Section 508 Testing Procedure

Directive No: CIO 2130-P-03.0

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

Section 508 Testing Procedure

1.   PURPOSE

The U.S. Environmental Protection Agency (EPA) Section 508 Testing Procedure describes the steps that EPA offices must perform to test their Information and Communication Technology (ICT)[1] and verify compliance and interoperability claims as defined by Section 508 of the Rehabilitation Act, as amended (29 U.S.C. § 794d) (hereinafter Section 508).

This procedure ensures that EPA applies a consistent, Agencywide approach for testing and documenting the accessibility of ICT unless an exception to Section 508 exists or doing so would impose an undue burden on the Agency.

2.   SCOPE

This procedure applies to all ICT acquired, developed, maintained, or used by EPA as defined in EPA's Section 508 Policy.

3.   AUDIENCE

This procedure applies to all EPA and contractor personnel who are involved in the acquisition, management, operations, and maintenance of ICT across the Agency as defined in EPA's Section 508 Policy.

4.   BACKGROUND

The U.S. Access Board (Access Board) issues the *Electronic and Information Technology Accessibility Standards (36 C.F.R. Part 1194) for Section 508* and defines "accessibility" for ICT. On January 18, 2017, the Access Board published a [Final Rule for ICT Standards and Guidelines](commonly known as the Section 508 Refresh). The Section 508 Refresh updates and reorganizes the Section 508 standards in response to market trends and innovations and harmonizes requirements with other guidelines and standards in the United States and abroad. Visit the [Access Board website](for additional information about the Access Board and Section 508.

EPA's Section 508 Testing Procedure provides tailored guidance to test ICT and verify Section 508 compliance and interoperability claims.

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[1] ICT is often referred to as information technology (IT).

5. **AUTHORITY**

    a. ICT Final Standards and Guidelines, 36 C.F.R. Part 1194 (2017 and as amended 2018).

    b. Guidance on the Telecommunications Act (also known as Communication Act of 1934) Section 255 Guidelines, as amended, 47 U.S.C. §255 (1996).

    c. Section 508 of the Rehabilitation Act of 1973, as amended, 29 U.S.C. §794d, (1998).

    d. Federal Acquisition Regulation (FAR): Section 508-Based Standards in Information and Communication Technology (48 CFR Parts 2, 7, 10, 11, 12, and 39).

    e. The Clinger-Cohen Act of 1996 (40 U.S.C. 1401(3)), also known as the Information Technology Management Reform Act.

    f. CIO Policy 2130.2 Section 508 Policy.

    g. EPA Delegation of Authority 1-84, Information Resources Management, December 18, 2001.

    h. Federal Information Technology Acquisition Reform Act (FITARA) (Title VIII, Subtitle D of the National Defense Authorization Act (NDAA) for Fiscal Year 2015, Pub. L. No. 113-291), December 19, 2014.
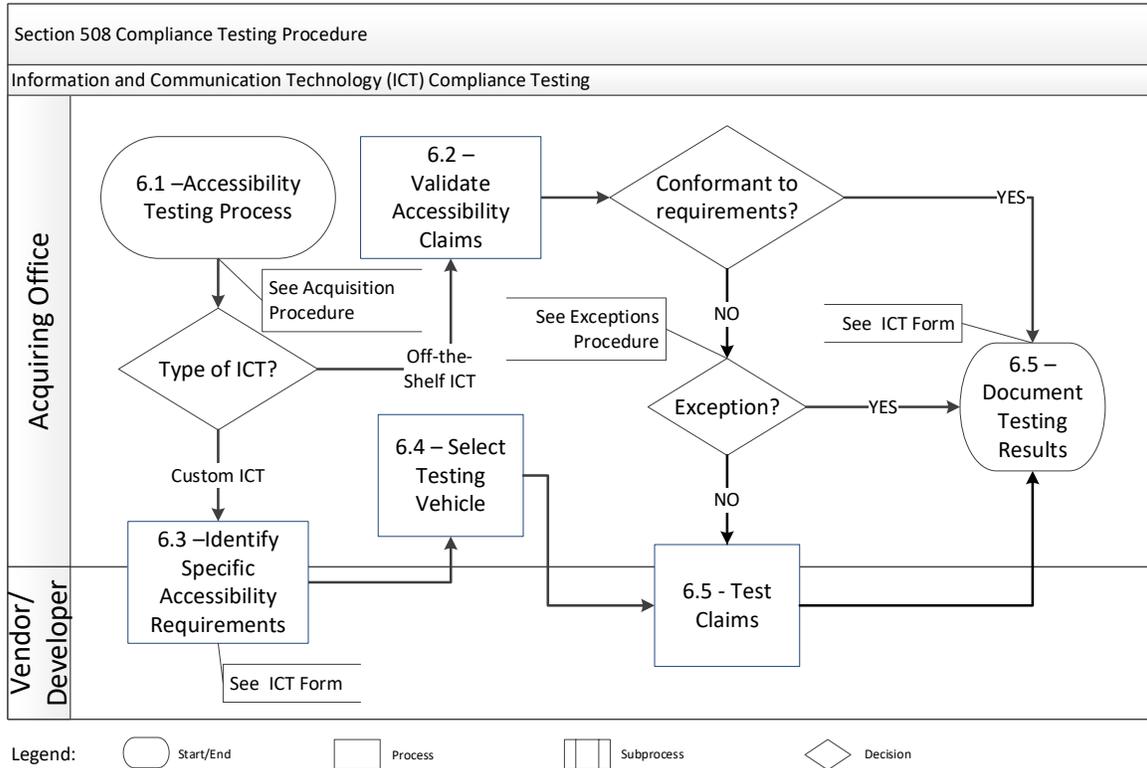
6. **PROCEDURE**

