

Working with Autodesk MapGuide® Enterprise 2010, Autodesk MapGuide® Studio and Section 508

Section 508 requires that federal agencies' electronic and information technology is accessible to people with disabilities. The Center for Information Technology Accommodation (CITA), in the U.S. General Services Administration's Office of Government-wide Policy, has been charged with the task of educating federal employees and building the infrastructure necessary to support Section 508 implementation.

With this white paper, Autodesk® offers background information to help our customers understand the accessibility features of Autodesk MapGuide® Enterprise 2010 software, in the context of the Section 508 standards. This was done with the intent to enable agencies to be compliant with the Section 508 regulations.

For the purposes of this paper, "Autodesk MapGuide" refers to Autodesk MapGuide Enterprise 2010, Autodesk MapGuide Studio 2010 and all Autodesk products that are based upon the Autodesk MapGuide Enterprise 2010 and Autodesk MapGuide Studio 2010 platforms.

The document contains subsets of the Electronic and Information Technology Accessibility Standards as published in 36 CFR Part 1194 and provides an analysis of Autodesk MapGuide as compared to these standards.

The first table of the Template provides a summary view of the section 508 Standards. The subsequent tables provide more detailed views of each subsection.

There are three columns in each table. Column one of the Summary Table describes the subsections of subparts B and C of the Standards. The second column describes the supporting features of the product or refers you to the corresponding detailed table, "e.g., equivalent facilitation." The third column contains any additional remarks and explanations regarding the product. In the subsequent tables, the first column contains the lettered paragraphs of the subsections. The second column describes the supporting features of the product with regard to that paragraph. The third column contains any additional remarks and explanations regarding the product.

This document is not intended to be a certification of compliance. This template is based upon version 1.2 (5/6/2004) supplied by the U.S. Government.

More information on Section 508 can be found on the Government's website located at: <http://www.section508.gov/>

Summary Table		
<i>Criteria</i>	Supporting Features	Remarks and explanations
Section 1194.21 Software Applications and Operating Systems		Completed
Section 1194.22 Web-based Internet Information and Applications		Completed
Section 1194.23 Telecommunications Products		Not Applicable
Section 1194.24 Video and Multi-media Products		Not Applicable
Section 1194.25 Self-Contained, Closed Products		Not Applicable
Section 1194.26 Desktop and Portable Computers		Not Applicable
Section 1194.31 Functional Performance Criteria		Completed
Section 1194.41 Information, Documentation and Support		Completed

Section 1194.21 Software Applications and Operating Systems

Criteria	Supporting Features	Remarks and explanations
(a) When software is designed to run on a system that has a keyboard, product functions shall be executable from a keyboard where the function itself or the result of performing a function can be discerned textually.	Supports with Exceptions	Keyboard navigation is provided for most Menu commands, dialogs, resource editors, and the site explorer, but some controls in resource editors and map previews do not support Tab navigation (embedded toolstrips, checkboxes, map navigation).
(b) Applications shall not disrupt or disable activated features of other products that are identified as accessibility features, where those features are developed and documented according to industry standards. Applications also shall not disrupt or disable activated features of any operating system that are identified as accessibility features where the application programming interface for those accessibility features has been documented by the manufacturer of the operating system and is available to the product developer.	Supports	Autodesk MapGuide Studio does not disrupt the accessibility features of other products on the end-user's system.
(c) A well-defined on-screen indication of the current focus shall be provided that moves among interactive interface elements as the input focus changes. The focus shall be programmatically exposed so that Assistive Technology can track focus and focus changes.	Supports	Focus is exposed via selection colors and focus rectangles consistent with Windows UI standards. Elements displayed in map windows have spatial and textual properties that are accessible through the Autodesk MapGuide API.
(d) Sufficient information about a user interface element including the identity, operation and state of the element shall be available to Assistive Technology. When an image represents a program element, the information conveyed by the image must also be available in text.	Supports with Exceptions	Autodesk MapGuide Studio provides information to the user via the Microsoft® Active Accessibility Application. User interface elements are identified through textual descriptions and tool tips. Spatial and textual properties of these elements are accessible through the Autodesk MapGuide API. However, in Autodesk MapGuide Studio, color selection lists do not have corresponding text descriptions.
(e) When bitmap images are used to identify controls, status indicators, or other programmatic elements, the meaning assigned to those images shall be consistent throughout an application's performance.	Supports	Bitmaps and icons in the user interface are referenced consistently and include textual descriptions. Maps generated using Autodesk MapGuide make consistent use of images used for point symbols.

