

HP Web Jetadmin 10.2 Service Release 5

★★★★★	Ease of Setup
★★★★★	Ease of Use
★★★★★	Device Discovery
★★★★★	Device Monitoring
★★★★★	Device Management
★★★★★	User Management
★★★★★	Integration
★★★★★	Reporting
★★★★★	Documentation, Support and Training



OVERVIEW

HP Web Jetadmin 10.2 Service Release 5 is the latest iteration of Hewlett-Packard's widely used fleet management solution. The utility was originally released in 1996 to help network administrators manage HP LaserJet printers, and has grown into an industry-standard Web-based tool for remotely installing, configuring, and managing a wide variety of HP and non-HP network peripherals. Web Jetadmin aims to give a global perspective on the quantity and capabilities of a company's printing and imaging devices and addresses five key areas for administrators: fleet deployment, problem resolution, proactive management, device security and reporting optimization.

Designed to be an enterprise-class solution, the utility works with network-connected devices, as well as locally connected printers and MFPs attached to a networked PC. Third-party device support is provided by leveraging the data provided by each manufacturer in the embedded Management Information Base (MIB). Web Jetadmin handles management of supplies, and lets administrators configure drivers and update device firmware remotely for supported HP devices, as well as many Canon imageRUNNER MFPs. The platform also offers several extended modules, available for free to licensed users, that add capabilities such as database connectivity and enhanced reporting capabilities.



What We Thought



HP Web Jetadmin remains at the front of the pack among device management platforms thanks to its wide-ranging compatibility, advanced management capabilities, robust alerting functions and complete reporting features. The utility works with both HP and third-party networked output devices, as well as with most PC-connected printers and MFPs. Web Jetadmin gathers a range of information on each device, including the device name assigned at the time of installation, the product make and model, domain and IP address, finishing options installed and more.

Administrators and help desk employees can then use the software to monitor device status in real time (including consumables levels and error conditions), examine and control device usage, automate the sending of e-mail messages regarding device status to the proper personnel, push new configuration settings to devices, produce reports and much more. Ease of use is strong thanks to the program's intuitive, well-laid-out interface, and Web Jetadmin is one of the few management utilities BLI has tested that features a UI with support for drag-and-drop actions and right-mouse-click access to menu choices.

Strengths

- Monitoring support for both networked and locally connected output devices
- Robust compatibility with third-party devices
- Easy to install and configure, with range of device discovery options
- Passive discovery feature cuts down on network traffic
- Ability to track devices and their settings even after they have been moved to different places on the network
- Manage Device Access Control settings to limit device usage by end users
- Excellent ease-of-use features, including impressive customization of user interface
- Complete management features for HP devices including firmware upgrades, print driver deployment, cloning of settings across the network, and installation and licensing of embedded OXP applications
- Enhanced reporting options

Weaknesses

- No canned cost-per-page report available
- Premium support program can be cost-prohibitive for smaller organizations
- As of Service Release 5, upgrading directly to version 10.2 from HP Web Jetadmin 7.8 or 8.x is not supported.

Device discovery in Web Jetadmin was quick and easy thanks to the “Discover devices on my network” task present by default on the utility’s main screen. The heart of Web Jetadmin is its customizable Device List, which provides at-a-glance access to pertinent device status and information. The parameters available to display in the Device List—two dozen in the program’s Basic (default) mode, and more than 600 in its Advanced mode—are the most comprehensive BLI has seen to date, and the Device List is easily sorted and customized. Moreover, the utility’s easy-to-use Device Groups feature makes aggregating devices for more effective and efficient management a snap.

A key strength of Web Jetadmin is that, unlike most other device management utilities, HP’s solution provides control over device end users, letting administrators set authentication parameters and limit device access to particular functions or features (to limit color usage, for example). In addition, the program’s built-in reporting and supplies-management features make getting a handle on a company’s device usage and supplies needs simple for IT personnel, facilities managers and purchasing managers alike. Another differentiator is that since Web Jetadmin can also monitor locally connected personal printers—often the most costly devices to run on a cost-per-page-basis—a company can get a fuller picture of its hard-copy costs.

In terms of scalability, the utility can gather information across multiple Web Jetadmin servers in a multi-location network. Data from the program also integrates with

Product Profile

Product:	HP Web Jetadmin
Test Version:	Version 10.2 Service Release 5
Software Developer:	Hewlett-Packard Development Company, L.P.
Supported Devices:	HP and third-party network-connected and locally connected devices with standard printer MIB. Advanced support for HP LaserJet print and MFP devices, HP OfficeJet Pro devices, and Canon MFP devices resold and managed by HP MPS (Managed Print Services); select networked HP scanners and projectors
Server Requirements:	2.33-GHz dual-core processor (2.8-GHz recommended); 3-GB RAM; minimum 4-GB hard drive space (will vary depending on data migrated from previous HP Web Jetadmin installations and data storage needs required by device data collections); Microsoft Windows XP Professional (Service Pack 2 or later; support for XP to be phased out at the end of 2011), Server 2003 Enterprise, Server 2008, Vista (Business Edition and Enterprise Edition), Server 2008 R2, Windows 7; .NET Framework 3.5 (SP1); Microsoft SQL Server or SQL Server Express (included); also support Virtual Machine environments including VMware Server, VMware ESX, MS Virtual Server
Workstation Requirements:	1.8-GHz processor (2.4-GHz recommended); 2-GB RAM (4-GB recommended for 64-bit environments); .NET Framework 3.51 (SP1); Microsoft Internet Explorer 6.0 or later
Availability:	HP Web Jetadmin is available as a free download from HP’s site (www.hp.com/united-states/web-jetadmin)

leading enterprise management products such as CA Unicenter, IBM Tivoli and HP OpenView. The only area where Web Jetadmin may disappoint is in the granularity of information collected for non-HP devices: As with all such utilities, the information gathered from non-HP devices is dependent upon what each manufacturer makes available in the devices' embedded Management Information Base (MIB). Still, in BLI's evaluation, data for non-HP devices that was available was accurate, and thanks to HP's ongoing relationship with Canon, the information gathered for Canon imageRUNNER devices is very complete.

