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DEPARTMENTAL DIRECTIVE

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Management

Information Technology Investment Management (ITIM)

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Supersedes OCIO: 3-108 "Information Technology Investment Management (ITIM) and Software Acquisition Policy" dated 03/04/2010.

I. Purpose

The Office of the Chief Information Officer (OCIO) developed this Directive to establish policy and responsibilities for individuals and entities that participate in the U.S. Department of Education's (ED's) Information Technology Investment Management (ITIM) process.

Federal statutes such as the Clinger-Cohen Act of 1996 require agencies to improve mission performance by implementing an ITIM process for selecting, controlling, and evaluating Information Technology (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. The Federal Information Technology Acquisition Reform Act of 2014 (FITARA) establishes specific responsibilities for agency heads, the Chief Information Officer (CIO), and other agency Chief Executive Officers (CXOs) regarding control over the planning, acquisition, and oversight of IT resources.

II. Policy

It is ED's policy that all IT investments support and are aligned with ED's business objectives and Strategic Plan, minimize duplication of investment efforts, comply with all relevant statutes, Federal regulations, and ED policies, and are carefully selected and managed in a way that demonstrates careful decision making, with the greatest possible partnership and resource sharing both within ED and with other agencies.

It is ED's policy to ensure roles, responsibilities, and authorities of the CIO and the roles and responsibilities of other applicable Senior Officials include management of IT as a strategic resource in accordance with the Office of Management and Budget (OMB) "Common Baseline". The Common Baseline is set forth in OMB M-15-14: *Management and Oversight of Federal Information Technology* implementing the provisions of FITARA. The CIO's role includes authorities and responsibilities with respect to the development, integration, delivery, and operations of any type of IT, IT service, or information product to enable integration with the capabilities they support wherever IT may affect functions, missions, or operations as well as accountability for the agency's IT cost, schedule, performance, and security.

OCIO manages ED's ITIM process to ensure consistency with all applicable legislation, as well as ED's enterprise architecture, information management, information assurance, and related standards and processes. The ITIM process is iterative and uses a cycle of IT project selection, control, and evaluation to maximize desired business outcomes. Tools such as business cases and

earned value metrics are used to allow IT investments to be analyzed for success throughout their life cycles. Project Managers are to submit business cases and other core deliverables to OCIO for review and clearance. OCIO collaborates with Principal Offices (POs) during the review process to ensure that each IT investment is aligned with ED's policies and standards and is driven by sound business needs and requirements as defined in an approved business case.

Information technology initiatives are incorporated into ED's IT portfolio and are monitored through the IT Dashboard and other means by the OCIO, the Planning and Investment Review Working Group (PIRWG), Investment Review Board (IRB), OMB, the Enterprise Architecture Review Board (EARB), and by the public.

III. Authorization

Various statutes and Federal regulations require implementation of an effective ITIM process. The Clinger-Cohen Act, FITARA, OMB Circular A-130, and other legislative reforms such as the Government Performance and Results Act of 1993 (GPRA), the Government Performance and Results Modernization Act of 2010 (GPRMA), emphasize the need for Federal agencies to significantly improve how they plan, select, fund, control, and evaluate IT investments. The Clinger-Cohen Act and FITARA establish clear accountability for information resource management by vesting agency CIOs with the authority and management responsibilities necessary to advise agency heads.

The following non-exclusive list of Federal laws, regulations, and guidance mandate that agency heads implement a process for maximizing the value of IT initiatives, assess and manage the risks of IT acquisitions and assets, and quantitatively benchmark the performance of IT activities:

- A. **[Federal Information Technology Acquisition Reform Act \(FITARA\):](#)**
Public Law 113-291, Federal Information Technology Acquisition Reform Act (FITARA) HR-3979 enrolled Title VIII, Subtitle D - Acquisition Policy, Acquisition Management, and Related Matters
<http://www.gpo.gov/fdsys/pkg/PLAW-113publ291/html/PLAW-113publ291.htm>
- B. **[Federal Cybersecurity Enhancement Act of 2015](#)**
<https://www.congress.gov/bill/113th-congress/senate-bill/1353/text>
- C. **[Federal Information Security Modernization Act of 2014](#)**
<https://www.congress.gov/bill/113th-congress/senate-bill/2521/text>
- D. **[Clinger-Cohen Act of 1996:](#)** Public Law 104-106, Division D and E,
http://ocio.os.doc.gov/ITPolicyandPrograms/Capital_Planning/DEV01_003758

