

## PREFACE TO SELECTED INFORMATION DIRECTIVES

CIO Transmittal No.: 15-010	CIO Approval Date: 06/12/2015
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*Issued by the EPA Chief Information Officer,  
Pursuant to Delegation 1-19, dated 07/07/2005*

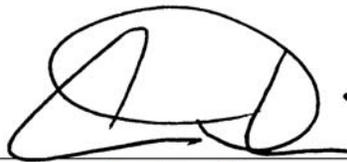
### CHIEF INFORMATION OFFICER MEMORANDUM

**SUBJECT:** Chief Technology Officer (CTO) Responsibilities in Selected Information Directives

#### **Re-assigned CTO responsibilities**

Effective immediately, CTO responsibilities detailed in the selected information directives (i.e., Information Policies, Procedures, Standards, and Guidance) listed in Appendix A are re-assigned to the OEI Office of Technology, Operations, and Planning (OTOP) Director and the Senior Agency Information Security Officer (SAISO) as detailed. The re-assignment does not change any requirements in the selected information directives.

The OEI Information Directives Program Manager is directed to attach this memorandum and Appendix A as a Preface to each of the Information Directives listed. OEI will then update the Roles and Responsibilities section of each Information Directive in accordance with the normal review and update cycle.



Ann Dunkin  
Chief Information Officer  
U.S. Environmental Protection Agency

APPENDIX A

Information Directive	Prior CTO Responsibilities	Re-assignment
CIO 2104.1 Software Management and Piracy Policy	Provide procedures, standards, and guidance to senior level managers to: support the Agency’s Software Management and Piracy Policy and manage enterprise software licenses.	OTOP Director
CIO 2104-P-01.0 Software Management and Piracy Procedure	Provide procedures, standards, and guidance to senior level managers to: support the Agency’s Software Management and Piracy Policy, manage enterprise software licenses, and provide covered users within their office with training and awareness on the Software Management and Piracy Policy through the annual Cybersecurity Awareness Training.	OTOP Director
CIO 2121.1 System Life Cycle Management (SLCM) Policy	Establish and publish procedures, technical operational procedures and standards (TOPS), and guidance supporting the Agency’s SLCM Policy. Review and approve waivers to the SLCM Procedure.	OTOP Director
CIO 2121-P-03.0 SLCM Procedure	Establish and publish procedures, TOPS, and guidance supporting the Agency’s SLCM Policy. Review and approve waivers to the SLCM Procedure.	OTOP Director
CIO 2122.1 Enterprise Architecture (EA) Policy	Issue procedures, guidance, and technical standards associated with the EA with a specific focus on the technology architecture, chair the Quality Technology Subcommittee (QTS), and review technology and security considerations in the Enterprise Target Architecture and Enterprise Transition Plan.	OTOP Director
CIO 2122-P-01.1 EA Governance Procedures	Issue procedures, guidance, and technical standards associated with the EA, with a specific focus on the technology architecture, chair the QTS, and review technology and security considerations in the Enterprise Target Architecture and Enterprise Transition Plan.	OTOP Director
CIO 2122-P-03.0 Information Technology Infrastructure Standard Procedure	Recommend to the CIO a specific IT standard, product or specification to be added to the official Agency IT Standards Profile with consultation from the Quality Information Council (QIC) and the QTS, and develop and maintain the Agency’s Technology Architecture.	OTOP Director
CIO 2122-S-02.0 Personal Computer Configuration and Management Standard	Review and approve requests for waivers in regard to this standard.	OTOP Director
CIO 2123.1 Configuration Management Policy	Provide procedures, standards, and guidance to senior level managers in support of the Agency’s Configuration Management Policy; institute change management processes; and provide a change management database.	OTOP Director

