

PC Printer Discovery

Plug-in for HP Web Jetadmin



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Overview

HP PC Printer Discovery is an application plug-in to HP Web Jetadmin 7.8 that provides the ability to discover printers that are directly connected to client machines either through USB or parallel cable connections. This saves administrator's time by remotely providing an inventory of assets without physically visiting each and every client machine. It enables administrators to evaluate their entire printer inventory with the balanced deployment as an end-goal.

Installation

HP Web Jetadmin offers the *Product Update* feature that can be used to install the HP PC Printer Discovery plug-in in one of two ways. The Install portion of Product Update will display available plug-in updates that exist at hp.com and can be downloaded and updated within the Web Jetadmin application. A second method available to administrators is a manually download of the plug-in. With manual downloads the Browse, Upload controls are used to bring the package into the Install listing. The file can be downloaded manually by visiting: http://www.hp.com/go/WJA_Components

To install the HP PC Printer Discovery plug-in into HP Web Jetadmin, select *Product Update*, then click the *Install* folder. 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. The box below can be used to browse for plug-ins that have been previously downloaded to the hard drive, such as the PC Printer Discovery plug-in, and upload those plug-ins to appear in the box above. Once the HP PC Printer Discovery plug-in appears in the box above (as wjadca), highlight it and click *Next* to begin the installation.

Supported Printers

The HP PC Printer Discovery plug-in supports all *plug and play* compatible HP or non-HP printers directly connected to a client machine that meets the following criteria:

- Microsoft Windows 98 SE, 2000, or XP operating system.
- A valid USB or parallel connection.
- WMI (Windows Management Instrumentation) is enabled. Most installations of Microsoft Windows have the WMI service enabled by default to support a variety of administrative functions.

In addition, Microsoft .NET 1.1 must be installed on the HP Web Jetadmin machine where the PC Printer Discovery plug-in is installed.

Accessing PC Printer Discovery

Once the PC Printer Discovery plug-in is installed, it will create three areas in the HP Web Jetadmin *Navigation* tree from which to access the following functionality:

- select domains or IP ranges from which to start a discovery of *direct connected* printers
- view the list of computers on each network that were selected for discovery
- view the list of direct-connected printers that have been discovered

Starting a Discovery

To start a discovery, select *PC Printer Discovery* under the *Discovery* folder in the *Device Management* section of the *Navigation* tree (see Figure 1). Discoveries can be launched by selecting from a predetermined list of domains or by entering IP address ranges.

Select the radio button labeled *Select Discovery by Domain* in order to select from a list of available domains. Multiple domains can be selected by using the *Ctrl* or *Shift* keys on the keyboard. Once selected, domains can be added to the discovery list by selecting *Add Domain to List*.

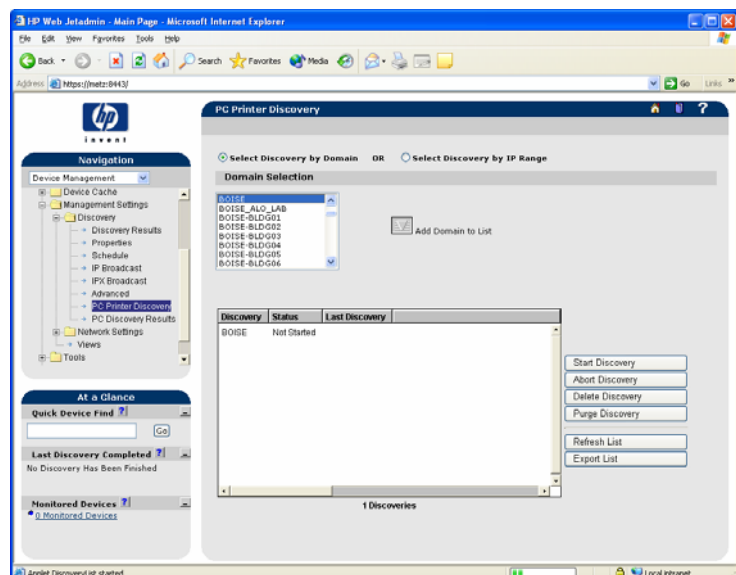


Figure 1 – PC Printer Discovery Setup/Listing

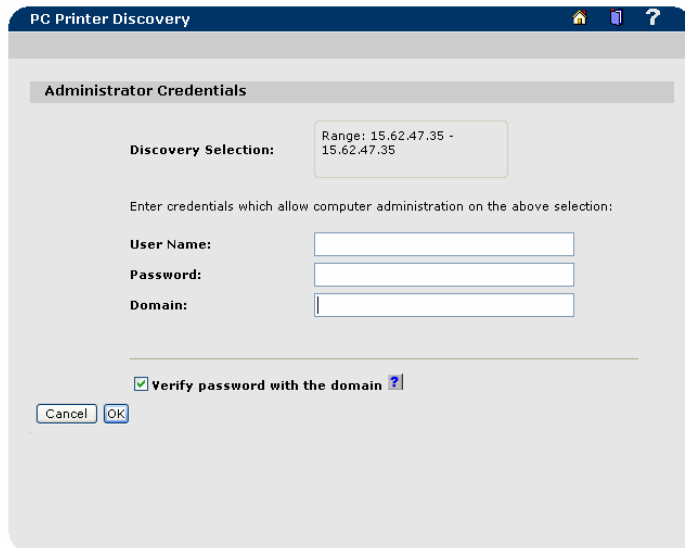


Figure 2 – Supply Credentials (to be used during discovery)