- E. [Government Performance and Results Act of 1993 \(GPRA\)](#); GPRA, Pub. L. No. 103-62, 107 Stat. 285 (1993)
<http://www.gpo.gov/fdsys/pkg/STATUTE-107/pdf/STATUTE-107-Pg285.pdf>
- F. [Government Performance and Results Modernization Act of 2010 \(GPRMA\)](#); Public Law 111-352, 124 Stat. 3866 (2011).
<http://www.gpo.gov/fdsys/pkg/PLAW-111publ352/pdf/PLAW-111publ352.pdf>
- G. [Title III - Federal Information Security Management Act \(FISMA\)](#); Public Law 107-347, Electronic Government Act of 2002
<http://csrc.nist.gov/drivers/documents/FISMA-final.pdf>
- H. [Chief Information Officer Authorities](#); Office of Management and Budget (OMB) Memorandum M-11-29
<http://www.whitehouse.gov/sites/default/files/omb/memoranda/2011/m11-29.pdf>
- I. [Management and Oversight of Federal Information Technology](#); OMB Memorandum M-15-14
<https://www.whitehouse.gov/sites/default/files/omb/memoranda/2015/m-15-14.pdf>
- J. [Management of Federal Information Resources](#); OMB Circular A-130, Revised
http://www.whitehouse.gov/omb/circulars_a130_a130trans4/
- K. [Capital Programming Guide](#); OMB Supplement to Office of Management and Budget Circular A-11 V 3.0: Planning, Budgeting, and Acquisition of Capital Assets
<https://connected.ed.gov/iamt/All%20Documents/Capital%20Programming%20Guide.pdf>
- L. [Building a 21st Century Platform to Better Serve the American People](#); OMB Digital government Strategy (May 2012)
<http://www.whitehouse.gov/sites/default/files/omb/egov/digital-government/digital-government-strategy.pdf>
- M. [Federal IT Dashboard](#); OMB Federal Information Technology Dashboard
<https://www.itdashboard.gov/>
- N. [Revisions to the Federal Acquisition Certification for Program and Project Managers \(FAC-P/PM\)](#); Office of Federal Procurement Policy Memorandum, December 16, 2013

http://www.whitehouse.gov/omb/assets/omb/procurement/workforce/fed_acq_cert_042507.pdf

- O. [Information Technology Investment Management, A Framework for Assessing and Improving Process Maturity](#); Government Accountability Office, GAO-04-394G, March 2004
<http://www.gao.gov/new.items/d04394g.pdf>
- P. [Leading Practices in Capital Decision Making](#); Government Accountability Office/AIMD-99-32, December 1998
<http://www.gao.gov/special.pubs/ai99032.pdf>
- Q. [Records Management and Preservation Considerations for Designing and Implementing Electronic Information Systems](#); National Archives and Records Administration, August 6, 2014, 36 Code of Federal Regulation (CFR) Part 1236 – Electronic Records Management, Subpart B
<http://www.ecfr.gov/cgi-bin/text-idx?rgn=div5&node=36:3.0.10.2.25>

The following references provide supplemental information concerning Federal IT investment management policy, and the process as it is conducted at ED.