With the launch of version 10.0 in 2008, HP had introduced an ambitious overhaul to streamline operations and add functionality (eliminating add-ins in favor of putting features in the main product), and those improvements continue in version 10.2. Most notable are automated backup and restore features to help regain Web Jetadmin configuration changes if need be, improved consumables management, scheduled test prints that can be sent to a single device or the entire fleet, and a new map view of devices to make it easier for field personnel to locate devices. HP is also offering HP Extended Modules to enhance the functionality of Web Jetadmin. The first is the new Database Connectivity Module, which allows an administrator to create a mirrored database image so Web Jetadmin historical data can be mined. For example, utilizing industry-standard reporting software like SAP Crystal Reports, the Database Connectivity Module lets an administrator report fleet-wide and device-specific performance data, as well as tracking and trending over time.



Ease of Setup



Web Jetadmin is available as a free download from HP's site, and there is a link to the download on the drivers and utilities disc included with most HP network printers and MFPs. Unlike some competing management utilities (and in contrast to Web Jetadmin versions prior to version 10.0), all the core features are contained in the main program, rather than requiring add-on modules. The only exception is the PC agent software required for monitoring a locally attached printer.

Web Jetadmin should be loaded on a network PC or server that will handle the device management; networked client PCs that will be used to access Web Jetadmin data need only to have Internet Explorer 6.0 (or later). The installation procedure is very straightforward and took BLI technicians about 10 minutes, which is less time than it has taken for most other network management utilities. The integrated install includes not only loading Web Jetadmin itself, but also the setup of a Microsoft SQL Server 2005 Express component to house database information.

Upon completion of the installation process, Web Jetadmin adds an icon for the utility to the user's desktop, and prompts the administrator to set up and run an initial device discovery (see this report's Device Discovery section for more).

As of Service Release 5, upgrading directly from HP Web Jetadmin 7.8 or 8.x to version 10.2 is not supported. (This limitation includes migrations using the Migration Tool utility.) HP advises customers who want to upgrade to HP Web Jetadmin 10.2 from HP Web Jetadmin 7.8 or 8.x must do so via an interim Web Jetadmin release, such as version 10.0.

Tech Speak: SNMP and MIBs

Simple Network Management Protocol (SNMP) is a standard protocol for managing devices on IP networks. Technically speaking, it's designed to facilitate the exchange of management information between devices such as PCs and network switches and routers. By using SNMP data, IT administrators can manage devices, monitor performance and solve network problems on the network.

Management Information Base (MIB) is a virtual database describing a particular piece of hardware that's attached to a network. Data stored in the MIB tells the network what the device is, what it can do (print, copy, scan, and fax for example) and other basic information. For remote management utilities, the MIB is the source of information on device configuration and utilization. MIBs and SNMP were originally created and deployed to manage the routers and switches that make up a network. Today, there are hundreds of different MIBs for any kind of hardware that needs to be connected to and managed via a network. Remote management solutions make use of SNMP to discover MFPs and printers on the network, and return data from them to the software. Almost every printer- and copier-based device on the market today includes a version of the standard printer MIB, which was developed by the Internet Engineering Task Force and a consortium of document imaging manufacturers as a common standard defining the data that all output devices should report over networks.

The standard printer MIB includes several subsections, or tables. There's the general table, which covers the name of the manufacturer, the model name and serial number, as well as the device's default settings and information currently displayed on the control panel. The cover table indicates whether the device's covers are open or closed. The input table details the paper trays and their contents, while the output table reports on the output trays. The marker table describes anything related to marking paper (toner or ink supplies, for example), the device's resolution, margin settings and imaging technology (laser, LED or inkjet). The supplies table covers life remaining in the toner or ink cartridge, as well as data about the fuser or developer if they're included. The public MIB also indicates the overall page count meter for the device.

Each hardware manufacturer supports its own private MIB, the structure of which is usually proprietary and not shared with the wider world. Private MIBs provide a place for information and features that aren't covered in the public variety but need to be available for a manufacturer's software applications; for example, remote monitoring solutions. Every vendor offers features that set it apart from the competition—if all a manufacturer used was the public MIB, then its devices would be equally compatible with every third-party application on the market. By reserving some information for the private MIB, manufacturers can keep a leg up on the competition. In addition, the public MIB doesn't specify how the device should report certain pieces of critical information.

For instance, detailed meters are often not included in the public MIB—they're kept private. For remote management applications, this means detailed information on duplexing, color usage, scan counters and other data can be difficult to procure for third-party solutions, unless there's an arranged agreement.

