### PREFACE TO SELECTED INFORMATION DIRECTIVES

CIO Transmittal No.: 16-009 CIO Approval Date: 09/26/2016

Issued by the EPA Chief Information Officer, Pursuant to Delegation 1-19, dated 07/07/2005

### CHIEF INFORMATION OFFICER MEMORANDUM

## **SUBJECT**: Guidance for Hosting Readiness Assessments

In a memorandum to SIOs and IMOs dated July 5, 2016, I introduced OEI's new Hosting Readiness Assessment process at the National Computing Center and indicated that it was in effect for all system and application deployments. It also stated the OEI would start with a "lite" process and finalize as we work with the program offices and get their input.

In order to maximize flexibility for updating the Hosting Readiness Assessment Process, the information and instructions are housed on at the "Enterprise Cloud" and "Templates and Guidelines" sections of the EPA Developer's Guide (https://developer.epa.gov/guide/). These instructions supersede any related direction in the following documents:

- CIO 2121.1, System Life Cycle Management Policy
- CIO 2121-P-03.0, System Life Cycle Management Procedure
- CIO 2121-G-01.0, System Life Cycle Management Guidance

Ann Dunkin Chief Information Office Environmental Protection Agency

## PREFACE TO SELECTED INFORMATION DIRECTIVES

CIO Transmittal No.: 15-010 CIO Approval Date: 06/12/2015

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

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

<b>Information Directive</b>	Prior CTO Responsibilities	Re-
CIO 2150 D 01 1	A 11 /1 1 C 1' 1 11 ' 1	assignment
CIO 2150-P-01.1	Approve all methods of dial-up access, approve all wireless	OTOP
Information Security -	connections, establish, document, authorize, and monitor all	Director
Interim Access Control	methods of remote access to an information system; delegate to	
Procedures	Regions and other entities, as appropriate; and address co-	
	management responsibilities for the Agency Security	
	Architecture.	
CIO 2150-P-08.1	Determine Operational Status Categories during Alerts and Risks	SAISO
Information Security -	(OSCAR) 5 level (page 7).	
Interim Incident Response	Be available when the Computer Security Incident Response	OTOP
Procedures	Capability (CSIRC) must report and coordinate incidents (page	Director
	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).	
CIO 2150-P-14.1	Approve the use of and, as appropriate, acquire and deploy	OTOP
Information Security -	enterprise vulnerability management technology. Consult with	Director
Interim Risk Assessment	the SAISO to determine the coverage and compliance of	
Procedures	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.	
CIO 2150-P-15.1	For the procurement of external information system services	OTOP
Information Security -	where a sufficient level of trust cannot be established, be available	Director
Interim System Services	to confer regarding risks associated with the network and the	
Acquisition Procedures	Agency.	
CIO 2150-P-16.1	Approve use of mobile VoIP-enabled units.	OTOP
Information Security -		Director
Interim System and		
Communications		
Protection Procedures		
CIO 2150.4 Mobile	Oversee policy and procedure implementation regarding use of	OTOP
Computing Policy	mobile computing technologies. Approve mobile computing	Director
	technology and device deployment.	
CIO 2150-P-01.1 Mobile	Oversee policy and the implementation of the procedures.	OTOP
Computing Management	Approve enterprise mobile device types to be deployed. Review	Director
Procedures	and approve requests for waivers in regards to the procedures.	



EPA Classification No.: CIO 2121.1	CIO Approval Date: 09/21/2012
CIO Transmittal No.: 12-004	Review Date: 09/21/2015

Issued by the EPA Chief Information Officer, Pursuant to Delegation 1-19, dated 07/07/2005

## SYSTEM LIFE CYCLE MANAGEMENT (SLCM) POLICY

### 1. PURPOSE

The Environmental Protection Agency (EPA or Agency) strives to ensure that the process for managing the Agency's investments in Information Technology (IT) is consistent with federal statutes, regulations, and policies and supports EPA's System Life Cycle (SLC), Enterprise Architecture (EA), Capital Planning and Investment Control (CPIC), Quality and Information Security requirements. In order to maintain consistency with the mandates of the Clinger-Cohen Act of 1996, this document establishes the policy for assuring that IT resources are selected, developed and managed to achieve high value outcomes at acceptable costs. It also addresses the prescribed "select/control/evaluate" approach to managing IT investments.