Information Directive	Prior CTO Responsibilities	Re-assignment
CIO 2150-P-01.1 Information Security - Interim Access Control Procedures	Approve all methods of dial-up access, approve all wireless connections, establish, document, authorize, and monitor all methods of remote access to an information system; delegate to Regions and other entities, as appropriate; and address co-management responsibilities for the Agency Security Architecture.	OTOP Director
CIO 2150-P-08.1 Information Security - Interim Incident Response Procedures	Determine Operational Status Categories during Alerts and Risks (OSCAR) 5 level (page 7). Be available when the Computer Security Incident Response Capability (CSIRC) must report and coordinate incidents (page 16). Be available to meet with the Director of Cyber Security Staff (CSS) when senior managers are informed of incidents, occurrences and their status (page 18).	SAISO  OTOP Director
CIO 2150-P-14.1 Information Security - Interim Risk Assessment Procedures	Approve the use of and, as appropriate, acquire and deploy enterprise vulnerability management technology. Consult with the SAISO to determine the coverage and compliance of enterprise vulnerability management technology with respect to federal and Agency requirements, including use of these tools to meet assessment requirements of other control families in NIST 800-53A, Revision 1, and to ensure the most cost effective, complete and accurate results.	OTOP Director
CIO 2150-P-15.1 Information Security - Interim System Services Acquisition Procedures	For the procurement of external information system services where a sufficient level of trust cannot be established, be available to confer regarding risks associated with the network and the Agency.	OTOP Director
CIO 2150-P-16.1 Information Security - Interim System and Communications Protection Procedures	Approve use of mobile VoIP-enabled units.	OTOP Director
CIO 2150.4 Mobile Computing Policy	Oversee policy and procedure implementation regarding use of mobile computing technologies. Approve mobile computing technology and device deployment.	OTOP Director
CIO 2150-P-01.1 Mobile Computing Management Procedures	Oversee policy and the implementation of the procedures. Approve enterprise mobile device types to be deployed. Review and approve requests for waivers in regards to the procedures.	OTOP Director



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EPA Classification No.: CIO 2122.1	CIO Approval Date: 11/05/2012
CIO Transmittal No.: 12-007	Review Date: 11/05/2015

*Issued by the EPA Chief Information Officer,  
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## **ENTERPRISE ARCHITECTURE POLICY**

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### **1. PURPOSE**

The Environmental Protection Agency (EPA) Enterprise Architecture<sup>1</sup> (EA) Policy:

- Establishes criteria for enterprise architecture processes, practices and resources at EPA.
- Defines the scope, authority, audience, and responsibilities for how the EA will be developed, maintained, matured, and institutionalized.
- Facilitates EPA's ability to provide consistent services, accessible information, scalable infrastructure, and flexible technology integration.

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### **2. SCOPE AND APPLICABILITY**

This policy applies to all of EPA's IT investments, business processes, enterprise services, data and information management, application development, and technology infrastructure.

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### **3. AUDIENCE**

The audience for the EA Policy includes individuals who manage, plan, or oversee EPA's business, data, applications, technology, and IT investments. These individuals include, but are not limited to:

- Members of the Quality and Information Council (QIC), Quality Technology Subcommittee (QTS) Information Investment Subcommittee (IIS), and Enterprise Architecture Working Group (EAWG);
- Chief Information Officer (CIO), Chief Financial Officer (CFO), Chief Technology Officer (CTO), Chief Acquisitions Officer (CAO), Assistant Administrator (AA) for Administration and Resources Management, other AAs, Regional Administrators (RAs), Deputy Regional Administrators (DRAs), Assistant Regional Administrators (ARAs), Information Resource Management Branch Chiefs (IRM BCs), other National Program and Regional Managers, Senior Information Officials (SIOs), Information Management Officers (IMOs), Chief Architect (CA);
- Technology and Information Security Staff (TISS), Capital Planning and Investment Control (CPIC) Team, EA Team, System of Registries (SoR) Team, Central Data Exchange (CDX) Team;
- Segment Managers/Architects, System Owners, and Project Managers/System

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<sup>1</sup> An enterprise architecture (EA) is a strategic information asset base that describes the enterprise mission, the information and technologies necessary to perform the mission, and the transitional processes for implementing new technologies in response to changing mission needs. EA includes a baseline architecture, target architecture, and enterprise transition plan.

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EPA Classification No.: CIO 2122.1	CIO Approval Date: 11/05/2012
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Managers/Solution Architects; and

- Agency partners, EPA contractors, and recipients of EPA financial assistance.

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#### 4. BACKGROUND

The Clinger-Cohen Act of 1996 requires Federal Agency CIOs to develop, maintain, and facilitate “a sound and integrated information technology architecture for the executive Agency.” Subsequent to the Clinger-Cohen Act, the Office of Management and Budget (OMB) issued explicit guidance in its Circular A-130 that requires an Agency’s information system investments to be consistent with its EA. To meet the requirements of the Clinger-Cohen Act, a complete EA must:<sup>2</sup>

- Document the relationships among business and management processes and information technology;
- Ensure alignment of the requirements for information systems with the processes that support the Agency’s missions;
- Ensure adequate interoperability, redundancy, and security of information systems; and
- Support and enforce the application and maintenance of a collection of standards (including technical, business process, service, and data standards) by which the agency evaluates and acquires new systems.

