
Personal Computer Configuration and Management Standard

Directive No: CIO 2122-S-02.2

*Issued by the EPA Chief Information Officer,
Pursuant to Delegation 1-19*

Personal Computer Configuration and Management Standard

1. PURPOSE

The EPA Personal Computer (PC) Configuration and Management Standard provides the information necessary to ensure a standardized, secure, and reliable computing environment for the Agency. The Standard includes information on installation, configuration, and management of PC (including both desktop and laptop computers) hardware and software assets. This information is provided to serve three purposes:

- Provide a framework for PC configuration, upgrade, and replacement within EPA's IT environment.
- Ensure compatibility with other internal EPA systems and ensure the ability to share and edit documents.
- Achieve efficiencies in technical support and management of the EPA IT infrastructure through standardization.

2. SCOPE

This Standard is applicable to all of EPA's Enterprise hardware, software, and applicable documentation that might impact EPA network performance, operations and security. Hardware and software used for specialty or scientific purposes that are disconnected from the EPA network do not fall under the scope of this Standard.

3. AUDIENCE

The primary audience for the PC Configuration Management Standard includes all EPA personnel that use EPA Government Furnished Personal Computer for authorized purposes, in roles that are directly responsible for the configuration, management, oversight, and successful day-to-day operations of EPA Enterprise hardware, software and applicable documentation.

4. AUTHORITY

This Standard is issued under the authority of:

- The [Software Management and Piracy Policy](#), EPA Classification No. 2104.3. This policy requires that all software installed on EPA computer systems, including personal computers and servers, is appropriately licensed and approved for use, and is not pirated software.

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- The [Enterprise Architecture Policy](#), EPA Classification No. 2122 establishes the EPA Enterprise Architecture Program. The Enterprise Architecture Policy establishes how IT investments are evaluated for compliance with the Enterprise Architecture and aligned with EPA’s mission, goals, and objectives.
- [The Office of Management and Budget \(OMB\) Memorandum M-22-09 Federal Zero Trust Strategy](#), published January 26, 2022. This directive envisions a Federal Government strategy where:
 - Federal staff have enterprise-managed accounts, allowing them to access everything they need to do their job while remaining reliably protected from even targeted, sophisticated phishing attacks.
 - The devices that Federal staff use to do their jobs are consistently tracked and monitored, and the security posture of those devices is taken into account when granting access to internal resources.
 - Agency systems are isolated from each other, and the network traffic flowing between and within them is reliably encrypted.
 - Enterprise applications are tested internally and externally, and can be made available to staff securely over the internet.
 - Federal security teams and data teams work together to develop data categories and security rules to automatically detect and ultimately block unauthorized access to sensitive information.
- EPA's minimum PC configuration standard also meets the requirements of the United States Government Configuration Baseline (USGCB).
- The Enterprise Identity and Access Management (EIAM) Program ensures the identification, authentication, and authorization of individuals using IT resources, across EPA’s increasingly varied technology environments and addresses the increasingly rigorous compliance requirements. The EIAM Program provides the Agency with the ability to securely enable the right individuals to access the right resources at the right times and for the right reasons. To accomplish these goals, the Program provides a myriad of infrastructure identity and access management services for end users and applications. For more information, please refer to the EIAM page: <https://intranet.epa.gov/eiam/index.html>. This Guidance contains information and standard configurations related to antivirus and patch management, network connections, encryption of mobile devices and computers, and other similar material.
- [Policy on Limited Personal Use of Government Office Equipment, EPA Document # CIO 2101.1](#) prohibits employees from loading personal software onto EPA PCs or making any related configuration changes, unless approved by an appropriate information technology manager.

5. STANDARD**Minimum PC System Configuration**

The EPA Enterprise Desktop is a secure, standardized operating system and software bundle that is tested and approved for use by all Agency employees and contractors connecting to the EPA network. The goal is to provide all employees with a modern, secure computing experience that our help desk and IT professionals can support.

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The Enterprise desktop is only supplied to employees through automated tools such as the Microsoft Deployment Toolkit (MDT) and Microsoft System Center Configuration Manager (SCCM). Employees receive the Enterprise Desktop (also known as the Common Core) from their local IT servicing organizations, such as EISD.