The purpose of this policy is to establish a consistent framework across the Agency to ensure that EPA IT systems and applications are properly planned and managed, controllable, cost-effective and that they support the Agency's mission and business goals. This policy and its supporting documents provide EPA Offices with direction for tailoring and implementing System Life Cycle Management (SLCM) requirements to develop and manage effective and efficient IT solutions.

### 2. SCOPE AND APPLICABILITY

This policy applies to all EPA IT systems and application projects, both applications and general support systems (GSS). It is applicable to custom developed, commercial-off-the-shelf (COTS), or government-off-the-shelf (GOTS) projects and applies to applications developed for mobile devices. It also applies to systems developed on behalf of EPA by contractors irrespective of where the IT systems are hosted; including cloud-based solutions. Small desktop applications (i.e. spreadsheets) are excluded from the requirements of this policy.

## 3. AUDIENCE

The audience for the policy includes all EPA and contractor personnel participating in the development and management of IT systems, including but not limited to:

- Chief Information Officer (CIO)
- Chief Financial Officer (CFO)
- Chief Technology Officer (CTO)
- Senior Information Officials (SIOs)
- Information Management Officers (IMOs)
- Information Security Officers (ISOs)
- Information System Security Officers (ISSOs)
- System Sponsors
- System Owners

EPA Classification No.: CIO 2121.1	CIO Approval Date: 09/21/2012
CIO Transmittal No.: 12-004	Review Date: 09/21/2015

System Managers

Project Managers (PMs)

### 4. BACKGROUND

EPA invests in the acquisition, design, development, implementation, and maintenance of information systems vital to Agency programs and the administrative functions that support the protection of human health and safeguarding the natural environment. The need for safe, secure, and reliable IT solutions is heightened by the increasing dependence on computer systems and technology to provide services, develop products, administer daily activities, and perform management functions. There is also an increased importance on ensuring privacy and security when developing information systems. It is necessary to establish uniform privacy and security practices, and to develop acceptable implementation strategies for these practices.

This policy meets EPA's need for a systematic and uniform methodology for information systems development and management. The policy will ensure that EPA information systems meet mission objectives; are compliant with the current and planned Enterprise Architecture (EA); are easy to maintain and cost-effective to enhance. Sound methodology promotes reliable, valid, and repeatable development and management practices.

#### 5. AUTHORITY

- Chief Financial Officers Act of 1990
- Clinger-Cohen Act of 1996
- Federal Information Security Management Act (FISMA) of 2002
- Government Paperwork Elimination Act of 1998
- Paperwork Reduction Act of 1995
- · Privacy Act of 1974, as amended
- Government Performance and Results Act of 1993
- OMB Circular No. A-11
- OMB Circular No. A-127 Financial Management Systems
- OMB Circular No. A-130 Management of Federal Information Resources
- Section 508 of the Rehabilitation Act (29 U.S.C. 794d), as amended by the Workforce Investment Act of 1998 (P.L. 105-220), August 7, 1998

## 6. POLICY

A System Life Cycle (SLC) at EPA consists of six phases: Pre-Definition, Definition, Acquisition/Development, Implementation, Operations and Maintenance, and Termination. Detailed information on the steps required for each phase is defined in the supporting SLCM Procedure document.

- All EPA information systems must have a designated System Sponsor, System Owner, System Manager, and Project Manager to support the SLCM process.
- Documentation and/or artifacts required for each SLCM phase must be created and then
  updated throughout the system's life cycle. The life cycle phases needed for an information
  system must be identified, planned for, and executed based on documented business
  requirements and federal IT security requirements.