(f) Textual information shall be provided through operating system functions for displaying text. The minimum information that shall be made available is text content, text input caret location, and text attributes.	Supports	System messages are displayed in standard Microsoft .NET message dialogs. Spatial and textual properties of the elements displayed in map windows are accessible through the Autodesk MapGuide API.
(g) Applications shall not override user selected contrast and color selections and other individual display attributes.	Supports with Exceptions	Parts of the resource editors (custom controls) override color settings. When screen fonts are set to large and x-large, most labels and buttons do not resize accordingly.
(h) When animation is displayed, the information shall be displayable in at least one non-animated presentation mode at the option of the user.	Supports with Exceptions	Animated progress indicators do not have an alternate non-animated mode.
(i) Color coding shall not be used as the only means of conveying information, indicating an action, prompting a response, or distinguishing a visual element.	Supports	Autodesk MapGuide does not use color as the only means of conveying information.
(j) When a product permits a user to adjust color and contrast settings, a variety of color selections capable of producing a range of contrast levels shall be provided.	Supports	The user has the ability to customize the application window color and contrast settings using standard Microsoft Windows themes.
(k) Software shall not use flashing or blinking text, objects, or other elements having a flash or blink frequency greater than 2 Hz and lower than 55 Hz.	Supports	Autodesk MapGuide does not use flashing or blinking text.
(l) When electronic forms are used, the form shall allow people using Assistive Technology to access the information, field elements, and functionality required for completion and submission of the form, including all directions and cues.	Supports with Exceptions	Labels are placed in immediate proximity to their fields and audio assistive technology often (but not always) correctly identifies the relationship.

Section 1194.22 Web-based intranet and internet information and applications.

Criteria	Supporting Features	Remarks and explanations
(a) A text equivalent for every non-text element shall be provided (e.g., via "alt", "longdesc", or in element content).	Supports	In the toolkit provided to the web author, all icons have optional alternate text. Websites developed with Autodesk MapGuide may include a map window used to display dynamic maps containing vector and raster elements. Spatial and textual properties of these elements are accessible through the Autodesk MapGuide API.
(b) Equivalent alternatives for any multimedia presentation shall be synchronized with the presentation.	Not applicable	Web developers determine the use of multimedia. Autodesk MapGuide neither requires nor restricts the use of multimedia.
(c) Web pages shall be designed so that all information conveyed with color is also available without color, for example from context or markup.	Supports	In the toolkit provided to the web author, all color themes can be combined with other effects to differentiate them from each other. Autodesk MapGuide does not restrict the use of color on a web page. Websites may include a map window used to display dynamic maps containing vector and raster elements. Spatial and textual properties of these elements are accessible through the Autodesk MapGuide API.
(d) Documents shall be organized so they are readable without requiring an associated style sheet.	Supports with Exceptions	Autodesk MapGuide Site Administration and Online Help interfaces use external style sheets for enhancement of styling. Web developers determine the use of style sheets in their mapping applications.
(e) Redundant text links shall be provided for each active region of a server-side image map.	Supports	Links applied to features on a map have a visual cue in the tooltip to launch the hyperlinks. Web developers determine the use of image maps in their mapping applications. Autodesk MapGuide neither requires nor restricts the use of image maps.
(f) Client-side image maps shall be provided instead of server-side image maps except where the regions cannot be defined with an available geometric shape.	Not applicable	Web developers determine the use of image maps in their mapping applications. Autodesk MapGuide neither requires nor restricts the use of image maps.
(g) Row and column headers shall be identified for data tables.	Supports	The Properties pane in the map has default column headers. Site Administration has column headers for tables. Web developers determine the use of data tables and row/column headers. Autodesk MapGuide neither requires nor restricts the use of data tables or row/column headers.