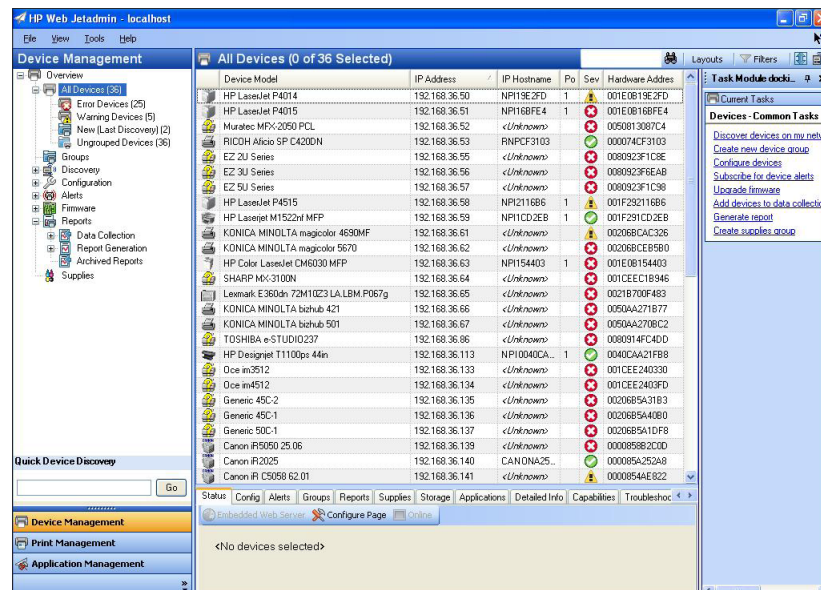


Ease of Use



Despite its wealth of features, Web Jetadmin is one of the easiest network device management utilities to use that BLI has evaluated. The utility features a task-oriented user interface that helps to minimize the number of clicks required to find desired data or access the desired task. A navigation pane on the left gives a tree-structure view of the available menu choices for Device Management (used for all device-related functions), Print Management (with tasks to manage print queues and drivers on remote servers and workstations) and Application Management (for managing Web Jetadmin itself and the users of the utility, such as roles and security settings and discovery of other Web Jetadmin installations, including extensive user help/support).

As in Windows Explorer, menu items can be “rolled up” to show just top-level choices, or expanded to see the full tree. On the right-hand part of the screen is a context-sensitive Task Module docking area. It contains hyperlinked entries to help for common tasks, such as “Discover devices on my network,” “Create new device group,” “Configure device” and so on. Clicking on the links opens small Task Modules windows in the center of the screen that show details for the selected tasks.



The customizable user interface is intelligently laid out, with a central pane for pertinent information (such as this device status list), a navigation tree on the left, and the handy task list on the right.

The device summary list is particularly handy. It shows the total number of monitored devices on the network, the number currently with error conditions, the number with warning conditions, the number of new devices added in the last discovery and the number of ungrouped devices. Clicking on one of those entries brings up the list of devices and their details.

The flexibility of the interface is particularly impressive. Unlike the interfaces of some other management utilities BLI has evaluated, the main interface is completely customizable. The UI's central pane houses individual windows that show particular task modules, which can be dragged over from the Task Module docking area. For example, an administrator can have the center pane show a device summary list, active tasks, scheduled tasks and a "quick monitor" pane to quickly check on a single device. The Task Module docking area can be dragged to eight different locations or hidden altogether to gain more space for the central pane (preferable when looking at a device list with scores of columns, for example) by clicking on its push-pin icon. And within lists, columns can be resized and re-ordered via simple drag-and-drop actions; surprisingly, some other well-known device management utilities still do not support such UI customization nor drag-and-drop actions.

An ease-of-use enhancement in version 10.2 is the new map view of deployed devices. Administrators can load an image file of a floor plan, for example, and associate devices or device groups with the map, making it easier for field personnel to locate a given device. As on the device list, the iconic representation of each device on the map shows the current status (ready, warning or error) of the device.



Device Discovery



Web Jetadmin is compatible with both HP and third-party hard-copy devices on a company's network, as well as select HP scanners (such as the HP ScanJet Enterprise 7000 Series Document Capture Workstation) and networked projectors (with a plug-in added to Web Jetadmin). In addition, a noteworthy strength of the product is its ability to discover non-networked personal printers and MFPs (which often have the highest supplies costs) attached to network-connected PCs. As mentioned, the type of information returned by non-HP devices is dependent upon what the device manufacturer has made public in the standard MIB. And HP notes that the information gathered from PC-connected local devices will be minimal unless Web Jetadmin's SNMP Proxy Agent (a free software applet) is installed on the PC to which they are connected.

Populating Web Jetadmin's database with devices is easy, and can be accomplished in several ways. Users of Web Jetadmin 7.8 and later can use the migration utility provided with version 10.x to have their database ported over during installation of the new version. Administrators deploying Web Jetadmin for the first time can simply click on "Discover devices on my network" on the Common Tasks list in the Task Module docking area. That launches a wizard where a user can set network parameters and so on. Conveniently (and unlike some other makers' tools), the task is set to discover all devices, both HP and third-party, by default. (To discover PC-connected devices, an administrator must select the appropriate checkbox in the wizard.) Once the discovery task is launched, a window opens showing the progress of the discovery, the elapsed time and more. Devices need to be powered on to be discovered, although they can be in sleep mode; to discover PC-connected devices, the networked PC must be on as well.

