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A collaborative program between the
ADA National Network and the
U.S. Access Board

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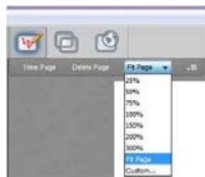
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"Trusted Tester Program"
Section 508

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Presenters

Tim Creagan   **Bill Petersen**

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Session Agenda

I. Introduction

     a. What is Section 508?

II. How do agencies test to make sure E&IT conforms to Section 508?

III.   Trusted Tester Program at DHS

IV.   Q & A

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

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Overview

Application:
- Each Federal department and agency, as well as the U.S. Postal Service, when procuring, maintaining, developing or using electronic and information technology, must ensure that:

Purpose:
- Federal employees with disabilities, and members of the public with disabilities seeking information or services, have access to and use of information and data that is comparable to the access and use by persons who are not individuals with disabilities, unless…

Standard:
 ….an "Undue Burden" would be imposed on the agency.

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Organization

Technical standards

§1194.21 Software and Operating Systems

§1194.22 Web-based internet and intranet

§1194.23 Telecommunications products

§1194.24 Video and multi-media products

§1194.25 Self contained, closed products

§1194.26 Desktop and portable computers

Functional Performance Criteria

§1194.31

No user vision

Limited vision

No user hearing

Limited hearing

No user speech

No fine motor control or simultaneous actions

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Implementing Section 508

- **Each agency enforces Section 508 internally**

- **Agencies procure, develop, use or maintain the electronic and information technology that "best meets" their business needs. §1194.2(a)**

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Homeland
Security

**DHS Section 508
Application Testing Process & Trusted Tester Training**

April 3, 2014

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Office of Accessible Systems & Technology

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Birth of a Department

Homeland Security

- Direct result from 9/11 terrorist attacks
- Created March 1, 2003
- Comprised of 22 disparate agencies
  – From 10 different locations
  – Different missions
  – Different histories/cultures
  – Different IT infrastructures
  – 16 legacy EAs, multiple email systems, etc.

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DHS Perspective - Today

Homeland Security

- Morphed into 18 Components
- 3rd largest Cabinet-level Department
- Roughly 200,000 employees
- Countless contractors
- Roughly $6 billion/year in IT investments
- Eight contracting organizations
  – w/ decentralized procurement authority
- Fourteen CIO's (1 plus 13)
  – Each controls their own budget

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DHS Components with CIOs

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- DHS Headquarters (HQ)
- Customs and Border Protection (CBP)
- Immigration and Customs Enforcement (ICE)
- Federal Emergency Management Agency (FEMA)
- Transportation Security Administration (TSA)
- Citizenship & Immigration Services (CIS)
- U.S. Secret Service (USSS)
- U.S. Coast Guard (USCG)
- Federal Law Enforcement Training Center (FLETC)
- National Protection & Programs Directorate (NPPD)
- Office of Intelligence & Analysis (I&A)
- Directorate for Science and Technology (S&T)
- Domestic Nuclear Detection Office (DNDO)
- Office of Inspector General (OIG)

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Office of Accessible Systems & Technology (OAST)

Homeland Security

- Created March 21, 2005
- One of six primary offices within OCIO
- Uniquely positioned
  - Report directly to DHS CIO and indirectly to the Officer for Civil Rights & Civil Liberties (CRCL)
- Currently employ a mix of 23 Federal/contract staff
- Governance, Services, Program Management, Accessibility Help Desk, Accessibility Compliance Center Of Excellence

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OAST Mission

Homeland Security

Provide strategic direction, governance, technical support, and training to ensure DHS employees and customers with disabilities have equal access to information and data.