- R. [Software Asset Management and Acquisition Policy](#); U.S. Department of Education, Office of the Chief Information Officer, OCIO 3-110, March 10, 2015
https://connected.ed.gov/Documents/Software_Asset_Mgmt_and_Acquisition_Policy.pdf
- S. [IT Investment Management Process Guide](#); U.S. Department of Education, March 2014
<https://connected.ed.gov/iamt/All%20Documents/ITIM%20Process%20Guide.pdf>
- T. [Investment Review Board – Charter](#); U.S. Department of Education, January 23, 2013
<https://connected.ed.gov/iamt/All%20Documents/IRB%20Charter.pdf>
- U. [Handbook for Telecommunications](#); U.S. Department of Education, OCIO-13, April 14, 2006
https://connected.ed.gov/Documents/Handbook_for_Telecommunications.pdf
- V. [Lifecycle Management \(LCM\) Framework, OCIO 1-106, July 17, 2010](#); U.S. Department of Education Directive, July 16, 2010
[https://connected.ed.gov/iamt/All%20Documents/LCM%20Framework%20Directive%20\(OCIO%201-106\).doc](https://connected.ed.gov/iamt/All%20Documents/LCM%20Framework%20Directive%20(OCIO%201-106).doc)

- W. [Enterprise Architecture \(EA\): Modernization Roadmap](https://connected.ed.gov/ea/Documents/2015%20Enterprise%20Modernization%20Roadmap.pdf); U.S. Department of Education, May 30, 2014
<https://connected.ed.gov/ea/Documents/2015%20Enterprise%20Modernization%20Roadmap.pdf>
- X. [Office of Management and Budget, August 8, 2016
Federal Source Code Policy: Achieving Efficiency, Transparency, and Innovation through Reusable and Open Source Software](https://www.whitehouse.gov/sites/default/files/omb/memoranda/2016/m_16_21.pdf)
https://www.whitehouse.gov/sites/default/files/omb/memoranda/2016/m_16_21.pdf

IV. Applicability

This Directive applies to all ED POs and other ED entities that own, direct, maintain, or operate IT in support of ED, and to all ED employees and contractors utilizing ED's IT equipment and software, whether connected or not to ED's Network, with exception to specific security IT assets covered or mandated by Federal Directives outside of ED (e.g., Homeland Security Presidential Directive 12 and Federal Information Processing Standard 201).

V. Responsibilities

In order to manage IT investments effectively, one must be consistent while utilizing a coordinated approach to decision-making through a set of policies, processes, plans, procedures, and structures. This section defines specific responsibilities as they apply to the entities that have a role in the management of ED's IT investments:

- A. The **Investment Review Board (IRB)** advises the Deputy Secretary on information systems and resource matters for the Department. The IRB's principal functions are to:
1. Review proposals and recommendations from the CIO regarding investments for all information systems, collections, and resources;
 2. Review other proposals and recommendations related to information system investments as determined by the IRB;
 3. Direct, oversee, and approve the ED's EA. Approval and adoption of the EA will be conducted annually after the EA is:
 - a. Developed/updated and approved by the Chief Enterprise Architect;
 - b. Presented to and ratified by the PIRWG;

- c. Presented to the IRB by the ED's CIO or representative; and
 - d. Updated to incorporate any IRB modifications.
4. Monitor and evaluate ongoing information system investments against their projected costs, schedule, and benefits, and take action to continue, modify, or terminate them;
 5. Recommend processes for selection, monitoring, and evaluation of information resource investments; and
 6. Provide IT strategic planning leadership and establish ED's vision for IT portfolio management;
- B. The **Chief Information Officer (CIO)** will provide:
1. **Governance.**
 - a. Drive the investment review process for IT investments and have responsibility over the entire IT portfolio for ED.
 - b. Present the proposed IT portfolio, and the select, control, and evaluation findings pertaining to it, to the IRB for final evaluation and endorsement to the Secretary. FITARA requires "*[t]hat the Chief Information Officer of each covered agency ... approve the information technology budget request of the covered agency.*"
 - c. Develop, maintain, and facilitate creation and implementation of a sound target EA with which IT investment management decision-making is aligned.
 - d. Establish ED's vision of customer service for IT investments, as it relates to OCIO's support for or provisioning of ED-utilized IT resources.
 - e. Maintain and enhance the Information Resource Management (IRM) Strategic Plan and oversee incorporation of this strategic guidance into ED's ITIM processes.
 - f. Adopt and maintain specific controls for the management of IT as set forth in the "Common Baseline" prescribed by the OMB. The Common Baseline prescribes a basic set of specific responsibilities and processes common to Federal agencies and implements the provisions of FITARA.