Web Jetadmin supports several methods for network device discovery—and more than most other utilities. The most common is local IP broadcast, which sends a

general SNMP request to all of the active devices on the local subnet. SLP multicast discovery sends a single SNMP request over an HP-specific multicast address (only HP multicast-enabled devices respond to this request). Administrators can limit the discovery mechanism to the local subnet or configure it to cross up to 15 routers for remote subnets. The Specified Addresses discovery method searches for all of the devices listed in a host file supplied by the administrator. IP Range discovery (the method used in BLI's testing) searches for the devices located within a range of IP addresses designated by the administrator. IP ranges can also be uploaded from a CSV file. And unlike most other utilities, Web Jetadmin also supports Active Directory discovery. This method searches the Microsoft Active Directory domain for published print queue details. Once these are discovered, Web Jetadmin looks within the Windows print queue to determine if the device is network-connected. Conveniently, such discovery settings include AD domain or organizational units, easing the task of grouping devices by department.

The discovery task worked well in BLI's evaluation. On BLI's test network, Web Jetadmin completed the discovery and populated the device list in just under 2 minutes, a time similar to that required by competing utilities. Out of 37 discoverable devices, Web Jetadmin found each and every one—an excellent result among utilities BLI has tested to date. Moreover, devices were identified accurately, with a handful of exceptions identified as “Generic devices,” presumably due to a lack of information in the manufacturer's public MIB. These results compare well to those of other utilities BLI tested on the same network; some utilities failed to find some third-party devices and showed less complete model-name information than Web Jetadmin displayed.

After the initial device discovery, an administrator can schedule discoveries to run automatically at specified intervals; for example, at night to minimize the impact on network traffic. Web Jetadmin allows administrators to import discovery lists, and the program offers a passive discovery feature, which finds devices without sending active queries onto the network by listening for a device's SLP packets. This cuts down on network traffic, and is an ability unique among device management utilities BLI has evaluated to date. In addition, the program features a Quick Device Discovery task module to enter an assigned IP address, IP hostname or other network parameter and add a new networked device instantly.

Quick Device Discovery does not work with locally connected devices, but version 10.2 improved the PC-connected device discovery feature with a faster search engine and an expanded list of supported devices. As before, devices connected to a PC equipped with HP's SNMP Proxy Agent will report more complete information for supported HP devices, such as status, meter counts, and consumables levels.

Service Release 5 also supports the HP WS Pro Proxy Agent to discover and monitor HP printers that use web services to communicate with HP Web Jetadmin. The HP WS Pro Proxy Agent runs as a network service when installed on PC workstations, and gains access to the USB-connected printer through a component of the HP printer driver. HP reports that the information exposed to the HP WS Pro Proxy Agent via web services is plentiful, providing an opportunity for strong management capabilities on devices such as the HP Officejet Pro 8000 Enterprise A811a and HP Officejet Pro 8500A Series that do not support enough SNMP features for the HP SNMP Proxy to discover them.

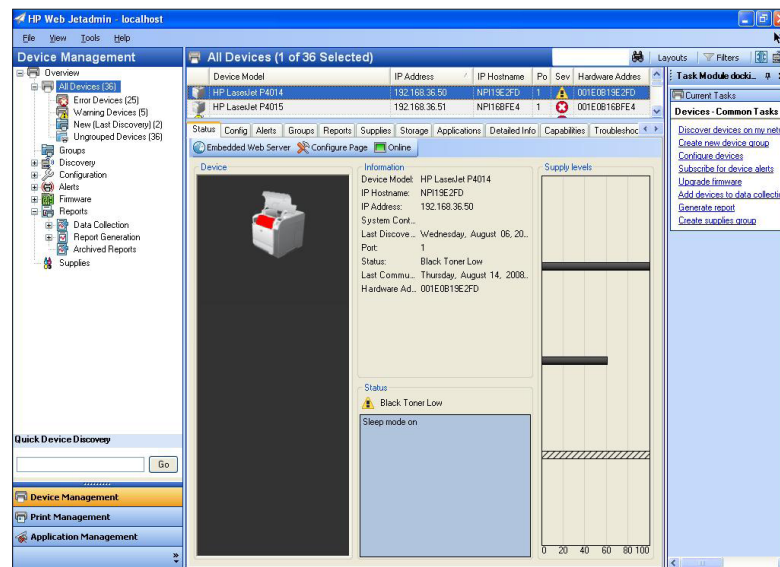
Alternatively, local devices can be discovered through WMI (Windows Management Instrumentation), a Microsoft service available on most Windows operating systems. But the WMI PC-connected discovery solution gathers just basic name and model data, not status or other details from the device; and WMI requires that the PC credentials be set to Administrator, making this method a non-starter for businesses that limit PC client credentials to User.



Device Monitoring



Web Jetadmin features excellent device monitoring for HP devices, and better-than-average monitoring abilities for third-party devices compared to other hardware OEMs' utilities. The program's All Devices list view is the hub of the utility's monitoring features. The user can customize the list to display a range of fields: a total of 23 in the program's Basic mode, or more than 600 in Advanced mode, which is more than other utilities BLI has evaluated to date. Attributes available to display include device model, device name, IP address, MAC address, IP host name, device status (called Severity), asset number, device group name, device location, serial number, total page count and a dozen others. The list can be sorted by a given parameter by clicking on the column heading for that parameter: clicking on Product Name, for example, alphabetizes the list, or clicking on Status shows all devices with error conditions at the top of the list.



