities to execute planning, budgeting, and programming for the effective prioritization of IT as distinct resources from other Department program funds.

As the Department plans its budget, the CIO and CFO with support from the Budget Service Director exercise their roles in the PIRWG and IRB working with Segment Owners to shape the IT strategic direction for the Department that supports the business and mission goals. The CIO works with the Budget Service Director to implement these IT strategic goals into the Department's overarching annual budget guidance. The PIRWG reviews all IT funding requests as a part of the Select Phase. The results of these reviews are used to help prioritize IT portfolio budget requests and ensure the Department's budget is focused on acquiring IT resources that help business units meet goals and objectives in the most cost effective and efficient manner. Through involvement in the PIRWG and IRB, the CIO has the requisite visibility into IT resource plans/decisions and can play a significant role in the development and submission of budget justification materials as they relate to program IT needs.

In accordance with A-11 and Capital Planning policies, the Department is responsible for all Agency IT Portfolio Summary and Major IT Business Case budget exhibits, standard investment reports, and supplemental budget exhibit data. This responsibility is assigned by the CIO to the IAMT team. The amalgamation of these budget exhibits forms the Department's IT budget request, along with the IT Resource Statement that is signed by both the CIO and Budget Service director on behalf of CFO ensuring the planning, programming, and budgeting has been conducted jointly with the aforementioned reviews and approvals. Any re-programming of funds that require approval by Congress specifically for IT resources shall be jointly approved by the CIO and CFO.

5.3 Control



The purpose of the **Control Phase** is to ensure that adequate management oversight and quality control processes are in place to increase the probability of success for the Department's IT initiatives. The control phase is a continuous process that involves the CIO's monitoring of investments or project's cost, schedule, and performance against established baselines and projected outcomes via stage-gate reviews of development, modernization and deployment efforts. The CIO leverages the EPMR to execute this function in both the sprint and staging and operations and maintenance phases of this process.

5.3.1 Acquisition Reviews

Appropriate acquisition planning is essential to ensuring the Department meets its responsibility for ensuring Government procurements are accomplished in the most economical manner. In accordance with part 7 of the Federal Acquisition Regulation (FAR) guidelines, IT procurements (hardware, software, services, etc.) must have an Acquisition Strategy/Plan. Acquisitions are reviewed for opportunities to leverage shared services, as well as to ensure adherence to incremental or modular development, the Federal Strategic Sourcing Initiative requirements regarding category management and incremental or modular contracting.

The ITIM process (CPIC and EPMR integrated review processes) facilitates collaborative forums for the initial review of IT acquisition contracts and to ensure the CIO approves all IT acquisition plans and strategies as part of the IRB's approval of an investment's business need statement or appropriate business case. The CIO, CFO, and CAO have further defined guidance related to the management of all acquisitions across the Department including IT-related acquisitions in the Acquisition Lifecycle Framework which sets forth the level of detail planned acquisitions must have. PMs must conduct and document all required aspects of acquisition planning, e.g. compliance with CPIC requirements in [40 U.S.C. 11312](#) and OMB Circular A-130, security requirements outlined in the Federal Information Security Management Act (FISMA) [44 U.S.C. 3544.](#), market research, contracting approach, risks, total lifecycle cost, etc. Appropriate clauses for Privacy, Records Management and Cybersecurity shall be considered and adhered to for inclusion into Statements of Work (SOW) and Requests for Proposals (RFPs) for IT contracts.

All contract actions (e.g. SOW) are provided by the office of Contracts and Acquisitions Management (CAM) to OCIO for review to ensure that any shadow IT requirements are not hidden within non-IT specific contracts. Additionally, substantial modifications or additions to current and new contracts are reviewed by the CIO's designees through the SOW review process or the ERB as part of the EPMR review process. SMEs who serve as IT Governance Leaders from acquisitions, CPIC, EA, cybersecurity and privacy, and 508 compliance review each SOW for technical, records management, legislative, CPIC compliance. For contracts that potentially have an IT component or impact and have not been previously coordinated through the ITIM process, the CAO further assists the investment management process by identifying such contracts for CIO review and approval via the SOW review process.

