



## Upgrading HP Jetdirect Firmware in HP Web JetAdmin

This technical brief examines the functionality of upgrading HP Jetdirect firmware from within HP Web Jetadmin 6.5.

### Overview

HP Web Jetadmin 6.5 has the ability to upgrade the firmware of HP Jetdirect devices over the network. Upgrades to firmware can correct problems with HP Jetdirect devices and/or add new features to HP Jetdirect devices without replacing hardware.

The ability to upgrade HP Jetdirect firmware over the network has always been available through a separate utility called the HP Download Manager. However, this requires a separate utility to be loaded for each operating system, and new firmware images must be manually located on the web and downloaded to the machine prior to running the HP Download Manager. The integrated firmware downloader in HP Web JetAdmin can upgrade firmware on any platform, without the aid of a separate download utility, and can automatically locate the latest firmware revision on the web.

### How Does It Work?

When the option is selected in HP Web Jetadmin to upgrade HP Jetdirect firmware, the HP Web Jetadmin firmware downloader determines the current firmware revision installed on the HP Jetdirect device through SNMP queries. That revision is compared with any

previously downloaded firmware images that may reside on the machine running HP Web Jetadmin. If a newer firmware revision exists, the firmware downloader can then download that image to the HP JetDirect device. If a newer image does not exist, the administrator has the option to download a newer image directly from the web.

Once a newer firmware image has been selected to download, the firmware downloader sends the firmware image to the HP JetDirect device by using Trivial File Transfer Protocol (TFTP). This process is fully fault-tolerant. If the firmware upgrade process is interrupted for reasons such as a power outage, it can be fully recovered by running the firmware downloader again and reinitiating the download.

### Upgrading Firmware

Upgrading HP Jetdirect firmware from within HP Web Jetadmin is performed by selecting the *Update* tab from the *Status* page of a device (see Figure 1).

The *Select new firmware version* box

contains a list of firmware images that can be selected as upgrades for this particular HP JetDirect device. This list contains firmware images that have previously been downloaded or copied onto the machine running HP Web JetAdmin. These images are stored under the following subdirectory:

```
<drive>\Program Files\HP Web
Jetadmin\doc\plugins\hpjwa\
firmware\jetdirect
```

This is the only place where HP Web JetAdmin will look for installed firmware images.

Each firmware image in this list has header information that includes information such as model, firmware version, etc. HP Web Jetadmin already knows the model and firmware version of the selected HP Jetdirect device through previous SNMP queries. Therefore, it is a simple matter of parsing the firmware images contained in the list for firmware revisions greater than the current version on the HP Jetdirect device.

If the *Select new firmware version* box indicates that there are no newer firmware images found, then select the *Download from the web* button in the lower right corner of the screen. This will enable HP Web Jetadmin to locate all of the latest HP Jetdirect firmware versions on the HP web site directly without having to leave the application itself. HP Web Jetadmin compares the list on the web to what