(h) Markup shall be used to associate data cells and header cells for data tables that have two or more logical levels of row or column headers.	Does not support	The Site Administration application does not use scope, id, or header markup. However, web developers determine the use of data tables including associations or relationships between tables. Autodesk MapGuide neither requires nor restricts the use of data tables or table relationships.
(i) Frames shall be titled with text that facilitates frame identification and navigation.	Does not support	The Site Administration application frames do not have title tags associated with them.
(j) Pages shall be designed to avoid causing the screen to flicker with a frequency greater than 2 Hz and lower than 55 Hz.	Supports	
(k) A text-only page, with equivalent information or functionality, shall be provided to make a web site comply with the provisions of this part, when compliance cannot be accomplished in any other way. The content of the text-only page shall be updated whenever the primary page changes.	Not applicable	<p>All Autodesk MapGuide web interfaces are applications requiring user interactions with fields and controls.</p> <p>Websites may include a map window used to display dynamic maps containing vector and raster elements. Spatial and textual properties of these elements are accessible through the Autodesk MapGuide API. These elements may be accessed by the web developer, reformatted, and displayed on a text-only page if desired.</p>
(l) When pages utilize scripting languages to display content, or to create interface elements, the information provided by the script shall be identified with functional text that can be read by assistive technology.	Supports with Exceptions	<p>“onclick” is used by the Site Administration application.</p> <p>Web developers determine the use and implementation of scripts. Autodesk MapGuide does not restrict identifying scripts with functional text that can be read by Assistive Technology.</p>
(m) When a web page requires that an applet, plug-in or other application be present on the client system to interpret page content, the page must provide a link to a plug-in or applet that complies with §1194.21(a) through (l).	Not applicable	<p>Enterprises wish to control the plug-ins that their users must download. If the workflow demands an Autodesk Design Review download, the documentation directs users to the appropriate Autodesk.com site.</p> <p>Web developers determine how any required applets or plug-ins are distributed. Applets and plug-ins required by Autodesk MapGuide are available for distribution. Autodesk MapGuide does not restrict the type of link used to access the applet or plug-in.</p>
(n) When electronic forms are designed to be completed on-line, the form shall allow people using assistive technology to access the information, field elements, and functionality required for completion and submission of the form, including all directions and cues.	Does not support	<p>The Site Administration application does not use label and form tags.</p> <p>Web developers determine the use of electronic forms. Autodesk MapGuide does not restrict the use or implementation of electronic forms.</p>

(o) A method shall be provided that permits users to skip repetitive navigation links.	Does not support	Not supported in Autodesk MapGuide's Site Administration application. However, web developers determine the use and implementation of navigational links in their mapping applications. Autodesk MapGuide does not restrict the use or implementation of navigational links. Websites may include a map window used to display dynamic maps containing vector and raster elements. Spatial and textual properties of these elements are accessible through the Autodesk MapGuide API.
(p) When a timed response is required, the user shall be alerted and given sufficient time to indicate more time is required.	Not applicable	Autodesk MapGuide does not require the use of a timed response.

Section 1194.31 Functional Performance Criteria

Criteria	Supporting Features	Remarks and explanations
(a) At least one mode of operation and information retrieval that does not require user vision shall be provided, or support for Assistive Technology used by people who are blind or visually impaired shall be provided.	Supports	Autodesk MapGuide supports Assistive Technology. Websites developed with Autodesk MapGuide may include a map window used to display dynamic maps containing vector and raster elements. Spatial and textual properties of these elements are accessible through the Autodesk MapGuide API. Web developers may reformat these elements to support Assistive Technology products for the blind or visually impaired.
(b) At least one mode of operation and information retrieval that does not require visual acuity greater than 20/70 shall be provided in audio and enlarged print output working together or independently, or support for Assistive Technology used by people who are visually impaired shall be provided.	Supports with Exceptions	Keyboard navigation is provided for all Menu commands. Microsoft Active Accessibility applications like the Narrator can be used to access particulars of the components of a form/dialog box. Websites may include a map window used to display dynamic maps containing vector and raster elements. These elements may have navigational links that are accessible through the Autodesk MapGuide API. Web developers may reformat these elements to support Assistive Technology products for the visually impaired.
(c) At least one mode of operation and information retrieval that does not require user hearing shall be provided, or support for Assistive Technology used by people who are deaf or hard of hearing shall be provided.	Supports	Autodesk MapGuide does not require user hearing in order to operate the software.

(d) Where audio information is important for the use of a product, at least one mode of operation and information retrieval shall be provided in an enhanced auditory fashion, or support for assistive hearing devices shall be provided.	Supports	Autodesk MapGuide does not require user hearing in order to operate the software.
(e) At least one mode of operation and information retrieval that does not require user speech shall be provided, or support for Assistive Technology used by people with disabilities shall be provide.	Supports	Autodesk MapGuide does not require user speech in order to operate the software.
(f) At least one mode of operation and information retrieval that does not require fine motor control or simultaneous actions and that is operable with limited reach and strength shall be provided.	Supports with Exceptions	Keyboard navigation is provided for menu commands and for most controls in forms/dialog boxes in Autodesk MapGuide.

Section 1194.41 Information, Documentation and Support

Criteria	Supporting Features	Remarks and explanations
(a) Product support documentation provided to end-users shall be made available in alternate formats upon request, at no additional charge.	Supports	Support documentation is available within the product, as hardcopy, or as Adobe PDF.
(b) End-users shall have access to a description of the accessibility and compatibility features of products in alternate formats or alternate methods upon request, at no additional charge.	Supports	This document is posted on our website at http://www.autodesk.com . Search for "Government Accessibility"
(c) Support services for products shall accommodate the communication needs of end-users with disabilities.	Supports	Support services options are available via webpage, e-mail, fax, or phone. Direct, in-person support is also available through resellers.