5.3.2 Investment Reviews

The CIO has active visibility into the performance and planning of ongoing IT investments through both the CPIC and EPMR processes. The CIO maintains ongoing engagement with PMs across the Department in several forums, to include the IRB, PIRWG reviews, periodic investment reviews, monthly major investment reviews, EPMR phase-gate reviews, CIO risk ratings, and OMB or Agency initiated TechStat sessions. In these various reviews, the CIO ensures that IT investments whether DME, Operations and Maintenance (O&M) or mixed lifecycle are delivering on their intended business outcomes, providing value to the Department, and meeting the objectives set out by the IT program.

The CPIC process incorporates monthly, quarterly, and annually reviews of the Department's IT investments with varying levels of a scrutiny. Comprehensive reviews of all major investments are completed annually to assess performance, operational efficiency, effectiveness, risks and adherence to OMB standards. All investments (regardless of classification) undergo quarterly reviews by IAMT, the PIRWG and the IRB as part of the IRB's incremental review and approval of the Department's IT Portfolio. This review serves as the foundation of collaborative planning, budgeting, governance, acquisition and management of IT resources, to ensure investments consider cybersecurity requirements and other IT management functions, human and environmental factors necessary to select and protect investments that meet Department's priorities. Lastly, a monthly review focuses on managing and controlling cost and schedule performance variances and project risks as they relate to established parameters, milestones and risk mitigation plans or strategies. These reviews also include the CIO's risk evaluation rating assessment of high-risk rating major investments. The CIO uses a numeric (1-5) ranking of risks for all major IT investments to ensure risk ratings reflect the CIO's best judgment of an investment's current level of risk in terms of its ability to accomplish its goals. In addition, the risk evaluation also serves as the CIO's certification that investments are applying incremental development as applicable. These processes and performance metrics are defined collectively by the OCIO and PMs to aid the investment in achieving their strategic objectives.

TechStat

TechStats are face-to-face, evidence-based accountability reviews of an IT program with agency leadership. The reviews serve as a management tool for getting ahead of critical problems in an investment, turning around underperforming investments, or terminating investments if appropriate.

On an as-needed basis, OMB guidance mandates that the Department conducts in-depth investment specific review for investments of interest; either because of importance, risk or performance. Results from CPIC reviews and EPMR stage-gate reviews may result in a TechStat to help improve performance, or a recommendation to the CIO and IRB to continue, modify, or terminate a program or project.

TechStat sessions allow IT management and CXO teams to work together with OMB on carefully examining program data, with a focus on problem solving that will lead to concrete actions that improve overall performance. The TechStat team is chaired by the CIO or designee and membership includes representatives from across OCIO, Segment Owners, Business Owners, and other ITIM governance board members as necessary. The TechStat team provides a recommendation to the CIO for presentation to the IRB, where the IRB makes the final decisions of any TechStat actions including and up to recommendation to the Deputy Secretary for termination of an IT project and/or investment. These actions will be tracked by the IAMT team and provided as status to the IRB until resolution or additional action.

PortfolioStat

ED conducts OMB led PortfolioStats in accordance with FITARA guidelines. The PortfolioStat examines an agency’s entire IT portfolio and draws on (among other criteria) the agency’s multi-year strategy as defined by the Department’s EA to help identify and eliminate areas of duplication and waste. Through the PortfolioStat process, agencies will develop a clearer picture of where duplication exists across their respective bureaus and components. This analysis should inform the budget process and help agency Deputy Secretaries to eliminate waste and duplication within the IT portfolio.

Upon the completion of OMB directed PortfolioStat meetings, the Department will provide quarterly reporting, through the Integrated Data Collection (IDC) process, on the status of any PortfolioStat action items, annual review and certification of action items, and timely completion of action items.

Following OMB led PortfolioStat meetings, the CIO will brief the Federal CIO and agency head regarding any outstanding PortfolioStat action items in accordance with post session requirements.