Enterprise services and software are extensively tested at EPA's system engineering laboratory at the RTP, NC.

Standard Laptop

- x64 PC with the following minimum specifications:
- Intel 8th Gen/ Intel Core i7 Quad-Core
- 16GB RAM or greater
- 256GB SSD or greater (STD desktop – 512)
- Intel integrated HD graphics or greater
- 14.1"(Max) FHD (1920x1080) Anti-Glare, Touch or better (STD desktop - 19" Flat Panel Monitor or greater)
- HD WebCam/WiFi 802.11AC/N/G
- (2) USB 3.0 Ports (Min)/ (1) USB Type-C (Min)/ HDMI, DisplayPort
- Audio Card (or integrated audio) with Speakers
- 100/1000 Ethernet connection
- FIPS 201 approved PIV card reader
- FIPS 140-2 Certified
- Trusted Protected Module (TPM) 2.0 or higher for FIPS-140-2 encryption
- Meet Energy Star 4.0 and EPEAT certifications
- AC Adapter 65W or better
- Battery 58WHr Polymer, 4 Cell, Express Charge or better
- 3.5 lbs or less

Offices may exceed the minimum standard if they deem it the best value for the Agency; this includes specialized workstations, such as High Computing laptops, Scientific Desktops, Ruggedized laptops, and others that are required for EPA special projects and missions.

EPA's minimum PC configuration standard is reviewed annually to ensure responsiveness to the changing IT environment. Any proposed changes go through the CIO SAC to the CTO for a final recommendation for approval to the CIO.

This minimum configuration standard ensures that all future PCs have adequate hardware to support emerging technology needs for a minimum of four years, which corresponds to the Agency's PC refresh cycle. EPA's minimum PC configuration standard also meets the requirements of the [United States Government Configuration Baseline \(USGCB\)](#) and Security Technical Implementation Guides (STIGs) configuration standards developed by the Defense Information Systems Agency (DISA) and/or the Office of Management and Budget (OMB). These DISA STIG settings strengthens Federal IT security by reducing opportunities for unauthorized access and exploitation of government computer systems.

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Personal Computer Naming Conventions

At EPA, use of a standardized naming convention is imperative for uniquely identifying and managing EPA's computers. EPA's naming convention serves several important purposes, including:

- Takes the guesswork out of naming new IT equipment and helps to reduce naming conflicts between systems.
- Conveys important information about the specific pieces of equipment and allows EPA to easily locate network resources, improve search effectiveness, and simplify network administration and troubleshooting;
- Identifies the owner of the system that may have a security vulnerability, so that remediation can be applied in a timely manner to limit the risk to EPA's network; and
- Adds a level of security to EPA's IT assets by making it more difficult for hackers and unauthorized persons to identify system resources.

EPA's naming convention works to ensure IT system viability and security using standard, consistent, and meaningful names. These are:

- All computer names must be unique within the network, and have a maximum length of 15 characters (with no spaces) and shall not be reused for seven (7) years. Characters should be alphanumeric, with no underscores (_).
- There are three (3) Workstation Types: User-Assigned, Non-User or Special Purpose, and Virtual.
- **User Assigned Workstation**
 - A User Assigned Workstation name will be a variable length field up to 15 characters that consists of the following concatenated values: Device | Device Management Indicator: Z or Null | RPIO: ## | Username | Number of Devices: -#
- **Device** = One (1) character with two possible values:
 - L – for portable devices such as laptops, tablets, etc.
 - D – for stationary devices like a desktop
- **Device Management Indicator** = Up to one (1) character with two possibilities:
 - Z – represents an EISD managed device, or
 - No value (null) populates for this indicator when a regional office manages the device
- **Responsible Program Implementation Office (RPIO)** = A two (2) digit numeric value that represents the organization or office funding the workstation (e.g., 66 for OMS. (The RPIO Codes can be found in the next section.)
- **Username** = the "shortname" variable length alpha-numeric username value from Active Directory; this value will be truncated in cases where the short name length is greater than the remaining space available in the full fifteen (15) character workstation name
- **Number of Devices** = a two (2) character value representing a second or greater device for a user (up to nine [9] devices for the same user); when present, the value is always preceded by a hyphen (-) to differentiate from any possible numeric value at the end of a username; the number of devices is null (not populated) for a user's first device

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- User Assigned Workstation Name Examples:
 - LZ66JDOE (first EISD managed portable device)
 - LZ66JDOE-2 (second EISD managed portable device)
 - DZ66BGATES (first EISD managed stationary device)
- Please refer to [Naming Standards: Workstation – Server site](#) for more naming conventions for Non-User or Special Purpose Workstations, Virtual Workstations, and Servers.