Administrators can drill down and see granular information about supported devices in a range of categories.

Most administrators will want to keep the Severity field on the list (it's included by default), as it gives an iconic representation of the status of each device: a green checkmark indicating all is well, a yellow exclamation point indicating a warning condition or a red "X" indicating an error condition. If a device has multiple errors,

Web Jetadmin displays the icon that is representative of the most severe state. Drilling down for the status for the device shows details on all error conditions that are being reported. Users can apply filters to device lists to show only the type of device they want to see. In addition to the default filters already present in Web Jetadmin (color devices, error devices, PC-connected devices, ungrouped devices, and devices with warnings), users can create their own custom filters and add them to the Filters menu. For example, if an administrator wanted to keep close track of the output devices assigned to the executives of the company, he or she could create a filter that captured just those devices.

Clicking on the device name in the list brings up a pane that shows detailed information about that particular device, including paper and consumables levels (if reported by the MIB). This details pane features 12 tabs along the top for quick access to a wealth of information. Tab headings include Status (device model, IP address, status, supply levels, access to the device's embedded Web page and more), Configuration (device settings and history), Alerts (the device's alert history), Groups (the groups a device is assigned to), Supplies (supply information, urgency, part numbers and so on), Firmware (to view the firmware level and initiate an update) and more.

In BLI's tests, Web Jetadmin did an excellent job reporting on the mission-critical operational status—ready, needs attention, error—of both HP and other manufacturers' devices, which is crucial to administrators and other IT personnel charged with keeping devices running. And Web Jetadmin did a very good job reporting more granular information for third-party devices. In particular, Web Jetadmin showed very detailed and accurate information for the five HP LaserJet devices on BLI's test network. Clicking on a particular tab presented a "Retrieving information" message for a few seconds while the data was collected. Moreover, the status indication of devices changed dynamically as a device's condition changed. For example, when BLI technicians opened the paper drawers of both HP and Lexmark printers being monitored by Web Jetadmin, the devices' indicated status changed within seconds.

As with other network device management applications, information for third-party devices was more limited. For example, with a Ricoh Aficio device BLI tested with, the information Web Jetadmin reported was fairly complete. The HP utility correctly reported the Ricoh device's model name and manufacturer, status and total meter information. It indicated paper-tray amounts in 10-percent increments, but reported toner information simply as "not empty." That said, thanks to HP's relationship with Canon, Web Jetadmin does a very good job of reporting more granular data for newer Canon imageRUNNER devices. With the Canon Color imageRUNNER C3080i MFP BLI tested with, for instance, the information Web Jetadmin reported was remarkably complete. The HP utility correctly reported the Canon device's model name and manufacturer and its status. It indicated paper-tray amounts in 10-percent increments and toner-remaining estimates in 1-percent increments, as well as the total meter count for the device.

Other monitoring features are also worthy of note. Administrators can easily access a Supplies Tracking view, which shows black, cyan, magenta and yellow bars that indicate the percentage of toner or ink remaining (in as granular an increment as the device's MIB supports). New in version 10.2, Web Jetadmin has the ability to track devices and their settings even after they have been moved to different places on the network. This means devices can be moved from one network drop to another without requiring the administrator to manually reconfigure IP addresses in the util-

ity; once the device is networked, Web Jetadmin assigns a new entry, with the option to alert the administrator of the change. Even with a new IP address, settings such as Alerts follow the device.

Conveniently, administrators don't need to be tied to Web Jetadmin to know about the status of devices: The utility can send e-mail alerts should an error condition arise. An unlimited number of e-mail addresses are supported for each alert, and the administrator can set Web Jetadmin to send alerts on different types of conditions to different recipients. So, for example, IT or help-desk personnel could receive alerts about network/communications errors, low-toner alerts could be sent to facilities workers, low-paper or open-cover notices could be sent to an administrative assistant that sits near a given device, and service-level error messages could be sent directly to an outside dealer.

Administrators can set Web Jetadmin to generate alerts on up to 42 conditions—more than with other utilities BLI has tested—including cartridge/toner low, cartridge/toner out, fuser life low, drum life low, stapler low, paper out, paper jam, cover open and device offline to name a few. The alerting function is notably flexible. For each alert type, the utility lets an administrator configure the time span during which to ignore duplicate alerts. For example, a “toner low” alert can be set for just once a day, so an administrator doesn't receive the notice each time throughout the day the device is polled. Administrators can also select if alert messages should be concise (a brief message ideal for recipients on mobile devices) or verbose (a detailed message), or they can assign their own custom message. Even more impressive, language preferences can be assigned to e-mail addresses, so the same alert will be sent to recipients in the specified language.