Click the radio button labeled *Select Discovery by IP Range* in order to add IP ranges from which to discover machines (see Figure 2). Enter the starting and ending IP address of a desired range and add the range to the discovery list by selecting *Add IP Range to List*.

Select *Start Discovery* to begin the process of discovering machines and assessing whether direct-connected printers exist on those machines. Since administrator credentials are required to use WMI, a credentials gathering page will be displayed (see Figure 2). Enter credentials of a domain user that has administrator privileges on the computers selected for a discovery.

If a particular segment contains workstations that are not part of a domain, uncheck the box labeled *Verify password with the domain*. Enter the workstation name as the domain, and provide a valid, local user name and password that has administrator credentials on that machine.

After the credentials have been entered, the PC Printer Discovery settings page will appear to display the current status (i.e. "running") in the status column (see Figure 3). The information table will display domains that have been searched, the time they were searched, and the status of the search.

Additional buttons on this page will perform the following functionality:

- Start Discovery -- results in a discovery being started on the selected domains. If there are multiple selected domains, they will be queued up and run one at a time.
- Abort Discovery – stops the selected discovery. Data does not roll back.
- Delete Discovery – removes the selected discovery range or domain from the list.
- Purge Discovery – clears the computer and printer entries associated with the selected discovery range or domain.
- Refresh List – refreshes the information in the table.
- Export List – exports the displayed list to .csv file.

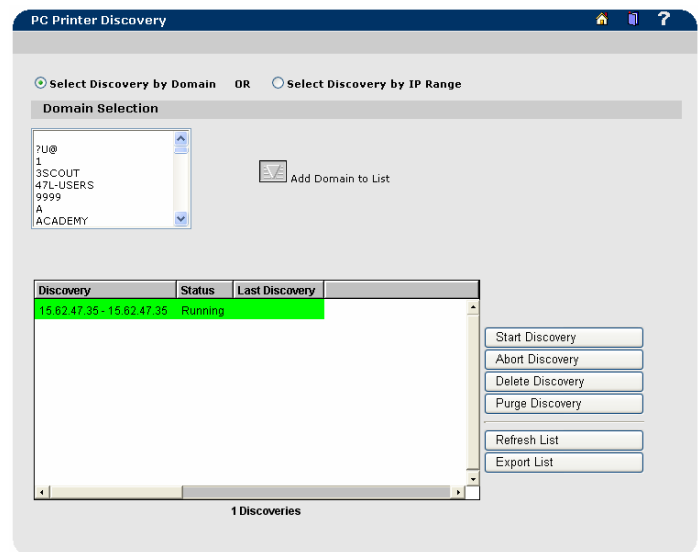


Figure 3 – Active PC Printer Discovery

Computer List

Select Printer Discovery under the *Discovery* folder in the *Device Management* section of the *Navigation* tree to display a list of all computers that have been discovered (see Figure 4). Columns displayed include:

- Domain(s) selected for discovery
- Computer name
- IP address of the computer
- Status of the discovery. If a computer cannot be read due to authentication, or if the WMI component is not installed on the PC, appropriate notification will be displayed
- Printer count for each computer
- Time/date of the last discovery.

