CISCO SYSTEMS

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WebConnect Pro Readme

New Features in this Version

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Feature Descriptions

Token Authentication Feature

If configured, this feature causes OC://WebConnect to generate 128-bit random tokens to authenticate connecting clients. Initial client authentication is performed by the customer's web server using any authentication method supported by the web server; e.g., SSL client certificates, user ID & password, etc. At session startup the web server requests the token to pass to the applet from the OC://WebConnect server. The applet must then present the token back to the

OC://WebConnect server to be granted permission to start the session. Tokens are good for one use only and expire within a configured timeout interval. Default timeout is 90 seconds. This feature requires the use of the OCS-provided CGI-BIN, cgiinfo, to start sessions. This feature is not supported by ultra-lite clients.

For the highest level of security:

1 SSL should be run between the web server and the browser, and between the java applet and the OC://WebConnect server.

2 The directory where cgiinfo resides should be write-protected from anyone other than the system administrator.

3 The OC://WebConnect Java Administration port should be protected from potential attackers, preferably on the same machine as the web server with IP address specified as local host, or linked to the web server by a private network. At a minimum, the Java Administration port should be located behind the corporate firewall.

New HTML Configurator

In addition to the JDK1.1 Graphical Configuration Utility, this release includes a new HTML-based configurator with side bar, allowing quicker access to configuration panels. The HTML configurator includes additional features, such as trace viewing and download. Use of the HTML configurator requires the OC://WebConnect http server to be installed.

Improved User Interface for Session Startup and Admin

Session Startup Screen has been changed to move admin buttons to sidebar and all sessions to a listbox. When a session is started, the page no longer changes, making it easier to start other sessions. The applet button has been removed. Instead the applet resides transparently in a small frame in the lower lefthand corner of the session startup page.

Three Choices for Print Support

OC://WebConnect offers three solutions for printing to address the different capabilities of the various browsers available.

1 Native JDK 1.1 printing. This print solution requires a browser with a Java Virtual Machine of JDK 1.1 or later.

2 OC://WebPrint. This print solution requires the installation of java class files on the user's PC. Double-byte characters are not supported using this print solution.

3 Java Script printing. This print solution uses Java Script to open a separate browser window for the print output and then print its contents. Only available for browsers supporting Java Script, such as Netscape Navigator and MSIE.

Method of print implementation can be configured for each session or specified at runtime.

Improved Associate Print Feature

This release uses the same TN3270E Associate Printer LU feature introduced in OC://WebConnect version 2.8. This feature allows a user to start his 3287 print session directly from his 3270 display session. The only OC://WebConnect administration required for this feature is to enable it for a 3270 display session. The display-to-printer mapping is configured at the TN3270E server.

Multiple IP Support to Gateway/Host

Supports use of DNS aliasing for associating multiple IP addresses to a single DNS entry for the gateway/host connection. This is typically used for load balancing. This feature will cause OC://WebConnect to cycle through the list of IP addresses returned from the DNS until a successful connection is achieved and session established.

Separate IP Specification for Service Ports

You can now specify a separate IP address for each of the service ports of the OC://WebConnect server. This can be used for IP aliasing of the http server to allow it to co-reside with other web servers on the same machine, each using the standard http port (80). This feature can also be used for security enhancements, such as specifying local host for the Java Administration port to eliminate the possibility of the token being sniffed when the token authentication feature is enabled.

Session Limits per Applet

This feature limits the number of instances of a session that can be started from a given applet. When the session limit is reached, the File->New menu option will be disabled. It is currently up to the web administrator to limit the number of applets that a given user can initiate.

Miscellaneous Security Enhancements

- Option to suppress display of Gateway/Host info to end users.

- Option to disallow host resource override feature.

Logging Enhancements

Several log events with more detailed information have been added to this release of OC://WebConnect.

Print Margin Configuration

OC://WebConnect Pro allows configuration of margins for both 3287 and screen printing. This feature is only available for enhanced and power user applets. The feature is configured using the HTML configurator. At runtime these values are passed as applet parameters: lmargin, rmargin, tmargin & bmargin. The units are pixels. With the JDK print implementation there are typically 72 pixels per inch. For OC://WebPrint the resolution matches the printer; e.g. 300 pixels per inch for a 300 dpi printer. A print margin reduces the effective page size for drawing; it does not change the logical print format of the print job.