EPA Classification No.: CIO 2121.1	CIO Approval Date: 09/21/2012
CIO Transmittal No.: 12-004	Review Date: 09/21/2015

- The order of implementing SLCM phases and the level of detail required to complete them, can vary on a system-by-system basis. This Policy supports multiple development methodologies including agile and iterative development. Tailoring of the SLCM process must be documented as defined in the SLCM Procedure.
- Information security considerations, activities, and documentation are performed at each phase of the SLC in accordance with Agency policies and applicable federal statutes, regulations, National Institute of Standards and Technology (NIST) guidance, and other applicable federal or Agency requirements.
- Although all phases must be completed and documented, they do not need to occur in a linear fashion and non-linear development does not require a waiver.
- SLCM requires documentation. Documenting each major step or element will help ensure sound system life cycle management, Enterprise Architecture compliance, and alignment with IT investment management processes. The Project Manager and System Manager ensure that the required documentation is updated as appropriate throughout the system's life cycle.
- System Owners and System Managers must review and approve the system's tailoring decisions. The Project Manager must document the tailoring reviews and approvals in the system's decision documents.
- Advancement from one SLCM phase to the next requires Enterprise Architecture, IT investment management, or information security reviews. These reviews are designated by Agency-level control gates and System Owners and System Managers must ensure they take place. When a control gate review is required, System Managers must not advance a system without documented, written approval resulting from that review. Additionally, management must ensure that all calendar-driven checkpoints and phase-level reviews are conducted. The timing and method of the reviews will vary based on the tailoring plan of the specific system.

## 7. RELATED DOCUMENTS

- Capital Planning and Investment Control (CPIC) Policy: http://intranet.epa.gov/oeiintra/imitpolicy/gic/ciopolicy/2120.pdf
- Capital Planning and Investment Control (CPIC) Procedures for the Office of Management and Budget (OMB) Exhibit 300: <a href="http://intranet.epa.gov/cpic/fy2008/cpic-procedures-sept05.pdf">http://intranet.epa.gov/cpic/fy2008/cpic-procedures-sept05.pdf</a>
- Data Exchange and Collection Procedure: http://intranet.epa.gov/oeiintra/imitpolicy/qic/ciopolicy/CIO\_2122-P-04.0.pdf
- Data Standards Policy: http://intranet.epa.gov/oeiintra/imitpolicy/qic/ciopolicy/2133.0.pdf
- Enterprise Architecture Procedure: <a href="http://intranet.epa.gov/oei/imitpolicy/qic/ciopolicy/ea-procedure-final040406.pdf">http://intranet.epa.gov/oei/imitpolicy/qic/ciopolicy/ea-procedure-final040406.pdf</a>
- EPA Acquisition Regulation (EPAAR): <a href="http://ecfr.gpoaccess.gov/cgi/t/text/text-text-idx?sid=52c48b59c02b4481b8576a658c6e69ab&c=ecfr&tpl=/ecfrbrowse/Title48/48cfrv6\_02.tpl">http://ecfr.gpoaccess.gov/cgi/t/text/text-text-idx?sid=52c48b59c02b4481b8576a658c6e69ab&c=ecfr&tpl=/ecfrbrowse/Title48/48cfrv6\_02.tpl</a>
- EPA Records Management Policy: <a href="http://intranet.epa.gov/oei/imitpolicy/qic/ciopolicy/CIO-2155.1">http://intranet.epa.gov/oei/imitpolicy/qic/ciopolicy/CIO-2155.1</a> 2.pdf
- FIPS 199 Standards for Security Categorization of Federal Information and Information Systems: http://csrc.nist.gov/publications/fips/fips199/FIPS-PUB-199-final.pdf

EPA Classification No.: CIO 2121.1	CIO Approval Date: 09/21/2012
CIO Transmittal No.: 12-004	Review Date: 09/21/2015

- GAO Cost Estimating and Assessment Guide March 2009: http://www.gao.gov/new.items/d093sp.pdf
- Interim Agency Network Security Policy: http://intranet.epa.gov/oei/imitpolicy/qic/ciopolicy/ansp\_interim\_policy.pdf
- Mobile Access Review Committee (MARC) Resource Page (URL add)
- Privacy Policy: http://intranet.epa.gov/oei/imitpolicy/qic/pdfs/cio2151.0.pdf
- Procedures for Preparing and Publishing Privacy Act System of Records Notices: http://intranet.epa.gov/oei/imitpolicy/qic/ciopolicy/CIO2151-P-03.1.pdf
- Project Management Templates developed by Deloitte for EPA: http://intranet.epa.gov/otopintr/slcm
- Recommended Security Controls for Federal Information Systems and Organizations NIST 800-53 Rev. 3: <a href="http://csrc.nist.gov/publications/nistpubs/800-53-Rev3/sp800-53-rev3-final-updated-errata">http://csrc.nist.gov/publications/nistpubs/800-53-Rev3/sp800-53-rev3-final-updated-errata</a> 05-01-2010.pdf
- Security Considerations in the System Development Life Cycle NIST 800-64 Rev. 2: http://csrc.nist.gov/publications/nistpubs/800-64-Rev2/SP800-64-Revision2.pdf