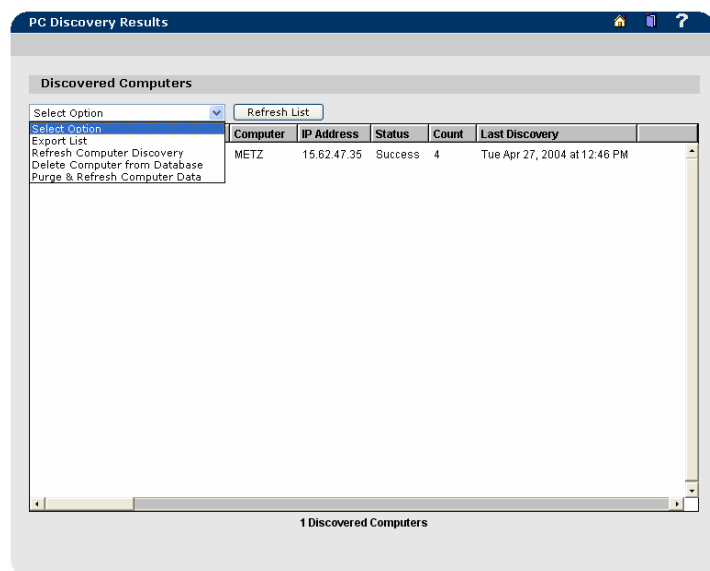


Figure 4 – Listing of Discovered Computers

- Domain name
- Computer Name
- IP address of computer
- Printer model. This is the actual *plug and play* name as provided by the WMI call. This is provided by the printer and stored in the registry
- Logical printer name defined by user during printer creation. Each printer defined as using the same local port as the discovered printer will appear in this column, separated by a comma.
- PC Port
- Date/time of last discovery for each entry

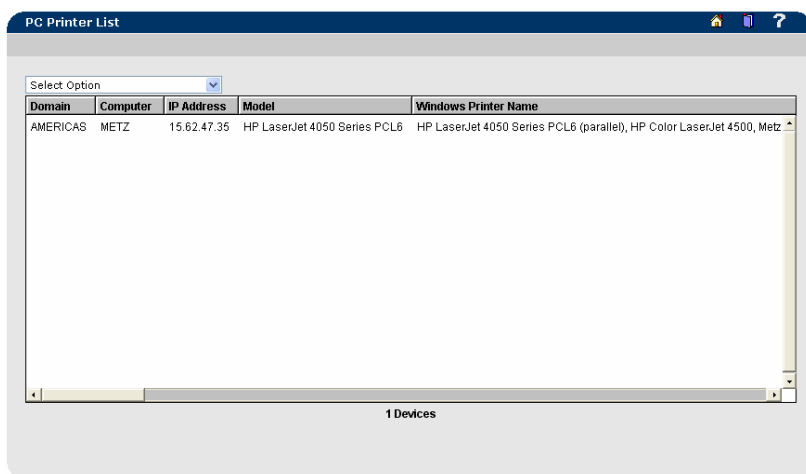


Figure 5 – Listing of Discovered Printers

There is a drop-down list above the table that allows for exporting the list to .csv file, removing selected computers from the database, and purging/refreshing the list of computers. Refreshing will update the displayed list with accurate information but will allow old entries to remain in yellow. Purging refreshes data and will remove old entries.

Printer List

Select *PC Printer List* under the *Devices* folder in the *Device Management* section of the *Navigation* tree to display a list of all printers that have been detected as directly connected to the discovered computers via USB or parallel (see Figure 5). Information displayed includes:

Any printer under the *Windows Printers* folder that is defined as using the local port such as LPT1 or USB will be displayed in the *Windows Printer Name* column. The *Model* column will always match the plug-and-play model information obtained from the device, while the *Windows Printer Name* column will display the name that was given to the printer during the printer installation.

The drop-down list above the table allows the administrator to export the printer list to .csv file, remove selected printers from the database, and purge/refresh the printer details.

Refreshing the list will force the computer to resend any current information pertaining to direct-connected printers. Printers no longer available will remain with a yellow bar and will not be removed. Purging and refreshing will remove any old entries and replace them with new information.

How it Works

First, the software uses the Microsoft Windows component WMI for the purpose of polling remote hosts. Administrative permissions are needed on these remote hosts in order to allow the software to poll through WMI. In many cases, Windows domains are set up with a domain group as a member of a local Administrators group on each workstation. In this case, a domain user that is a member of that domain group is effectively administrator on each of the workstations within the domain.

Plug and play is a requirement for printers that are to be discovered through PC Printer Discovery plug-in. *The plug-in*, through WMI first queries the list of Windows printers at each remote host. The plug-in then does a comparison of the printers listing and an active *plug and play* listing. Any Windows printers that are active *plug and play* devices are considered valid by Web Jetadmin PC Printer Discovery and are populated into the discovery listing.

Active *plug and play* status is determined by the host or workstation and is dependant on the connection type. USB devices will almost always populate themselves into the *plug and play* listing as they are connected to a host, even when that host is powered on. This hot-connect capability is intrinsic to USB devices. Parallel devices are different in that they are required to be powered on during host boot-up in order to be part of the active *plug and play* listing. If a parallel device is not connected to a running host, it won't be discovered by the PC Printer Discovery plug-in. By using this active method of classifying *plug and play* connected printers, PC Printer Discovery plug-in, with some degree of accuracy, is able to show lists of printers that reside in an environment at the time of discovery.

Summary

By providing the ability to discover printers that are directly connected to client machines on the network through a USB and parallel connections, the HP PC Printer Discovery plug-in saves administrator resources and time. HP Web Jetadmin now provides complete inventory control of all networked and non-networked printers without physically having to visit each and every client machine.

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