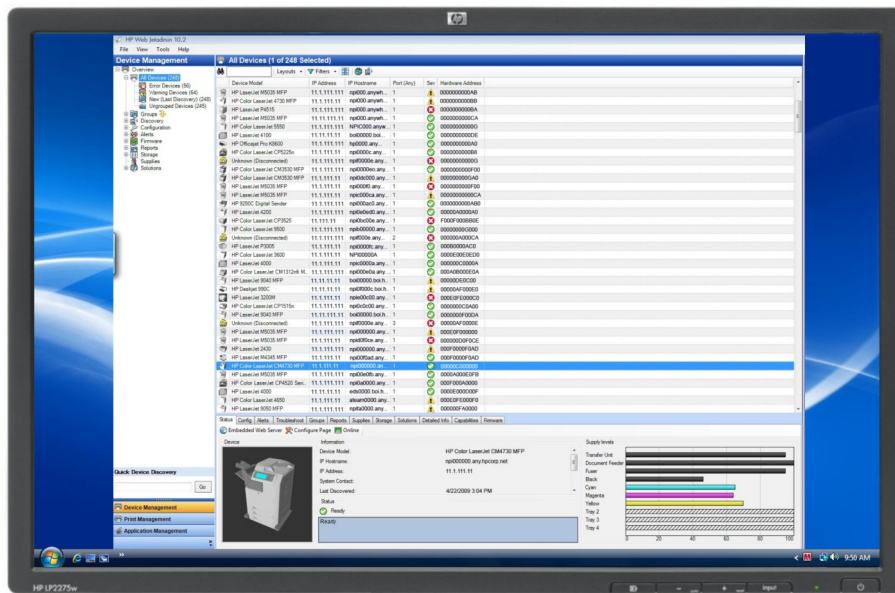


HP Web Jetadmin Solution and Feature Guide



Technology for better business outcomes



CONTENTS

Getting to know the solution	1
New features in HP Web Jetadmin 10.2	3
Top features	4
Count on quick and easy installation	5
Gain efficiency with advanced ease of use.....	7
Fleet deployment: save valuable management time and reduce costs	11
Proactively solve problems using sophisticated management tools.....	15
Make informed decisions for your business.....	18
Protect your investment with advanced security features.....	21
Maximize the value of HP Web Jetadmin with support and individualized services	23
A—Technical specifications	25
B—Ordering information	25

GETTING TO KNOW THE SOLUTION

Welcome to the Solution and Feature Guide for HP Web Jetadmin. This guide will introduce you to the print fleet management software solution.



Look for this symbol throughout the guide to learn more about new features in HP Web Jetadmin 10.2.

Introduction

As business infrastructures become increasingly complex, managing printing and imaging devices develops into a major challenge. Many companies aren't sure how many printers are on the network, which type of devices are connected, and how those assets are being utilized over time. In addition, the complexity of imaging and printing increases with more devices on the network, the cost of color printing, security challenges, and regulatory compliance. And as the number of peripherals increases, so do support and maintenance responsibilities. HP Web Jetadmin offers a solution to these challenges.

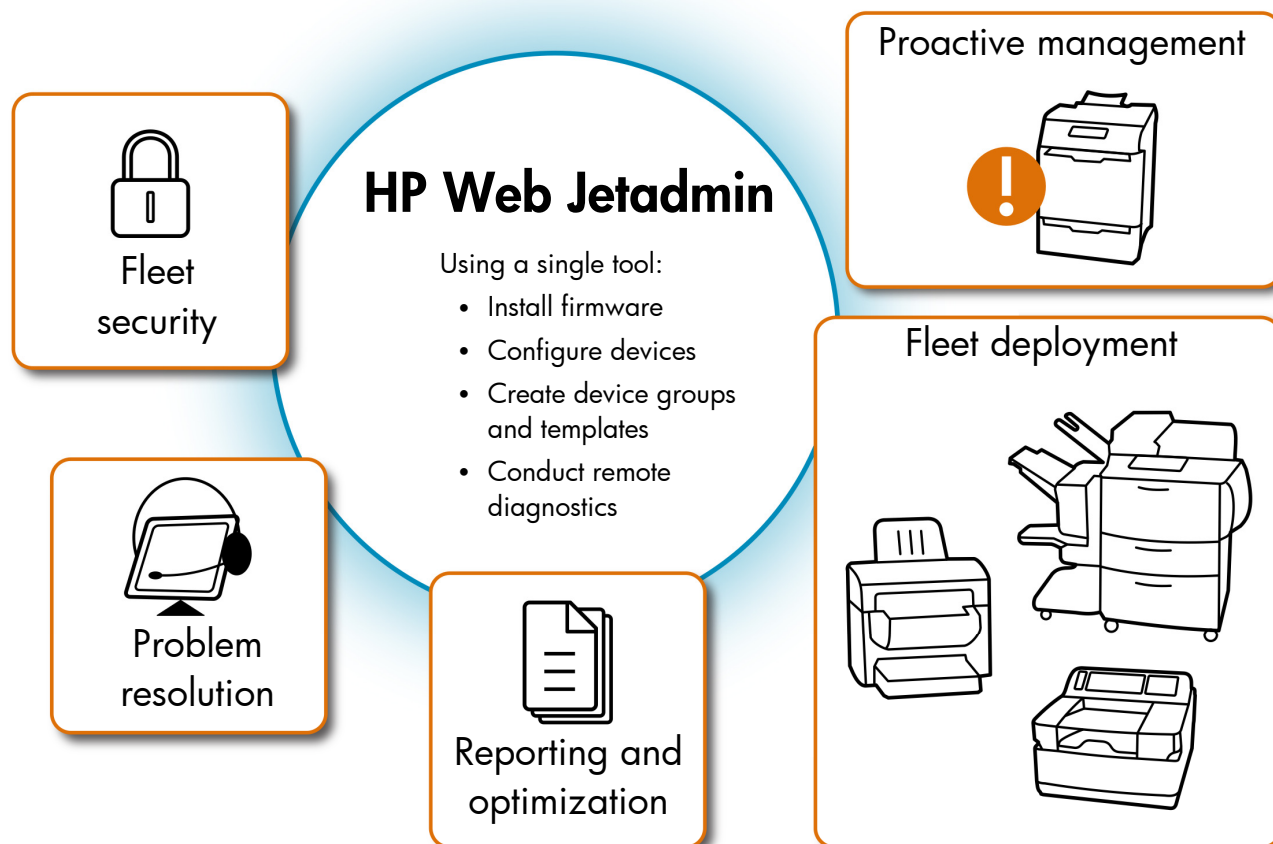


Gain efficiency with a complete print management solution

HP Web Jetadmin is an award-winning, industry-leading tool for efficiently managing a wide variety of networked HP and non-HP devices, including printers, multifunction products, and digital senders. This single solution allows you to remotely install, monitor, maintain, troubleshoot, and secure your printing and imaging environment—ultimately increasing business productivity by helping you save time, control costs, protect your investment, and provide a better return on your investment. Specifically, HP Web Jetadmin enables you to:

- Centrally monitor and manage large imaging and printing fleets
- Understand your inventory—both the number and types of devices
- Increase the efficiency of your helpdesk through quicker problem resolution
- Increase end-user productivity by maximizing device uptime and proactively solving problems
- Improve IT staff efficiency by providing a central management tool and automation of regular device management tasks
- Increase security by implementing a device security policy
- Understand and control your color print costs
- Reduce supplies inventory and improve device uptime by forecasting supplies usage
- Optimize utilization of devices through the creation of usage and trend reports by user or device

Manage your entire imaging and printing fleet with one solution. Best of all, HP Web Jetadmin is a free software tool that you can download from www.hp.com/go/webjetadmin.



