

**Section 508 Assessment and  
Voluntary Product Accessibility Template® (VPAT™)  
Development for VMware**

**VMware View 4.0 Report**

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**SUBMITTED BY:**



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Client Name: VMware	
Product Name: VMware View 4.0	Date: 12/23/2009

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## Executive Summary

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### Overall Results

TecAccess commends VMware for their effort and commitment to bringing their products into Section 508 compliance. While this evaluation shows that some work still needs to be done, significant steps towards full compliance have been taken, as this report and accompanying VPAT's will show.

### Highlights of the Evaluation

- Most web clients (VMware View) are accessible, except for keyboard navigability and text display.
- Areas to monitor
  - Section 508 Refresh
  - Registration of product VPATs in GSA's Buy Accessible Products and Services Directory
  - Conformance to government requirements for accessibility of documentation.
  - Functional performance using the most current versions of assistive technologies.

### Products Tested

VMware contracted with TecAccess to enhance their accessibility compliance posture and gain increased market respect by having Voluntary Product Accessibility Templates (VPATs) developed for the following hardware products.

#### VMware Product Suite

		Product Name	Version
1		VMware View – Server(ADMIN)	4.0
2		VMware View – Client	4.0

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## Test Process Overview

### Test Methodology

The Section 508 standards below were used to evaluate each of the products in this statement of work.

<b>Section 508 Standards Summary</b>
Section 1194.21 Software Applications and Operating Systems
Section 1194.22 Web-based Internet information and applications
Section 1194.31 Functional Performance Criteria
Section 1194.41 Information, documentation, and support.

### Supporting Features - Key

<b><u>Supporting Features (second column on VPAT)</u></b>	
<b>Supports</b>	This language is used when you determine the product fully meets the letter and intent of the Criteria.
<b>Supports with Exceptions</b>	This language is used when you determine the product does not fully meet the letter and intent of the Criteria, but provides some level of access relative to the Criteria.
<b>Supports through Equivalent Facilitation</b>	This language is used when you have identified an alternate way to meet the intent of the Criteria or when the product does not fully meet the intent of the Criteria.

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<b>Supports when combined with Compatible AT</b>	This language is used when you determine the product fully meets the letter and intent of the Criteria when used in combination with Compatible AT. For example, many software programs can provide speech output when combined with a compatible screen reader (commonly used assistive technology for people who are blind).
<b>Does not Support</b>	This language is used when you determine the product does not meet the letter or intent of the Criteria.
<b>Not Applicable</b>	This language is used when you determine that the Criteria do not apply to the specific product.
<b>Not Applicable - Fundamental Alteration Exception Applies</b>	This language is used when you determine a Fundamental Alteration of the product would be required to meet the Criteria (see the access board standards for the definition of "fundamental alteration").

## Test Methods and Tools

The Assistive Technologies used were JAWS v.10 - Screen reader, ZoomText Reader v.9.1. The information retrieval is supported by the operating system (Windows XP or Vista or Windows Server 2003 or 2008) when combined with assistive technology for example, screen reader - Narrator (provided via Microsoft Windows Vista), screen magnification Magnifier (provided via Microsoft Windows Vista).

In addition to the assistive technologies listed above, documentation (specifically PDF files) was checked using Adobe Acrobat's Accessibility Checker and Full Check. The WAVE (using Firefox 3.x as the browser) was used to test web based issues. Manual testing of keyboard accessibility, including performing applications keystrokes with one hand was performed.

## User Information, Documentation and Support

Documentation accessibility fairly accessible for HTML and Web based help files contained within the application; however significant accessibility challenges remain in regards to the supplied PDF documentation. Most (if not all) documents were not completely accessible using a screen reader, the Adobe Acrobat Accessibility Checker or by manual inspection of the code.

Information and documentation was reviewed for accessibility using a screen reader (Jaws 10), a screen magnifier (ZoomText 9.1) and manual inspection. HTML and Web based files were checked using the WAVE Toolbar and documentation PDF files were checked using Adobe Acrobat's Accessibility Checker; Full Check. See Appendix B for full list of documentation tested. The HTML files and Web based files for the most part are accessible, except for missing alternative text for images.

