



## Embedded Web Server Configuration Plug-in for HP Web Jetadmin

This technical brief discusses the HP Embedded Web Server Configuration plug-in that can be added to HP Web Jetadmin 6.5 to gain additional functionality.

### Overview

Newer HP printers contain an Embedded Web Server (EWS) that provides an interface to the printer that anyone with a network-connected PC and a standard web browser can access. There is no special software to install or configure. The HP Embedded Web Server can display status information, change settings, and allow for management of the printer individually from an ordinary web browser, as opposed to Web JetAdmin, which provides management of multiple devices from a single browser based application .

For administrators who desire the ability to configure EWS capable printers in batches, rather than one by one, an Embedded Web Server Configuration (EWS Config) plug-in can be installed into HP Web Jetadmin to allow for configuring EWS parameters simultaneously on many printers. Being able to set EWS parameters onto printers in batches saves time and effort for administrators.

Once the EWS Config plug-in is installed into Web Jetadmin, a pair of components is copied to the Web Jetadmin machine:

- HP Web Jetadmin application plug-in
- EWS device application

The HP Web Jetadmin application plug-in is installed into HP Web Jetadmin and allows for setting EWS parameters on multiple printers simultaneously. It appears in HP Web Jetadmin as a tab called *EWS Config* when viewing a group of devices.

The EWS device application is copied to the HP Web Jetadmin machine and must be loaded onto the printers to expose the functionality for allowing the HP Web Jetadmin application plug-in to set EWS parameters on the printers. The EWS device application can be loaded onto the printer via the Device Application Manager plug-in (available separately on the web).

These components are a matching

pair. One component cannot function without the other.

Note: If only the HP Web Jetadmin application plug-in is installed into HP Web Jetadmin without the EWS device application being installed onto a printer, the HP Web Jetadmin application plug-in will not be able to configure EWS settings on that printer.

### Supported Printers

The EWS Config plug-in supports HP printers with Embedded Web Server (virtual machine) and a disk accessory. Examples of HP printer models that may contain this functionality include:

- HP Color LaserJet 4550
- HP LaserJet 4100
- HP LaserJet 9000

Note: Although individual EWS configuration through a browser does not require extra storage on the printer, such as a disk, the printer must have a disk installed in order to configure EWS parameters in batches via the EWS Config plug-in in HP Web Jetadmin. First, the EWS device application cannot be loaded onto a device without a disk. Second, The plug-in provided functionality, such

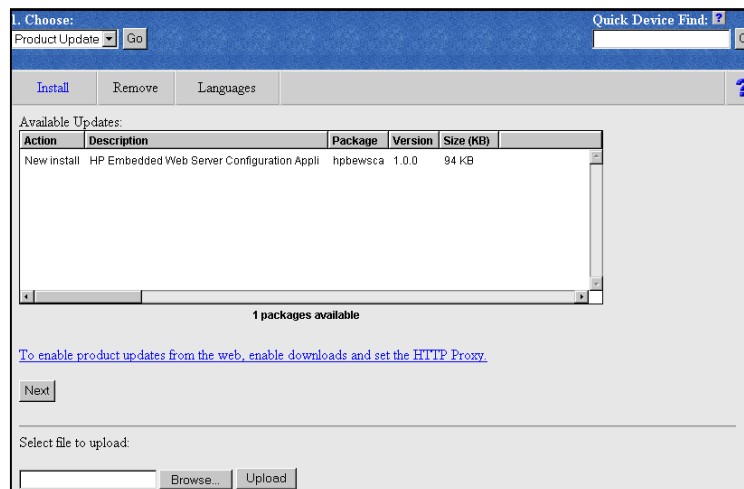


Figure 1

as setting up to four notification lists of up to 100 recipients each for alerts, that is only available on printers with the extra storage of a disk.