RPIO AHRC Codes

The RPIO and AHRC codes together are five character accounting codes. Each location should be aware of their applicable codes for inclusion in the personal computer names. The Responsible Program Implementation Office (RPIO) code is a 2-digit numeric code that provides a unique identifier for each EPA Program Office and Region. RPIO codes are listed in the table below.

Table 3: RPIO Codes

Office	RPIO Code
Region 1 – Boston, MA	01
Region 2 – New York, NY	02
Region 3 – Philadelphia, PA	03
Region 4 – Atlanta, GA	04
Region 5 – Chicago, IL	05
Region 6 – Dallas, TX	06
Region 7 – Kansas City, KS	07
Region 8 – Denver, CO	08
Region 9 – San Francisco, CA	09
Region 10 – Seattle, WA	10
Office of the Administrator (AO)	11
Office of Environmental Justice and External Civil Rights	12
Office of International and Tribal Affairs (OITA)	13
Office of the Chief Financial Officer (OCFO)	17
Office of Chemical Safety and Pollution Prevention (OCSPP)	20
Office of Research and Development (ORD)	26
Office of Air and Radiation (OAR)	27
Office of Water (OW)	30
Office of Inspector General (OIG)	35
Office of General Counsel (OGC)	39
Office of Mission Support (OMS)	66
Office of Land and Emergency Management (OLEM)	75
Office of Enforcement and Compliance Assurance (OECA)	77

Allowance Holder (AH) codes are 2-digit numeric accounting codes that vary by Office. Responsibility Center (RC) codes are at least 1 alphanumeric character and also vary by office. AHRC codes are available by contacting your RPIO Coordinator, Senior Budget Officer (SBO) or your WCF Service Agreement Originator. A list of RPIO Coordinators is maintained at the following web site: <http://intranet.epa.gov/ocfo/wcf/rpiocoordinators.htm>

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PC Refresh Cycle

Electronics are the fastest growing portion of the municipal waste stream. The Federal Government disposes over 10,000 computers every week. One step in doing so is to set minimal standards for refresh of electronics, including standard PCs. Establishing an appropriate refresh cycle must be balanced between the requirements to fulfill the Agency's mission and the need to minimize the environmental impact of electronics, including PC disposal, and consistent with the mission of the Agency to protect the environment. To comply with E.O. 13423, EPA established a four-year life-cycle for Agency PCs, which is an industry best practice. In addition to protecting the environment, this mandatory PC life-cycle helps to ensure that all Agency employees have access to current technology. A PC that does not meet this minimum configuration and is not current in a 4 year refresh cycle, but is necessary to support an approved software application, must be disconnected from the Agency network by the published adoption date. PCs at EPA will follow a standard refresh lifecycle that encompasses the acquisition, deployment, maintenance, and retirement phases. Each of these lifecycle stages has its own unique considerations.

Acquisition

- Confirm that new PCs meet the EPA minimum PC hardware configuration.
- Select a configuration that can reasonably be anticipated to meet needs for four (4) years and that is both ENERGY STAR® certified and an Electronic Product Environmental Assessment Tool (EPEAT, <http://www.epeat.net>) registered product. ENERGY STAR® refers to the certification of energy efficiency of equipment to help reduce greenhouse gases. When selecting the configuration, efforts should be made to procure EPEAT Silver rated electronic products or higher if available.

Deployment

- Upon delivery of purchased equipment, all PCs should receive a property tag and be entered into an asset management database.
- Ensure that new PCs are configured per EPA minimum requirements.
- ENERGY STAR® settings must be enabled on the PC.

Maintenance

- Identify the maintenance support mechanism (e.g., contract with service provider, service-level agreement (SLA), or call center) to keep PC configuration current.
- Produce an Assessment Report (AR), which displays inventory status on an annual basis for management of the replacement/upgrade process.