NEW FEATURES in HP Web Jetadmin 10.2

HP Web Jetadmin 10.2 delivers improvements in speed, ease of use, and reliability. Enjoy advanced configuration and maintenance capabilities, and more robust alerting and reporting functions. HP Web Jetadmin allows you to create settings and configure multiple devices simultaneously, eliminating the need to manually program one device at a time.

Set defaults, security, and alerts, and configure MFP digital send settings, such as email, SMTP server, LDAP server, and send to fax. Retain your existing HP Web Jetadmin configuration with automated, built-in backup and restore features.



- **Flexible power cycle options** let you perform print fleet power cycles via a single event or on a schedule, saving valuable administration time and money.
- **Simple configuration of network settings**—quickly configure and update network settings for your entire print fleet at the time of deployment, or accommodate changes in network settings with a straightforward, web-based interface.
- **Easily create a test page** using included templates. Built-in scheduling capabilities allow you to set times and dates for specific devices to print tests—or send a test page to the entire fleet to ensure system-wide changes have been successful.
- **A comprehensive view of activity** allows you to note changes to virtually every aspect of systems administration, including HP Device Storage Manager, firmware, network configuration, and device discovery. Saving database logs to files makes replicating processes, solving problems, updating network settings, and making changes faster and easier.
- **Get more functionality when using HP Device Storage Manager**, a robust management tool that lets you make the most of your printing devices. Efficiently manage stored and secure print jobs, fonts, forms, and macros on HP print devices with storage capability. Easily view stored print jobs, held and proofed print jobs, and secure jobs ordered with a PIN.
- **Discover devices in a fraction of the time.** Quickly discover, configure, and enable the features of all networked print devices. Improvements put network protocols, such as HP Application Discovery agents and HP Device Storage Management, in the background.
- **Auto-discovery of devices with new IP addresses** means that devices can be moved from one network drop to another without reconfiguring IP addresses. Once the device is networked, HP Web Jetadmin assigns a new entry and alerts the administrator of the change.
- **New options for setting and enabling supplies alert thresholds** make managing printing supplies usage and reordering easier than ever. Alerts can be customized based on the type of supply and can be sent to responsible parties for timely and cost-effective reordering.
- **New graphical mapping capabilities** give print administrators a handy reference and improve IT response time. Helpdesk and support staff can use the maps for printer deployment and to locate print devices and provide assistance.
- **Functions that were once only accessible through plug-ins are now core capabilities.** Get improved print environment assessment, enhanced supplies monitoring, and balanced printer deployment with the following standard features: PC Printer Discovery, HP Driver Preconfiguration, Report Generation, Authentication Manager, HP Device Storage Manager, and HP IPsec Support.

TOP FEATURES

- **Count on quick and easy installation.**

Enjoy a smooth transition from earlier versions and easily retain your existing HP Web Jetadmin configuration with automated, built-in backup and restore features. After you have installed HP Web Jetadmin on one hardware platform, access it from any supported Windows® PC on the network.
- **Gain efficiency with advanced ease of use.**

HP Web Jetadmin offers an intuitive user interface that quickly performs complex operations for IT administrators while providing effortless access for more casual users, such as helpdesk personnel.
- **Save valuable management time and reduce costs.**

By using one peripheral management utility for all of your network-connected print devices, you can do more in less time. HP Web Jetadmin is designed to make device discovery, organization, and configuration easy for maximum fleet deployment efficiency.
- **Proactively solve problems using sophisticated management tools.**

Instead of hearing the helpdesk line ring and finding out the hard way that something has gone wrong, take advantage of HP Web Jetadmin's built-in notifications to monitor your devices. The software includes several features that enable helpdesk personnel to remotely troubleshoot devices.
- **Make informed decisions for your business.**

Device management can play a vital role in business decisions—from supplies management to security policies. Gather the most accurate information with a rich set of data collection, supplies management, and reporting features. HP Web Jetadmin uses standard transfer protocols and tools to generate easy-to-export charts, allowing you to assess device, workgroup, or overall system status and performance.
- **Protect your investment with advanced security features.**

HP Web Jetadmin not only safeguards itself against unauthorized users, it can also protect the devices it manages. Securing devices helps increase printer uptime, reduce helpdesk calls, minimize troubleshooting visits, and control supply usage. HP Web Jetadmin offers several levels of authentication and privacy.
- **Maximize the value of HP Web Jetadmin with individualized services.**

HP offers convenient 9x5 support and renewable support contracts to address your specific business needs, along with a new self-help section of the website. Plus, learn how to get the most from this exceptionally robust solution—give your IT administrators a jumpstart with HP Web Jetadmin Consulting Services.

Count on QUICK AND EASY installation

When you install HP Web Jetadmin, you only need to install it on the hardware platform that meets the recommended minimum requirements and is centrally accessible on the network (for more information on system requirements, please see “Appendix A—Technical specifications” on page 25). You may then access the software from supported Windows PCs on the network via an HP Web Jetadmin authorized domain user account.

The HP Web Jetadmin interface is easily accessible from anywhere on the network via a web browser through Smart Client technology. HP Web Jetadmin uses the Microsoft ClickOnce Smart Client technology to provide you with the best application experience possible. This technology runs a .NET application by automatically downloading and launching it through your web browser. The Smart Client runs as a local .NET application on your computing host and communicates with the HP Web Jetadmin service via .NET Remoting. Once the Smart Client application is started, the browser is no longer needed. The HP Web Jetadmin client application runs locally on your computer (like many other applications). The URL `http://hostname:8000` can be used to access HP Web Jetadmin remotely from anywhere on your intranet and/or WAN. If desired, the port value may be altered. However, no matter what the default port number, if SSL is enabled, a redirection will occur to port 8443 whenever the default port number is attempted.

Simple migration

HP Web Jetadmin 10.2 offers a migration tool so you can enjoy a smooth transition from versions 10.1, 8.1, 8.0, or 7.8. (Migration from version 10.0 to 10.2 is only possible after first migrating to version 10.1.) Settings and data from previous versions can be applied to HP Web Jetadmin 10.2. The migration tool provides the ability to upgrade HP Web Jetadmin on the same host or to migrate settings from an alternate host. Most settings and data will be retained during migration, although the following settings will not be migrated:

- Bootp
- Profiles
- Access/deny settings
- SSL settings
- Support settings
- Product update settings
- PSA plug-in settings
- DMC plug-in settings
- DSM plug-in settings
- Authentication plug-in settings

Installing HP Web Jetadmin

During the installation process, the following steps are implemented:

NOTE Additional information about HP Web Jetadmin installation can be found in the *HP Web Jetadmin Installation and Setup Guide* at www.hp.com/go/webjetadmin (click the **Self Help** tab, then click **Installation, Upgrade and Setup**).

1. **License agreement**—Read the License Agreement and select **I accept the license agreement** to begin installation of HP Web Jetadmin.
2. **HTTPS notification**—HP Web Jetadmin uses encryption based on .NET to provide authentication and privacy between the HP Web Jetadmin client and the server. If you require HTTPS server authentication, please see “HTPP port” on page 21.
3. **File location**—You may choose the location for the files during installation or use the defaults chosen by HP Web Jetadmin.
4. **Confirmation**—The installer will confirm the HP Web Jetadmin version and the locations of the installation, update service, and shortcut files. When you click **Install**, the installation begins.

NOTE If .Net 3.0 SP1 is not detected, the software will provide assistance in installing .Net 3.0 SP1.