Device Management

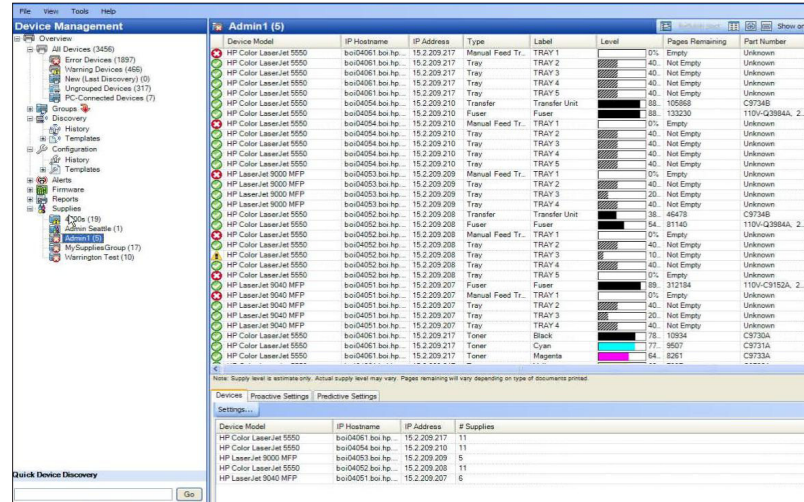


Web Jetadmin's Device Management area is where administrators can manage output devices on the network. As with all OEM utilities, management functions are reserved for HP's own hardware, not third-party devices. Features include finding and configuring devices, creating device groups, setting alerts, upgrading firmware, managing supplies, creating and scheduling reports and much more. Web Jetadmin 10.2 also delivers enhanced supplies monitoring, the ability to pre-configure and deploy driver for HP devices, and the ability to manage storage functions of networked devices.

For larger organizations with many devices, the ability to assign devices to groups will make for more effective management. Administrators can create as many groups as they desire, corresponding to device location, type, model capabilities (color, monochrome and so on), department, device maker or other criteria. Smaller sub-groups can also be created within larger groups. Device groups are displayed as nested folders by clicking on the Device Management menu choice; conveniently, a group or sub-group's folder icon will turn yellow or red if a device in that group needs attention.

In contrast to the capabilities in some other utilities, populating a group in Web Jetadmin can be accomplished in several ways. You can have Web Jetadmin search

the device database for a given keyword (for example, “Color LaserJet”) and then create a group from the resulting list. Or an administrator can highlight devices on the All Devices list, press the right mouse button and then select “Add to group” or “Create group” from the pop-up menu. And thanks to Web Jetadmin’s support for drag-and-drop, an administrator can create a group folder and then simply select devices from the Device List and drag them to the folder. The Automatic option lets an administrator set filter criteria, and when a new device that fits the criteria is added to the network the new device automatically appears in the proper group.



Web Jetadmin can let IT and facilities personnel closely monitor the status of consumables for HP devices on the network.

Another of Web Jetadmin’s strengths is its ability to let IT personnel configure HP devices remotely. Its fleet configuration management features allow an administrator to select multiple devices (or groups of devices), change the options for all of those devices at once, and clone settings from one device to many. For example, an administrator can assign the same password to several devices with a single task, rather than entering the same information repeatedly for each device. This also ensures that information is entered consistently and correctly across multiple devices.

HP has also included a menu area for Print Management to provide remote control over print queues and drivers. Administrators can create, edit and delete existing queues. Performing such tasks is as easy as selecting the desired task from the proper menu (or the Common Tasks module) and following the wizard-driven prompts to apply the changes to individual devices or groups of devices.

In addition to remote firmware updates, Web Jetadmin can be used to remotely install or update printer drivers—an ability found in only a handful of management utilities. Web Jetadmin can act as a driver repository for deploying new HP drivers remotely, including HP’s Universal Print Driver (UPD). This is especially convenient when a new shared printer is introduced, since IT personnel won’t need to visit each desk to remove the old drivers and install the new ones.

Web Jetadmin can also be used to remotely update device-resident address books used for an MFP’s “send” functionality, and administrators can schedule updates to

happen at a specified time. Help desk personnel can also use the Troubleshooting tab on a device's details page to send a print job directly to the device. This helps them determine if it's a device error or a network communication error should an end user report a problem with a device. The Troubleshooting tab also contains a choice to restart the device remotely. HP reports that Web Jetadmin can be used to manage up to 60,000 devices, dependent upon the functions being performed. In the unlikely event that a given IT department needs to manage more devices than that, the administrator would need to logically separate devices into groups administered by two separate instances of Web Jetadmin. In the Application Management area, users can utilize Web Jetadmin to discover other instances of Web Jetadmin on the network; once discovered, other instances of Web Jetadmin can be linked to from this area of the application.

New in version 10.2, the OXP-Device Solution Installer lets an administrator use Web Jetadmin to automate the installation, configuration and licensing of both HP and third-party embedded OXP software applications across a fleet of devices. Interestingly (and unique among management utilities BLI has seen), administrators can deploy multiple applications from different partners at once, and licensing is separate from installation—enabling bundling and trial periods for applications. There's also a new Import/Export Address Book configuration option for many newer and older HP multifunction printer (MFP) models. This functionality helps administrators manage e-mail addresses, fax numbers and more within a device's embedded Digital Send settings.

Version 10.2 also added the ability for administrators to perform single-instance or scheduled reset tasks on supported models. New options for setting and enabling supplies alert thresholds make managing printing supplies usage and reordering easier. Alerts can be customized based on the type of supply and can be sent to responsible parties for timely and cost-effective reordering. And the new Storage Management functionality allows administrators to remotely manage print jobs, fonts, forms, and macros stored on managed HP devices that have built-in hard drives. Web Jetadmin 10.2 also now offers a comprehensive view of all management activity that has taken place within the utility.