Retirement

- Identify candidate PCs for retirement at each annual assessment.
- Backup user data and sanitize all necessary components on replaced PCs in accordance with the ServiceNow knowledge base articles Deprovision and Data Backup (KB0011157) and WipeDrive Procedure (KB0011108).

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- All retired electronic products are re-used, donated, sold or recycled using environmentally sound management practices and in compliance with EPA’s Personal Property Policy and Procedure Manual (<https://intranet.epa.gov/oaintran/rpsd/property/pdfs/EPA-Personal-Property-Policy-and-Procedures-Manual.pdf>).

The following diagram represents possible checkpoints and relative timeframes for managing the typical PC refresh cycle. It is not intended to limit procurement to the end of the fiscal year but instead represents a full four-year timeframe that coincides with government fiscal years as an illustrative example for the cycle.

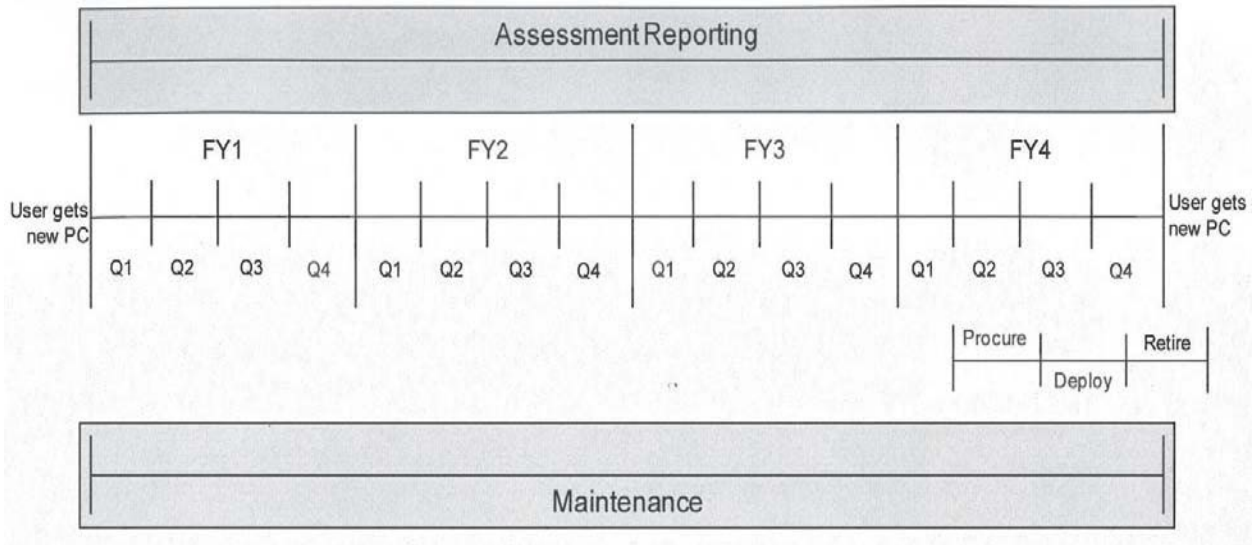


Figure 1: Refresh Cycle

As shown in the figure above, the process for replacing a PC at the end of its 4-year life cycle begins at the start of Q2 of the PC’s fourth year. At this point, the process steps outlined above begin. Maintenance activities occur throughout the life cycle of the PC.

Green IT Operations

Executive Order 13423 set goals for Federal Agencies in the areas of energy efficiency, acquisition, renewable energy, toxics reductions, recycling, sustainable buildings, electronics stewardship, fleets, and water conservation. In the area of electronic stewardship, the Executive Order listed specific requirements for operations of electronics.

Specifically:

- ENERGY STAR® compliant computers and monitors should be purchased whenever feasible. A computer certified as ENERGY STAR® compliant can use 25% - 40% less than conventional models by using the most efficient components and better managing energy use when idle.