5. **Microsoft SQL Server 2005 Express** installation is performed as part of the HP Web Jetadmin installation. OSQL and other commands install the base SQL components and the HP Web Jetadmin database instance. This instance is named HPWJA (data engine). Microsoft SQL Server 2008 Express is also supported.
6. **Progress bar**—During the final step of the HP Web Jetadmin installation, a progress bar tracks the progress of the installation. This may take several minutes. When the installation is complete, a **Results** window is shown. When this window is closed, you will be asked if you want to run HP Web Jetadmin.
7. **A browser page** will present a **Run** button. Click **Run** to activate the .NET ClickOnce bootstrap application loader. Microsoft ClickOnce will install the application to your desktop.

Once the installation is complete, HP Web Jetadmin can be launched from a supported browser by entering the hostname or IP address of the computer on which it is installed, followed by the port number and path. Once the specified HP Web Jetadmin 10.2 URL is entered, HP Web Jetadmin attempts to launch it automatically. The Microsoft ClickOnce installer application loads and runs and the HP Web Jetadmin smart client is downloaded and/or upgraded.

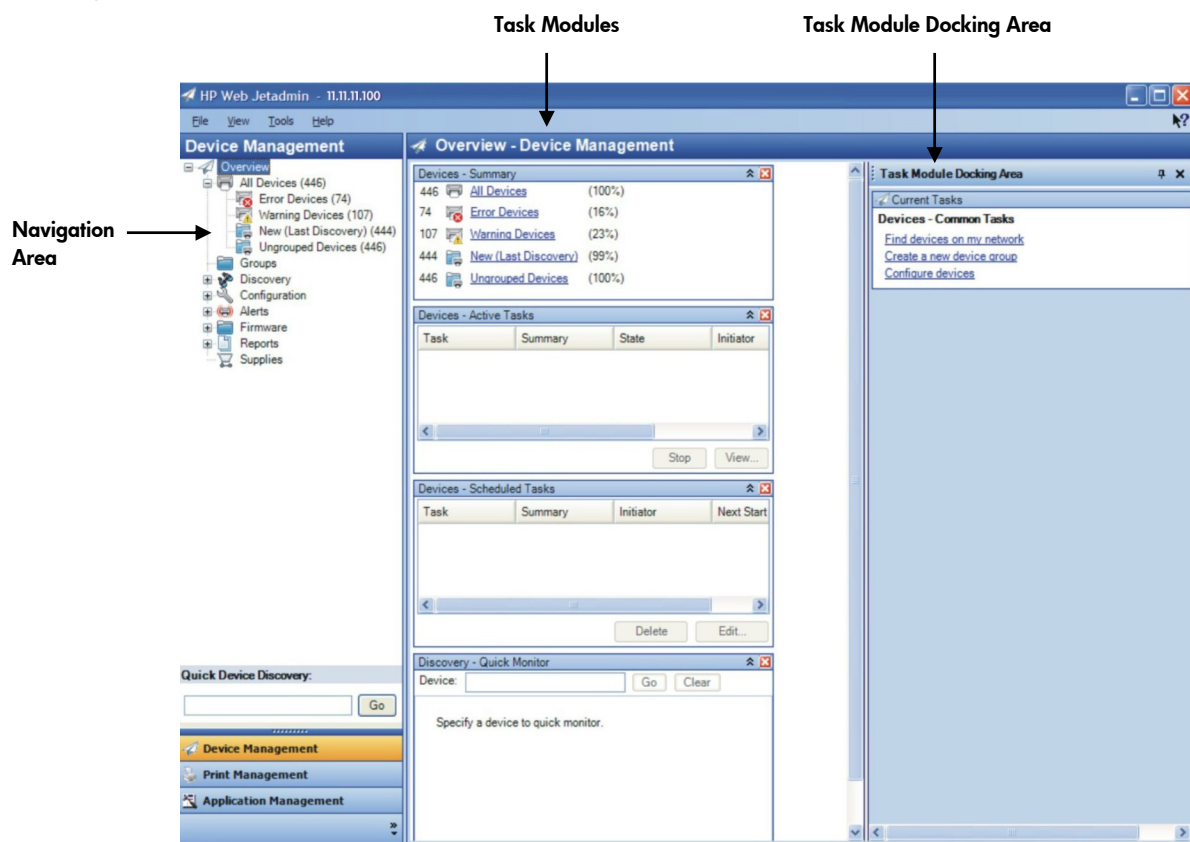
Gain efficiency with **ADVANCED EASE OF USE**

Intuitive and efficient user interface

With network management utilities, tool consistency saves time and reduces operator confusion. HP Web Jetadmin offers an intuitive user interface that quickly performs complex operations for IT administrators while providing effortless access for more casual users, such as helpdesk personnel.

Page layout

The user interface is designed to be efficient and intuitive, limiting the number of steps required to complete a task and streamlining software operation. Each HP Web Jetadmin page features a **Navigation** area, an area to display content or task modules (sets of related tasks), and an area where task modules can be docked. A **Current Task** module is initially included in the docking area to help you through the required steps to accomplish common tasks.



Customizing screens

HP Web Jetadmin provides numerous opportunities to customize screens:

- Easily minimize, hide, or auto-hide the **Task Module Docking Area**.
- Place the **Task Module Docking Area** in one of eight different areas of the screen using drag-and-drop.
- Resize sections on a screen and columns within a section using drag-and-drop.
- Resize columns or set the width of a column by clicking and dragging the column marker in the list header to the desired width. Or, to resize the column to the broadest width required to display the data, double-click on the column header.

Current Tasks and Common Tasks

Throughout HP Web Jetadmin, the **Current Tasks** task module lists those tasks that are included in each specific area. For example, in **Groups**, the **Current Tasks** task module lists all tasks within **Groups**.

Within the **Task Module Docking Area**, underneath **Current Tasks**, you can choose to show common tasks for any area. This capability lets you view and access task modules that you use most often, no matter what part of the tree structure you are accessing.

Top menu bar features

Across the top menu bar you will find **File**, **View**, **Tools**, and **Help**.

- **File**—Depending upon where you are in the navigation tree, **File** options change and include such capabilities as **New**, **Print preview**, **Print**, or **Exit**.
- **View**—Allows you to adjust the following: **Columns Layouts**, **Refresh Selection**, and **Preferences**.
- **Tools**—Includes such options as: **Export Devices**, **Device Discovery**, **Application Logging Menu**, **Data Synchronization**, and **Options**.
- **Help**—Provides online help for HP Web Jetadmin. You can read context help or find help information from a list of contents, from an index, or by searching.

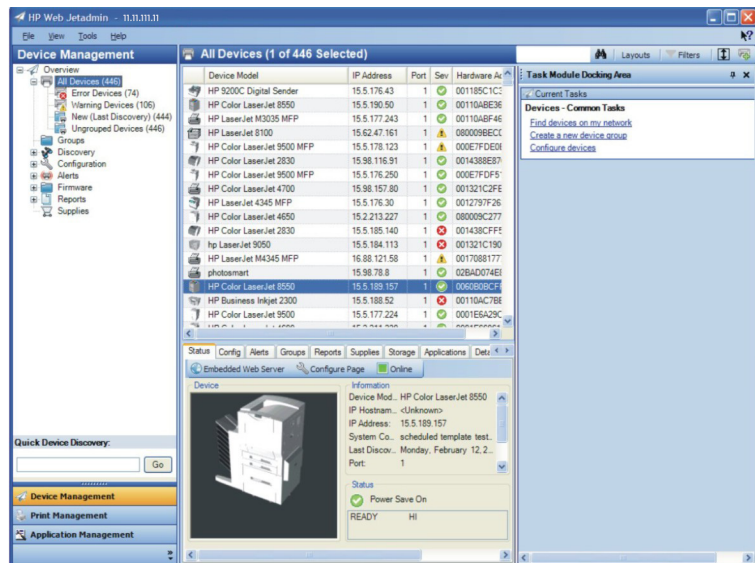
Three HP Web Jetadmin sections

HP Web Jetadmin is separated into three sections accessible through the lower portion of the left navigation pane:

- **Device Management**—used for all device-related functions.
- **Print Management**—used to manage print queues and drivers on remote servers and workstations.
- **Application Management**—used for application functionality such as users and roles, security, software updates, and discovery of other HP Web Jetadmin installations.