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OAST Guiding Principles

Homeland Security

- Implementing Section 508 requires a change in culture
- Policies and procedures drive accessibility
- Standardizing accessibility solutions is the shortest path to full inclusion
- Accessibility is best achieved by including the needs of people with disabilities in all phases of a product lifecycle
- Accessibility benefits everyone

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Slide 25

Homeland Security

We set out to standardize our approach to Section 508 across DHS

Policies

Governance

Services

Testing

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Slide 26

Homeland Security — **What We Do**

- Responsible for Department-wide implementation of Section 508
- Coordinate Section 508 Compliance Across DHS
  - Liaise with 14 Component-level Section 508 Coordinators each having a dotted line report to OAST
- Accessibility Compliance Management System
  - Fully accessible enterprise management system
  - 16 databases; 26 preformatted reports; 6 repositories
  - Used by OAST staff, coordinators, and testers
  - Backbone of the DHS Accessibility Help Desk

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Homeland Security — **DHS Accessibility Help Desk**

- Serves as single point of contact for disability-related issues
- Process over 3,000 tickets/year
  - Technical assistance
  - IT application reviews
  - Acquisition reviews
  - Document reviews/remediation
  - IT requests
  - Reasonable accommodation requests
- Utilizes multi-tier approach
- Liaise with IT help desks and IT technicians

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Homeland Security — **ACCOE**

- Accessibility Compliance Center of Excellence
  - Chartered to provide DHS IT Program Managers with proven best practices, guidance, processes, workforce training development, and expert consultation support for Section 508 compliance
  - Roughly 600 IT Programs (Levels 1-4)
  - Services include:
    - Baseline assessments of existing programs compliance
    - Assistance with preparing SELC artifacts
    - Assistance with Market Research, Analysis of Alternatives, and Alternative Analysis
    - Coordination of 508 testing & evaluation
    - Training and workforce development

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Homeland Security — **Why We Do It**

- There are 54 million Americans with disabilities
  - Each has the potential of being one of our customers
- DHS employs more than 9,000 AWDs
- People are living longer
  - Acquired disabilities increase with age
- People are working longer
  - Worker retention is important

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Homeland Security — **Why We Do It**

"As the Nation's largest employer, the Federal Government must become a model for the employment of individuals with disabilities. Executive departments and agencies must improve their efforts to employ workers with disabilities through increased recruitment, hiring, and retention of these individuals."

- *President Barack Obama*
  Executive Order
  July 26, 2010

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Homeland Security — **Technology**

For Americans without disabilities, technology makes things easier. For Americans with disabilities, technology makes things possible.

- Mary Pat Radabaugh
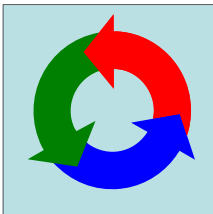*"Study on the Financing of Assistive Technology Devices & Services for Individuals with Disabilities"*

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Homeland Security — **Technology**

Need to focus on the WHOLE PERSON as they interact with society and their environment

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Homeland Security — **Technology**

Systems Level
&
Individual Level

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Technology - Systems Level

Homeland Security

Enhance community integration , independence, and productivity by eliminating barriers found in large social systems such as public transportation, telecommunications, *information technology*, and the built environments.

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Technology - Individual Level

Homeland Security

Enhance the physical, sensory, and cognitive abilities of people with disabilities and to assist them to function more independently in the home, *at work*, in recreational settings, and at cultural and religious events.

We call this Assistive Technology

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Assistive Technology

Homeland Security

AT enables people with disabilities to be as functionally independent as possible provided it successfully interfaces with their environment.

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Slide 37

Homeland Security

Testing

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Slide 38

Homeland Security

No Two Agencies Implement Section 508 the Same Way!!!!

Big Problem!!

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Homeland Security

Inconsistent Approaches to 508 Testing

- Some agencies rely solely on VPATs
- Some agencies use AT only to test
- Some agencies rely solely on automated testing tools
- Some agencies use standards-based testing
- Some agencies mix it up
- Some agencies do nothing

This leads to inconsistent results and vendor frustration

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DHS Testing Principles

Homeland Security

- 508 standards-based testing - not AT
- Create reliable and *repeatable* test results
  - Using documented procedures
  - Easy to use testing tools
  - Minimize subjectivity
  - Consistently document test results

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Why a Standards-based Approach

Homeland Security

- AT varies a lot – versions change regularly
- Coding to a specific AT device is only as good as the version it's coded to
- Sophisticated AT devices like JAWS cheat
  - Just because an application works with JAWS does not mean it is 508 compliant
  - JAWS is an AT device, not a measure of compliance with 508 standards

Code to the Standards

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Evolution Trusted Tester Training

Homeland Security

- 2008 - Hands-On Classes
  - 1 class for Web and 1 for Application testing
- 2009 - Two Day Class
  - Updated test process
  - Practice testing with instructors
- 2011- Birth of Trusted Tester Training
  - 3 days (added a day for Web & SW stds)
  - 4 days (added a day for Exam)

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What is a Trusted Tester?