OMB developed the Federal Enterprise Architecture (FEA), a business-based framework, to help make the Federal Government more citizen-centered, results-oriented, and responsive to market trends. The FEA divides the architecture into six functional views— Strategy, Business, Data, Applications, Infrastructure, and Security— and includes a “reference model”<sup>3</sup> for each area. The reference models are designed to facilitate cross-agency analysis and identification of duplicative investments, gaps, and opportunities for collaboration within and across Federal agencies.

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<sup>2</sup> OMB memorandum M-97-16 *Information Technology Architectures* (June 18, 1997)

<sup>3</sup> *The Common Approach to Federal Enterprise Architecture* (May 2, 2012)  
[http://www.cio.gov/documents/Common\\_Approach\\_to\\_Federal\\_EA.pdf](http://www.cio.gov/documents/Common_Approach_to_Federal_EA.pdf)

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## 5. POLICY

### 5.1 Governance and General Practice

The CIO governs the Enterprise Architecture (EA) under this policy, and its related procedures and standards are issued by the CIO or his/her designee after collaboration with the QIC, SIOs, ARAs, IMOs, IRM BCs, and CA. The CA may elect, after review by the EAWG, to elevate certain issues to the QIC subcommittees, QIC Steering Committee (QIC SC), CIO, and/or CTO. The CIO ensures that the System Life Cycle Management (SLCM) Policy and Procedure, and all other policies or procedures that support or implement aspects of the EA, are aligned with and consistent with this EA Policy and its supporting EA Governance Procedures.

### 5.2 IT Investment Compliance with Enterprise Architecture

All of EPA's information management and technology acquisitions, developments, modernizations, and enhancements shall conform to the Agency's EA standards, data standards, security standards, and IT Standards Profile, and comply with applicable requirements of the Agency's Capital Planning and Investment Control (CPIC) process and budget process.

### 5.3 Enterprise Architecture Development and Approval

The Chief Architect and EA Team develop and maintain the EA. The EA shall address the following functional views: Strategy, Business, Data, Applications, Infrastructure, and Security. The EA shall be aligned with the FEA and architecture best practices. The CIO, in consultation with the QIC, approves the EA.

### 5.4 Segment Architecture Development and Approval

The development and maintenance of each Segment Architecture (see 8. Definitions) is the responsibility of the sponsoring National Program Office or Region. The SIO appoints a Segment Manager (i.e. Segment Architect) to lead a segment's architecture development. The SIO approves the Segment Architecture after it is developed or modified. As the architect for the segment, the Segment Manager must work closely with the Project Managers who manage the segment's individual investments. Segment Architectures shall successfully complete an annual review by the Chief Architect.

### 5.5 Solution Architecture Development and Approval

Project managers shall develop a Solution Architecture to plan for information technology acquisitions and enhancements. The Solution Architecture shall document the alignment of the proposed project with its parent Segment Architecture and the Enterprise Architecture. The SIO shall approve and the Chief Architect shall certify solution architectures prior to project development, at Control Gate 3 ("EA Compliance Certification") of the *EPA SLCM Procedure*. The IMO or designee shall record and update information about their IT systems within the System of Registries, where applicable, including the Registry of EPA Applications, Models, and Databases (READ) or its authoritative successor. Solution Architecture Development shall ensure conformance with applicable data, security, and IT standards. EPA's Solution Architectures for all major and medium investments shall be certified annually by the CA. The Solution Architectures for lite and other (small) investments shall be certified annually by the SIO or delegate and may use a subset of SLCM deliverables.

### 5.6 Enterprise Architecture Maintenance and Toolset Usage

The EA Team shall maintain and update documentation of the alignment among EPA's strategic plans, business functions, and information technology assets. The Agency's enterprise architecture repositories and tools shall be used to maintain documentation and perform analysis to support decision-making.

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## 6. ROLES AND RESPONSIBILITIES

**Assistant Administrators and Regional Administrators:** The Assistant Administrators and Regional Administrators shall ensure that their organizations actively participate with the CA and comply with the *EA Policy* and *EA Governance Procedures*.

**Assistant Administrator for Administration and Resources Management:** The Assistant Administrator for Administration and Resources Management is responsible for ensuring that information technology grants and inter-agency agreements (IAGs) contain requirements for compliance with the *EA Policy* and *EA Governance Procedures*.

**Assistant Regional Administrators (ARAs):**

- Coordinate the development of the information resource investment proposals within their respective Regions,
- Monitor the implementation of information resource investments to ensure the IT used and managed by their Region supports its business needs and mission and helps to achieve EPA's strategic goals, and
- Approve segment architectures that are specific to their Region.