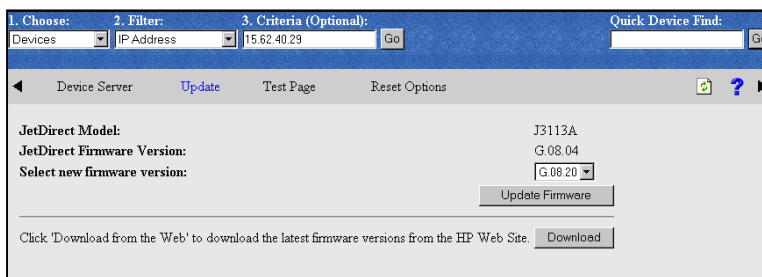


Figure 1

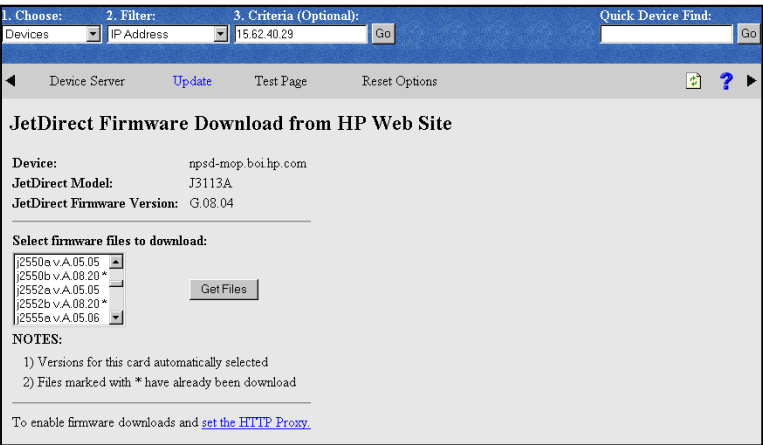


Figure 2

is already copied onto the HP Web Jetadmin machine and places an asterisk (\*) beside each image that is already installed (see Figure 2). This makes it easy to see which images are new. Administrators can select the images they want to add to the HP Web Jetadmin machine and click *Get Files*. Each of the selected firmware images will be copied to the appropriate subdirectory on the machine running HP Web Jetadmin.

Also, the latest copy of a file titled *firmware.glf* is copied to the same directory. This file is a text file that informs HP Web Jetadmin of exactly

which firmware images are available on the web for each HP Jetdirect model, and exactly where to locate each image by URL. HP Web Jetadmin will use this file every time a web download is requested to obtain information on all firmware images available.

After the new firmware images are copied, the appropriate image can now be selected from the list, and the *Upgrade Firmware* button can be clicked to initiate the HP Jetdirect firmware upgrade.

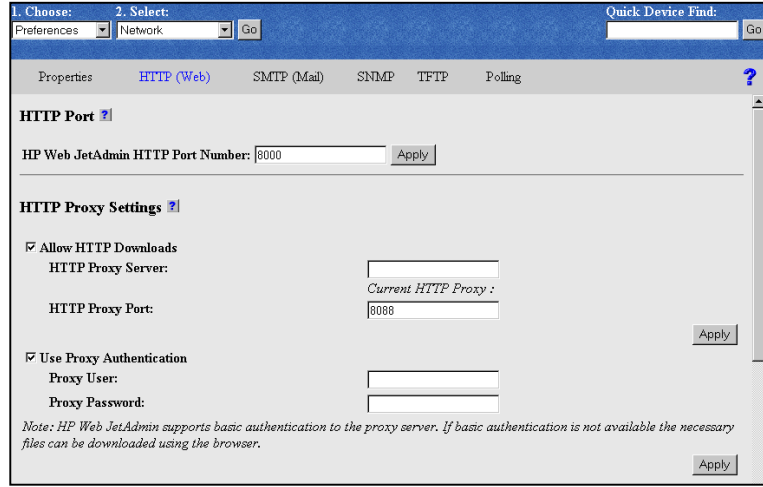


Figure 3

### Proxy Settings

Naturally, before HP Web Jetadmin can automatically obtain newer HP Jetdirect firmware images from the web, access to the internet must be available. If it is, HP Web Jetadmin requires the following HTTP Settings to be configured on the *HTTP (web)* tab under the *Preferences, Network* section (see Figure 3):

- The *Allow HTTP Downloads* option must be checked or enabled.
- If a proxy server is used to gain access outside of your firewall, the *HTTP Proxy Server* and *HTTP Proxy Port* number must be specified. These will typically be the same as the proxy information entered for the browser.

HP Web Jetadmin will attempt to use basic authentication to gain access to the internet through proxy servers and firewalls. In the case of secure proxy servers or firewalls, check the box titled *Use Proxy Authentication*, and enter a user name and password to be used as credentials to gain access to the internet. If HP Web Jetadmin is unsuccessful using these credentials, try browsing to the following page on the web to manually download firmware images:

[http://www.hp.com/go/webjetadmin\\_firmware](http://www.hp.com/go/webjetadmin_firmware)

As long as the browser can traverse the security of the proxy server or firewall, HP Jetdirect firmware images can be manually downloaded for use by HP Web Jetadmin.