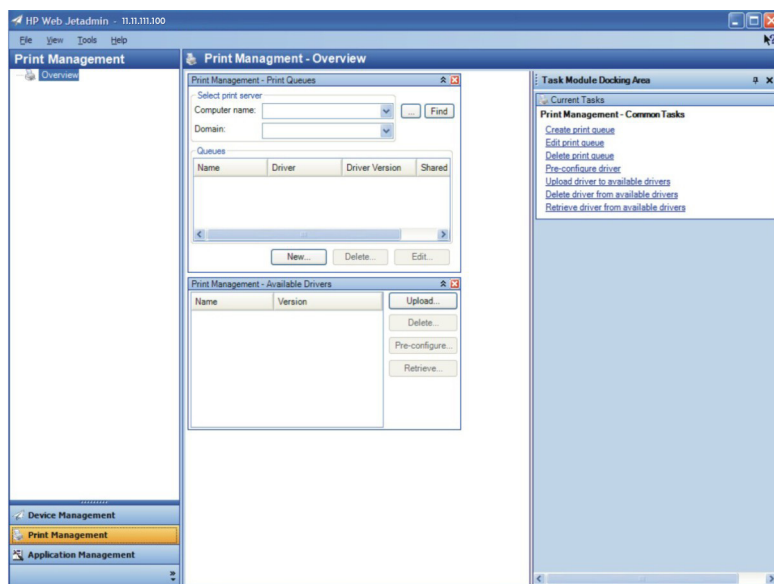
Device Management

Device Management helps you manage print devices on the network. These features can be used to find and configure devices, group devices, set alerts for devices, upgrade firmware, manage supplies, and create and schedule reports. For more information, please see “Fleet deployment...” on page 11, “Proactively solve problems...” on page 15, and “Make informed decisions...” on page 18.



Print Management

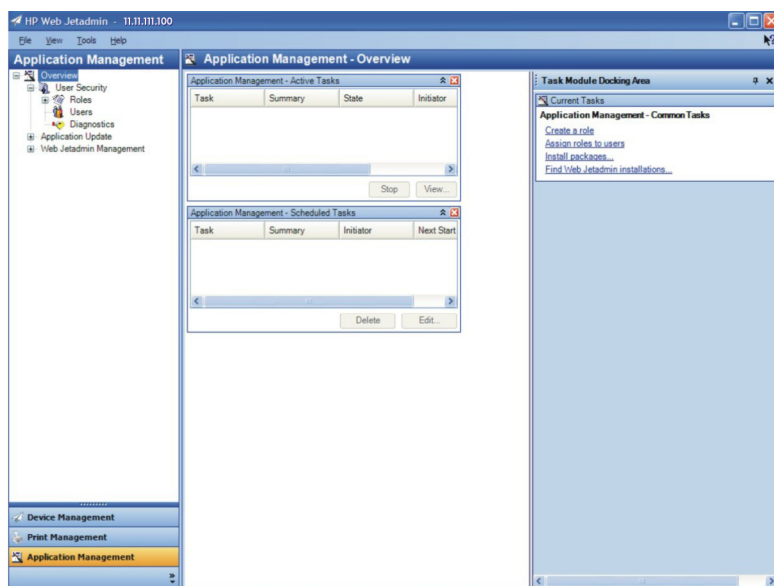
Print Management provides control over remote print queues and drivers. These features can be used to create, edit, and delete existing queues as well as install or update printer drivers. HP Web Jetadmin can act as a driver repository for deploying new HP drivers onto remote systems. And, **Print Management** features in HP Web Jetadmin use the HP Universal Print Driver (UPD). For more information, please see “Print management” on page 14.



Application Management

Application Management allows you to set up HP Web Jetadmin roles and users, get application updates, and discover other installations of HP Web Jetadmin. These features can be used to secure access to HP Web Jetadmin features and ensure that additional functionality, device support, service patches, language support, and more are always current.

For example, you can use **Application Management** to assign local or domain users to user roles. A role is a set of permissions for HP Web Jetadmin features. Once a user is assigned to a role, that user will have access to the permissions designated by the role. For more information, please see “User roles” on page 21.



Device options

Viewing devices

Quick Device Discovery can be used to find a device based on network searchable parameters such as IP address or IP hostname. **Quick Device Discovery** initially looks in the HP Web Jetadmin cache to see if the device has already been discovered. If not, **Quick Device Discovery** can use the information provided to locate the device on the network and add it to the HP Web Jetadmin cache of discovered devices. Once found, the device **Status** page will be displayed.

NOTE **Quick Device Discovery** does not work for PC-connected devices.

Layouts

You can create different layouts to apply to any **Device List**. At the top of each **Device List** is a **Layouts** field with a drop-down list from which you can select any custom layout or default layout or create a new layout. The layouts can be **Shared** or **Private**.

Device Filters

Filters are used to limit the content of any list based on specified criteria. Filters can also be applied to other features such as **Automatic Device** groups.

- Multiple layers of filtering can be created using AND/OR functions.
- Filters can be stored and shared with other users.
- A few built-in filters exist when HP Web Jetadmin is first installed, such as **Color Devices**, **Error Devices**, **PC-connected Devices**, **Ungrouped Devices**, and **Warning Devices**.
- Filters can be added as filtered lists in the left navigation pane.

Printable manual

The *HP Web Jetadmin User Guide* is available for download at www.hp.com/go/webjetadmin (click the **Self Help** tab, then click **Other Documents**). The guide contains all of the information found in the software's online Help.

Fleet deployment: save VALUABLE management time and REDUCE costs

By using one peripheral management utility for all of your network-connected printing and imaging devices, you can do more in less time and turn your attention to other IT matters. Improve the performance of your entire enterprise by quickly discovering, configuring, and enabling the features of all networked print devices.

Improvements to HP Web Jetadmin put network protocols—such as HP Application Discovery agents and HP Device Storage Management—in the background, so you discover devices in a fraction of the time.



Advanced device discovery

The discovery feature searches the network for connected devices or PC-connected devices, displays the results in a list, and adds the devices to a device cache on the host computer. HP Web Jetadmin is capable of discovering devices automatically. The discovery feature provides the following advantages:

- You can schedule discoveries to run automatically at specified intervals and capture devices as they are most visible on the network (such as in the middle of a workday), or when off peak network usage is desired (such as late at night).
- You do not need to be present when discoveries run.
- Without leaving your workstations, you and helpdesk personnel can quickly find specific devices or those with particular capabilities.
- You can now use HP Web Jetadmin to auto-discover print devices and track IP address changes, which helps streamline reporting and maintenance issues. Upload IP address lists to enable automated device discovery of blocks of network devices you designate. Devices can be moved from one network drop to another without reconfiguring IP addresses. Once the device is networked, HP Web Jetadmin assigns a new entry and alerts the administrator of the change.



