The following Voluntary Product Accessibility information refers to the Mac OS X version 10.4 "Tiger" (Mac OS X) operating system. For more information on accessibility features in Mac OS X and to find out about available applications and peripheral devices visit Apple's accessibility web site at http://www.apple.com/accessibility

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Voluntary Product Accessibility Template

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Section 1194.21 Software Applications and Operating Systems - Detail
Voluntary Product Accessibility Template

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.	**Supported with exceptions:** Mac OS X provides keyboard access to operating system interface elements using the keyboard cursor or VoiceOver (an integrated screen reader) cursor. Keyboard access to text boxes and lists is on by default. Keyboard access can be extended to include controls by pressing Control-F7 or clicking a radio button in the Keyboard preference panel. VoiceOver can be activated by pressing Command-F5 at any time and provides keyboard navigation and control of accessible applications. Mac OS X provides additional keyboard support features which are beneficial to some users: • **Sticky Keys**, which is designed to allow a series of single key presses to be interpreted as a multiple keystroke combination. Sticky Keys is beneficial for people who have difficulty pressing multiple keys simultaneously. • **Slow Keys**, which is designed to put a delay between when a key is pressed and when it is accepted by the system. Slow Keys is beneficial for people who may press keys accidentally and often. Click key sounds are also available to provide additional feedback when a key is accepted. • **Mouse Keys**, which is designed to allow control of the mouse cursor from the keyboard.	**Exceptions**: These applications included with Mac OS X are partially keyboard accessible. • Dashboard Widgets • ColorSync utility • Startup Disk (System Preferences) • iCal The text of an item with keyboard focus is spoken when using VoiceOver, when the mouse is over them or when the text is selected and an appropriate key combination is pressed.

	• **Adjustable keyboard repeat delay**, which is designed to prevent accidental entry of multiple single keystrokes. The setting is adjustable and can be set to not repeat. • **Customizable keyboard commands** which allow a user to assign a keyboard combination to any menu item that doesn't already have one assigned or change an existing combination, for a specific application or for the entire system. • **Double click speed adjustment** allows users to customize the finger speed required to double click the mouse. Applications that adhere to the Mac OS X programming guidelines automatically inherit keyboard support.	
(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	**Supported:** Mac OS X provides an accessibility API that enables applications to interact with assistive technologies without disrupting the system or each other. Details of the Accessibility API are available on the Apple Developer web site: http://developer.apple.com/documentation/Accessibility/Accessibility.html Applications developed using Mac OS X application development guidelines and using operating system provided services, inherit the accessibility functionality included in Mac OS X. Applications and devices written in this manner benefit from the various accessibility features included in Mac OS X and from those delivered by assistive technology developers.	

programming interface for those accessibility features has been documented by the manufacturer of the operating system and is available to the product developer.	Mac OS X uses industry standard peripheral connection ports like USB and Firewire, and includes class device drivers that adhere to the HID specification so input devices developed to these specifications should work without the need for additional driver software.	

(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.	**Supported:** Mac OS X exposes the location of the current keyboard and mouse focus to assistive technologies via the Accessibility API and also provides a visual indication of the focus on-screen. The mouse arrow can also be scaled independent of the screen resolution making it easier to locate and track. The VoiceOver cursor is also clearly defined and items within the VoiceOver cursor can be scaled to the size of the screen to make them and the VoiceOver cursor easier to see and follow. Using VoiceOver, a description of the elements on which these cursors are focused can be spoken.	

(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.	**Supported with exceptions:** The Mac OS X Accessibility API allows applications to provide information about the identity, operation, and state of elements in applications and in the operating system interface itself. Mac OS X interface elements, applications and utilities provide sufficient information via the Accessibility API, with some exceptions. Application developers can learn about how to ensure that their application correctly utilizes the Accessibility API at the Apple Developer Web site: http://developer.apple.com/documentation/Accessibility/Accessibility.html	**Exceptions:** The current value of some slider controls, such as the one in the 'Speech' preference panel, are not spoken when using the "speak text under the mouse after delay" feature. The following applications included with Mac OS X will speak only some text under the mouse. • iTunes • iCal
(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.	**Supported:** Images used in Mac OS X are used in a consistent manner. Apple's Human Interface Guidelines address this point to guide developers of Mac OS X applications.	