The firmware images that reside at the above URL are files with an extension of \*.dld. When manually downloading these files, they must be copied to the following subdirectory in order for HP Web Jetadmin to

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recognize them as HP Jetdirect firmware images and display them in a list to be selected for upgrades:

```
<drive>\Program Files\HP Web Jetadmin\doc\plugins\hpjwja\firmware\jetdirect
```

**Batch Firmware Upgrade**

The ability to upgrade HP Jetdirect firmware on multiple devices simultaneously is also available in HP Web Jetadmin (see Figure 4). This "batch" process is available by selecting *Update* from the *Devices, All Devices* page of discovered devices. Once selected, a list of devices appears from which to choose multiple devices for downloading HP Jetdirect firmware simultaneously. The list contains the current versions of HP Jetdirect firmware on the devices as well as the versions of firmware HP Web Jetadmin knows are available for upgrading (because they have been previously downloaded to the hard drive). If a particular version of HP Jetdirect firmware is not appearing as available for upgrade for a particular device, select *Download from the web* to automatically download the image to the hard drive from the web. Once the image is stored locally on the hard drive, HP Web Jetadmin will allow it to be selected for upgrading HP Jetdirect firmware on devices.

Once the batch process is completed, a results page will appear to inform the administrator of successes and/or failures.

If a selected HP Jetdirect device cannot be upgraded for reasons such as not being on the network, the batch process will abort after reporting the failure. All remaining devices will not be attempted. However, if it is desired to have HP Web Jetadmin continue upgrading the remaining devices in the event of failure on one device, check

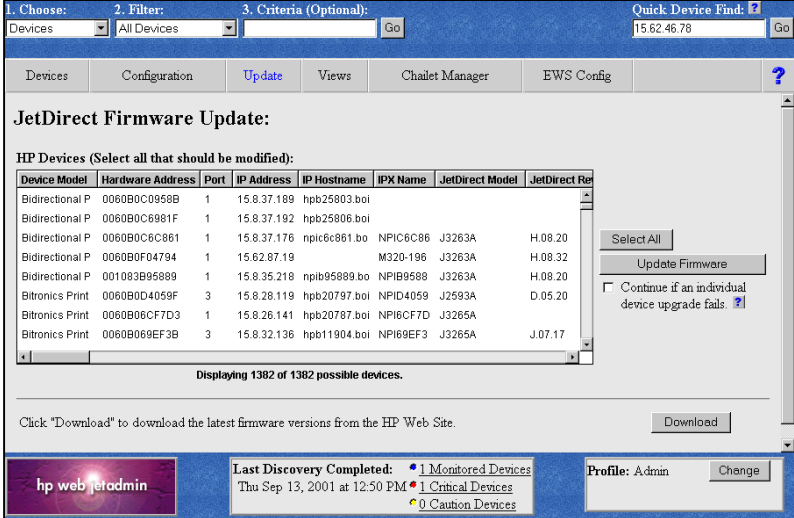


Figure 4

the box titled "Configure if an individual device fails".

**Supported HP JetDirect Devices**

Web Jetadmin will initially attempt to use SNMP SET commands over TCP/IP to upgrade HP Jetdirect firmware. Older HP Jetdirect MIO cards with firmware revision 3.03 and 3.06 do not have a default SNMP Set Community Name upon which to issue an SNMP SET command. Unless the Set Community Name was set via TFTP, HP Web Jetadmin will not be able to successfully upgrade these cards via TCP/IP because the SNMP SET command will fail.

However, by disabling the TCP/IP protocol on the HP Jetdirect card via the printer front panel, HP Web Jetadmin will recognize that TCP/IP is disabled, and will attempt to use IPX/SPX to upgrade the firmware. As long as IPX/SPX is enabled on the HP Jetdirect card, this technique should succeed.

Therefore, virtually all HP Jetdirect devices can receive a firmware upgrade via HP Web Jetadmin, even if the devices do not support setting SNMP parameters via TCP/IP.

**Summary**

HP Web Jetadmin makes downloading firmware images to HP Jetdirect devices simpler than ever. The integrated firmware downloader in HP Web Jetadmin can upgrade firmware on any supported platform, and does not rely on a separate download utility to perform the upgrade. HP Web Jetadmin can also automatically locate the latest HP Jetdirect firmware revision on the web during the upgrade process.