**Chief Acquisitions Officer (CAO):** The CAO is responsible for ensuring that information technology services contracts and mission support contracts contain requirements for compliance with the *EA Policy* and *EA Governance Procedures*.

**Chief Architect (CA):**

The CA is responsible for:

- developing, maintaining, communicating, and promoting use of the Agency EA,
- promoting architecture within the Agency, and
- serving as the external interface on architecture matters.

The CA, working for the CIO and in consultation with the EAWG, advises on:

- enterprise-level use of technology,
- promoting common business architectures,
- facilitating the use of architectural development processes, and
- applying EA products and practices.

The CA:

- Works with senior leadership to better understand their needs,
- Provides direction and priorities of the EA Team,
- Promotes both Agency and federal-wide collaboration on segment and solution architectures to support the Agency goals,
- Assesses and consults with investment owners on their alignment to Agency EA processes/practices,
- Promotes sound information management practices, and
- Annually reviews EPA's IT investments, including segment and solution architectures, and provides recommendations to the CIO.

**Chief Financial Officer (CFO):** The CFO is the responsible authority for: (a) all architectural

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considerations required under the Chief Financial Officers Act of 1990 (CFO Act) and (b) coordinating with the CIO to ensure that the EA and the CPIC processes support the Agency's strategic and budget planning processes. The CFO remains responsible for the Agency strategic and budget planning processes. This policy does not supersede those authorities.

**Chief Information Officer (CIO):**

- Provides an IT strategic direction which helps inform the EA.
- Reviews, approves, and issues the EA.
- Supplements this policy by approving procedures, guidance, and standards.

**Chief Technology Officer (CTO):**

- Is responsible for issuing procedures, guidance, and technical standards associated with the EA, with a specific focus on the technology architecture,
- Chairs the Quality Technology Subcommittee (QTS), and
- Reviews technology and security considerations in the Enterprise Target Architecture and Enterprise Transition Plan.

**Enterprise Architecture Team Lead (EATL):**

- Is responsible for managing the EA Team, including strategic planning, establishing program priorities, managing the day-to-day functions and operations of the program, and directing the activities of the EA Team towards establishing, maturing and maintaining an efficient and effective EA.
- Works with the CA in fulfilling the CIO's strategic direction and ensuring collaboration with the EAWG and Segment Managers on realizing enterprise-level architecture goals.

**Information Management Officer (IMO):**

- IMO or designee is responsible for coordinating and reviewing the segment and solution architectures within their National Program Office, Laboratories, and Field Offices.
- IMO or designee represents their National Program Office at the EAWG.
- IMO or designee is responsible for coordinating and overseeing currency of content in the System of Registries<sup>4</sup> and conformance with data, security, and IT standards for systems within their National Program Office, Laboratories, and Field Offices. An IMO may engage their Information Security Officer (ISO) for security-related issues.

**Information Resource Management Branch Chief (IRM BC):**

- IRM Branch Chief or designee is responsible for coordinating and reviewing the segment and solution architectures within their Region, Regional Laboratories, and Field Offices.
- IRM Branch Chief or designee represents their Region at the EAWG.
- IRM Branch Chief or designee is responsible for coordinating and overseeing currency of content in the System of Registries and conformance with data, security, and IT standards for systems within their Region, Regional Laboratories, and Field Offices.

**Project Manager<sup>5</sup>/ System Manager/ Solution Architect:**

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<sup>4</sup> EPA System of Registries: <http://epa.gov/sor>

<sup>5</sup> The Office of Personnel Management (OPM)'s *Job Family Standard for Administrative Work in the Information Technology Group* is available at <http://www.opm.gov/fedclass/GS2200A.pdf>. OPM's

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- May be the same person or separate people (for a large system),
  - Develops a Solution Architecture in conformance with the relevant Segment Architecture, EPA Enterprise Architecture, and best practices (i.e. [Federal Segment Architecture Methodology](#)), and
  - Ensures that the system is managed in compliance with all applicable EPA IM/IT policies as identified at <http://intranet.epa.gov/oei/imitpolicy/policies.htm>.

**Segment Manager/Architect:** The Segment Manager (also called Segment Architect)

- Manages development of a segment architecture,
- Represents his/her segment in the EAWG, and
- Is appointed by the SIO of the National Program Office leading the segment.

There may be multiple Segment Managers within one National Program Office, and a Segment Manager may manage a segment that spans across more than one National Program Office. There are usually multiple solutions / investments within a Segment. For more information on Segment Architecture development processes and tools, see the *EPA EA Governance Procedures* and *Federal Segment Architecture Methodology* (<http://intranet.epa.gov/architec/pdfs/lawguidance/fsamv1.pdf>).