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The PDF files challenges include:

- Missing Adobe Acrobat tags, which affects the reading order of the document,
- A need for alternative text on images,
- Specification of language

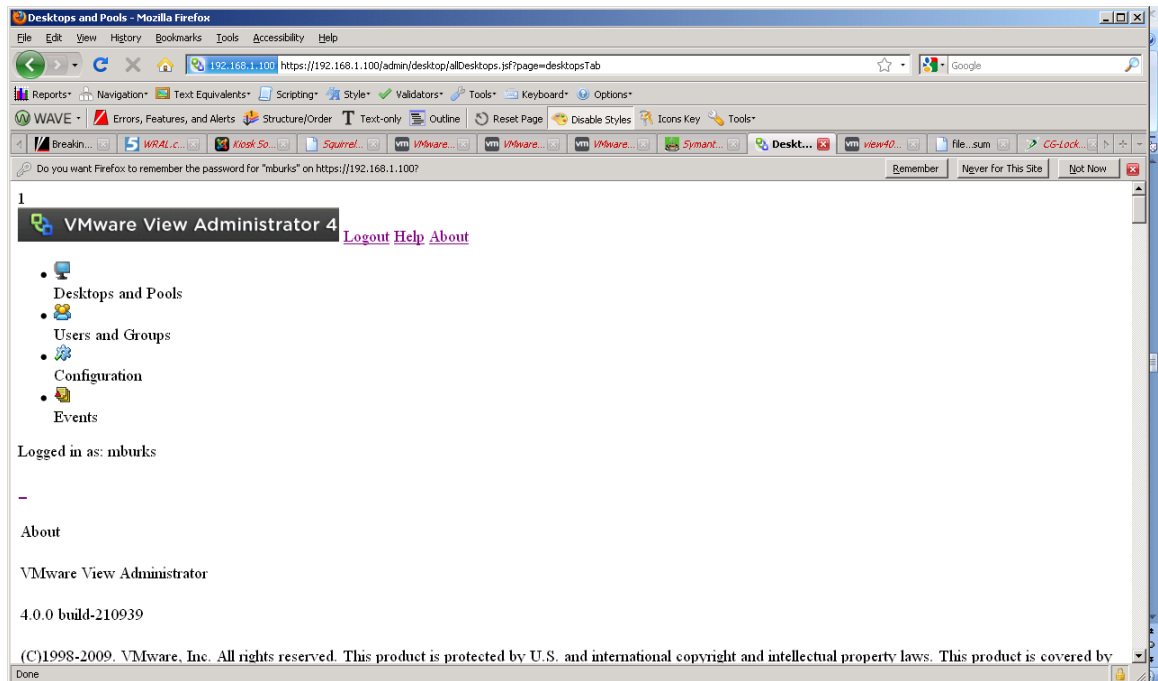
See our separate report assessing the documentation of web-based files for more details on the web-based documentation.

## Product Findings

- **VMware View-Server was found to be accessible with exceptions:**

Please refer to section 1194.22 for the following examples:

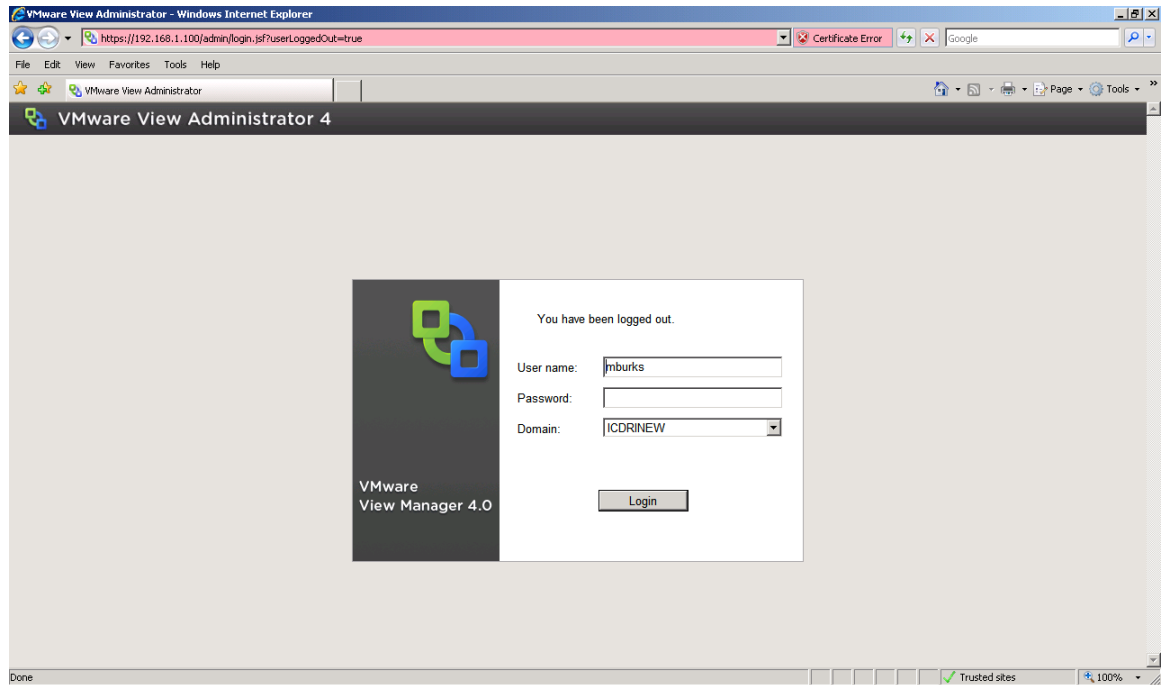
- 1) Numerous images do not have alt tags or title tags, these include linked images as well as what appears to be spacer images. Refer to section 1194.22a.
- 2) When Style Sheets are disabled the page is not completely usable. Refer to 1194.22d.  
Example below:



- 3) Frames are not titled with meaningful text. Refer to 1194.22i.
- 4) Not all Java Script Interfaces are keyboard accessible or readable. Refer to 1194.22i.

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- 5) Not all form fields are properly labeled so they can be read with Assistive Technology (AT). Refer to 1194.22n. Example below:



- 6) There are no links to skip over repetitive navigation links. Refer to 1194.22o.

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- **VMware View - Client was found to be accessible with exceptions.**

**Please refer to section 1194.21 for the following examples:**

- 1) The Windows based GUI does not allow keyboard access to all functions. Refer to section 1194.21a.
- 2) The Windows based GUI does honor or extend some Windows high contrast settings but does not allow large font settings. Refer to section 1194.21b
- 3) The Windows based GUI does not always present accurate information to the user of Assistive Technology. Users of screen magnification programs may have difficulty determining element status.
- 4) The Windows based GUI does not honor or extend Windows large font settings. Contrast and color selections are transferred.

**Please refer to section 1194.31 for the following example:**

- 1) The Windows based GUI accessed through the VMware View client does not provide complete support for assistive technology.

## Recommendations

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1. Discuss with TecAccess ideas about solving PDF document issues concerning accessibility and assistive technology.
2. Continue to monitor trends affecting assistive technology and accessibility, i.e. Assistive Technology support for VMware window based applications, Section 508 Refresh updates, Registering new VPATs for inclusion in the Buy Accessible Products and Services Directory. TecAccess can assist with introducing VMware to the GSA developers to use their automated update tool.
3. Discuss with software partners regarding accessibility within their applications such as VMware View. TecAccess would be happy to assist/participate.
4. Focus on the accessibility of windows software client in terms of keyboard navigability, as the most efficient mechanism to enhance assistive technology compatibility.