6 Evaluate



The **Evaluate Phase** assesses whether operational IT investments within the Department’s IT portfolio have met their stated outcomes/objectives by delivering the benefits and requirements outlined in the business case and are still relevant. The Evaluate Phase closes the loop on investments that have undergone development and modernization activities by comparing projections against actual

estimates to assess performance and guide decision-making about investments and the broader portfolio by highlighting the need to modernize or replace legacy systems to improve mission support.

The evaluation criteria include, but are not limited to:

- Review of baseline performance measures (cost, schedule, performance, and risk);
- Compliance with the EA, Privacy and Cybersecurity Policy;
- Aligning with Cross Agency Performance (CAP) goals; and
- Assess the timely delivery of capabilities and assertion of the use of agile methodology (incremental / modular development).

A Post Implementation Reviews (PIRs) is conducted during the Evaluate Phase to measure whether investments or projects or undertaken have delivered on their intended objectives and are performing to the standards identified. Additionally, PIRs support ongoing improvement efforts and lessons learned from project performance can be used to adjust and improve the IT portfolio, refine portfolio selection criteria, improve risk management, and determine appropriate project increments and associated levels of funding.

OCIO will periodically solicit input from key process users and stakeholders. Key questions and considerations may include:

- Evaluate IT spending and project performance consistency with expectations;
- Identify ITIM procedure compliance obstacles; and
- Identify business needs developing IT solutions efficiently and effectively.

The answers to these inquiries and the results of the PIRs are used by OCIO to make improvements to the ITIM process. Improvements will be reflected in this ITIM Process Guide.

Operational Analysis

Operational Analysis (OA) is conducted to measure performance of investments in O&M (post-DME). This Evaluate Phase element differs from others as it considers the stability of cost, schedule, and risk of investments in a steady state. OMB has established in circular A-11 that Federal OAs should focus on four core areas of measurement:

- Customer satisfaction;
- Strategic and business results;
- Financial performance; and
- Innovation.

The Department, in accordance with OMB Circular A-11, requires an annual OA be conducted on every major investment to ascertain whether the investment is continuing to meet its objectives and whether the investment meets current organizational needs. The OA culminates with a recommendation to continue, modify or enhance, or replace or retire an investment. The OCIO IAMT

has developed an OA template to assist the PM in planning, conducting and reporting the results of an OA. OA will be the origin of tracking cost savings and avoidance opportunities related to modernization efforts including cloud adoption savings. These cost savings and avoidance strategies will be used as lessons learned and departmental best practice for future cloud migrations.

7 Human Capital and IT Workforce Planning

The efficiency and effectiveness of the Department's IT is strengthened by recruiting, training and retaining a knowledgeable and skilled workforce. As such, the Department relies on experienced IT acquisition professionals to lead its IT investments and projects to ensure they are managed and delivered in a cost effective and timely manner. In accordance with OMB Circular A-11, Part 7, all PMs of Major IT investments must be senior level and FAC-P/PM certified within one year from the date of assignment to the program or project, unless waived by the CAO. Additionally, these personnel shall possess a minimum of two years' experience supporting IT programs or projects.

To ensure adequate IT workforce planning, The CIO and CHCO develop and maintain a current workforce planning process to ensure the Department can:

- Anticipate and respond to changing mission requirements;
- Maintain workforce skills in a rapidly developing IT environment; and
- Recruit and retain the IT talent needed to accomplish the Department's mission.

The CIO and CHCO develop and maintain core competency requirements for IT staff, including IT leadership positions. The requirements are based on the Government-wide competencies available in the 2210 series artifacts. For the recruitment of bureau level (PO-level) CIOs, the CIO serves as a SMEs to approve the issuance of the certification or excepted service slate of best qualified candidates for any bureau CIO or bureau leadership with CIO duties but not title. The CIO is involved in the recruitment process, as well as the approval of the selection of all bureau level CIO's such as the Federal Student Aid (FSA) CIO. For the bureau CIO performance evaluations, the CIO and CHCO jointly establish an agency-wide critical element (or elements) to be included in the evaluations. Subsequently, and the CIO provides input to the rating official for these critical element(s). These critical elements, at a minimum, address performance consistent with the Department's implementation of FITARA.