**Senior Information Official (SIO):**

- Coordinates the development of the information resource investment proposals within their respective offices,
- Monitors the implementation of information resource investments to ensure the IT used and managed by their organization supports its business needs and mission and helps to achieve EPA's strategic goals,
- Grants the authority to access sensitive Personally Identifiable Information (PII) remotely or transmit/transport it off site, and
- Approves segment and solution architectures for their National Program Office.

**System Owner:**

- Monitors compliance with and concurs on applicable waivers from the SLCM Policy and Procedure.
- Appoints IT Project Managers/System Managers/Solution Architects.
- Coordinates SLCM development and maintenance activities with those of the EA, CPIC, and security processes.

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## 7. GOVERNING AND ADVISORY BODIES

In support of the EA governance management areas detailed in *Section 5. Policy* above, governing and advisory bodies make assessments, recommendations and decisions to support the EPA mission.

A high-level profile of each governing and advisory body follows:

**Enterprise Architecture Team (EA Team):**

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*Interpretive Guidance for Project Manager Positions* is available at <http://www.opm.gov/fedclass/cg03-0001.pdf>.

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- Includes an Architecture Core Team led by the EA Team Lead and consisting of dedicated OEI staff and matrixed staff/architects/subject matter experts from other EPA programs.
  - Supports the Chief Architect in annually reviewing segment and solution architectures and developing and maintaining an EA.

**Enterprise Architecture Working Group (EAWG):** The EAWG is the Agency's architectural subject matter authority, representing EPA National Program Offices and Regions to provide recommendations and decision support to the governing bodies (i.e. Quality Information Council, Information Investment Subcommittee, Quality Technology Subcommittee). The EAWG is composed of IMO's or designees, Segment Managers/Architects, Project Managers/System Managers/Solution Architects, and other stakeholders from EPA National Program Offices and Regional Offices.

An EAWG member:

- Advises and works collaboratively with the CA and EA Team to facilitate EA Team strategic planning and enterprise-level problem solving,
- Ensures that the EA reflects the requirements of their Program Office, Segment, or Region,
- Provides insight and access into their organization's architecture products, practices, enhancements, and innovations, and
- Champions EPA EA requirements/priorities by serving as the communications liaison to their organization regarding the Agency-level EA.

The EAWG meets monthly and on an ad hoc basis as needed.

**Information Investment Subcommittee (IIS):** ". . .The purpose of the IIS is to advise and assist the QIC on information investment proposals as required under the Clinger-Cohen Act requirements and in accordance with the Agency's Enterprise Architecture." (Source: [IIS Charter](#) section 1. Also see IIS Charter section 2.)

**Quality and Information Council (QIC):** Reviews and concurs with the Enterprise Target Architecture and Enterprise Transition Plan. Recommends to the CIO for approval or indicates areas needing modification to Chief Architect. (See the QIC charter for a full description of the QIC's responsibilities: [http://intranet.epa.gov/oei/imitpolicy/qic/documents/final\\_qic\\_charter070705.pdf](http://intranet.epa.gov/oei/imitpolicy/qic/documents/final_qic_charter070705.pdf))

**Quality and Information Council Steering Committee (QIC SC):** "The primary role of the QIC SC is to assist the QIC in developing the IT/IM and related policy agenda. . ." (Source: [QIC Charter](#) section 4-2).

**Quality Technology Subcommittee (QTS):** "The QTS addresses enterprise-wide issues regarding the Agency's information technology infrastructure including customer and mission needs that require technical solution, long-term technology planning, and systems integration." (Source: [QIC Charter](#) section 4-4). The QTS reviews the Enterprise Target Architecture and Enterprise Transition Plan for technology and security considerations. The QTS is a subcommittee of the QIC.

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## 8. DEFINITIONS

**Application:** The information resources (information and information technology) used to satisfy a specific set of user requirements. (Source: Appendix III to OMB Circular No. A-130)

**Architecture:** The set of products that portrays an organization's strategic goals, business practices, data assets, IT services, and technical infrastructure.

**Baseline Architecture:** The set of products that portrays an organization's existing strategic goals, business practices, data assets, IT services, and technical infrastructure. Commonly referred to as the "as-is" architecture.

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**Collaboration:** A process in which different parties work together to achieve a goal.

**CPIC Process:** The Capital Planning and Investment Control (CPIC) process, mandated by the Clinger-Cohen Act of 1996, is a systematic approach to selecting, managing, and evaluating IT investments. It requires federal agencies to focus on the results achieved through IT investments.