After you install HP Web Jetadmin, run an initial discovery to build a cache of device information. HP Web Jetadmin discovers devices in two ways: by sending a query to devices and listening for their responses and by monitoring the network for SLP signals that the devices send to indicate their presence on the network. The software uses industry-standard SNMP queries to recognize devices and collect device information.

Network device discovery

The following table describes HP Web Jetadmin discovery mechanisms:

Local Broadcast—IP Broadcast discoveries	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. You can limit the discovery mechanism to the local subnet or configure it to cross up to 15 routers for remote subnets.
Specified Addresses discovery	Searches for all of the devices listed in a host file that you create. NOTE The IP Hostname can be used but DNS lookups must be enabled (they are by default).
IP Range discovery	Searches for the devices located within a range of IP addresses (multiple IP ranges can be designated). IP ranges can also be uploaded. IP addresses can be stored in files that correspond to groups on the server and can be accessed in an automated process by HP Web Jetadmin. Multiple groups can be selected to run a discovery.
Active Directory discovery	Searches the Microsoft Active Directory domain for published print queue details. Once these are discovered, HP Web Jetadmin looks within the Windows print queue to determine if the device is network-connected. Discovery settings include AD domain or organizational units.

Listen for new devices (passive discovery)

Finds devices without sending active queries onto the network by listening for device SLP packets.

Other installations of HP Web Jetadmin discovery

Searches the network for other HP Web Jetadmin host machines. These remote hosts can also have their device list synched with the HP Web Jetadmin device list on the local host.

PC-connected printer discovery

HP Web Jetadmin can discover printers connected directly to PCs. When discovery for PC-connected devices is invoked, HP Web Jetadmin communicates directly with the remote host in one of two ways:

- **By looking for an SNMP Proxy Agent on the local PC.** If the agent exists, HP Web Jetadmin begins to query the device through the proxy in much the same way as it queries devices directly connected to the network. Through the agent, many pieces of information for select locally connected HP printers are available, such as status, page count, and supply levels.
- **Through WMI (Windows Management Instrumentation).** WMI is a Microsoft service that runs on most Windows operating systems and is used by remote management applications to gather information. The WMI PC-connected discovery solution does not gather status or other details from the device. The WMI PC-connected discovery also requires administrator (local) credentials on each host queried.



NOTE The SNMP Proxy Agent only works with select HP printers. For more information, visit www.hp.com/go/webjetadmin.

PC-connected devices are added to the same **All Devices** list as are network-connected devices and can be distinguished as PC-connected devices.

Grouping devices for easy management

When the devices list in HP Web Jetadmin becomes too large to quickly locate or manage devices, it can be broken into subsets, or *groups*, in order to manage the devices more easily. Benefits to dividing a large list of devices into groups include:

- Devices are easier to locate when organized into smaller subsets.
- Dividing a list into smaller, logical subsets makes tracking assets easier.

Organize devices according to your specific peripheral management needs. For example, organize devices by geographic location for simple, logical management. A main group might be named after a city, subgroups might be associated within the city for each building site, and additional subgroups might be associated within each building for floors or departments. For asset management purposes, group devices based on model type.

Creating groups

Groups can be populated from the **All Devices** list, another group, or any list that has had an HP Web Jetadmin filter applied to it. HP Web Jetadmin has drag-and-drop functionality that makes creating and editing groups simple and fast. You can add devices manually or you can select **Automatic** to automatically add devices to groups. **Automatic** allows newly discovered devices to be added to a group based upon criteria or filters defined for the group.

Subgroups

Just as groups of devices in HP Web Jetadmin are subsets of the list of all devices, subgroups are subsets of other groups and are created to provide organization and structure to more easily manage devices. It is generally easier to work with smaller groups, especially when large lists of devices exist in HP Web Jetadmin. Subgroups can minimize wait times for actions to be performed on lists of devices.

Ungrouped Devices

The **Ungrouped Devices** folder of the **Navigation** tree displays devices that have not been added to a group.

Group Import/Export

This new feature allows you to export one or more groups to an XML file. The name, contact, description, filter, and (optionally) subgroups can be exported. Group policies are not exported.



Groups may be exported in the existing hierarchy or they may be exported in a flattened structure where some or all of the groups are placed at the root. A group may only appear once in the export file. During importing, an XML file and the destination group are selected for the import. Groups may be imported anywhere in the existing group hierarchy provided there are no name conflicts.

Fleet configuration management

Remote installation and configuration

HP Web Jetadmin allows you to select multiple devices or groups of devices and change the options for all of those devices at once. For example, you can install multiple devices at once or assign the same password to several devices that have already been installed. Spend a few minutes entering the information once and then apply it to all selected devices, rather than entering the same information repeatedly for each device. It also ensures that redundant information is entered consistently and correctly across multiple devices.

The following are some of the many options that you can configure for multiple devices:

- Subnet mask
- Default gateway
- System contact
- Front control panel lock
- Device passwords
- Powersave mode
- Description
- High-capacity output mode
- HP Jetdirect alerts
- IPX Frame type
- Protocols
- Set Community Name (security option)
- Interim page count
- Status page language
- Digital send to email and fax settings

Automatic device configuration

You can apply settings and features to new devices on the network with minimal user intervention. The **Groups Policies** feature auto-configures peripherals with device-based, alert, and report settings. This is done automatically as HP Web Jetadmin filtering populates the Automatic groups' memberships.

Multiple HP Web Jetadmin installation synchronization

If you have a distributed enterprise running multiple installations of HP Web Jetadmin, HP Web Jetadmin not only helps you discover those other installations, but also offers the ability to share device data between them. This capability can be found within **Application Management**.

Firmware updates

HP Web Jetadmin software facilitates device or HP Jetdirect firmware updates on supported product models. Devices can be updated in one-to-one mode or through batch and schedule settings. You may obtain firmware directly through the HP Web Jetadmin interface (requires HTTP connection between HP Web Jetadmin and the Internet), from any print device **Software and Driver Downloads** page, or from the HP Web site at www.hp.com/go/wja_firmware for HP Jetdirect devices.

Print management

Print Management features in HP Web Jetadmin allow administrator control over remote print queues and drivers. These features can be used to create, edit, and delete existing queues as well as install or update printer drivers. HP Web Jetadmin can act as a driver repository for deploying new HP drivers onto remote systems. In addition, HP Web Jetadmin **Print Management** utilizes HP Universal Print Driver.

- **Driver installation**—HP Web Jetadmin facilitates driver management. Drivers can be added to the HP Web Jetadmin host which acts as a driver repository. Drivers are installed on remote hosts where queue management is being performed. The drivers can be removed when out of date or no longer needed. Pre-configured drivers can be applied during print queue management operations or exported to disk as stand-alone .INF driver install file sets. All drivers installed onto remote hosts by HP Web Jetadmin are installed using .INF driver install file sets. They are not installed with any additional software such as utilities or toolboxes.
- **Driver pre-configuration**—Many HP drivers can be pre-configured, allowing you to define device defaults and feature availability. For example, you can restrict color printing to those who need it, for multiple devices and users. Features that can be set to a particular state for greater resource management include **Duplex/Simplex, Portrait/Landscape, Print in grayscale, Print quality**, and more. Some of these features can be locked. Typically, HP PCL5 and PCL6 drivers for newer HP devices can be preconfigured in a variety of ways.

Enhanced print queue management

Within the **Print Management** section, HP Web Jetadmin can install print queues and drivers onto multiple remote hosts. This fleet print queue creation can be done remotely from the HP Web Jetadmin client interface and in one configuration session.