Character Mode Setting

OC://WebConnect Pro offers a character mode and a line mode setting for both 3287 and screen printing. Character mode is required for most double-byte applications. This feature is only available for enhanced and power user applets. The feature is configured using the HTML configurator. At runtime this value is passed as the applet parameter, "charmode", and can assume values of "ON" or "OFF". Line mode will yield faster printing and consume less memory on the user workstation during printing.

Character mode will ensure uniform spacing of characters, and space characters and lines to fit the right and bottom margins, respectively.

Note The international version of Internet Explorer running on Chinese Win95 appears to be incapable of printing a fixed width font. The causes Character Mode printing to have overlapping characters in some cases.

For these cases printing must be performed in Line Mode. However, Line Mode printing may yield unsatisfactory alignment of columns when printing with a proportional font.

3287 Default Format Settings

OC://WebConnect Pro allows the setting of defaults for 3287 parameters MPP (Max Presentation Position), MPL (Max Presentation Line) and LD (Line Density). Currently these must be hand configured in the session file as DfltMPP, DfltMPL and DfltLD under the [3287] section. These values set the default logical page format for a 3287 session. If the print application provides format controls in the datastream, these values will be overridden. A common need for this capability is to change the LU1 default from 132 to 80 columns for standard 8/12" x 11" letter paper when the host print application prints an 80 column job but neglects to issue format controls for this setting.

Depending on the setting of the AutoFit parameter the 3287 Defaults will have different effects. If AutoFit=OFF, the font size rendered by the printer will be dictated by the Line Density parameter or overridden by the host application. If AutoFit=ON, the line density parameter is ignored, including any value specified by the host application, and the font size is computed by the 3287 applet. A font is chosen that will fit DfltMPP characters and DfltMPL lines on the page (or the values specified by the host application), with the specified margin constraints. The largest font that fits the criteria is chosen.

Note JDK printing always assumes an 8 1/2" x 11" page in portrait mode for the purpose of autofit. If other page layouts are required when using the JDK print implementation, AutoFit should be set to OFF, and the font size should be controlled by the Line Density setting.

Applet Parameter Template

In OC://WebConnect Pro, by default, the applet tag is now generated by the OC://WebConnect server from a template html file called "applet.html". This allows OC://WebConnect administrators the capability to customize the applet tag for their installation, but continue to benefit from functionality, such as token authentication, added by letting OC://WebConnect generate the applet tag. Form data is passed from the browser to the web server, which invokes the new cgibin, "cgipipe".

Cgipipe then forwards the form data on to a macro processor in the OC://WebConnect server. The form data is referenced by macros in applet.html, allowing the applet tag to change, based on the form data and other variables derived from configuration settings.

OC://WebConnect returns the applet template, as is, to cgipipe, modified only by whatever macros have been expanded. This data is then output by cgipipe to the web server for return to the browser.

Note cgiinfo has been retained for compatibility with existing installations not wishing to upgrade to the new applet generation method.

Server Platform Requirements

The following platforms are supported for this release of the OC://WebConnect Server:

- AIX 4.1.3+

- HP-UX 10.10+

- Solaris 2.5+

- Windows NT 3.51+ with a minimum of Service Pack 4 or Windows NT 4.0

- DEC Alpha 4.0+

A minimum of 64MB of RAM is recommended for all platforms to run the maximum number of concurrent sessions.

A maximum of 1,000 sessions per instance (AIX is limited to 950 sessions); no limitation of instances (depending on hardware capacity)

Browser Requirements

OC://WebConnect 3.2 requires a browser that supports Sun's Java Development Kit 1.1 for Enhanced and Power User session types.

Currently HotJava, Internet Explorer 4.0, and Netscape Navigator 4.02 or later provide this support.

Known Problems

- There is an incompatibility between JDK1.1 printing and the generic print driver on Windows95 that causes an extra space to be inserted in the output after every 24th character.

- When initiating a screen print of a Model 5 session, you MUST choose landscape mode to print 132 columns. Otherwise, only the first 80 columns will be printed. This is due to a JDK1.1 bug that reports the same paper orientation for portrait and landscape modes. Screen print does NOT support the "GENERIC TEXT/ONLY" printer driver.

- Java 1.1.1 does not handle properly the interface to the Input Method Editor(IME). Asian characters are presented only to Java text fields. Therefore, OC://WebConnect utilizes a text field when the IME is invoked. Both the IME and the text field must be terminated by an enter key. Two presses of the enter key are required to transfer characters from the IME to the OC://WebConnect screen.

- Because of limitations of JDK 1.02, any applet created by OpenVista 1.0 will be identified as untrusted and will cause a warning to be displayed on a JDK 1.1-enabled browser.