2. Program Management.

- a. Improve the overall management of large IT projects by identifying, recruiting, and hiring top IT program management talent.
- b. Conduct annual Program Assessments for all major IT investments.
- c. Ensure alignment of IT investment cost data with Budget Service and Contracts and Acquisitions Management (CAM).

3. Information Security.

Have the authority and primary responsibility to implement an agency-wide information security program. Specifically, the CIO will implement the Secretary's priority cybersecurity capabilities including:

- a. Information Security Continuous Monitoring Mitigation (ISCM) – Provide ongoing observation, assessment, analysis, and diagnosis of an organization's cybersecurity: posture, hygiene, and operational readiness.
- b. Identity, Credential, and Access Management (ICAM) – Implement a set of capabilities that ensure users must authenticate to IT resources and have access to only those resources that are required for their job function.
- c. Anti-Phishing and Malware Defense – Implement technologies, processes and training that reduce the risk of malware introduced through email and malicious or compromised web sites.

4. IT Reform Plan.

Play a cross-agency portfolio management role through the Federal CIO Council (CIOC).

C. The Planning and Investment Review Working Group (PIRWG) activities include:

1. Review and approve the ED's EA (prior to IRB approval);
2. Use the ED's EA as a framework for investment decision-making and performance measurement;
3. Assess the overall performance of the ED's IT portfolio and recommend portfolio improvements to the CIO;

4. Review annually and recommend to the IRB the selected portfolio of IT investments for inclusion in the current and next fiscal years' budgets;
 5. Oversee project post-implementation reviews, capture lessons learned, make system disposition decision recommendations, and evaluate the overall effectiveness of the ED's IT investment management process;
 6. Participate in periodic IT investment management Control Reviews and issuance of corrective action recommendations to the CIO that may include the continuation, deferment, modification, or reprioritization of investments as necessary;
 7. Participate in the IT investment management process by conducting reviews of the ED's designated projects of interest; and
 8. Review project baseline change requests, appeals and waivers, and formulation of investment recommendations for consideration by the IRB.
- D. The **OCIO Investment and Acquisition Management Team (IAMT)** will:
1. Support and coordinate ED's ITIM phases (*Select, Control, and Evaluate*) and associated activities, processes, and procedures.
 2. Work with OCIO's EA staff and ED's EA Review Board to ensure that IT investment management aligns with ED's lifecycle management process.
 3. Synthesize IT investment information for the PIRWG, and coordinate the PIRWG's synthesis of ITIM data and recommendations to the CIO and IRB.
 4. Develop and disseminate ITIM data requirements and guidance to IT Project/Program Managers.
 5. Provide liaison support to IT Project Managers regarding development and maintenance of investment performance metrics and business case justifications.
 6. Develop, manage, coordinate and facilitate ITIM business tools, templates, and other mechanisms that assist the preparation and reporting of IT investment documentation.
 7. Lead the development and improvement of efforts associated with the ITIM process.

8. Coordinate the yearly submission to OMB of ED's investment portfolio, and of a Business Case for each major IT investment.
 9. Review acquisition plans, statements of work and performance work statements submitted by Executive Officers to ensure alignment with appropriate business cases.
- E. The **OCIO Enterprise Architecture (EA) staff** will:
1. Review IT investments for adherence to ED's EA.
 2. Determine the scale and nature of an investment's impact on ED's current and future enterprise architecture environment.
 3. Assist Project Managers to identify and use previously proven solutions including Commercially Available Off-the-Shelf, Government Off-the-Shelf, and Open Source Software available at code.gov
 4. Work with business segment owners to develop and implement a transition strategy plan for their given segment.
 5. Look for opportunities to reuse existing investments and assist in eliminating duplicate functionality across POs.
- F. The **OCIO Information Assurance Architecture staff** will:
1. Review IT investments for adherence to the ED's information assurance architecture.
 2. Determine the scale and nature of an investment's impact on the ED's current and future information assurance environment.
 3. Assist Project Managers to identify and use previously proven information assurance solutions.
 4. Work with business segment owners to develop and implement a transition strategy plan for their given segment.
- G. The **Office of Management (OM), Chief Privacy Office (CPO), Privacy Safeguards Division and Information Collection Clearance Division** staff will:
1. Review IT investments for adherence to the Federal Records Act, 36 CFR Part 1236, the privacy safeguard provisions of the E-Government Act of 2002, as amended, and the Privacy Act of 1974, as amended, and the Paperwork Reduction Act of 1995.