    This procedure outlines the activities EPA will perform to verify accessibility. The Section 508 Testing Procedure flowchart gives a high-level overview of how to validate and test ICT for conformance to Section 508 standards. The flowchart outlines how to incorporate accessibility testing for custom developed as well as commercial off the shelf ICT. The flowchart is followed by more in-depth instructions.

Section 508 Compliance Testing Procedure Flowchart

Section 508 Compliance Testing Procedure

Information and Communication Technology (ICT) Compliance Testing

Legend: ⬭ Start/End   ▭ Process   ▥ Subprocess   ◇ Decision

6.1   Begin ICT Accessibility Testing process

This testing procedure applies to the acquisition lifecycle as well as the development, maintenance, and use of agency ICT. Content creators, system owners, website developers and application developers should review technical guidance for developing electronic documents, software applications, web content, operating systems, accessibility platforms, assistive technology, mobile environments, and modern development frameworks. It is essential to understand how the Revised 508 Standards (36 C.F.R. Part 1194) applies to development work.

Federal agencies are responsible for developing accessible information technology (IT) tools, products, and websites. Adopting universal design principles can help agencies address and improve accessibility in areas such as digital strategy, procurement, and design and implementation of digital products. The following resources provide specific considerations for content, design, and development for developers, content, and design teams:

- Guide to Accessible Web Design & Development
- Guide for Embedding Accessibility and Inclusive Design Practices into your Team's Workflow

Where significant design and development are needed, such as digital services as well as internal digital services and business systems, system owners should use developers,

vendors, or contractors that support an iterative development process. In particular, Agile Software Development, a technique for doing modular contracting, is characterized by incremental and iterative processes where releases are produced in close collaboration with the customer. It's important that with each release inclusive and universal design addresses the **needs of all users** (including users of assistive technology), as well as conducting 508 conformance testing is an integral part of information technology (IT) lifecycle when planning project milestones. An iterative user-inclusive process improves investment manageability, lowers the risk of project failure, shortens the time to realize value, and allows the Agency to better adapt to emerging needs.

The Revised 508 Standards include the following new requirement for federal agencies:

- E203.2 User Needs - When agencies procure, develop, maintain, or use ICT, they shall identify the needs of users with disabilities to determine:
  - o How users with disabilities will perform the functions supported by the ICT; and
  - o How the ICT will be developed, installed, configured, and maintained to support users with disabilities.

6.2 Validate Accessibility Claims of Off-the-Shelf ICT

Documentation of conformance to the revised Section 508 standards should be reviewed by the owning or acquiring office when purchasing off-the-shelf (OTS) ICT or upgrading existing products or services., Vendor's accessibility documentation (for example, Accessibility Conformance Report (ACR)) as part of market research should be examined for quality and accessibility claims. (Refer to the Section 508 Acquisition Procedure.) During this review:

- Identify accessibility testing methodology used by the vendor to address the needs of users with disabilities.