Fleet deployment is essential for companies that are geographically distributed, and where different devices or different user rights (such as the ability to print in color) may be implemented. Using the **Create Queue** wizard, drivers can be pre-configured with the proper rights and deployed to the users' PCs without having to travel to the sites.

HP device plug-ins

Each time a new HP device is released, HP Web Jetadmin can be updated with a new device plug-in to support the new device's unique features. Once the update is applied, HP Web Jetadmin provides the means for print administrators to configure these features. Device plug-ins provide full support for new devices immediately, without having to wait for the next release of HP Web Jetadmin.

Non-HP device support

If your business is like most, you probably have printing and imaging devices from a number of different manufacturers, and are working hard to manage these devices. Proprietary peripheral management tools exist, but managing diverse environments typically adds complexity and cost to the management equation. HP addresses this need by offering non-proprietary peripheral management software. By supporting the standard printer MIB (management information base), HP Web Jetadmin is able to manage non-HP devices including device alerts, diagnostics, and configuration options.

Proactively solve problems using **SOPHISTICATED** management tools

Because HP Web Jetadmin contains many features for troubleshooting print devices, it is increasingly being used as a helpdesk troubleshooting tool. For example, helpdesk personnel can perform the following actions remotely using HP Web Jetadmin to troubleshoot a device issue:

- Quickly locate a device with **Quick Device Discovery** or the **Device List Search** feature
- View the status of a device to determine if it is experiencing an error
- Stay up-to-date on all device alerts using SNMP trap generators
- Generate a test page, which acts as a ping test to determine network connectivity
- Switch the device online and offline
- Power cycle the device
- Perform a cold reset to factory defaults
- View critical diagnostic information, such as firmware version
- Upgrade supported device or HP Jetdirect firmware
- Configure network or device parameters

Locating devices

When users contact the helpdesk with a device issue, helpdesk personnel can use **Quick Device Discovery** or the **Device List Search** feature to remotely access device information and display the device's status. Search criteria include:

- IP address
- IP hostname
- Searchable lists (any field strings)

Version 10.2 includes new basic graphical mapping capabilities that give print administrators a handy reference to help them find and fix printing issues quickly and easily. You can associate a map with a device group and then place images on the map to represent devices in that group, subgroups, or URLs. The group map is displayed when looking at the device list page for that group, adding a visual context (usually geographic). The images on the map convey status at-a-glance and can be used to navigate within the group hierarchy.

A circular badge with a light blue border and a white background, containing the word "NEW!" in bold, orange, uppercase letters.

Troubleshooting devices

Once the helpdesk has accessed a device, a variety of troubleshooting options are available to remotely resolve issues. A significant amount of time can be saved if a problem can be solved without having to physically interact with a device.

Print test pages

Easily send test pages or test files to a single device or your entire printing fleet. By sending the job directly to the device, the helpdesk can more quickly determine print queue versus device issues. This feature can also be used to determine whether network communication with the device is possible.

New built-in scheduling capabilities allow you to set times and dates for specific devices to print tests. You can also send a test page or test file to the entire fleet as a single event, to ensure system-wide changes have been successful. HP Web Jetadmin even has templates to help you quickly create test pages.

A circular badge with a light blue border and a white background, containing the word "NEW!" in bold, orange, uppercase letters.

Reset options

From a device's **Troubleshoot** tab, select **Reset Device** to power cycle a device remotely. HP Web Jetadmin now lets you perform power cycles for single devices or your entire print fleet via a single event or on a schedule, saving valuable administration time and money. Performing fleet power cycles aids in troubleshooting, bringing devices back to a known state, clearing errors, recovering firmware update trouble, and more.



Printer web servers

Connect directly to a printer HTTP server from within HP Web Jetadmin. This provides additional one-to-one troubleshooting. The printer's Embedded Web Server can be accessed through either the **Status** or the **Troubleshoot** tabs.

Device status

The status of individual devices or groups of devices can be viewed to determine the current state of each device. The status feature allows many warning or error issues to be remotely resolved before they are detected by end users. **Device Status** can be enabled in device lists, with a column describing the device condition. The software allows you to import and export columns, enabling quicker setup. The **Severity** column (enabled by default) uses a combination of color and icons to represent the severity of each device's status. This makes sorting devices easy and facilitates quick and proactive problem resolution.

HP Web Jetadmin uses an SNMP trap generator to capture current status automatically so your information is always accurate and up-to-date.

Alerts

Alerts are a very powerful and frequently used feature of HP Web Jetadmin that provide proactive notification of printing and imaging problems. Email message alerts may be sent whenever certain predefined events occur. For example, error or warning conditions on devices, such as paper out or toner low, can prompt email messages to be sent to responsible parties, allowing them to act upon that condition immediately. In the email, HP Web Jetadmin attempts to provide the message that appears on the control panel of the device. Proactive notification of device events allows administrators to correct problems before they impact end-user productivity.

Alerts history data can be logged to a file for export and use in database management systems.

Available alerts

The following types of alerts can be subscribed to: **General alerts (detailed)**, **Supplies alerts**, and **Critical alerts**. Polling rates are adjustable. Alerts now support more granular printer errors such as **Subsystem 72—Service Error**. Examples of alerts include:

- Notifying a recipient through email about a **Toner Low** or other supplies condition determined by the HP Embedded Web Server.
- Notifying a recipient through email about other supplies issues, such as a specific supply threshold.
- Advising an administrator of an issue such as **Out Of Memory** or **Manual Feed Needed**.
- Notifying a recipient through email about a media problem, such as **Output Bin Full**, **Paper Jam**, or **Stapler Error**.

Supplies alerts

Supplies alerts can be sent at various thresholds in order to receive a warning that a supply, such as a toner cartridge, is running low. Alerts can be customized based on the type of supply and can be sent to responsible parties for timely and cost-effective reordering. Supplies alerts include tray/media level, fuser, drum, toner, and other device supplies.

You now have the ability to set the alert threshold based upon the type of supply, as well as the ability to send an email alert to the person responsible for that type of supply. For example, a helpdesk person may be responsible for replacing a drum, while one administrator is responsible for replacing paper, and another is responsible for reordering toner. Supplies alerts may be sent via email, SNMP trap generator, or Web Services.



Configuring alerts

HP Web Jetadmin allows you to select which devices will be monitored for alerts and to configure which events will be monitored for each device. Two key features, **All Subscriptions** and **Templates**, enable administrators to quickly edit, apply (subscribe to), and manage HP Web Jetadmin alerts on fleets of devices. Customized settings for individual devices can also be copied from one device to others by creating a subscription template. Simply drag and drop the devices onto the subscription template to quickly apply the template to multiple devices.

For each alert type monitored, it is possible to configure the **Time to ignore duplicate alerts**, a parameter that can dictate how often a particular alert email is sent. For example, an administrator may only want to be notified once per day that toner is low on a device, but may want to receive a notification every time paper has run out in a device so that it can be refilled promptly.

Select recipients to receive alerts

Email accounts can be entered to receive all alerts for a single device, or individual accounts can be specified to only receive messages for unique alerts that occur on a device. For example, a **Toner Low** alert could be sent to someone in charge of ordering supplies, while a **Paper Jam** alert could be dispatched to a helpdesk.

Language preferences can also be associated with particular email addresses, and the same alert message may be sent to different people in different languages. HP Web Jetadmin also offers the ability to assign different content lengths of email messages—**Concise**, **Verbose**, or **Custom**—to different types of events.