- One set of emulation interface files for each emulation type reside on a local browser system. If you change the properties for one emulation type (such as 3270) and the AllowUserConfiguration option is ON, all open sessions within that emulation type will change. All open sessions will have to be closed and re-connected to reflect any changes made to the interface files.

- For Japanese 5250 to work properly with double byte character set stream, OC://WebConnect must be configured to have the Device Type set to 5555.

- For Pass-Through Override to work properly with Double-byte 5250 sessions, the octermcap file for the OC://WebConnect SNA Access Server needs to be updated with the entry:

```
ibm-5555-c01-p|IBM-5555-C01-P:\
:sv=tn5250:tt=5555-C01-E:pt=yes:
ibm-5555-b01-p|IBM-5555-B01-P:\
:sv=tn5250:tt=5555-B01-E:pt=yes:
```

- File Transfer Append does not work properly for Receive from the host on a Windows 95 platform. This problem is being corrected by Sun Microsystems.

- Using Java, text fields do not accept colors the same as labels. Therefore, certain colors are not available for text fields.

- Auto GUI is intended for, and works best with, SAA-compliant 3270 and 5250 screens. Other uses may have unpredictable results. Some of the limitations are:

  — With some applications, such as Netview, because of the way screen updates are handled, the screen may be repainted 15 or 20 times before the screen display is completed.

  — When running a 3270/RUI or RUI/LUA session with AutoGUI, the VTAM banner may not display correctly.

  — TCL scripting does not work when using runtime scripts with AutoGUI.

  — There are some problems with AutoGUI on SAA compliant screens. In some cases, when the host sends a Read Buffer command, no data is sent back from the client.

  — Using HotJava, when AutoGUI is enabled, while in an application such as VM, or TSO, the applet repaints with the clickpad only partially displayed.

  — When AutoGUI is enabled during TN3270E sessions, the screens may not display properly.

  — On a 3270 screen with AutoGUI enabled, and HotSpots are displayed, if you then disable AutoGUI, the HotSpots are bunched together in the middle of the screen.

  — Some screen sizing problems may be seen when using AutoGUI, such as the window resizing to its initial size when the AutoGUI is enabled.

- With Allow User configuration turned on, the local user will not be able to Unmap keys (create dead keys). OC://WebConnect will use the server values when the local user creates a dead key. If a dead key is needed, the Administrator will need to Unmap that key or keys to no functionality.

- On NT Platforms if you try to reinstall OC://WebConnect after deleting the previous entry from the registry, you will receive a WC_CHK.dll error if you do not first restart the system. You also will receive an error, "Error creating Service," when the OC://WebConnect installation program tries to create the Daemon Service in the system registry.

- There is a Java bug with the French keyboard when using the GUI Configurator in Admin mode. If you click the Create button on the Sessions tab to display the Select Session Type dialog, you will only be able to enter numbers using the numeric keypad in the "Enter a file name" text field. In this field, using Shift+(a number key) is not supported.

- When minimizing, maximizing, and resizing the Ultra-Lite Java client windows, the windows and the keypad will resize automatically; however, the display window remains the same size. You can adjust the font to make the display window resize properly.

- Java bugs exist that may cause print fonts to be too large or too small on Windows NT or 95 when using JDK1.1 printing. If this occurs, disabling the Autofit feature may resolve some issues.

- Files transferred back to a Windows host cannot be deleted or modified without first closing the browser. This is a known Java bug.

- Using the GUI Screen option on the Settings menu running multiple sessions, you cannot toggle. The GUI screen turns off, but focus begins switching between the two Java clients and never focuses on one.

- You must click the mouse to activate the Password field in the Configuration Permissions Dialog window when using the html configurator and when using the java configurator on a Solaris platform with some browsers. On Solaris, if you type in the wrong password and highlight the characters that you typed in, you cannot type over this; you must double click the mouse button and use the backspace or delete key to erase the wrong password entry.

- After you have used the tab key on the keyboard for a 5250 session using the Power User applet, you are unable to gain command control using the keyboard. You must issue any command using the click pad.

- When using the keyboard mapping feature in French, German, and Spanish Enhanced and Power User versions, the 3270 zero key acts as the Enter key.

- A VT220 session needs to have the environment variable set to VT220, not VT100, in order to use VT outlining within that session.