**Enterprise:** An organization (or cross-organizational entity) supporting a defined business scope and mission. An enterprise includes interdependent resources (e.g., people, organizations, and IT) that must coordinate their functions and share information in support of a common mission (or set of related missions). For the EPA EA Policy, “enterprise” refers to the USEPA as a whole.

**Enterprise Architecture (EA):** A strategic information asset base that describes the enterprise mission, the information and technologies necessary to perform the mission, and the transitional processes for implementing new technologies in response to changing mission needs. EA includes a baseline architecture, target architecture, and enterprise transition plan.

**Enterprise Architecture (EA) Blueprint:** A composite document describing the Enterprise Baseline Architecture, Enterprise Transition Plan, and Enterprise Target Architecture.

**Enterprise Services:** Common or shared IT services that support core mission areas and business services.

**Enterprise Target Architecture (ETA):** See **Target Architecture**.

**Enterprise Transition Plan (ETP):** A document that defines the strategy for transitioning the enterprise from the baseline architecture to the target architecture. The ETP describes key planning and implementation activities necessary to migrate business processes, information resources, and supporting information management systems to the Enterprise Target Architecture.

**Federal Enterprise Architecture:** A business-based framework for government-wide improvement developed by the OMB that is intended to facilitate efforts to transform the federal government to one that is citizen-centered, results-oriented, and market-based. (Source: NIST 800-18)

**Information Technology (IT):** Applied computer systems, both hardware and software, and often including networking and telecommunications, usually in the context of a business or other enterprise. Often the name of the part of the enterprise that deals with all things electronic.

**Major IT Investment:** An OMB IT designation. OMB defines a Major IT Investment as an IT project or system meeting the following criteria:

- A system or acquisition requiring special management attention because of its importance to the mission or function of the agency, a component of the agency or another organization;
  - Is for financial management and obligates more than \$500,000 annually;
  - Has significant program or policy implications;
  - Has high executive visibility;
  - Has high development, operating, or maintenance costs (for EPA this is greater than or equal to \$5 million annually);
  - Is funded through other than direct appropriations; or
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- Is defined as Major by the Agency's CPIC process.

**Non-Major IT Investment (i.e. CPIC Medium or CPIC Lite):** Any IT initiative or investment not meeting the definition of Major or Small and Other that is part of the Agency's IT Portfolio of investments. "CPIC Medium" investments are subject to spending between \$2 million and \$5 million per year. "CPIC Lite" investments are subject to spending between \$250,000 and \$2 million per year.

**Repositories and Tools:** A collection of databases, architectural and modeling tools, and other electronic support for developing, modeling, managing, analyzing, and publishing the enterprise baseline architecture, enterprise target architecture, ETP, and segment architectures. Collectively, the EA repositories and tools comprise the strategic information asset base of the EA.

**Segment Architecture:** "A segment architecture provides a detailed results-oriented architecture and a transition plan for a portion (or segment) of the Agency/enterprise. Segments are individual building blocks in the ETP describing core mission areas and common or shared business services or application services. A segment architecture comprises a series of work products describing the baseline architecture, the target architecture and a transition plan. The segment shall address all investments that comprise that segment. Typical segment architecture products capture segment-level change drivers; describe baseline and target performance, business, data, services and technology architecture; and provide a roadmap to enhance business operations and achieve measurable performance improvements." (OMB, *Enterprise Architecture Segment Report*, December 2008 v1.0)

**Sequencing Plan:** A sequencing plan is a part of both the ETP and each segment's transition plan. A sequencing plan defines the logical dependencies between, and relative priorities (i.e. chronological sequence) among, the activities to transition from the baseline to target architecture.

**Service:** From an enterprise perspective, a service describes the systematic utilization of distributed business/technology capabilities managed and synchronized across the enterprise for the purpose of delivering the results from well defined tasks or for expediting business transactions that address the needs of customers and attain defined business outcomes. A service-oriented approach to doing business allows a task to be defined so it can be accomplished by others as a mutually agreed or contractually provided assistance or supporting business/technology capability.

**Small and Other IT Investment:** Any IT initiative or investment that is part of the Agency's IT Portfolio of investments and subject to spending of less than \$250,000 per year.

**Solution:** An information technology system or application.

**Solution/System Architecture:** A solution architecture is a blueprint of an information technology system—including its business processes, data classes, security controls, application interfaces, and technologies.