### 8. ROLES AND RESPONSIBILITIES

**Chief Information Officer (CIO)**, who is also the Assistant Administrator for the Office of Environmental Information, is responsible for:

- Approving the SLCM Policy and Procedure
- Ensuring Agency compliance with the SLCM Policy by providing guidance and tools to senior managers for program oversight
- Deciding on waiver requests to requirements of the SLCM Policy
- Delegating review and approval of any waivers to the SLCM Procedure to the CTO

Assistant Administrators, Chief Financial Officer (CFO), General Counsel (GC), Inspector General (IG), Deputy Chief of Staff to the Administrator, Associate Administrators, and Regional Administrators and Laboratory Directors are responsible for:

Ensuring compliance with SLCM requirements for IT systems within their organizations

## Chief Technology Officer (CTO) is responsible for:

- Establishing and publishing procedures, technical operational procedures and standards (TOPS), and guidance supporting the Agency's SLCM Policy
- Reviewing and approving waivers to the SLCM Procedure

### Office of Technology Operations and Planning (OTOP) Director is responsible for:

- Maintaining the SLCM Policy, the SLCM Procedure, and supporting documents and tools
- Monitoring compliance with the SLCM Policy and Procedure through EA, IT Investment Management, and security processes

## Chief Architect is responsible for:

- Leading the development and maintenance of the Agency's Enterprise Architecture including target architecture and Enterprise Transition Planning in conjunction with the SLCM Policy and Procedure
- Certifying and providing guidance for compliance of solution architectures during EA reviews

EPA Classification No.: CIO 2121.1	CIO Approval Date: 09/21/2012
CIO Transmittal No.: 12-004	Review Date: 09/21/2015

## Director of the Office of Acquisition Management (OAM) is responsible for:

 Ensuring the incorporation of EPA's SLCM requirements in requests for proposals and contracts as appropriate

## Senior Information Officials (SIOs) are responsible for:

- Apprising the Quality and Information Council (QIC) of major SLCM issues within their offices
- Ensuring compliance with SLCM Policy and Procedure for systems within their offices
- Ensuring that the information technology used and managed by their organization supports its business needs and mission and helps to achieve strategic goals
- Ensuring EA compliance of solution architectures
- Approves a project to continue through control gates (this may be delegated for smaller systems)
- Reviewing, concurring, advising and/or submitting waiver requests to the SLCM Policy and Procedure, as applicable

## **Information Management Officers (IMOs)** are responsible for:

- Supporting the SIO in ensuring compliance with this policy and the SLCM procedure for systems within their office
- Reviewing SLCM documentation
- Reviewing and concurring on waiver requests to the SLCM Procedure, as applicable

## Information Security Officers (ISOs) are responsible for:

- Reviewing and supporting the development of SLCM security documentation, as appropriate
- Assigns security responsibilities throughout the system life cycle

## Information System Security Officers (ISSOs) are responsible for:

- Maintaining the operational security of the information system
- Assisting in the planning and execution of security related SLCM documentation

### **System Sponsors** are responsible for:

- Authorizing, approving, and ensuring adequate funding and resources during the system life cycle of their information systems
- Appointing System Owners and authorizing those individuals to initiate system development
- Reviewing waiver requests, as applicable

### **System Owners** are responsible for:

- Monitoring compliance to the SLCM Policy and Procedure and approving tailoring plans
- Appointing Project Managers and System Managers
- Coordinating SLCM development activities with those of the EA, IT Investment Management, and Information Security processes
- Serving as the information owner of the system
- Ensuring compliance to Section 508 requirements during the SLCM
- Concurring on waiver requests from the SLCM Policy and/or Procedure, as applicable
- Approving completed Control Gate and Project Level Reviews