User Management



Web Jetadmin is intended primarily for IT administrators and other IT personnel, including technicians charged with keeping devices online and help desk employees that are likely to field calls on printer/MFP problems. In addition, Web Jetadmin could be used by department managers that would need to monitor and report on the amount of activity a company's output devices see in a given time period for budgeting and purchasing decisions.

The Application Management area in Web Jetadmin gives administrators very granular control over users of the utility itself, so each type of user has access to the information they need, but not the settings they don't. An administrator can create User Roles to determine which functions in Web Jetadmin particular users have access to. So, for example, administrator-level users can have complete access to the utility and its functions, help-desk level personnel can have permission to

perform certain functions but not others, while management-level users can have access to generate reports but not the ability to change devices or settings within Web Jetadmin.

The permissions assigned to User Roles (that is, users of Web Jetadmin) can apply to all devices, or select device groups within Web Jetadmin. Since the program integrates with Active Directory, the administrator can then assign individuals to those Web Jetadmin roles from their existing network user list; also, individuals can be assigned to multiple roles. Changing the permissions for a given defined role changes the access privileges for all users assigned to that role, so an administrator doesn't have to do so manually for each user in that group.

Unlike as with most other device management utilities, Web Jetadmin's user management does not stop with simply controlling access to the utility itself. Via the Access Control List, Web Jetadmin can let administrators set what authentication method should be used to grant access to the device or its functions, including PIN, LDAP authentication, Kerberos and HP Digital Send Service. The Access Control List feature also lets administrators control color output on a device (rather than user) basis. The Enable Color setting allows all color jobs to print in color. The Color if Allowed setting requires the device to check the permissions defined for the user and the application to determine whether a particular job can be printed in color or not. The Disable Color setting forces all color jobs sent to a device to print in black, which is useful if the color printing feature of a unit is out of commission (while new color toner is on order, for example) but the device's monochrome printing is functional.

Web Jetadmin can also be used to manage settings for devices that support the company's Color Access Control feature. This lets administrators push out settings that control which users can print in color, for example, or which applications' print jobs should only print in monochrome. The administrator can also restrict the device's copy and send (via e-mail, fax, to network folder) functions. This is accomplished by creating roles within Web Jetadmin and assigning users to specific roles, which are tied to capabilities the administrator has set within Web Jetadmin.

Company Profile

Vendor:	Hewlett-Packard Development Company, L.P.; Palo Alto, CA
Phone:	650-857-1501
Web:	www.hp.com
Status:	Publicly traded
2010 Revenues:	\$126 billion
Employees:	Approx. 150,000



Integration



As mentioned earlier, Web Jetadmin communicates with both HP and non-HP devices through the standard MIB, and can grant remote access to those devices' embedded Web pages. The utility also integrates with an organization's Active Directory domain server for authentication of users of the utility. Moreover, Web Jetadmin integrates with leading enterprise management applications, including HP OpenView, HP Systems Insight Manager, Tivoli, CA Unicenter, and others. This integration allows users of those platforms to launch Web Jetadmin and perform device-management functions from within the larger enterprise management application. In addition, Web Jetadmin data can be exported for use in other applications, and the utility has the ability to pass customized alerts to service-desk ticketing systems, where an application such as HP Service Manager can parse an the alert and create a ticket.

HP is also in the process of developing a range of extended modules that expand the capabilities of HP Web Jetadmin. The first is the HP Database Connectivity Module, which offers access to an off-server SQL Server database for historical trend data. This lets an administrator report fleet-wide and device-specific performance data, as well as tracking and trending over time, utilizing industry-standard reporting software like SAP Crystal Reports software.



Reporting



In addition to helping deploy and manage devices, Web Jetadmin makes it easy for administrators and managers to see how those resources are being used. The utility's reporting features can help administrators optimize a company's output resources and help managers make more informed buying/leasing decisions. An administrator can enable HP Web Jetadmin to automatically gather a wide variety of information for an HP device or group of HP devices; for third-party devices, the granularity depends upon what is made available in the public MIB, such as total page counts.

Once data collection has occurred, administrators can create reports to track everything from who uses color and how often they use it, to which devices are used most heavily and which have the highest uptime. Reports can be displayed through the client host, stored in an archive, or sent via e-mail. An administrator can also use the program's reporting capabilities for tracking device supplies.

Via the Group Policies menu entry, an administrator can set a device (or group of devices) to collect a range of information, including user tracking (for example, who is using color and how often), peak usage (where page counts are collected once an hour to show greater usage granularity), which devices see the most use and which devices have the most uptime or downtime. Reports can be run to show collected data for a specified date range, and can be displayed within Web Jetadmin, stored to an archive or sent via e-mail. Summary reports as well as more graphical report formats are available, which

means data doesn't need to be exported to an outside program (such as Excel) for analysis as is the case with other management utilities BLI has tested. And administrators can set Web Jetadmin to run reports at set intervals (daily, weekly, monthly and so on).

The screenshot shows the HP Web Jetadmin interface with a report titled "Media Page Count - By reporting period". The report is filtered for "Selected Devices" from "04/01/08" to "05/31/08" with a "Monthly" interval. The total number of devices in the report is 7.