2. Determine if Federal records will be created and/or maintained by an IT investment, and if so, whether the records are covered by an existing ED records retention schedule or a new schedule is required.
 3. Determine if a Paperwork Reduction Act Information Collection Clearance is required.
 4. Determine if a Privacy Impact Assessment or a Privacy Act System of Records Notice is required.
- H. The **Segment Owner** will:
1. Define segment goals and set segment priorities.
 2. Identify segment needs (capabilities and gaps).
 3. Develop a performance plan for the investments in the segment to meet the segment goals.
 4. Designate an investment Business Sponsor for every investment in the segment. The Business Sponsor is the business stakeholder primarily affected by the outcome of the investment.
- I. The **Business Sponsor** of an IT Investment will:
1. Direct the development of, and approve, a charter for Major IT investments.
 2. Establish the metrics defining the expected business outcome of the investment.
 3. Report to the OCIO and the PIRWG on the investment's contribution to achieving and maintaining the expected business outcome of the investment.
 4. In the case of an investment that supports the mission of more than one PO, or is sponsored by a position at a higher level than the Director of a PO, the Business Sponsor shall appoint a Project or Program Manager for the IT investment.
- J. The **Project or Program Manager** of an investment will:
1. Submit to the Chief Acquisition Officer (CAO) all work statements or solicitations that anticipate award of a new contract including development of OCIO required life cycle management and investment management documentation.

2. Ensure that the design, development, and operation of any automated system that is a component of the investment includes privacy and security protections required by the OCIO and CPO.
3. Manage day-to-day operations of an IT investment to ensure that it meets expectations, by monitoring progress against cost and schedule milestones and performance targets.
4. Work with the authorized acquisitions group to ensure that designated major IT investments contain contract language requiring use by contractors of an Earned Value Management System (EVMS) that complies with ANSI/EIA-748B.
http://www.ndia.org/Divisions/Divisions/IPMD/Documents/ComplementsANSI/NDIA_IPMD_Intent_Guide_Ver_C_April292014.pdf
5. Be responsible, in conjunction with the designated Contracting Officer, for determining and implementing the level and type of performance monitoring required for the investment after considering the risk associated with the work and the contractor.
6. Prepare project documentation and other required materials to keep appropriate ITIM decision-making principals fully informed of the investment's status. Project documentation includes earned value metrics such as monthly and quarterly cost and schedule updates; an investment business case and annual updates to it; an OMB business case submission with performance metrics and milestones; earned value metrics such as monthly and quarterly cost and schedule updates;; and investment baseline change requests as needed. The investment business case shall document the three-step software solutions analysis found in Office of Management and Budget, August 8, 2016 Federal Source Code Policy: Achieving Efficiency, Transparency, and Innovation through Reusable and Open Source Software.
https://www.whitehouse.gov/sites/default/files/omb/memoranda/2016/m_16_21.pdf.
7. Provide and update such investment documentation materials as shall be requested by OCIO/IAMT or the PIRWG to provide these entities with up-to-date, accurate project data.
8. Brief the PIRWG or IRB as needed to provide an investment progress report and answer questions about the investment.
9. Initiate action to prevent slippage of investment cost and schedule projections. Implement corrective actions as approved by the IRB through the ITIM process.

10. Participate in a Program Assessment and, for investments with an operational component, perform an Operational Analysis, of a major investment.
11. Create deliverables that adhere to ED's lifecycle management process. The project or Program Manager will ensure that adequate business and technical reviews are executed and reviewed by deliverable reviewers and approved through the stage gate reviewer process.