- Features not supported by our TN5250 implementation include:

  — Extended foreground color Attributes

  — Continued Entry Fields

  — Edit Mask Entry Fields

  — Word Wrap Entry Fields

  — Create Window Structured Field and all related commands

  — Cursor Progression Entry.

- A problem has been seen where a TN3270E session may hang in "WAIT" mode. This can occur if running with a pre-V4.0 OC://WebConnect SNA Access Server. If an RU is received from the host that does not have the keyboard restore bit set, but does have CDI set, the keyboard will remain locked. Using TN3270 rather than TN3270E would be a workaround for the rare host applications that use "implied" keyboard restore, until V4.0 of OC://WebConnect SNA Access Server is available.

- When using the HTML configuration, a default 3270/RUI session will appear in the Sessions list although this is a valid session type only if the OC://WebConnect Server is running on an NT platform.

Browser Anomalies

Netscape Navigator

- Netscape states support for Sun's JDK 1.1.1 with version 4.0; however, for complete details refer to the following URL: http://home.netscape.com/eng/mozilla/4.0/relnotes/windows-4.0b3.html

- Some keyboards require a combination of 2 keys to represent one special character in that specific language. Whenever the first key is struck, nothing should happen. When the second key is pressed, the special character should appear. This special character is normally a vowel with a modifier over it, such as a tilde. Because of a difference in the implementation of the Java Virtual Machine within the browser, Netscape 4.04 is not handling these keys correctly. The keys are handled correctly in Netscape 3.0+ and in Internet Explorer 4.01.

- When using the Ultra Lite applet, function keys on the keyboard do not work with the MAC Netscape 3.01 and OC://WebConnect Server running on a Windows NT 4.0 platform. However, the click pad works and displays properly. This occurs in all sessions, and is a known problem with the browsers on the MAC. To monitor the problem with function keys, turn on Java logging using the Java client Help menu.

- The function keys do not work with Netscape for the Solaris platform. However, the functions on the click pad are successful.

- If running multiple sessions, with data traffic occurring on the sessions, switching between sessions, or switching to the browser or Java console display can cause sessions to hang or disappear. This occurs only with Netscape 4.02+ on Windows 95 platforms.

- If you exit a 3270 session while a TCL script is running, and then start a second session, there is no focus for the second session until you click inside the applet window.

Microsoft Internet Explorer

- Microsoft Internet Explorer states support for Sun's JDK 1.1.1 with version 4.0; however, for complete details refer to the following URL:
http://www.microsoft.com/ie/ie40/browser/java.htm.

- The keyboard for some languages contains an Alt-Graphics key which is a modifier key to produce special characters. With Internet Explorer 4.01, the Alt-Gr key works properly to produce the desired character. However, when this key is released, additional keystrokes are not accepted. The client loses focus for keyboard input. A mouse click in the window will return focus to the client for continued keyboard input. This problem does not exist in the Netscape browsers.

- When using the Ultra Lite applet, function keys on the keyboard do not work with the Macintosh Internet Explorer and OC://WebConnect Server running on a Windows NT 4.0 platform. However, the click pad works and displays properly. This occurs in all sessions, and is a known problem with the browsers on the Macintosh. To monitor the problem with function keys, turn on Java logging using the Java client Help menu.

- You must use the OCS-provided CGI-BIN (cgiinfo) to start sessions under MSIE, or you will have sessions automatically start when you go to another URL and then return to the OC://WebConnect page. (If you are using a custom CGI_BIN, NSAPI, etc., you can fix this problem by supplying a value for the applet parameter, "time".

- The Kill Sessions window does not maintain focus control with Internet Explorer 4.0. The Kill Session dialog box was hidden when the IE browser had focus. Since it was spawned from the GUI Configurator, it does not have a button in the tool bar. To get back to the Kill Session window, you must minimize your open windows until you are able to see the Kill Session dialog window to get focus.

- When you click the Administration button using Internet Explorer, admin does not display and you may receive the following error: "exception:java. lang. Security Exception: Unable to access property:user.language." The problem occurs when Internet Explorer 4.0 was installed under one user and a second user logs on and tries to use the Internet Explorer 4.0. The problem is resolved when Internet Explorer 4.0 is installed under the second user's log on ID.

- When running I.E. 4.01, 3287 print sometimes changes the font size after the first page using a non-PostScript print driver.

Sun HotJava

- To run multiple sessions with different emulation types, you must use the Power User applet. HotJava does not function properly if you start multiple sessions of different emulation types through individual applets with the Enhanced version of OC://WebConnect.