Homeland Security

A Trusted Tester follows the DHS Section 508 Compliance Application Test Process, uses approved test tools, and evaluates software and web applications for compliance with Section 508 standards.

A Trusted Tester is a person certified to independently provide accurate Section 508 compliance test results for software and Web applications by passing the DHS Trusted Tester Certification exam.

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T3 Test Results - Jan '11 to Feb '13

Homeland Security

Exam Score	Exam Result	Statistics
Above 90%	Trusted Tester certification	111
70% to 89%	Passed the exam but must submit reports for review to OAST; promoted to Trusted Tester.	67

- 178 Trusted Testers
- 27 classes
- Average Exam score: 76%

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Homeland Security

Harmonized Test Approach

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Homeland Security — **Harmonized Test Approach**

- DHS and SSA collaboration
- Current and emerging requirements
  - Section 508 standards (SW, Web, FPC)
  - WCAG 2.0 (some)
- Identifies methods for compliance testing
- 28 Baseline tests
  - Listed in no particular order
  - Baseline tests are not a test process
- Vetted by Best Practices Subcommittee

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Homeland Security

*"Harmonized Processes for Section 508 Testing:
Baseline Tests for Software & Web Accessibility"*

DHS & SSA - 2013

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Homeland Security — **Harmonized Testing**

- "Federal agencies are encouraged to adopt the baseline to establish a consistent, shared, government-wide test approach."

- "A unified approach for 508 testing will provide consistency across government and confidence in test results shared between agencies."

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DHS Section 508 Test Process for Applications v3.2

Homeland Security

- Based upon the Harmonized Test Approach
- Pre-requisite - Standards course (passing grade 80%)
- 5 day course
  - Testing instruction
  - Hands on use of tools
  - Reporting
  - Lots of practice and examples
- Exam day follows

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Trusted Tester Certification

Homeland Security

- Exam
  - 90% or better - Trusted Tester
  - 80-89% - can retake the exam twice
  - Below 80% - must retake full class
  - Limits
    - Class: 2 classes in 1 year
    - Exam: 4 Exam tries in 1 year

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T3 Test Results v3.2)

Homeland Security

- May 2013 to Feb 2014 (16 classes)
  - 106 Trusted Testers (6 outside DHS)
  - 200 exam attempts
  - 53% certification average

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Testing Tools

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Web Testing Tools

- Internet Explorer 9
- Web Accessibility Toolbar 2012
  - September 2012 release
  - http://paciellogroup.com/resources/wat/ie
- ARIA Markup favelet
  - http://jimthatcher.com/favelets/
- Frames favelet
  - http://jimthatcher.com/favelets

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Software Testing Tools

- Microsoft Inspect v7.1
  - UI Automation (Windows 7)
- JAVA Ferret
  - JAVA Accessibility Bridge

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ke1   Update
katherine.eng, 2/5/2013

ke2   updated
katherine.eng, 2/5/2013

ke3   updated
katherine.eng, 2/6/2013

Which Testing Tool should I use?