## Installation

HP Web Jetadmin 6.5 offers a Product Update feature that can be used to automatically download and install the EWS Config plug-in directly from the web. HP Web Jetadmin must have access to the Internet in order to perform the automated function. If a secure proxy is in place, Web Jetadmin can be instructed to attempt to use proper credentials to penetrate the secure proxy. If HP Web Jetadmin does not have access to the Internet, the EWS Config plug-in can be manually downloaded and installed through Product Update by browsing to the subdirectory where the plug-in was downloaded. The EWS Config plug-in can be found on the web at the following location:

[www.hp.com/go/wja\\_components](http://www.hp.com/go/wja_components)

To install the EWS Config plug-in into HP Web Jetadmin, select *Product Update*, then click *Go* under the *Choose* menu (see Figure 1). Under the *Install* tab, the first box will display a list of available plug-ins on the web if HP Web Jetadmin has been configured to access the internet for downloads. Otherwise, the box below can be used to browse for plug-ins that have been previously downloaded to the hard drive and uploaded so the file appears in the box above. Once the *HP Embedded Web Server Configuration Application* appears in the upper box, click *Next* to begin the installation.

The HP Web Jetadmin configuration component of the plug-in is now successfully installed. In order to use the EWS Config plug-in to set EWS parameters onto multiple printers, the printer application component of the

plug-in must be loaded onto any desired printers using the HP Device Application Manager plug-in. This plug-in can be found on the web at the same location as the EWS Config plug-in:

[www.hp.com/go/wja\\_components](http://www.hp.com/go/wja_components)

## Accessing the EWS Config Plug-in

Once installed, the *EWS Config* tab can be selected from the menu bar while viewing a group of printers (see Figure 2). If accessed from a group where there are many unsupported devices in the group (no disk or EWS in printer), the EWS Config page can take a substantial amount of time to load. Therefore, It is highly recommended to create groups of printers that have disks installed and EWS capability before using the EWS Config plug-in.

The *EWS Config* tab cannot be accessed from the list of All Devices screen in HP Web Jetadmin since this list will more than likely contain many devices that do not contain hard disks or have EWS capability.

Also, the *EWS Config* tab is not available when viewing an individual device. The value that the EWS Config plug-in adds to HP Web Jetadmin is the ability to configure EWS parameters on multiple printers simultaneously. This ability saves time and effort for administrators. To configure EWS parameters on a single printer, browse to the IP address of the individual printer to access the Embedded Web Server.

## Configuring EWS Parameters

The *EWS Config* tab under a group of printers can provide the following functionality for an administrator:

- Receive proactive notification of printer events

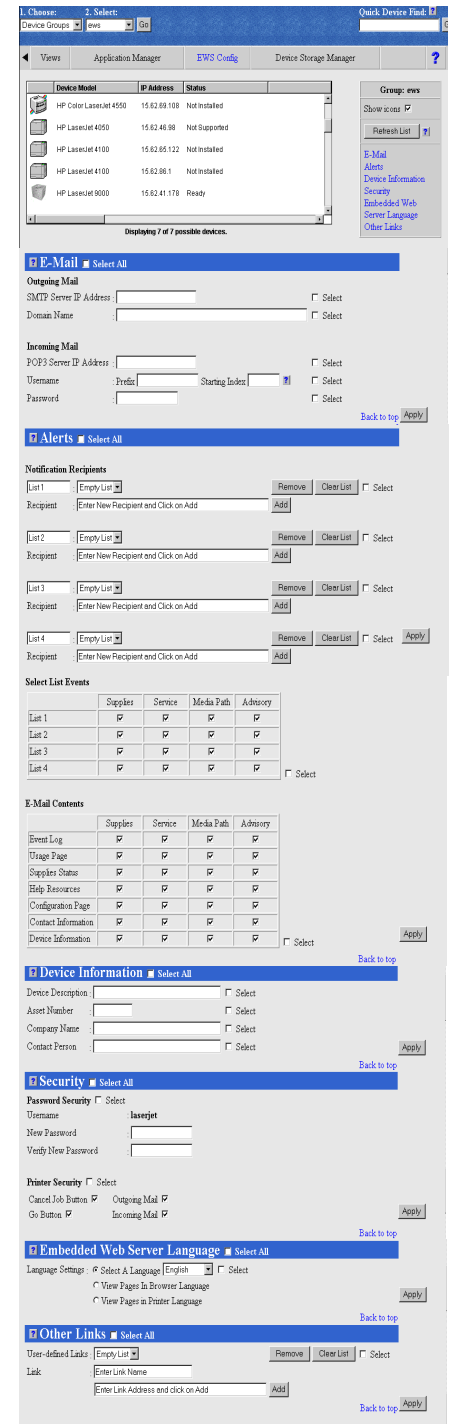


Figure 2

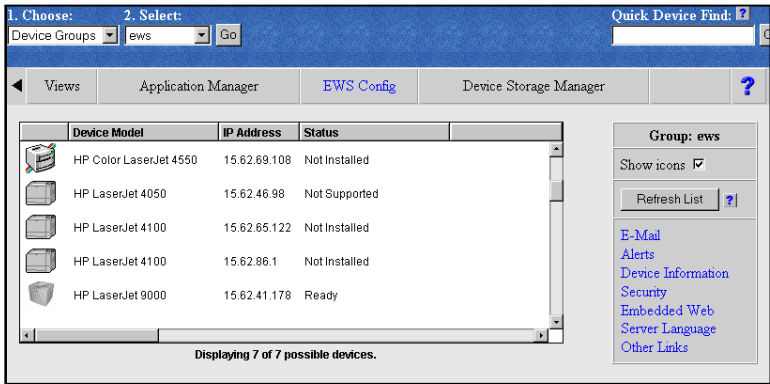


Figure 3

- Configure printer email parameters
- Add or customize links to other web sites
- Select the language in which to display the embedded web server pages
- Configure printer objects such as Description and Asset Number
- Enable EWS security

Once the *EWS Config* tab is accessed while viewing a group of printers, a list will appear that displays all of the printers in the group (see Figure 3).

The following criteria must be met for each printer for EWS settings to be configured from this screen:

- EWS capability
- disk installed
- EWS device application loaded

**Note:** Even if a printer is EWS capable and has a disk installed, if the EWS device application has not been

loaded on the printer via the Device Application Manager plug-in, the printer will appear in the list of supported printers with a status of "Not installed".

The device model, IP address, and status of each device will be reported in the respective column. Possible status codes include:

- Ready – the device is supported and ready
- Not Supported – the printer does not have a disk or EWS capability
- Not installed – the printer is supported but does not have the EWS printer application loaded
- Not Connected – the printer is not responding on the network

Links appear on the right of the HP Web Jetadmin screen to configure any of the following:

- Email
- Alerts
- device information

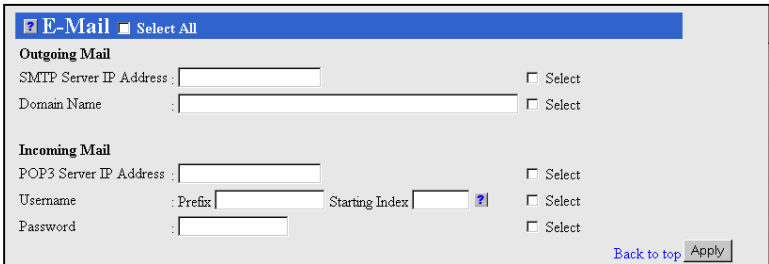


Figure 4

- security
- embedded web server language
- other links

Clicking any of these links will cause the screen to immediately scroll down to the desired option.

**Email**

The options in the E-mail section must be configured for printers to send and receive e-mail messages (see Figure 4). This is crucial for the alerts feature of EWS to function properly since alerts send email messages when events occur on the printer.

*Simple Mail Transfer Protocol (SMTP)* servers route SMTP messages throughout the Internet to a mail server. This is the server that the device uses to send proactive email notifications for the alerts functionality.

*Post Office Protocol 3 (POP3)* is a standard mail server commonly used on the Internet. This is the server the device searches for incoming email messages.

The *Starting Index* is an option available to assign a unique name to each device in the device group. Each device is configured with the name assigned in the *Prefix* text box, combined with a value assigned in the *Starting Index* text box. The value in the *Starting Index* text box is automatically incremented for each device in the device group.

For example, if the name assigned in the *Prefix* text box is *MyPrinter*, and the value assigned in the *Starting Index* text box is *01*, the first device in the device group is named *MyPrinter01*. Each subsequent device in the device group is named *MyPrinter02*, *MyPrinter03*, and so on.