As a part of the Department's human resource policy, The Federal Acquisition Institute Training Application System (FAITAS) ² system is where the Federal certifications are tracked and managed, but the Department is responsible for the entire process leading to the certification. An applicant is not approved for the certification in FAITAS without providing the necessary information and going through the necessary approvals, the most important being the CIO approval. It is also the

² The Certification Management and Continuous Learning Modules make FAITAS the avenue for all civilian Acquisition Workforce members to apply for and maintain Acquisition certifications and manage their career development from anywhere in the world. You can access the site [here](#).

Department's responsibility to make sure applicants are certified at the appropriate levels and are completing relevant training. FAITAS is used to see how employees are doing with training for their continuous learning periods to maintain their certification, but the CHCO's office also reaches out to PMs to assess staff continuous learning efforts.

The CIO and CHCO also maintain a Bureau Level IT Leadership Directory that is posted on ConnectED.

8 Cybersecurity and Privacy

In accordance with the Federal Information Security Modernization Act of 2014 (FISMA), the Department has established an Enterprise-wide Information Security Program (ISP) to safeguard the confidentiality, integrity, and availability of its information and systems. The CIO designates the senior agency information security officer, or Chief Information Security Officer (CISO), responsible for the Department's ISP. The CISO or their designee is a board member of various ITIM governance boards providing a picture of IT investment and projects from the perspective of securing IT systems and protecting the Department's most sensitive data.

As part of the ISP, OCIO's Information Assurance Services (IAS) Division has updated existing departmental cybersecurity guidance with Policies, Instructions, and Standards that align to the National Institute of Standards and Technology (NIST) Cybersecurity Framework. As of October 15, 2018, the Department's overarching cybersecurity Policy is OCIO-3-112, which supersedes the prior Policy "OCIO-01 (Cybersecurity Handbook)." Existing cybersecurity guidance documents have been replaced by relevant Instructions, Standards, Procedures, and Guidance as of January 1, 2019. Furthermore, new Policies, Standards, Procedures and Guidance are continuing to be developed in alignment with the Cybersecurity Framework.

It is critical to ITIM processes to collaborate with the Cybersecurity and Privacy functional areas to ensure that IT investments are compliant with new and changing Federal regulations and requirements and can detect and combat new threats to the Department's information systems and supporting infrastructure. The FISMA requires agencies to integrate IT security into their CPIC and EA processes, conduct an annual IT security review of all programs and systems, and report the results of those reviews to the CIO. Cybersecurity and privacy clauses should also be included in IT acquisition plans, strategies, and contract language and clauses.

Security and privacy issues such as protecting sensitive and Personally Identifiable Information (PII) must be addressed when information systems are being developed or modified to ensure that IT security requirements and costs for the lifecycle of the investment are identified and validated. During the budget submission, the Department certifies that IT resources have been reviewed by the Senior Agency Official for Privacy (SAOP) to ensure that privacy requirements have been addressed for any IT resources utilizing PII. This PII review takes place during Evaluate and Control Phases as a part of the SAOP's role in Security activities need to be an integral part of the investment and must be cost effective and risk-based. Privacy protections must be also integrated into the development lifecycle of all information systems.

All IT investments must have up-to-date security plans and be fully certified and accredited prior to becoming operational. Anything short of a full certification and accreditation indicates that identified IT security weaknesses remain. Cybersecurity costs must be reported through the ITIM process as well as in accordance with the NIST 800-53 and OMB's Budget Data Requests. The cost and risk associated with remediating known IT security weaknesses must be factored into and prioritized against any planned system enhancements when making investment funding decisions.