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- Monitors that have earned the ENERGY STAR are 7% more energy efficient than standard options.
- Each computer must be set to turn off hard disks after 60 minutes of inactivity and enter standby mode after 60 minutes of inactivity.
- Employees must power down (turn off) both the computer and the monitor at the end of each day, unless otherwise instructed. This will result in significant energy savings for the Agency.
- All workgroup (networked, shared) printers must be set to default to duplex printing and enable sleep mode (if available) after 60 minutes of inactivity. Users may have the ability to print single-sided.
- All toner cartridges, and other packing materials and supplies, must be recycled to the greatest extent possible.
- All electronics purchased should be rated EPEAT Silver, or higher, if available.

Additional information on Green IT Operations can be found at www.energystar.gov, and EPEAT at <http://www.epeat.net>.

Asset Management

Each program office is responsible for creating and maintaining an inventory of their IT hardware and software. At a minimum, the inventory must include acquisition dates, property descriptions, associated licensing information, and serial numbers for all items. The inventory must track both software and hardware procurements. Program offices must be able to provide an inventory of IT equipment if requested.

More information regarding asset management can be found in EPA's Personal Property Policy and Procedure Manual (<https://intranet.epa.gov/oaintran/rpsd/property/pdfs/EPA-Personal-Property-Policy-and-Procedures-Manual.pdf>).

6. ROLES AND RESPONSIBILITIES

All users of EPA personal computers and/or software, including EPA contractors, are responsible for adhering to this Standard.

Chief Information Officer (CIO) is responsible for ensuring implementation of this Standard throughout the Agency.

Chief Technology Officer (CTO) is responsible for reviewing and approving requests for waivers in regard to this Standard.

Senior Information Officials (SIO) are responsible for implementing this Standard within their organization.

Information Management Officers (IMOs) & Information Resource Management Branch Chiefs (IRM BC) are the approving authority for purchase and use of software within their office (excluding enterprise software) and are responsible for carrying out procedures that support compliance with the

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Standard within their office. IMOs are also responsible for addressing questions and concerns related to any implementation issues inherent in this Standard.

Information Security Officers (ISO) are responsible for ensuring that responsible program offices and individuals throughout their Program or Regional Office are cognizant of security requirements and processes, and addressing questions and concerns related to any security- related issues inherent in this Standard.

Program Offices are responsible for creating and maintaining an inventory of their IT equipment. The inventory must track both software and hardware procurements and include acquisition dates, property descriptions, associated licensing information, and serial numbers for all items.

Managers are responsible for addressing incidents of non-compliance with this Standard. Managers are also responsible for answering questions from employees regarding this Standard.

Strategic Advisory Council (CIO SAC) considers proposals to set new standards, and forwards recommendations thru the CTO to the CIO for approval.

The Office of Mission Support, Office of Information Technology Operations, Desktop Support Services Division (OMS-EI-OITO-DSSD) is responsible for addressing questions and concerns regarding interpretation of this Standard.

7. RELATED INFORMATION

Related Documents: The following related documents support this Standard and can be found at the Web locations given:

Document Title	Description
Information Directive Policy CIO 2150.5	<p>Information Security Policy</p> <p>This policy covers all EPA information and information systems to include information and information systems used, managed or operated by a contractor, another agency or other organization on behalf of the agency.</p> <p>Information Security – National Rules of Behavior</p> <p>The EPA NRoB apply to all EPA employees, contractors, and all other users of EPA information and information systems.</p>

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Document Title	Description
From the Federal CIO Council	<p data-bbox="651 415 1325 506"> Recommended Executive Branch Model Policy/Guidance on Limited Personal Use of Government Office Equipment Including Information Technology </p> <p data-bbox="651 527 1333 674"> This policy establishes new privileges and additional responsibilities for employees in the Executive Branch of the Federal Government. Employees are expected to follow rules and regulations and to be responsible for their own personal and professional conduct. </p> <p data-bbox="651 716 1325 894"> This limited personal use of government office equipment should take place during the employee's non-work time. This privilege to use Government office equipment for non-government purposes may be revoked or limited at any time by appropriate Federal agency or department officials. </p>
Directive No: CIO 2123.0-P-01.3	<p data-bbox="651 940 1101 968"> Configuration Management Procedure </p> <p data-bbox="651 989 1325 1136"> The Configuration Management Procedure applies to all EPA personnel in roles that are directly responsible for the configuration, management, oversight, and successful day-to-day operations of EPA Enterprise hardware, software, security and applicable documentation. </p>
OMB Memo M-16-02	<p data-bbox="651 1182 1292 1241"> GSA's Government-wide Strategic Solutions (GSS) for Desktops and Laptops Program </p> <p data-bbox="651 1262 1300 1346"> The program is specifically designed to standardize configurations and provide computers that meet 80% of the federal government's laptop and desktop needs. </p>