## **System Managers** are responsible for:

 Providing day-to-day management of the system life cycle process and products within their programs

EPA Classification No.: CIO 2121.1	CIO Approval Date: 09/21/2012
CIO Transmittal No.: 12-004	Review Date: 09/21/2015

- Ensuring that their systems advance through the SLCM phases and activities
- Creating an SLCM Tailoring plan and submitting it for approval by the System Owner
- Recommending and preparing written justification for waiver requests and documenting them as part of the Project Management Plan
- Preparing Control Gate and Project Level Reviews

## Project Manager (PM) is responsible for:

- Managing the defined system through its life cycle
- Incorporating the SLCM artifacts and work products in the system project schedule
- Assigning resources on the system project team to complete SLCM artifacts

## Privacy Act Officer is responsible for:

 Reviewing and supporting system development and management as it relates to privacy and personally identifiable information

#### 9. **DEFINITIONS**

**Acquisition/Development Phase** – The SLCM phase where the system is acquired through the purchase of software and services to yield a system that satisfies the mission need established in the Definition Phase.

**Application** – The information resources (usually software) used to satisfy a specific set of user requirements (OMB A-130, Appendix III). In particular, an application usually refers to the software component of a system.

**Artifacts** – Work products created throughout the life cycle documenting activities, decisions, and requirements. Artifacts may be paper documents or electronic files and are based on best practices and guidance for project and IT management.

**Capital Planning and Investment Control (CPIC) Process** – The decision-making process for ensuring information technology investments. The process integrates strategic planning, budgeting, procurement, and the management of IT in support of Agency missions and business needs, as defined in the Clinger-Cohen Act (CCA) of 1996.

**Checkpoint** – A specific calendar-driven point during the SLC when the System Owner assesses the progress of the SLCM process to ensure that the activities associated with this process coordinate with and support the CPIC, EA, and IT Security requirements.

**Commercial Off-the-Shelf (COTS)** – A commercial product or information system available to the general public. COTS products contain pre-established functionality, although some degree of customization is possible.

**Control Gate** – Phase-driven "go/no-go" decision points with reviews SLCM activities to ensure compliance with appropriate OMB and EPA requirements. A system cannot proceed without a "go" decision by the appropriate senior manager for the specific control gate.

**Definition Phase** – The SLC phase that result in a defined business justification for the system and a plan for implementation or acquisition. Upon completion of this phase, the project will have approval and funding to proceed.

**Enterprise Architecture (EA)** – A strategic information asset base which defines business mission needs, the information content necessary to operate the business, the information technologies necessary to support business operations, and the transitional processes necessary for implementing

EPA Classification No.: CIO 2121.1	CIO Approval Date: 09/21/2012
CIO Transmittal No.: 12-004	Review Date: 09/21/2015

new technologies in response to changing business mission needs. EA includes baseline architecture, target architecture, and an enterprise transition plan

**Government Off-the-Shelf (GOTS)** – A product developed by or for a government agency that can be used by another agency with the product's pre-established functionality and little or no customization.

**Implementation Phase** – The SLC phase where activities involving moving a completed system (or system modifications) into the production environment and completing the necessary processes to allow users to access the system to perform the work identified in the mission take place.

**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.

**Major Investment** – EPA uses OMB's definition of a Major investment, which can be found in the <u>CPIC Procedures document</u>. For EPA's OMB budget reporting, all Major IT investments must be reported in the Exhibit 53 and must submit a Capital Asset Plan and Business Case (Exhibit 300).

**Mobile App or Application** – any native or Web application (app) specifically designed to be accessed and utilized on a handheld mobile device, such as a cell phone, smart phone, tablet, or portable digital assistant (PDA).

**Native Mobile Apps** – Native apps can come preinstalled on a mobile device, such as a smart phone, but can also be downloaded from app stores and other websites. Native apps can be programmed to leverage many smart phone capabilities, such as the camera and geo-location.

**Mobile Web Apps** - Mobile Web apps reside on a server and are accessed using a mobile browser. Mobile Web apps are distinct from mobile websites that only provide simple content. Mobile Web apps use server-side or client-side processing (e.g. JavaScript) to provide a level of interactivity akin to many downloadable native apps.