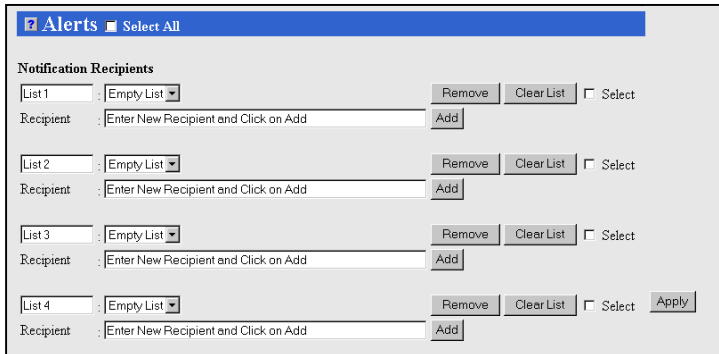


Figure 5

**Alerts**

The Alerts section enables setting up e-mail lists to receive proactive notification of specific events as they occur on the printer. There is a maximum of four lists per printer, and each list can contain up to 100 e-mail addresses.

Any of four categories of events (Supplies, Service, Media Path, Advisory) can be monitored for each list by checking the respective box (see Figure 6). Each category contains individual events, all of which are enabled when a particular category is enabled. Samples of individual events for each category include:

**Supplies**

- Toner Low
- Toner Out
- Perform Printer Maintenance
- Drum Kit Low
- Stapler Low
- Stapler Out

**Service**

- Printer Error
- Bad Duplexer Connection
- 55 DC Controller Error
- Duplex Error
- EIO Disk Not Functional
- EIO Not Functional

**Media Path**

- Paper Jam
- Tray Open
- Tray Load

- Install Tray
- Manual Feed
- Output Bin Full
- Close Drawers/Doors/Covers
- Stapler Jam

**Advisory**

- 20 Insufficient Memory
- 21 Page Too Complex
- 22 EIO Buffer Overflow
- 22 Serial I/O Buffer Overflow
- 22 Parallel I/O Buffer Overflow
- 40 Bad Serial Transmission
- 40 EIO Bad Transmission
- 41.3 Unexpected Paper Size
- 41.5 Unexpected Type Tray
- 68.x Permanent Storage Error
- 68.x Permanent Storage Full
- Printer Language Not Available
- Memory Full Stored Data Lost
- Memory Settings Changed
- Memory Shortage Job Cleared
- Unable To Mopy Job
- Unable To Store Job

When any event under an enabled

category occurs, the device sends an alert to the email lists that are subscribed to that category.

**Note:** When a category is enabled, each event type under that category is automatically enabled. Specific events under a category cannot be enabled or disabled using the EWS plug-in in HP Web Jetadmin. If this level of granularity is required, browse to each printer individually to configure specific event items individually.

All alerts categories can be enabled at one time by clicking the *Select All* check box. Individual alerts categories by clicking the *Select* check box to the right of the category.

Email lists are created to receive alerts from each category. Up to four lists can be created for each printer, with each list containing a maximum of 20 email addresses (see Figure 5).

The contents for e-mail notifications can also be customized by selecting the check box next to each item that is desired to be included in the email notifications (see Figure 6).

**Note:** This alerts functionality is being provided strictly by the Embedded Web Server in the printer. HP Web Jetadmin also contains the ability to send alert e-mail messages when events occur on printers by utilizing SNMP traps on the printers. This functionality is enabled under the *Alerts* tab on the HP Web

Select List Events				
	Supplies	Service	Media Path	Advisory
List 1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
List 2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
List 3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
List 4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/> Select				

E-Mail Contents				
	Supplies	Service	Media Path	Advisory
Event Log	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Usage Page	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Supplies Status	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Help Resources	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Configuration Page	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Contact Information	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Device Information	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/> Select				

[Apply](#)  
[Back to top](#)

Figure 6

Jetadmin menu bar. Some of the events that HP Web Jetadmin monitors through alerts are identical to those that EWS monitors through alerts. If there is overlap in the printer events that are selected to be monitored by EWS and HP Web Jetadmin, duplicate e-mail messages will be sent when the events occur on the printer.

**Device Information**

The Device Information section (see Figure 7) allows for assigning information to the printers such as description, asset number, company name, and a person to contact in the case of problems. The information entered into these fields is sent to all of the devices in the group. To assign unique device information to each device, browse to each device separately.