Make INFORMED DECISIONS for your business

More information at your fingertips

When you know exactly what is going on in your print environment you make better management decisions and you're in a better position to control costs. Reports can help you monitor usage and supplies trends, control color use, optimize your fleet, and administer your printing and imaging assets. When properly configured, HP Web Jetadmin can provide a wealth of information, including:

- **Data collection**—An administrator can enable HP Web Jetadmin to automatically gather a wide variety of information for a device or group of devices.
- **Reports**—Once data collection has occurred, users 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 to email.
- **Supplies management**—An administrator can enable monitoring, alerts, and reporting capabilities for device supplies.

Enabling data collection

Data collections are groups of devices that have specific collection types enabled. An administrator can apply a data collection type such as **Device Utilization By User** to a single device, multiple devices, or a device group.

When a data collection is first applied to a device or devices, HP Web Jetadmin launches a data collection immediately to establish a data baseline. Once the device is populated under a specific data collection type, data collections occur at specific intervals or triggers.

Data collection types all have a specific collection cycle. Data retention in the HP Web Jetadmin database is automatically set to one year beyond the initial collection date, although data collections for reports can be retained for up to five years.

Types of reports

Reports are generated through a combination of user-specified settings and stored data. Finished reports can be displayed through the HP Web Jetadmin client host, stored in an archive, or sent to email. Reports can be generated in a summary format, a reporting period format, and through any number of graphical formats. Administrators can schedule reports to occur automatically.

Easily monitor system performance with easy-to-export charts, using comma delimited files and standard productivity software such as Microsoft Excel and others. These exported charts can be used to track print devices, workgroups, or overall system status and performance. Via a whitepaper, HP provides templates, examples, and instructions to create simple charts. Contact HP support for details.

Available types of data collection and reports

HP Web Jetadmin offers a wide variety of data collection types and reports to give you better insight into your print environment and to help control costs. Available data collections and reports include:

- **Accessories Inventory**—tracks device accessory inventory in a table sorted by device.
- **Device Utilization By User**—determines which jobs are being printed and by whom in a table sorted by device or by user.
- **Device Inventory**—reports *new*, *found*, and *lost* device status as of the last known status or time interval. Includes the number of various models installed on the network. This enables you to monitor which devices are actually on the network.
- **Device Utilization**—provides counts for media/page types processed per time interval or reporting period.

- **Event Log History**—tracks event frequency by error type in a table by period, by type, or by device.
- **Hourly Peak Usage**—presents summary reports of device media/page counts on an hourly basis.
- **Supply Utilization: Supply Ordering (HP SureSupply)**—reports supply ordering requirements based on percentages and threshold; also allows you to automatically place your order via HP SureSupply.¹
- **Supply Utilization: Supply Replacement Forecast**—predicts supply replacement dates using supply usage histories. Table includes part number details, current supply levels, and more.
- **Supply Utilization: Supply Usage**—improves understanding of supply consumption rates in particular environments (shows individual supply consumption to date, supply last install date, supply serial number, and more).

NOTE This report only includes information about devices with serial numbers on their toner cartridges.

Supply Report - Supply Usage

HP Web Jetadmin

Report Type: Supply Usage - Details
 Date Created: 12/9/2009 2:20 PM
 Group By: Device (Sort: IP Hostname (Ascending), Port (Any) (Ascending))
 Sort By: Supply (Ascending)
 Usage period: 1 month(s)
 Installation state: Uninstalled only
 Device Group: None
 Devices: 0/10 (Devices without data excluded)

Device Model	IP Hostname	IP Address	Hardware Address (HAA)	Port (Any)
HP Color LaserJet 4730	hostname10.com		002072004034	1

Supply	Supply Part Number	Supply Serial Number	Supply Installation Date	Initial Supply Level (%)	Estimated Supply Level (%)	(%) Supply Consumption	Average Supply Coverage
Yellow Toner	Q5952A	8242	9/25/2008	83%	71%	12%	4.0%

Device Model	IP Hostname	IP Address	Hardware Address (HAA)	Port (Any)
HP Color LaserJet 4730	hostname2.com		00E78084121E	5

Supply	Supply Part Number	Supply Serial Number	Supply Installation Date	Initial Supply Level (%)	Estimated Supply Level (%)	(%) Supply Consumption	Average Supply Coverage
Cyan Toner	Q5952A	7492	10/25/2008	81%	21%	1.0%	1.0%
Magenta Toner	Q5952A	4896	4/23/2008	83%	72%	11%	—
Magenta Toner	Q5952A	8705	7/10/2008	92%	73%	19%	9.0%
Yellow Toner	Q5952A	8288	9/25/2008	90%	76%	14%	9.0%

Device Model	IP Hostname	IP Address	Hardware Address (HAA)	Port (Any)
HP LaserJet M4345 MFP	hostname3.com	192.168.1.3	0034007C08EE	1

Supply	Supply Part Number	Supply Serial Number	Supply Installation Date	Initial Supply Level (%)	Estimated Supply Level (%)	(%) Supply Consumption	Average Supply Coverage
Black Toner	Q5945A	1194	3/13/2008	88%	67%	21%	0.0%

Generating and scheduling reports

Reports can be generated as you request them (after data collection has been enabled) or they can be scheduled to be generated at a future time. HP Web Jetadmin provides several options for generating and scheduling reports. If templates have been created, you can select an existing template—or create a custom report. You can delete or edit a report after it has been scheduled through the **Scheduled Reports** task module.

Supplies management

HP Web Jetadmin helps you easily monitor, order, and replenish supplies—an important aspect of keeping devices up and running. Key feature items for **Supplies** include:

- **Supplies information tab**—Quickly displays levels, part numbers, and other supplies details for any device list selection. Order supplies details by **Device**, **Urgency**, **Part number**, or **None** (an expanded device list).
- **Supplies groups**—Used to quickly incorporate and manage devices under proactive and predictive solutions. For example, an individual with responsibility over supplies for a set of devices in one part of the enterprise can group the devices in supply group “A.” Another person with responsibility for managing supplies in a different part of the corporation, perhaps in another city, can create supply group “B.” These two individuals can create settings and manage supplies separately in a way that fits their individual needs.
- **Consolidated supplies ordering**—Available in both reports and alerts within the supplies solution, this feature provides the option to connect you to the HP SureSupply page on the HP Web site.¹

Proactive supplies management

Proactive supplies management leverages HP Web Jetadmin alerting features. When it is activated with the **Enable** checkbox, you can choose any of four proactive supplies alerting features. Within these features, you can now specify different thresholds and designate optional email recipients for each type of supply. Supplies alerts may be sent via email, SNMP trap generator, or Web Services.



The four proactive supplies alerting features are:

- **Supply refreshed**—Fixed at 100%
- **Early warning**—Adjustable from 0% to 99%
- **Supply low**—Adjustable from 0% to 98%
- **Supply out**—Adjustable from 0% to 97%

NOTE The settings for **Early warning**, **Supply low**, and **Supply out** cannot overlap and each one is limited by the setting directly above it. For example, the setting for the **Supply out** threshold cannot exceed the **Supply low** threshold.

When supplies alerting is enabled, HP Web Jetadmin uses an adaptive polling technique that increases polling frequency as a supply gets closer to the user specified threshold. In this way, HP Web Jetadmin can propagate supplies alerts messages accurately and use less network bandwidth than with traditional polling methods.

Predictive supplies management

Predictive supplies management, when activated with the **Enable** checkbox, starts data collection on all devices contained in the supplies group. The supply group predictive report is fully schedulable and customizable with details including **Supply**, **Part No.**, **Estimated Replacement Date**, and more, including the ability to link to HP SureSupply. The report can be archived and can be sent to email recipients.