8. DEFINITIONS

AHRC Code – Office Account Holder Responsibility Center is a code that can be alpha-numeric which is used to provide a unique identifier for each organization within EPA. AHRC codes are available by contacting your RPIO Coordinator, Senior Budget Officer (SBO) or your WCF Service Agreement Originator. A list of RPIO Coordinators is available at: <http://intranet.epa.gov/ocfo/wcf/rpiocoordinators.htm>

EPA Network – A system containing any combination of EPA computers, computer terminals, printers, audio or visual display devices, or telephones interconnected by telecommunication equipment or cables

EPA Production Environment – Any computing resource (including servers, printers, and PCs) that is physically connected to the EPA network

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EPA UserID – An EPA employee’s unique LAN log-in name and/or identification

Enterprise Architecture – A strategic information asset base that provides a definition of the mission, the information and technologies necessary to perform the mission, and transitional processes for implementing new technologies in response to changing mission needs (CIO 2122)

Information – Any communication or representation of knowledge such as facts, data, or opinions in any medium or form, including textual, numerical, graphic, cartographic, narrative, or audiovisual forms

Information Technology – Any equipment or interconnected system or subsystem of equipment, that is used in the automatic acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission, or reception of data or information by an executive agency. For purposes of the preceding sentence, equipment is used by an executive agency if the equipment is used by the executive agency directly or is used by a contractor under a contract with the executive agency which (i) requires the use of such equipment, or (ii) requires the use, to a significant extent, of such equipment in the performance of a service or the furnishing of a product. The term "information technology" includes computers, ancillary equipment, software, firmware and similar procedures, services (including support services), and related resources. The term "information technology" does not include any equipment that is acquired by a federal contractor incidental to a federal contract. The term "information technology" does not include national security systems as defined in the Clinger-Cohen Act of 1996 (40 U.S.C. 1452)

Patch – Also called a service patch, a fix to a bug adds additional functionality or repair a security vulnerability. Patches are typically applied to operating systems but can also be applied to applications if necessary. A patch is an actual piece of code that is inserted into (patched into) an executable program

PC – The term ‘PC’ includes all Agency owned laptop and desktop computers. In the case of desktop computers, the term ‘PC’ includes both the CPU and monitor

Personal Property – Any property, except real property, including EPA PCs and associated software

RPIO – The Responsible Program Implementation Office code is a static number that is generally used for account purposes to provide a unique identifier for each organization within EPA. RPIO codes are listed in Section 7.1.2.

Virus – A program or piece of code that is loaded onto a personal computer without the user’s knowledge. Viruses are dangerous because they can quickly use all available memory and bring the system to a halt. An even more dangerous type of virus is one capable of transmitting itself across networks and bypassing security systems

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9. WAIVERS

- Waiver Authority: EPA's CIO/DAA may grant waivers (directly or via delegated authority) to selected provisions of this policy for sufficient cause
- Application Requirements: Applications for waivers to specific provisions must be submitted to the CIO/DAA and shall contain:
 - Identification of the policy provision
 - Detailed justification why the policy cannot be applied or maintained
 - An assessment of the impact from non-compliance
 - The signature of an Assistant or Associate Administrator (AA) or Regional Administrator (RA) responsible for the information in question
- Notification:
 - The CIO/DAA will notify the requesting office in writing of the disposition of the waiver within 60 days of receipt
 - The CIO/DAA also will make the rationale for the waiver public unless this disclosure is prohibited by law or Federal policy
- Exception: There is no waiver to develop a method for making existing PDAs publicly available

10. DIRECTIVE(S) SUPERSEDED

This Standard supersedes CIO 2122-S-02.1 Interim Update to the Personal Computer Configuration and Management Standard, June 12, 2015.

11. CONTACTS

For questions about this Standard, please contact the Office of Mission Support, Office of Information Technology Operations, at (202) 566-1366 / (202) 566-2729.

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and Chief Information Officer
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