The head of a **Principal Office (PO)** will, for each IT investment under its control:

1. Designate a Project or Program Manager who holds a senior-level Federal Acquisition Certification (FAC-P/PM) for Major IT investments.
2. Designate a Project or Program Manager who holds a lesser certification as specified by CAM credentialing requirements for Project Managers of non-major IT investments.
3. See also Section VI. I Business Sponsor for designation of a Project Manager or Program Manager of an investment that supports the mission of more than one PO, or is sponsored by a position at a higher level than the Director of a PO.

K. The **Principal Office Coordinator** for IT investments will:

1. Be appointed by and serve the Director of the PO to address issues relating to the IT infrastructure supporting the functions of the PO and acquisition of IT in the temporary absence of a designated Project Manager of non-major business cases.
2. Assist Project Managers of non-major business cases and serve as a reference point for guidance concerning development of a non-major business case.
3. Assist in providing such information concerning PO acquisition and use of IT as may be requested by OCIO, the PIRWG, or the IRB.

Appendix A - Definitions

- A. **Baseline Change Request.** A request made by the Project Manager of an IT investment to the project's cost and schedule of milestones because one or more of three things have occurred: (1) change in scope; and/or (2) change in funding; and/or (3) change to schedule.
- B. **Business Case.** The documentation for an IT investment that defines what is going to be done, why it is worth doing, how it will be accomplished, what resources will be required, and how long it will be needed. A business case allows governing bodies that review the investment, such as the PIRWG, to screen and validate it for overall business merit. A business case is required for all IT investments.
- C. **Business Segment.** A Line-of-Business (LoB) segment is a term used to describe and categorize the various business functions that the POs conduct in support of the ED's mission. The Department has thirteen LOB's that are delineated into three Enterprise Architecture (EA) areas (Core Mission, Business Services, and Enterprise Services) defined by OMB's EA practice guidance.
- D. **Chief Information Officers (CIO) Council.** The principal interagency forum for guiding ITIM practices in the Federal sector.
- E. **Commercially Available Off-the-Shelf (COTS) item.** Any item of supply that is – (1) a commercial item; (2) Sold in substantial quantities in the commercial marketplace; (3) Offered to the Government, under a contract or subcontract at any tier, without modification, in the same form in which it is sold in the commercial marketplace.
- F. **Control Phase.** An ongoing monitoring process within the ITIM cycle that manages IT investments against schedules, budgets, and performance measures. Lessons learned from the *Control Phase* are incorporated into the *Select Phase* to further refine and improve the formulation and maintenance of ED's IT portfolio.
- G. **Earned Value Management (EVM).** An ITIM tool that measures the value of work on a project against its cost. EVM integrates cost, schedule and technical performance measures to monitor and control project resources and compare project results with original project plans. Qualities and operating characteristics of earned value management systems are described in ANSI/EIA Standard 748-1998, *Earned Value Management Systems*.
- H. **Enterprise Architecture (EA).** A framework for organizing and governing IT investments. Divided into thirteen business segments, ED's EA allows the

entire IT portfolio to be used to determine reuse opportunities and to eliminate duplication of effort. EA links ED's business needs with the best available technology and facilitates both the definition and achievement of the future state vision. It encompasses business process, application, data and technology areas. EA supports planning, designing, and implementing changes in each area. EA also provides the tools and methods that support priority setting and investment decision making about changes in these areas, as well as the templates and documentation needed to secure OMB concurrence with investment project proposals. ED's EA is documented in the form of narrative text, inventories, mappings, and models.

- I. **Enterprise Architecture Review Board (EARB).** The Department of Education governance body responsible for performing technical reviews to assess (1) EA standards compliance, (2) technical design, and (3) opportunities for service and technical component standards reuse.
- J. **Evaluate Phase.** The process in which the Department uses actual versus expected results of fully-implemented investments to: (1) assess the investment's impact on strategic performance; (2) identify any changes or modifications to the investment that may be needed; and (3) revise the investment management processes based on lessons learned. Lessons learned are incorporated into the *Select* and *Control Phases*. Program Assessments of IT investments (see item V, below) are part of the Evaluate Phase.
- K. **Information Technology (IT).** As defined by the OMB Integrated Data Collection (IDC) Common Definitions; this term refers to:
 1. Any services or equipment, or interconnected system(s) or subsystem(s) of equipment, that are used in the automatic acquisition, storage, analysis, evaluation, manipulation, management, movement, control, display, switching, interchange, transmission, or reception of data or information by the agency; where
 2. such services or equipment are "used by an agency" if used by the agency directly or if used by a contractor under a contract with the agency that requires either use of the services or equipment, or requires either use of the services or equipment to a significant extent in the performance of a service or the furnishing of a product.
 3. The term "information technology" *includes* computers, ancillary equipment (including imaging peripherals, input, output, and storage devices necessary for security and surveillance), peripheral equipment designed to be controlled by the central processing unit of a computer, software, firmware and similar procedures, services (including provisioned