(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.	**Supported:** Mac OS X provides information about text content, attributes, and text input caret via the Accessibility API.	
(g) Applications shall not override user selected contrast and color selections and other individual display attributes.	**Supported:** Mac OS X supports several user preferences to customize the display attributes. These adjustments cannot be overridden by applications. • Users can switch the display to White On Black from Black On White. • Users can switch the display from color to grayscale. • Users can enhance or reduce the contrast of the display using a slider. • Users can invert the light and dark colors displayed on the screen. • Users can also utilize the Zoom feature, a built-in screen magnifier, to magnify the appearance of the interface and text. (See section 1194.31(b) for more information about Zoom).	**Remarks:** All of these features are accessed through the Universal Access system preference and can be used together in different combinations to achieve the desired display effect.

(h) When animation is displayed, the information shall be displayable in at least one non-animated presentation mode at the option of the user.	**Supported:** Animation for opening and closing applications and windows, and animated magnification of dock items can be disabled. The animated progress bar is usually accompanied by text describing the progress of the action.	Dashboard ripple effects and animations are cosmetic only. Cursor changes are spoken using VoiceOver. Exposé features visual effects but there are workarounds to achieve the same functions without using Exposé.
(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.	**Supported:** Mac OS X uses color in multiple ways to convey information but wherever color is used there is an alternative information display that does not rely on color. For example, colored controls are used in the title bar of each Mac OS X window that allow a user to close, minimize or maximize a window. While the color indicates each control's function, each control also has a rollover state that reveals a non-color indication of function.	
(j) When a product permits a user to adjust color and contrast settings, a variety of color selections capable of	**Supported with exceptions:** Mac OS X screen contrast is adjustable by users in the Universal Access control panel.	**Exceptions:** Color settings for buttons, windows, and menus are limited to two colors.

producing a range of contrast levels shall be provided.	The setting for the text highlight color can be modified using a color palette of millions of colors. Users can create cascading style sheets that can be used to override colors defined by web developers to customize the appearance of web pages.	
(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.	**Supported:** Text and interface elements in Mac OS X do not flash or blink in this range.	
(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.	**Supported with exceptions:** Mac OS X form elements provide information for assistive technologies via the Accessibility API. VoiceOver supports PDF and HTML forms using the Preview and Safari applications included with Mac OS X.	

Section 1194.31 Functional Performance Criteria - Detail
Voluntary Product Accessibility Template

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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.	**Supported with exceptions:** Mac OS X supports users by providing the following features to operate the computer without vision: **VoiceOver** is a fully integrated, built-in, English speaking screen reader. It reads aloud the contents of documents like Web pages, Mail messages, and word processing files; provides a comprehensive audible description of the workspace and activities taking place on the computer; and provides keyboard commands that allow you to navigate, interact with, and control the Macintosh OS and applications. It is installed by default and requires no separate installation. It is activated by pressing Command-F5 at any time. The Mac OS X Tiger installation disk is also accessible using VoiceOver. **Applications** built using the Mac OS X development guidelines and the Mac OS X Accessibility APIs will work with VoiceOver. **Keyboard support** – Operating without vision can be accomplished using keyboard commands and/or spoken voice commands.	**Remarks:** Information about VoiceOver is available from http://www.apple.com/accessibility/VoiceOver.html.

	Apple Remote Desktop – Mac OS X includes the client software required to have an administrator or helper access a computer remotely over a network. It can be activated in the sharing system preference. This tool can be used to assist users in configuring their computers, or to teach a user how to perform an action. The Apple Remote Desktop software used by the administrator or helper is available separately.	
(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.	**Supported:** Mac OS X supports users who are visually impaired with VoiceOver, VoiceOver cursor zoom, a scalable mouse cursor, Zoom—a built-in screen magnification feature, and a "speak text under the mouse" feature. **Universal Access Zoom view** - With Zoom view users can magnify everything on screen making it larger and easier to see. Text and graphics are enlarged for easier reading and QuickTime video plays magnified without any performance degradation, a capability not available on any other operating system. The powerful Quartz rendering and compositing engine makes Zoom view possible, delivering magnification up to 40x, and sophisticated filtering and anti-aliasing to make text and graphics look good at larger sizes. **Zoom** includes a number of options like the ability to set maximum and minimum values for rapid zooming in and out, a preview rectangle that outlines the portion of the screen that will be magnified, and the ability to customize how the screen moves as you navigate with the mouse pointer.	