**Non-Major IT Investment** – EPA uses the OMB's definition of a Non-Major investment, which can be found in <u>CPIC Procedures</u>. For EPA's OMB budget reporting, all Non-Major IT investments must be reported in the Exhibit 53.

**Pre-Definition Phase -** The Pre-Definition Phase is the first phase in the life cycle and is when business owners determine if an IT System or Solution is needed to fulfill a business need and/or performance gap.

**Project Level Reviews** – Reviews conducted at the project level to determine system readiness to proceed to the next phase of the IT life cycle. Key project stakeholders review and agree that the system under development is the system that needs to be built and that it is being built correctly. The System Manager and System Owner sign off on the completed review.

Operations and Maintenance (O&M) Phase – The SLCM phase where users have a working system to support the mission need. More than half of a typical system's life cycle costs are attributable to O&M, making the management of this phase of equal importance to the other phases that deliver the functionality. During O&M the System Manager maintains schedules and periodically conducts reviews to ensure the health of the system and to validate the suitability of the system for meeting SLCM requirements.

**Small Desktop Applications** – End-user programs or applications that reside solely on a desktop or laptop which, while they may interconnect with other applications, do not control, integrate, or manage components of a system.

EPA Classification No.: CIO 2121.1	CIO Approval Date: 09/21/2012
CIO Transmittal No.: 12-004	Review Date: 09/21/2015

**System (Information System)** – NIST defines an information system as "A discrete set of information resources organized for the collection, processing, maintenance, use, sharing, dissemination, or disposition of information" (NIST SP 800-18 Rev. 1). Federal guidance gives agencies flexibility in constituting an information system and system managers must establish system boundaries to define the information resources allocated to the system. A single system may consist of several subsystems (*a component of a system that performs specific functions*). These subsystems fall under the governance of the overall system and should be included in the system documentation, but they do not require separate documentation. A system or subsystem may include information resources e.g. applications, web pages, databases, or spreadsheets. On their own these resources are not considered an information system, but once combined with other resources to perform a specific function or process it becomes a system or subsystem.

**Termination Phase** – The phase of the SLCM where system shutdown occurs. The purpose is to arrange for the retirement of a system and orderly disposition of system assets. During this end-of-life-cycle phase, a system designated as excess or obsolete is retired and closed down. The emphasis of this phase is to ensure the orderly packaging and archiving of data, procedures, and documentation to ensure the retention of all records and make it possible to reinstall the system and bring it back to operational status if necessary.

**Waiver** – Written justification for deviating from the requirements of the SLCM Policy. The consideration of waivers depends on the requirements of the system and the needs of the developing office. SLCM Policy Waivers must receive concurrence from the System Owner and applicable SIO/IMO and receive approval from the CIO.

#### 10. WAIVERS

Waivers to the requirements of this Policy may be considered based on the requirements of the system and needs of the developing office. All waivers must be justified and documented (including all approvals and concurrences), by the System Manager.

Any waiver requests must include a signed concurrence by the System Owner and the SIO or IMO (if delegated). The CIO will approve SLCM Policy waivers. The Chief Technology Officer (CTO) will approve waivers from the SLCM Procedure or applicable standards.

## 11. RELATED PROCEDURES, STANDARDS AND GUIDANCE

System Life Cycle Management Procedure - <a href="http://intranet.epa.gov/oei/imitpolicy/qic/ciopolicy/CIO">http://intranet.epa.gov/oei/imitpolicy/qic/ciopolicy/CIO</a> 2121-P-03.0.pdf

System Life Cycle Management Documents Guidance http://intranet.epa.gov/oei/imitpolicy/qic/ciopolicy/CIO 2121-G-01.0.pdf

#### 12. MATERIAL SUPERSEDED

 System Life Cycle Management Policy, CIO Policy Transmittal 06-009, Classification No.: CIO 2121 (formerly 2100.5)

EPA Classification No.: CIO 2121.1	CIO Approval Date: 09/21/2012
CIO Transmittal No.: 12-004	Review Date: 09/21/2015

## 13. ADDITIONAL INFORMATION

For further information about this policy, contact the EPA Office of Environmental Information, Office of Technology Operations and Planning, Mission Investment Solutions Division.

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