services such as cloud computing and support services that support any point of the lifecycle of the equipment or service), and related resources.

4. The term “information technology” *does not include* any equipment that is acquired by a contractor incidental to a contract that does not require use of the equipment.
- L. **Government Off-the-Shelf (GOTS) Items.** A term for software and hardware government products that are ready to use and which were created and are owned by a government agency. Typically GOTS are developed by the technical staff of the government agency for which it is created. It is sometimes developed by an external entity, but with funding and specification from the agency. Because agencies can directly control all aspects of GOTS products, these are sometimes preferred for government purposes. GOTS software solutions can normally be shared among government agencies without additional cost. GOTS hardware solutions are typically provided at cost (i.e., R&D costs not recouped).
- M. **Information Technology Asset.** As defined by the OMB IDC Common Definitions; this term refers to anything (tangible or intangible) that has value to an organization, including, but not limited to: a computing device, IT system, IT network, IT circuit, software (both an installed instance and a physical instance), virtual computing platform (common in cloud and virtualized computing), and related hardware (e.g., locks, cabinets, keyboards) as well as people and intellectual property (including software). Assets are the lowest level at which IT is planned, acquired, implemented, and operated.
- N. **IT Dashboard.** The public-facing Web site (<https://www.itdashboard.gov/>) implemented by the OMB to allow taxpayers to view details of Federal IT investments and thereby foster transparency in Federal IT spending.
- O. **IT Investment.** As defined by the OMB IDC Common Definitions; this term refers to the expenditure of IT resources to address mission delivery and management support. An IT investment may include a project or projects for the development, modernization, enhancement, or maintenance of a single IT asset or group of IT assets with related functionality, and the subsequent operation of those assets in a production environment. All IT investments should have a defined life cycle with start and end dates, with the end date representing the end of the currently estimated useful life of the investment, consistent with the investment’s most current alternatives analysis if applicable.

- When the asset(s) is essentially replaced by a new system or technology, the replacement should be reported as a new, distinct investment, with its own defined life cycle information.
- P. ***IT Portfolio***. The collection of IT investments approved by ED's Investment Review Board (IRB) to address ED's strategic and programmatic objectives, and to support managerial and administrative functions.
- Q. ***Investment Review Board (IRB)***. The IRB is a forum for deliberation about Department IT (system and resource) investments needed to achieve the ED's mission and business requirements. The IRB will advise the Secretary through the COO. The COO chairs the IRB and the CIO serves as Vice-Chair of the IRB. Membership of the IRB is described in the IRB Charter (see item III.R on page 5, above).
- R. ***Lifecycle Management (LCM)***. The coordination of activities associated with implementation of information systems from conception through disposal, which includes defining requirements, designing, building, testing, implementing, and disposing of systems. Consult the Lifecycle Management Framework (OCIO:1-106) Directive on roles, responsibilities, and required deliverables that result from the lifecycle management process.
- S. ***Major IT Investment***. An IT investment that meets any of the following criteria: (1) an investment with a 3-year cost greater than \$10 million (not including the cost of full time equivalent (FTE) for government employees); (2) an OMB-designated line-of-business or eGov initiative; (3) a financial system with a 1-year cost of \$500 thousand or more (including FTE); or (4) an investment identified as major by the IRB or the Secretary of ED.
- T. ***Non-Major IT Investment***. Any IT investment that does not meet the criteria for being designated as a Major IT Investment.
- U. ***Operational Analysis***. A method for examining the current and historical performance of an operational component of an investment and measuring that performance against an established set of cost, schedule, and performance parameters. Conducted during the Control Phase after an IT effort becomes operational, this activity helps to determine what, if any, changes are needed to improve investment efficiency and effectiveness. An Operational Analysis *plan* provides a baseline of expected performance for the investment; the Operational Analysis *report* determines how well the investment is performing to its plan.
- V. ***Planning and Investment Review Working Group (PIRWG)***. The PIRWG serves as an advisory board to the CIO, and shall provide 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 CIO will designate the Chair of the PIRWG. Membership of the PIRWG is described in the IRB Charter (see item III.R on page 5, above).