- Compare the version documented by the vendor with the version acquired by the Agency.

- Determine if there are any gaps in conformance (supports with exceptions, does not support or not applicable).

Assistance with validating accessibility claims in vendor-provided documentation, can be ordered from either the following Working Capital Fund (WCF) services through eBusiness:

- EPA Assistive Technology Center (ATC) - (WCF Service Code: TC; Product Code SECTE).

- The Web and Application Development Services - (WCF Service Code: TZ; Product Code: TZDEV).

If gaps in conformance are identified, before proceeding with accessibility testing determine if any exception to the revised Section 508 Standards apply (refer to EPA's Section 508 Exceptions Procedure).

6.3 Identify Specific Accessibility Requirements

When developing custom ICT or upgrading existing products and services, ensure specific accessibility requirements are included in the planning and design of the product or service by the vendor or developer. Specific accessibility requirements must be identified in the acquisition package or the planning phase of any ICT.

To do this, obtain all documentation describing how the product or service complies or will comply with the applicable Section 508 standards. The documentation includes, but is not limited to:

- Accessibility Conformance Report (ACR) and Supplemental Accessibility Report **(**SAR) completed by the vendor or developer.

- Similar documentation indicating how a product does or does not meet applicable accessibility standards.

Request this documentation from the vendor or developer, if not provided voluntarily. Include all Section 508-related documentation when submitting the ICT Accessibility Certification Form.

Ensure all custom-developed ICT addresses the needs of users with disabilities for compliance before accepting the final product from the vendor or developer if it falls within the scope of this procedure, and an exception does not apply (refer to EPA's Section 508 Exceptions Procedure).

6.4 Select Testing Vehicle
Verify accessibility claims using the following different methods:

- Use an eBusiness service to test your ICT for compliance by choosing either:

  o [HQ Support Projects (TC) Section 508 Testing](#) service for testing, or

  o Technical Consulting Services (TZ) [Technical Consulting Services (TZ) Web & Application Development Services (TZDEV)](#) for testing and remediation.

- Use EPA or contractor staff to conduct the testing on-site.

- Employ other contractual means to conduct ICT accessibility testing outside the Agency.

When testing agency ICT, use one of the following:

- A test process aligned with the [ICT Testing Baseline](#), a defined set of tests, identified to assess ICT for conformance with the Revised 508 Standard.

- EPA's preferred testing protocol, the Interagency Trusted Tester Process and Certification Program, U.S. Department of Homeland Security [(DHS) Trusted Tester Process (Version 5 or higher)](#), which has testing protocols for software, Web, mobile applications and documents. This is a testing process that is aligned with the ICT Testing Baseline but also includes testing tools and other resources.

- Conduct manual and automated testing on websites, web applications, and electronic content. Automated testing should be augmented with manual testing

to adequately ensure conformance to Section 508 standards. The U.S. General Services Administration (GSA) has detailed guidance on selecting effective testing methods for 508 conformance.

ICT is required to be manually tested for Section 508 conformance if:

- Members of the public will use the technology.

- The technology will be deployed across the enterprise or component.

- Usage is mandatory for employees (especially mandatory eLearning, employment applications, and performance evaluation applications).

- The technology includes authoring platforms or tools that create electronic content.

- The technology is emerging – and little is known about the accessibility of the product.

- The technology is already known to have high impact accessibility issues in previous versions.

- The technology is intended to be used by specific individuals who are known to have a disability.

Under the following circumstances, manual Section 508 testing is not likely to be warranted:

- The technology (version) already has approved Section 508 exception.

- The technology was already validated to conform to the original Section 508 Standards and has not been modified on or after January 18, 2018.

- End-stage of life technology – accessibility issues cannot be addressed

- The technology does not include a user interface or cannot change the content.

- The technology release does not include any user interface changes

- The technology is a server operating system (OS).

- All functions of the ICT can be controlled through a command-line interface.