**System:** An interconnected set of information resources under the same direct management control which shares common functionality. A system normally includes hardware, software, information, data, applications, communications, and people." (Source: Appendix III to OMB Circular No. A-130)

**System Lifecycle Management (SLCM):** EPA's System Lifecycle Management is the Agency's approach and practices in the definition, acquisition, development, implementation, operations and maintenance, and termination of EPA information technology (IT) systems and applications. System owners and project managers must maintain required documentation for each phase, step, and

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activity during the lifecycle of an IT system or application. Each system must fit within the overarching Enterprise Architecture (EA) of the Agency, and thus the System Lifecycle includes control gates where management can review and approve EA, security, and system requirements before the system may proceed to the next phase of its lifecycle.

**Target Architecture:** A high-level master blueprint describing the optimal state of the Agency, or an individual segment, in terms of strategic goals, business practices, data assets, IT services, and technical infrastructure. Commonly referred to as the “to-be” architecture. The Enterprise Target Architecture (ETA) is a target architecture for the Agency.

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## **9. WAIVERS**

Compliance with this policy and its associated procedures and technical standards shall be mandatory. Requests for any exceptions or waivers from the policy, procedures, and/or technical standards shall be addressed to the CIO or his/her designee through the established EA procedures. The procedures will include the right of any office to appeal a CIO decision to the Deputy Administrator as outlined in the QIC Charter.

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## **10. LAWS; REGULATIONS AND GUIDANCE; AND RELATED EPA GOVERNANCE DOCUMENTS**

### **Laws**

**The Government Performance and Results Act of 1993 (GPRA - 1993)** establishes the foundation for budget decision-making to achieve strategic goals in order to meet agency mission objectives. Instructions for preparing strategic plans, annual performance plans, and annual program performance reports are provided in Part 6 of this Circular (see section 220).

**The Federal Acquisition Streamlining Act of 1994, Title V (FASA V)(1994)** requires agencies to establish cost, schedule, and measurable performance goals for all major acquisition programs, and achieve on average 90 percent of those goals. OMB policy for performance-based management is also provided in this section. If a project falls out of tolerance (failure to meet 90 percent of cost, schedule, or performance goals), FASA gives the Agency head the authority to review, and if necessary, terminate the project.

**The Paperwork Reduction Act of 1995 (PRA)** requires that agencies perform their information resource management activities in an efficient, effective, and economical manner.

**The Clinger-Cohen Act of 1996 (CCA)** requires agencies to use a disciplined capital planning and investment control (CPIC) process to acquire, use, maintain, and dispose of information technology. OMB policy for management of federal information resources is contained in Circular A-130, Management of Federal Information Resources, and section 53 of A-11. The purpose of the CCA is to improve the productivity, efficiency, and effectiveness of federal programs through improved acquisition, use, and disposal of IT resources.

**The Government Paperwork Elimination Act of 1998** develops procedures for the use and acceptance of electronic signatures by executive agencies.

**The Government Information Security Reform Act (GISRA - 2000)** focuses on the project management, implementation, and evaluation of systems security. It requires federal agencies to assess the information security control techniques of their systems. Specifically, agencies must support the cost-effective security of federal information systems by promoting security as an integral component of each Agency's business operations.

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**The President's Management Agenda** addresses Strategic Management of Human Capital, Competitive Sourcing, Improved Financial Performance, Expanded Electronic Government, Budget, and Performance Integration

**The Federal Information Security Management Act (FISMA - 2002)** requires agencies to integrate IT security into their capital planning and enterprise architecture processes at the agency, conduct annual IT security reviews of all programs and systems, and report the results of those reviews to OMB.

**The E-Government Act of 2002 (P.L. 107-347)** requires agencies to develop performance measures for implementing E-Government. The Act also requires agencies to support Government-wide E-Government initiatives and to leverage cross-agency opportunities to further E-Government. In addition, the Act requires agencies to conduct, and submit to OMB, Privacy Impact Assessments for all new IT investments administering information in identifiable form collected from or about members of the public.

### **Regulations and Guidance**

#### **FEA Consolidated Reference Model (CRM):**

[http://www.whitehouse.gov/sites/default/files/omb/assets/fea\\_docs/FEA\\_CRM\\_v23\\_Final\\_Oct\\_2007\\_Revised.pdf](http://www.whitehouse.gov/sites/default/files/omb/assets/fea_docs/FEA_CRM_v23_Final_Oct_2007_Revised.pdf)

#### **Federal Segment Architecture Methodology:**

<http://intranet.epa.gov/architec/pdfs/lawguidance/fsamv1.pdf>

**OMB Circular A-11, Part 7 - Planning, Budgeting, Acquisition, and Management of Capital Assets** establishes policy for planning, budgeting, acquisition and management of Federal capital assets, and instructs on budget justification and reporting requirements for major information technology (IT) investments and for major non-IT capital assets.