Note: These items are set strictly through the use of the Embedded Web Server in the printer. HP Web Jetadmin also has the ability to set description and asset number under the *Config* tab on the menu bar. HP Web Jetadmin uses SNMP to change these settings on the printer.

**Security**

The Security section (see Figure 8) allows for enabling any of various security options to keep unwanted configurations from occurring on the printer via EWS.

The *Password Security* setting enables a password on the device to prevent unwanted users from changing device configurations via EWS. This password is enforced only when browsing directly to a single printer where enabled, and does not restrict some items from being viewed through EWS. This password should not be confused with the HP Jetdirect password that HP Web Jetadmin uses. The HP Jetdirect password controls who can change the settings on a device via SNMP through printer

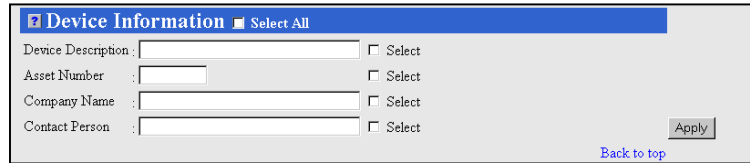


Figure 7

management packages such as HP Web JetAdmin or HP Jetadmin.

The default user name is "laserjet" and cannot be changed.

Checking the *Cancel Job Button* and *Go Button* check boxes will force these two buttons to appear on the EWS device page and enable the

configure an individual security option, check the *Select* check box to the right of the option.

**Embedded Web Server Language**

The Embedded Web Server Language section (see Figure 9) allows for setting the desired language that will be displayed via EWS.

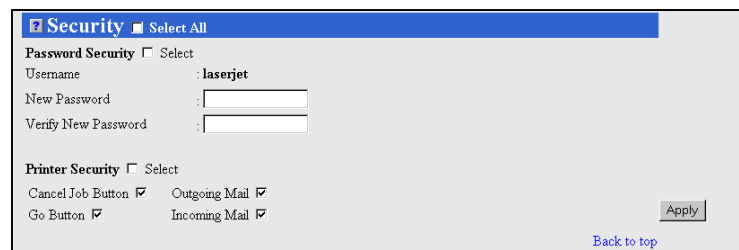


Figure 8

ability to cancel jobs and to simulate the pressing of the *Go* button on the printer when browsing to the EWS of the printer.

Checking the *Outgoing Mail* and *Incoming Mail* check boxes enables the devices to send and receive email. These boxes must be checked in order for the printer to send and receive mail.

To configure all of the security options simultaneously, check the *Select All* check box at the top of the section. Otherwise, to

To display the pages in the language assigned in the user's browser, select the option labeled *View Pages in Browser Language*.

To display the pages in the language assigned in the printer, select the option labeled *View Pages in Printer Language*.

To display the pages in a specific language, select the option labeled *Select A Language*, and select the language from the drop-down list.

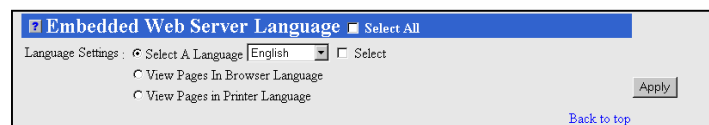


Figure 9

### Other Links

The Other Links section allows for the creation of links to other Web sites on the main device page for EWS. Up to five links can be created.

**Note:** The *My Printer*, *Order Supplies*, and *Solve a Problem* links are defaults and cannot be changed.

### Summary

The HP Embedded Web Server (EWS) Configuration plug-in to HP Web JetAdmin 6.5 provides the ability to set EWS parameters onto many supported HP printers simultaneously. The ability to set EWS parameters onto printers in batches saves time and effort for administrators. It also allows administrators to quickly and easily set unique EWS parameters on printers that are otherwise not available in HP Web Jetadmin.

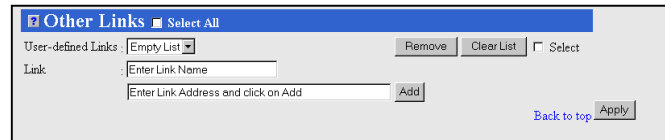


Figure 10