IAS Instructions and Standards can be found on the IAS ConnectED website [here](#). A memorandum detailing the Department's Cybersecurity Policy Framework Implementation is attached as A

9 Appendices

Appendix A: List of Abbreviations

CAM	Contracts and Acquisition Management
CAO	Chief Acquisition Officer
CAP	Cross Agency Performance
CFO	Chief Financial Officer
CHCO	Chief Human Capital Officer
CIO	Chief Information Officer
CISO	Chief Information Security Officer
CPIC	Capital Planning and Investment Control
CXO	Chief Executive Officer
DPME	Development, Modernization, and/or Enhancement
ED	Department of Education
EA	Enterprise Architecture
eCPIC	Electronic Capital Planning and Investment Control
EIMB	Enterprise Investment Management Board
EPMB	Enterprise Program Management Branch
EPMR	Enterprise Program Management Review
ERB	Enterprise Review Board
FAC	Federal Acquisition Certification
FAC-P/PM	Federal Acquisition Certification for Program/Project Manager
FAITAS	Federal Acquisition Institute Training Application System
FAR	Federal Acquisition Regulation
FISMA	Federal Information Security Management Act
FITARA	Federal Information Technology Acquisition Reform Act
FSA	Federal Student Aid
GPRA	Government Performance and Results Act
GPRMA	Government Performance and Results Modernization Act
IAMT	Information and Acquisition Management Team
IAS	Information Assurance System
IDC	Independent Data Collection
IRB	Investment Review Board
IRM	Information Resource Management
ISP	Information Security Program
IT	Information Technology
ITIM	Information Technology Investment Management
ITPS	Information Technology Program Services
NIST	National Institute of Standards and Technology
O&M	Operations and Maintenance
OA	Operational Analysis
OCIO	Office of the Chief Information Officer

OFPP	Office of Federal Procurement Policy
OMB	Office of Management and Budget
PII	Personally Identifiable Information
PIR	Post Implementation Review
PIRWG	Planning and Investment Review Working Group
PM	Program/Project Manager
PO	Principal Offices
POC	Principal Office Coordinator
RFP	Request for Proposal
SAOP	Senior Agency Officer for Privacy
SDLC	System Development Lifecycle
SME	Subject Matter Expert
SOW	Statement of Work
TBM	Technology Business Management
UII	Unique Investment Identifier

Appendix B: Federal Legislation, Requirements & Guidance for Investment Management

Clinger-Cohen Act of 1996:

The Clinger-Cohen Act of 1996 requires agencies to improve mission performance by implementing an ITIM process for selecting, controlling, and evaluating IT investments. Enactment of this legislation and its accompanying regulations requires agencies to establish accountability, reduce duplicative spending, eliminate inefficiencies, and maximize the value of IT investments

Federal Information Technology Acquisition Reform Act (FITARA) of 2014:

FITARA aims to assist agencies in establishing management practices that align IT resources with agency missions, goals, programmatic priorities, and statutory requirements, and establish Government-wide IT management controls that will meet FITARA requirements while providing agencies with the flexibility to adapt to agency processes and unique mission requirements. Additionally, FITARA establishes a “Common Baseline” for roles, responsibilities, and authorities, and aims to enable the CIO’s role and involvement in IT-related processes.

Government Performance and Results Act of 1993 (GPRA)

GPRA requires agencies to prepare updateable strategic plans and to prepare annual performance plans covering each program activity displayed in the budget. The performance plans are to establish performance goals in objective, quantifiable and measurable form and performance indicators to be used in measuring relevant outputs, service levels, and outcomes.

Government Performance and Results Modernization Act of 2010 (GPRAM):

GPRMA requires quarterly performance assessments of Government programs for assessing agency performance and improvement, and to establish agency performance improvement officers and the Performance Improvement Council.

OMB Circular A-130: Management of Federal Information Resources

The Management of Federal Information Resources requires agencies to establish a comprehensive approach to improve the acquisition and management of their information resources by: performing information resources management activities in an efficient, effective, economical, secure, and privacy-enhancing manner; focusing information resources planning to support their missions; implementing an ITIM process that links to and supports budget formulation and execution; and rethinking and restructuring the way work is performed before investing in new information systems.

OMB Circular A-11: Preparation, Submission and Execution of the Budget