**OMB Circular A-11, Supplement to Part 7 - Capital Programming Guide** provides guidance on the principles and techniques for effective capital programming. The Capital Programming Guide integrates the various Administration and statutory asset management initiatives (including GPRA, Clinger/Cohen Act, FASA, and others) into a single, integrated capital programming process to ensure that capital assets contribute to the achievement of agency strategic goals and objectives.

**OMB Circular A-123 - Management Accountability and Control** provides guidance to Federal managers on improving the accountability and effectiveness of Federal programs and operations by establishing, assessing, correcting, and reporting on management controls.

**OMB Circular A-130 Revised, Transmittal Memorandum #4, *Management of Information Resources***, November 28, 2000, establishes policies for the management of federal information resources, including descriptive information about enterprise architecture, in support of the Clinger-Cohen Act.

Link: [http://www.whitehouse.gov/omb/circulars\\_a130\\_a130trans4](http://www.whitehouse.gov/omb/circulars_a130_a130trans4)

**OMB memorandum M-00-07** dated February 28, 2000, *Incorporating and Funding Security in Information Systems Investments*, reminds agencies of OMB's principles for incorporating and funding security as part of agency information technology systems and architectures and of the decision criteria that will be used to evaluate security for information systems investments.

**OMB memorandum M-97-16** dated June 18, 1997, *Information Technology Architectures*, provides guidance on developing, implementing, and maintaining an Enterprise Architecture, Technical Reference

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Model, and Standards Profiles.

### **Related EPA Governance Documents**

*EPA Strategic Plan*

*EPA Capital Planning and Investment Control (CPIC) Policy & Procedures<sup>6</sup>*

*EPA System Life Cycle Management (SLCM) Policy & Procedure*

*Agency Network Security Policy*

*NIST 800-18 Guide for Developing Security Plans for Federal Information Systems:*

<http://csrc.nist.gov/publications/nistpubs/800-18-Rev1/sp800-18-Rev1-final.pdf>

*EPA Data Standards Policy:* <http://intranet.epa.gov/oei/imitpolicy/qic/ciopolicy/2133.0.pdf>

*Procedure: Obtaining a Waiver from an EPA IT Requirement*

*QIC Charter:* [http://intranet.epa.gov/oei/imitpolicy/qic/documents/final\\_qic\\_charter070705.pdf](http://intranet.epa.gov/oei/imitpolicy/qic/documents/final_qic_charter070705.pdf)

*QTS Charter:* [http://intranet.epa.gov/oei/imitpolicy/qic/docs/QTS\\_Charter.pdf](http://intranet.epa.gov/oei/imitpolicy/qic/docs/QTS_Charter.pdf)

*IIS Charter:* <http://intranet.epa.gov/oei/imitpolicy/qic/pdfs/iis-charter.pdf>

*EAWG Charter:* [http://intranet.epa.gov/architec/doc/charter\\_final.doc](http://intranet.epa.gov/architec/doc/charter_final.doc)

*Information Technology Infrastructure Standards Procedure:*

<http://intranet.epa.gov/oei/imitpolicy/qic/ciopolicy/itis.pdf>

*EPA IT Standards Profile:* <http://cfint.rtpnc.epa.gov/otop/itarchitecture/standards.cfm>

*Personal Computer Configuration and Management Standard:*

<http://intranet.epa.gov/oei/imitpolicy/qic/ciopolicy/percom.pdf>

*Data Exchange Procedure:* [http://intranet.epa.gov/oei/imitpolicy/qic/ciopolicy/CIO\\_2122-P-04.0.pdf](http://intranet.epa.gov/oei/imitpolicy/qic/ciopolicy/CIO_2122-P-04.0.pdf)

*EPA Enterprise Target Architecture*

*EPA EA Principles:* <http://intranet.epa.gov/architec/pdfs/EPA-EA-Principles.pdf>

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### **11. MATERIAL SUPERSEDED**

ENTERPRISE ARCHITECTURE POLICY (CIO Policy 2122.0/Transmittal 06-001 dated 11-17-2005)

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### **12. ADDITIONAL INFORMATION**

For more information on this policy, please contact the Office of Environmental Information, Office of Technology Operations and Planning, Mission Investment Solutions Division.

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*Malcolm D. Jackson, Assistant Administrator  
and Chief Information Officer  
Office of Environmental Information*

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<sup>6</sup> EPA's IT policies and procedures (draft and approved) are maintained on the IT Policy Wiki:

<http://intranet.epa.gov/itpolicy>

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