	Visually impaired users who wish to use the mouse can also use VoiceOver and the **Speak Text Under The Mouse** feature to hear a spoken description of information that is under the mouse pointer in addition to using the zoom feature.	
(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	**Supported:** **Flash Screen** - Mac OS X provides visual indication of alert sounds via the Flash Screen feature. When Mac OS X emits a sound to alert the user, it will also flash the screen once. **iChat AV** - iChat AV is included with Mac OS X and is the first desktop computer video conferencing solution with performance and clarity that allows users to communicate using sign language over the Internet. Using iChat AV, you can clearly see the finger and hand movements of the person with whom your communicating, giving you the technology to communicate from afar with the same range of emotion you use in person. For requirements, refer to http://www.apple.com/macosx/features/ichat/. **QuickTime** – QuickTime video or audio files can include an auxiliary text track for closed captioning. VoiceOver provides a unique "**caption panel**" that displays the text of what is being spoken by the synthesized VoiceOver voice. It can be used to enhance the Macintosh experience for those who prefer additional text description of activities taking place on their computer.	

(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.	**Not Applicable:** Audio is not required for operation of Mac OS X.	
(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 provided.	**Not Applicable** Speech command and control is not required to use Mac OS X. Mac OS X includes built-in speech recognition functionality as a benefit to users who prefer to speak commands instead of, or in addition to, using the mouse or keyboard for command and control of their computer.	**Remarks:** Additional products are available for Macintosh that enable dictation (speech to text) and enhanced command and control using speech. For more information, refer to http://guide.apple.com.
(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.	**Supported:** Mac OS X provides the following features to assist users who do not have fine motor control or can't perform simultaneous actions easily: • **Sticky Keys**, which is designed to allow a series of single key presses to be interpreted as a multiple keystroke combination. Sticky Keys is beneficial for people who have difficulty pressing multiple keys simultaneously. • **Slow Keys**, which is designed to put a delay between when a	

| | key is pressed and when it is accepted by the system. Slow Keys is beneficial for people who may press keys accidentally and often. Click key sounds are also available to provide additional feedback when a key is accepted.
• **Adjustable keyboard repeat delay**, which is designed to prevent accidental entry of multiple single keystrokes.
• **Customizable keyboard commands** allow a user to assign a keyboard combination to any menu item that doesn't already have one assigned or change an existing combination, for a specific application or for the entire system.
• **Double click speed adjustment** allows users to customize the finger speed required to double click the mouse.
• **Speech commands** are available for a limited set of actions.
• Mac OS X supports many specialized input devices. For more information visit http://www.apple.com/accessibility/physical | |

Section 1194.41 Information, Documentation, and Support - Detail
Voluntary Product Accessibility Template

| Section 1194.41 (a) Product Support Documentation | **Supported:** | Mac OS X documentation is available on line in HTML format, in the Apple Knowledge Base http://www.apple.com/support and in the Mac OS X product page at http://www.apple.com/macosx .

Mac OS X online help also provides information on how to use various Universal Access features. |

Section 1194.41 (b) Accessibility and Compatibility Features	**Supported:** A VoiceOver Getting Started manual is available for download in PDF and MP3 formats at http://www.apple.com/accessibility/voiceover/manual.html	Mac OS X documentation is available on line in HTML format, in the Apple Knowledge Base http://www.apple.com/support and in the Mac OS X product page at http://www.apple.com/macosx . Mac OS X online help also provides information on how to use various Universal Access features.
1194.41 (c) Support Services	**Supported:**	Support via the Internet is available through the Apple Knowledge base at http://www.apple.com/support Apple can also assist customers using TDD. For additional information on the many service and support options offered by Apple visit www.apple.com/support.