6.5   Test Claims

Conduct accessibility testing to confirm the following:

1. Compliance with the Section 508 standards.

2. Interoperability with Agency AT tools and software.

To the extent possible, ICT should be tested as both a stand-alone-product and within the EPA environment to understand how each may affect one another. In addition, testing should be repeated when the ICT is upgraded or EPA upgrades other program, regional, or enterprise wide systems and applications. The Office of Mission Support (OMS) will notify the Agency of major upgrades to enterprise wide systems and applications; impacts of the upgrades on affected ICT should be assessed within one year from that notification.

If there is nonconformance found during testing, determine if an exception applies (refer to EPA's Section 508 Exceptions Procedure).

6.6   Document Testing Results

Upon completion of testing document and compile the test results on the ICT Accessibility Certification Form.

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7.   ROLES AND RESPONSIBILITIES

The following EPA employees ensure compliance with the testing procedure:

EPA'S CIO

1. Provides leadership for EPA's information management and technology programs and policies, including the Section 508 Program.

2. Provides a WCF service that EPA programs and regions can use to conduct Section 508 manual and automated testing, remediation support, Assistive Technology (AT) support, and commercial research consultation.

EPA'S CHIEF TECHNOLOGY OFFICER (CTO) AND CHIEF OPERATING OFFICER (COO)

1. Provide a control gate to ensure that ICT deployed through the Application Deployment Checklist (ADC) has been tested for Section 508 compliance.

INFORMATION MANAGEMENT OFFICERS (IMOS)

1. Provide consultation to their office, in coordination with the designated Section 508 Liaison, before the office embarks on procuring, developing, or upgrading its ICT to determine whether to conduct Section 508 testing and if so, how and when.

2. Review and approve any ICT Accessibility Certification Form.

ACQUIRING OFFICIALS, WHO MAY INCLUDE, BUT ARE NOT LIMITED TO, SYSTEM SPONSORS, PROJECT MANAGERS, PURCHASE CARD HOLDERS, CONTRACTING OFFICERS' REPRESENTATIVES (CORS), ICT DEVELOPERS

1. In consultation with the IMO and designated Section 508 Liaison, determine whether the office plans to develop, procure or maintain ICT, and if so, whether Section 508 testing is needed.

2. Ensure adequate funding is available to conduct and document Section 508 testing, remediate identified shortcomings, and provide reasonable accommodations when needed.

3. Test for Section 508 compliance and AT interoperability, if required.

4. Complete and submit the ICT Accessibility Certification Form to the IMO, along with any relevant vendor-provided documentation (for example, Voluntary Product Accessibility Template [VPAT] 2.4 or higher).

SECTION 508 LIAISONS

1. Provide consultation and guidance to the IMO and staff on Section 508 standards, documentation, and ICT testing.

EPA SECTION 508 PROGRAM MANAGER AND ASSISTANT SECTION 508 PROGRAM MANAGER

1. Assist offices regarding Section 508 policies, procedures, guidance and testing requirements, methods, and vehicles.

2. Maintain an EPA ATC service that EPA programs and regions can use to conduct Section 508 manual and automated testing, remediation support, Assistive Technology (AT) support, and commercial research consultation.

8. **RELATED INFORMATION**

a. Americans with Disabilities Act (ADA) (1990).

b. Assistive Technology Act of 1998.

c. WCAG 2.0, Web Content Accessibility Guidelines, W3C Recommendation, December 11, 2008.

d. Increase the access of persons with disabilities to modern communications, 21st Century Communications and Video Accessibility Act (CVAA), 2010.

e. Building a 21st Century Platform to Better Serve the American People, Digital Government Strategy, 2012.

f. OMB Memorandum, Joseph G. Jordan, Administrator for Federal Procurement Policy and Steven Van Roekel, Federal Chief Information Officer, "Strategic Plan for Improving Management of Section 508 of the Rehabilitation Act (PDF)," (13 pp, 207 KB) January 24, 2013.

g. M-17-06 - Policies for Federal Agency Public Websites and Digital Services 2016.

h. Improve the digital experience for government customers for federal public websites, 21st Century Integrated Digital Experience Act (IDEA), 2018.

i. U.S. Department of Homeland Security (DHS) Compliance Test Processes.

j. U.S. Web Design System - to build accessible, mobile-friendly government websites for the American public.

k. Proven private sector best practices to help agencies successfully deliver digital services, U.S. Digital Service - Digital Services Playbook.

l. Flexibilities in the Federal Acquisition Regulation (FAR) that can help agencies implement "plays" in the Digital Services Playbook, U.S. Digital Service - TechFAR (PDF) (41 pp, 1.28 MB).

m. Agile Principles and 18F Practices.