Host Name	Hardware Address	Device Model	IP Address
boi04053.boi.hp.com	0001E661CF8C	HP LaserJet 9000 MFP	15.2.209.209
Time Period			
Apr 1 2008 - Apr 30 2008	N/A	1435	1435
May 1 2008 - May 31 2008	N/A	1427 (partial data)	1427 (partial data)
Total:	0	2862	2862
boi04054.boi.hp.com	00110AC3E369	HP Color LaserJet 5550	15.2.209.210
Time Period			
Apr 1 2008 - Apr 30 2008	3074 (partial data)	1332 (partial data)	4606 (partial data)
May 1 2008 - May 31 2008	4623 (partial data)	3417 (partial data)	8040 (partial data)
Total:	7697	4949	12646
boi04061.boi.hp.com	00110AC39985	HP Color LaserJet 5550	15.2.209.217
Time Period			
Apr 1 2008 - Apr 30 2008	3177	1425	4602
May 1 2008 - May 31 2008	3003 (partial data)	2301 (partial data)	5304 (partial data)
Total:	6180	3726	9906
boi04062.boi.hp.com	001438646616	HP LaserJet 4345 MFP	15.2.209.218
Time Period			
No collected data available for the device in the given period			

Web Jetadmin lets administrators monitor groups of devices and generate periodic reports, such as this one showing device page counts.

In all, Web Jetadmin provides nine report templates: Media Page Count (counts for page types processed during a specified time period), Device Peak Usage (hourly device page counts presented via charts or summary reports), Supply Replacement Forecast (consumables replacement date predictions, and supplies part numbers), Supply Usage (consumables consumption rates), Supply Ordering (consumables that need to be ordered, based on a user-settable percent threshold), Device Change (devices newly discovered or removed), Device Details (an inventory of devices and their installed accessories), User Page Counts (which jobs are being printed and by whom), and Error History (error frequency by error type). There is no cost-per-page report available, however, and HP cautions that the reports for third-party devices may be less accurate than those for HP devices, since the accuracy of what is reported for other manufacturers' devices is outside of HP's control.

Particularly noteworthy is the Device Utilization data-collection option, which provides very granular tracking of device usage, including page counts for color, black and white, simplex, duplex, and total pages; plus page counts for copy pages, scan pages, digital send pages, and fax pages. Just as impressive is the Supply Utilization data-collection tool, which tracks the use of consumables (including ink cartridges, toner cartridges and drum kits) and forecasts when those supplies will run out based on current usage patterns. This tool, in turn, integrates with HP's SureSupply service for automatic online ordering of HP supplies. And the handy Error History report lets facilities and IT personnel more easily identify trouble-free as well as "problem" machines, so they can take action immediately and make more informed purchasing decisions.

As noted earlier, the optional Database Connectivity Module allows Web Jetadmin data to be mined and presented in a third-party program such as Crystal Reports. In addition to seeing device settings and capabilities, managers can generate HP Eco Solutions Reports to see paper usage, energy consumption and more.



Documentation, Support and Training ★★★★★

Should an administrator need help with any facet of the installation, setup or use of Web Jetadmin, HP offers a downloadable 30-page Setup and Installation Guide along with a comprehensive 400-page User's Guide, both in searchable-PDF format. The guide has step-by-step instructions and is organized in a way that follows the expected workflow for newcomers to the utility. A complete table of contents, with hyperlinks to the associated sections, is found to the left of the electronic manual's pages. The program itself also features context-sensitive help, and the pop-up labels that appear when a user hovers the mouse over an on-screen entry help flatten the learning curve.

Technical support for Web Jetadmin is available via the Web Jetadmin site. The offerings include five free online courses covering an introduction to Web Jetadmin, advanced deployment, problem resolution and proactive management, reporting and optimization, and security. For a fee, HP offers in-person on-site training with an HP education consultant, as well as HP Web Jetadmin Implementation and Integration Services.

The company also now offers the Premium HP Web Jetadmin Support program, a fee-based support option recommended to large enterprises, especially those deploying the extended modules. The \$9,000 yearly fee covers an unlimited number of Web Jetadmin server instances and entitles administrators to access to HP's enterprise software technical support organization and dedicated engineers who can provide advice on software features and functionality, usage recommendations and problem diagnosis and resolution. Customers also get electronic access to comprehensive product and support information. HP also offers fee-based HP Web Jetadmin Consulting services, spanning everything from basic tool implementation and help-desk training, through advanced enterprise IT infrastructure integration and expanded functionality customization.

What is Network Device Management?

Network device management utilities are designed to allow a customer's IT and help-desk personnel manage the output devices on their network. Typically, a server-based software component communicates with devices and collects data, and users can access that data through a PC-resident software client or, more often than not, a browser-based user interface. The utilities gather and display each supported device's status, current meter readings, device information (serial number, firmware revision, and so on), consumables status, settings and more—any data that is stored in the device's Management Information Base (see the sidebar "Tech Speak: SNMP and MIBs).

These utilities also provide real-time alerts, via e-mail or SMS, to designated personnel should an error occur, such as a paper jam, low toner alert, open cover, and so on. This lets IT personnel respond quickly when a device needs attention, minimizing downtime. IT personnel can also remotely manage devices via the utility—clone settings to like devices, updating firmware, and more—which saves time. Finally, many management utilities also include a built-in reporting engine and report templates to allow an administrator to generate a variety of reports on device usage, consumables levels and so on. The functionality provided by network device management utilities often overlaps that provided by remote management utilities (which have their own category here on BLI Solutions Center); the difference being that network management utilities are mean to be used by a customer's IT personnel, while remote management utilities are used by dealer/reseller personnel to monitor a customer site remotely.

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