- HotJava for Solaris has a print bug. When you pull up an OC://WebConnect session and print a screen, a print dialog box displays as it should. After pressing the "Print" button, it disappears and does not give any error. It usually does not print.

- Double byte displays may cause HotJava to crash on NT.

- Running OC://WebConnect Server and client both on the same NT Workstation is not recommended. An NT Server will support this, but on an NT Workstation, results may be unpredictable.

- You cannot print from HotJava on Solaris. You must print to file and then from the command line print the file with the lp command.

- When using the Enhanced and Power User applets on a Solaris platform, the tab only moves the cursor within the buttons on the click pad.

- When printing a screen from the File menu with encryption turned on and two applet types running, the console hangs or HotJava disappears with no core when toggling between windows. After you click Print or Cancel on the print dialog box from on the second session chosen, the results vary based on when the hung console occurs:

  (a) You can still toggle between windows for a short period of time, and if HotJava disappears along with all its active windows, you still have the active Solaris console session available and can restart HotJava.

  (b) The console hangs immediately, and you are unable to toggle between windows. You have mouse cursor movement and must Telnet from another terminal and terminate HotJava, which clears up the console's hung session and active windows. This allows you to gain control of the Solaris console again.

- SSL sessions hang using the HotJava browser and the message, "Applet not Initialized" displays. This problem occurs when a non-SSL session is started before any SSL session is started. The problem is resolved by selecting View/Clear Cache from the HotJava menu before starting SSL sessions.

- HotJava for NT 3.51 appears to have some problems handling modal dialogs. The biggest problem noticed is that the Kill Session display is blank; other minor display problems have been noted with dialog boxes.

Miscellaneous Information

- OpenConnect Systems recommends starting OC://WebConnect from the wcd directory. To start OC://WebConnect from any directory on UNIX other than the directory where the server has been installed:

  — For AIX: Must be started from the installation directory.

  — For Solaris: Set the WC_HOME variable to the directory where OC://WebConnect has been installed. In addition, you must set the LD_LIBRARY_PATH environment variable to include the directory where libpse_so resides. This will be in the subdirectory 'lib' of the OC://WebConnect installation target directory. You may now start the server from any directory. (e.g., export WC_HOME=<target directory> export LD_LIBRARY_PATH=$LD_LIBRARY_PATH:$WC_HOME/lib) HP/UX)   Set the

WC_HOME variable to the directory where OC://WebConnect has been installed. In addition, you must set the SHLIB_PATH environment variable to include the directory where libpse_sl resides. This will be in the subdirectory 'lib' of the OC://WebConnect installation target directory. You may now start the server from any directory. (e.g., export WC_HOME=<target directory> export SHLIB_PATH=$SHLIB_PATH:$WC_HOME/lib)

- If the IP address or port number of the OC://WebConnect http or admin service is changed from either browser-based configuration tool, the HTML templates distributed with OC://WebConnect are not automatically updated. Run the sethtml utility in the HTML directory of the server to complete the change.

- NOTE on 3287 Print, AutoFit, and Interaction with the SCS Page formatting commands (SHF and SVF) OC://WebConnect JDK1.1 printing has two modes: AutoFit ON and AutoFit OFF.

    — With AutoFit OFF, you have the following behavior:

    There is a specific set of page characteristics defined by OC://WebConnect that determines font size and maximum column and rows available for print. If the Host SCS datastream uses the SVF and SHF commands and sets the expected physical page size to something different than that defined in OC://WebConnect the datastream values will be used. If the physical pages in use do not match the size indicated by the datastream, print data may be "lost". For example, if you have a Host application that expects traditional 132 column green bar paper and you choose to print this data through a laserjet with the page orientation set to Landscape to accommodate the 132 columns, you may lose print data towards the bottom of the page as it may expect to fit more rows on the paper than Landscape 8 1/2 by 11 will support for a given font. This data will NOT be printed on the following page. It will be purged.

    — With AutoFit ON, you have the following behavior:

    OC://WebConnect will query the Browser for information to automatically calculate a best fit font size and maximum column and rows available for print. If the Host SCS datastream uses the SVF and SHF commands and sets the expected physical page size to something greater than the system defined printer page size, AutoFit ON will attempt to resize the font to make the entire logical SCS page fit on the actual physical page. Some JAVA implementations do not return the actual configured page size correctly when queried which can lead AutoFit to incorrectly calculate font sizes and result in print output that does not correctly fit the page. An example would be seeing "postage stamp" output where a very small font is used to print when a larger one would be a better fit.