9.   DEFINITIONS

Accessibility Conformance Report (ACR). An ACR provides a summary of accessibility evaluations of ICT. It should be based on the Voluntary Product Accessibility (VPAT) Template Version 2.4 or higher. Please follow all instructions contained in the template.

Accessibility Support Documentation and Services. Documentation or services for the ICT that supports accessibility (for example, an accessibility support desk).

Agile. Agile pertains to the Agile Manifesto or Agile Principles at http://agilemanifesto.org. Agile is a set of values and principles that describe a way of working that promotes continuous learning and user-focused value delivery.

Assistive Technology (AT). AT is adaptive equipment that people with disabilities commonly use to communicate and obtain access to information resources. Examples include, but are not limited to, screen readers, screen magnifiers, and speech recognition software.

Class Exemption for Undue Burden or Fundamental Alteration. Where the Agency anticipates recurring instances of undue burden or fundamental alteration for certain types of technology (for example, cartographic, geographic information systems (GIS)-based systems), a class undue burden or class fundamental alteration may be requested on a program, regional or Agencywide basis. The purpose of granting a class exemption for undue burden or fundamental alteration is to be efficient and effective by reducing the need to document a recurring undue burden or fundamental alteration repeatedly. The Agency CIO reviews and makes a determination on all undue burden or fundamental alteration requests. Please refer to undue burden and fundamental alteration definitions for additional information. Class exemption designations still require that an alternative means of access be provided by a.**Commercial Off-the-Shelf (COTS)** commercial product or information system available to the public. COTS products contain pre-established functionality, although some degree of customization is possible.

Fundamental Alteration. A modification to ICT that would change the basic nature or purpose for which the product or its components were designed.

Inclusive Design. Inclusive Design is a methodology, born out of digital environments, that enables and draws on the full range of human diversity. Most importantly, this means including and learning from people with a range of perspectives.

Information and Communication Technology (ICT). Information technology and other equipment, systems, technologies, or processes, for which the principal function is the creation, manipulation, storage, display, receipt, or transmission of electronic data and information, as well as any associated content. Examples of ICT include, but are not limited to, computers and peripheral equipment, information kiosks and transaction machines, telecommunications equipment, customer premises equipment, multifunction office machines, software, applications, websites, videos, and electronic documents.[2]

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[2] As defined by the U.S. Access Board's Information and Communication Technology (ICT) Standards and Guidelines.

Safe Harbor Clause. Existing ICT that meets the original Section 508 Standards do not have to be remediated to conform to the revised standards if no changes were made to the legacy ICT affecting interoperability, the user interface, or access to information or data after January 18, 2018. This is referred to as the "Safe Harbor" clause. ICT that is altered after January 18, 2018, must conform to the revised Section 508 Standards.

Supplemental Accessibility Report (SAR). A Supplemental Accessibility Report is a description of any evaluation methods used to produce the ACR.

Undue Burden. Undue burden means significant difficulty or expense. In determining whether an action would result in an undue burden, an agency shall consider all its resources. (Recurring instances of undue burdens are Class Undue Burden.)

Universal Design. Universal design is a concept in which products and environments are designed to be usable by all people, to the greatest extent possible, without the need for adaption or specialized design.

Upgrade. A change or alteration to existing ICT that affects interoperability with assistive technology (AT), the user interface, or access to information or data.

Voluntary Product Accessibility Template (VPAT). A form that a vendor may wish to provide that indicates or describes how its product or service addresses applicable Section 508 requirements.

10. WAIVERS

Refer to EPA's Section 508 Exceptions Procedure for more information.

11. MATERIAL SUPERSEDED

This procedure supersedes the *Accessible Electronic and Information Technology Standards, Procedures, and Guidance* (6 pp, 33 KB), CIO 2130-P/S/G-01.0, March 30, 2006.

12. CONTACTS

Please email EPA's Section 508 Program at Section508@epa.gov with any questions about this document.

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