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Reporting

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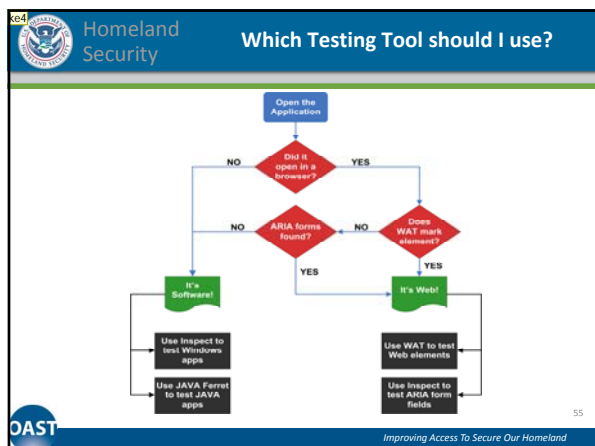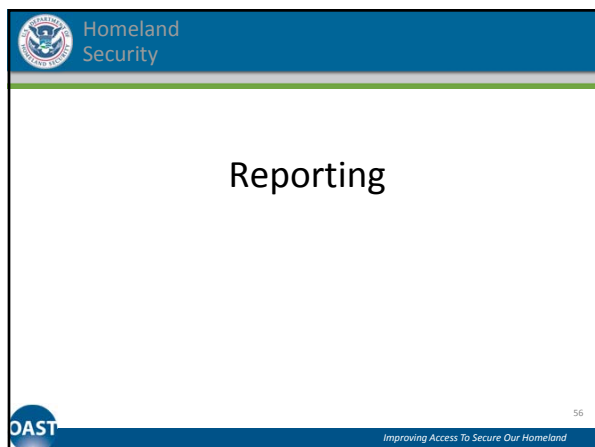
Homeland Security

Report Test Results

- Accurate report of non-compliance
- Cite examples/locations of issues
- Supporting screenshots with descriptions
- Results uploaded into repository
- Reports may be viewed by many
  - Program managers
  - Vendor/developers
  - Section 508 coordinator
  - OAST
- Actual discussion of report may occur months after testing has completed
- Include Baseline results

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ke4   Updated
katherine.eng, 2/12/2013

Slide 57

ke5   added
katherine.eng, 2/12/2013

Slide 1

Homeland Security

Impact Guide 5.0

Disabilities impacted by each SW, Web, Multimedia, FPC standard

1194.21 Software Standards	Test Results	Blind	Low Vision	Deaf/ Hard of Hearing	Mobility	*Other
a. Keyboard access	nc	x			x	
b. OS accessibility settings			x	x	x	
c. On screen focus		x	x		x	
d. Sufficient information for user interface elements		x			x	
e. Bit map image consistency						x
f. Textual information through operating system functions		x				
g. User color and contrast settings			x			
h. Animation alternative		x	x			
i. Color dependency		x	x			x
j. Color selection variety			x			x
k. Flashing elements						x
l. Label form fields		x				
Disabilities Impacted by all 508 **Software** Failures		X		X		

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Slide 2

Homeland Security

Testing & Governance
DHS

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Slide 3

Homeland Security

Testing & Governance

Helping people make the right decisions at the right time

Test results are used to:
- Document known application defects
- Submit product defects to vendors
- Plan for remediation
- Develop accommodation plans
- Allows Section 508 Coordinators to make Compliance Determinations based upon test results

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Testing & Governance

Homeland Security

- Compliance Determination
  - Document Section 508 Coordinator's decision
  - Approve/Deny/Conditionally Approve
  - Enables change control governance
  - Supported by Test results and/or VPATs
  - Supported by Market Research
  - Supported by acceptable remediation plans

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Homeland Security

Why Trusted Testers

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Certified Trusted Testers

Homeland Security

- Adopting a unified test approach makes good business sense
  - Unify standards-based testing procedures across government
  - Test results are reliable/repeatable
  - Minimize subjectivity
  - Trust each other's results
  - Reduce redundant testing
  - Benefits vendors - they would know during development how their products will be tested for 508 compliance – verses the mixed messages they get today

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Next Steps

Homeland Security

- Developing online Trusted Tester Certification course – May 2014
  - Available on Defense Acquisition University site
  - Open to those outside DHS firewalls
- Looking to develop application test repository outside DHS to catalog Trusted Tester test results
- Working to develop a Community of Practice for Trusted Testers
- Looking for agencies willing to adopt the unified testing approach

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Homeland Security **For More Information**

For Questions on the DHS Trusted Tester Program:

DHS Accessibility Help Desk

202-447-0440 (voice)

202-447-0582 (fax)

202-447-5857 (TTY)

accessibility@hq.dhs.gov

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(800) 993-2822 (TTY)

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508@access-board.gov

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Next session:
May 1, 2014
"Open Question and Answer Session": Architectural Barriers Act
Accessibility Standards for Trails, Camping and Picnic Facilities, Viewing
Areas, and Beach Access Routes
2:30 - 4:00 (ET)
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(877) 232-1990 (v/TTY)

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