- W. **Principal Office Coordinator (POC).** The individual nominated by a Principal Office to serve as coordinator of the Office's portfolio of IT investments in dealings with the CIO, PIRWG and IRB.
- X. **Program Assessment.** An independent review (i.e., conducted by a non-stakeholder) of a major IT investment to determine investment performance. Improvement plans are implemented as an outcome of the assessment.
- Y. **Project Management.** The activities necessary to ensure that an IT project progresses toward achievement of its objectives, in accordance with planned or revised cost, schedule, and technical baselines, as well as performance outcomes.
- Z. **Project Manager/Program Manager.** The *Project Management Body of Knowledge* (PMBOK) defines a project as a unique undertaking with a beginning and an end. Once the project is deployed or implemented, the Project Manager is replaced with a Program Manager. These persons may be the same individual. A Project Manager and a Program Manager must be identified for each IT investment and will be responsible and accountable to the PIRWG, and to OCIO/IAMT, for all project management activities.
- AA. **Project Manager/Program Manager Credentialing.** Requirements for managers of major projects are detailed in OMB's [Federal IT Project Manager Guidance Matrix published by the CIO Council](https://cio.gov/wp-content/uploads/downloads/2013/08/Federal-IT-PM-Guidance-Matrix2.ppt) (<https://cio.gov/wp-content/uploads/downloads/2013/08/Federal-IT-PM-Guidance-Matrix2.ppt>), and OMB Memorandum (Dec. 16, 2013) *Revisions to the Federal Acquisition Certification for Program and Project Managers (FAC-P/PM)*.
- BB. **Select Phase.** One of the three phases of the IT investment management life cycle, the *Select Phase* is conducted yearly to determine which IT investments to approve, subject to the availability of funding. The *Select Phase* allows ED to link its priorities to candidate projects to be funded, ensuring that ED funds only those IT investments that best support mission needs and have been adequately analyzed for risks and returns.
- CC. **Stage Gate Review.** The integration of various business and technical reviews performed primarily by the EARB that ensures core deliverables (and any additional deliverables) required for that stage have been completed. Consult the Lifecycle Management Framework Directive for information about *stage gates* and *stage gate reviews*.

Appendix B - Acronym Glossary

ANSI/EIA	American National Standards Institute/Electronic Industries Alliance standard
CAM	Contracts and Acquisitions Management
CAO	Chief Acquisition Officer
CFR	Code of Federal Regulations
CIO	Chief Information Officer
COTS	Commercial Available Off-the-Shelf Items
CXO	Chief Executive Officers
EA	Enterprise Architecture
EARB	Enterprise Architecture Review Board
ED	U.S. Department of Education
EVM	Earned Value Management
GOTS	Government Off-the-Shelf Items
FAC-P/PM	Federal Acquisition Certification for Program and Project Managers
FITARA	Federal Information Technology Acquisition Reform Act
FTE	Full time equivalent cost for government employees
GAO	Government Accountability Office
IAMT	Investment and Acquisition Management Team
IDC	OMB Integrated Data Collection Common Definitions
IRB	Investment Review Board
IRM	Information Resource Management
IT	Information Technology
ITIM	Information Technology Investment Management

LCM	Lifecycle Management
LOB	Line-of-Business
OCIO	Office of the Chief Information Officer
CPO	Chief Privacy Office
OM	Office of Management
OMB	Office of Management and Budget
PIRWG	Planning and Investment Review Working Group
PMBOK	Project Management Body of Knowledge
PO	Principal Office