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## Additional Recommendations

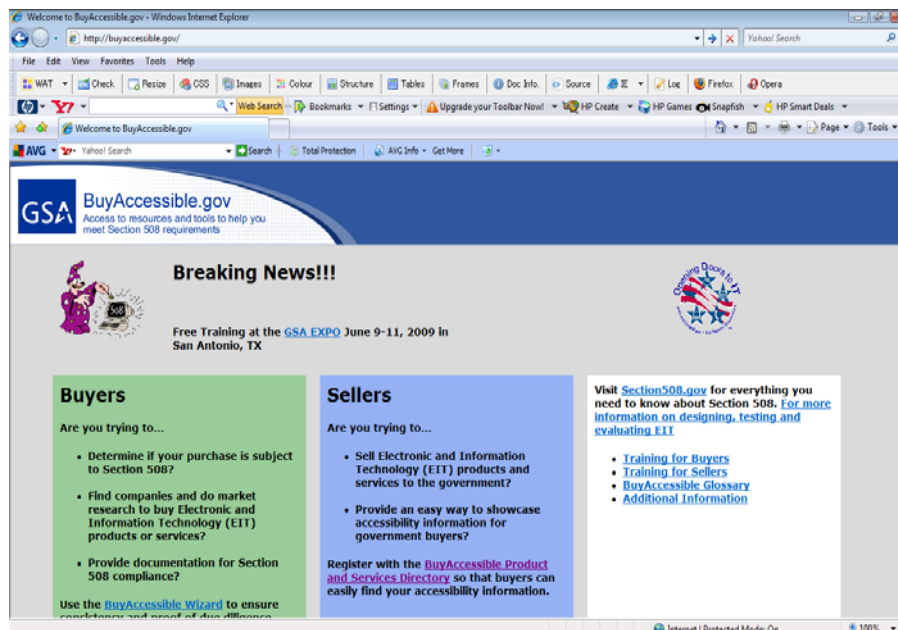
### GSA – BuyAccessible Product and Services Directory

Another issue TecAccess has discussed with VMware is the opportunity to advertise and sell to the Federal Government. The BuyAccessible Product & Services Directory is a database for Electronic and Information Technology (E&IT) vendors to register their company and provide information about their accessible products and services.

This information is used by government purchasers to conduct market research when they are evaluating accessible products and services to purchase for their agency.

By registering your company and its accessible products and services, you will increase the likelihood of placing key information in front of targeted buyers when making their purchase decisions.

As administrators of the BuyAccessible Products and Services Database we have access to what products and services government buyers are researching. TecAccess understands that VMware is working on preparing their VPATs for registration. TecAccess recommends that VMware work with us to assist you with a batch upload tool for initial installation and updates.



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## Section 508 Refresh

On April 3rd, 2008 TEITAC presented their final report to the United States Access Board. It was the culmination of more than 18 months of work by 41 individuals representing their respective companies, disability organizations, government agencies, and countries. **Please note**, at this time (June, 2009) the recommendations are under review by the U.S. Access Board. It is estimated that final draft standards will be announced approximately mid-2010.

Accessibility is emerging as an important global issue. Most countries are developing and implementing accessibility standards and guidelines. It is important to note that representatives outside of the United States participated as representatives on the TEITAC committee. Recognizing the importance of consistency across international markets, the committee synchronized its work with other standard-setting bodies in and outside of the U.S. Representatives from outside the U.S. on the committee ranged from the W3C Consortium, the European Union, Canada, Australia, and Japan.

The report is available for review at: [www.access-board.gov](http://www.access-board.gov).

## Conclusion

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In conclusion, the results of this analysis session showed a positive trend in the accessibility of the VMware View application package. The complex testing environment necessary, coupled with the limitations of assistive technology available for 64-bit server operating systems created a technically demanding testing regiment. Despite this challenge, which mirrors some of the challenges that will be faced by VMware administrators with disabilities, the applications package for VMware view appears to be on the road to functional conformance to Section 508 requirements.

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## Appendix A - Supporting Features - Key

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## Appendix B – Documentation

	Product	Documentation Source
1	VMware View – Server (ADMIN)	<a href="http://www.vmware.com/support/pubs/view_pubs.html">http://www.vmware.com/support/pubs/view_pubs.html</a>
2	VMware View – Client	<a href="http://www.vmware.com/support/pubs/view_pubs.html">http://www.vmware.com/support/pubs/view_pubs.html</a>