Protect your investment with **ADVANCED** SECURITY FEATURES

Because HP Web Jetadmin can be accessed from nearly any desktop and installs and configures devices, it must be secured from unwanted access. HP Web Jetadmin not only safeguards itself against unauthorized users, it can also protect the devices it manages.

A variety of ways to secure HP Web Jetadmin

HP Web Jetadmin offers several levels of authentication and privacy to secure devices and itself against unwanted access. A firewall protects the internal network from external access, and is the first defense mechanism that ensures against unwanted Internet users browsing to an installation of HP Web Jetadmin.

HP Web Jetadmin offers additional security to ensure only desired users within the intranet have access to the software. These are described in the following sections.

HTTP port

The HTTP port number can be changed to align the HP Web Jetadmin port to security standards within a given environment. HP Web Jetadmin defaults to port 8000 in order not to conflict with any other Web service on the machine that may be using the typical port 80. However, the port number can be changed by the administrator to any desired number.

SSL/TLS

HP Web Jetadmin's HTTP server can be further protected by implementing SSL/TLS, which forces authentication between the HP Web Jetadmin server and the desktop browsing. A self-signed certificate must be installed on the HP Web Jetadmin host computer when implementing SSL/TLS.

Data encryption with .NET Remoting

HP Web Jetadmin can encrypt information passed between a browser and HP Web Jetadmin's host machine (such as passwords) using HTTPS. .NET Remoting provides its own encryption independent of the initial browser session that is used to launch the product.

Active Directory domain users and groups

HP Web Jetadmin uses user accounts or groups within the Active Directory domain as a means of authenticating end users. The user that initially implements HP Web Jetadmin must be a member of the local Administrator group on the host where the software is being installed. Any user (including an Active Directory domain user) that is a member of this local group has Administrator rights within HP Web Jetadmin.

User roles

User Roles determine which elements of HP Web Jetadmin various users can access. For example, you can use roles to prevent unauthorized users from changing system-wide settings, starting discoveries, and creating device groups. All roles are assigned to Active Directory groups or users that authenticate to HP Web Jetadmin via Single Sign-on. By right-clicking the **Run as** option for Internet Explorer, users can also authenticate with an alternate domain identity on another person's desktop. User and password management are no longer administrative functions in HP Web Jetadmin, as these items are now managed within the Active Directory domain.

Local users and groups can be created at the HP Web Jetadmin host and can be used in place of Active Directory domain user credentials. This is helpful in environments where Active Directory domain credentials are not used.

Device-level security

While an installation of HP Web Jetadmin contains several methods for securing itself against unwanted access, devices may still be configured with other installations of HP Web Jetadmin or other SNMP utilities. For example, configuration of a device can be accomplished through a variety of utilities including:

- HP Web Jetadmin
- HP Install Network Printer Wizard
- Telnet
- HP Embedded Web Server
- Any SNMP utility

With all of these avenues for potentially changing device configuration, setting security at the device level is the surest way of restricting access to the device. Users can access devices in a variety of methods, but setting security at the device level is effective no matter which technique is used to access the device. There are several security mechanisms that can be enabled with HP Web Jetadmin to guard against all forms of access, including:

- Upgrading HP Jetdirect firmware to the highest level
- Disabling all unused protocols
- Specifying an administrator password (through Embedded Web Server and Telnet)
- Specifying an SNMP Set Community name
- Locking the control panel

NOTE HP Web Jetadmin 10.2 will no longer use the HP Jetdirect password as a form of security to deter unwanted SNMP Set request attempts. We recommend using SNMPv3 to stop unwanted configuration of the device using SNMP.

IPsec

IPsec device configuration items appear within the **Network** configuration category. Using HP Web Jetadmin, you can configure an IPsec policy and then apply it to one or more selected HP Jetdirect devices. Through an IPsec policy, IP traffic can be processed or discarded, and processed traffic can be protected by IPsec authentication and encryption protocols. For more details, see the IPsec configuration help documentation.

More details about IPsec and other device security information can be found at www.hp.com/go/secureprinting.

Consolidated security features

HP Web Jetadmin offers a number of security configuration settings to secure devices. In order to make it easier to find and configure all of the appropriate security settings, most security settings have been consolidated into one configuration tree. HP also offers an HP LaserJet and HP Color LaserJet MFP security checklist that explains and offers step by step instructions for recommended network security settings.

Other security options

HP Web Jetadmin offers additional security options to ensure that print devices and network communication between HP Web Jetadmin and network print servers and peripherals are protected.

Device group password	Prevents unauthorized users from making changes to an HP Web Jetadmin device group.
EWS Password	Provides proactive notification of devices that do not have an Embedded Web Server password set.
SNMPv3	Secures communication between HP Web Jetadmin and network print servers or peripherals.

MAXIMIZE THE VALUE of HP Web Jetadmin with support and individualized services

HP understands that you require appropriate support and services to protect your investment in HP Web Jetadmin as a business-critical application. Our improved HP Services portfolio offers a comprehensive selection of solutions, ranging from Foundational Services—which provides advanced technical phone support and consulting—to HP Managed Print Services, which provides a suite of assessment, procurement, environment management, and support services. In addition to our suite of fee-based offerings, HP Web Jetadmin self-help has been improved to accommodate basic support requirements.

Please contact your HP account representative or visit www.hp.com/go/webjetadmin for more information regarding these services.

HP Web Jetadmin Consulting Services

HP Web Jetadmin software is an exceptionally powerful tool for managing enterprise printing and imaging environments. HP Web Jetadmin Consulting Services are designed to give your IT administrators a jumpstart with HP Web Jetadmin by teaching them how to get the most from this robust solution. Depending on your specific needs, we can provide your administrator with knowledge of basic or advanced operation of the tool, share best practices, provide an environment-specific deployment strategy, perform an inside-the-firewall device security assessment, deliver customized knowledge transfer, and provide integration with your existing system management and helpdesk tools. The knowledge provided by our HP Web Jetadmin consultants goes beyond typical product usage and extends into areas of flexibility and customization to address the unique needs of your printing and imaging environment.

Legendary HP support

A new premium level of HP Web Jetadmin support is designed to assist you with the demands of managing your business-critical printing and imaging environment. Our dedicated support engineers are on hand to provide the knowledge and experience you require to support your implementation of HP Web Jetadmin. Your time is important—so rest assured that HP will address your support call with the level of care required, allowing you and your staff to focus on other priorities.

Improved self-help

Our new and improved HP Web Jetadmin self-help portal is designed to provide software support do-it-yourselfers with information regarding HP Web Jetadmin installation, implementation, functionality, usage, and tips. By browsing to

www.hp.com/go/webjetadmin and clicking the

Self Help tab, you will gain access to our industry-leading White Paper library, Frequently Asked Questions repository, Support Documentation links, Support Forum, and Video Training sessions. When you utilize the self-help portal, you can be assured of basic support assistance at your fingertips 24 hours a day, 7 days a week.



HP Managed Print Services

HP Managed Print Services delivers scalable standard and custom service options tailored to meet your specific needs. HP provides everything you need for reliable printing, including site assessment and design for optimized print productivity coupled with unsurpassed repair and maintenance support. In addition, HP ensures that you always have an adequate supply of print cartridges, and that empty cartridges are replaced and disposed of properly. This results in improved printer management that can reduce costs up to 30 percent, depending on company size. HP's Managed Print Services solutions conserve capital, improve asset control, preserve existing lines of credit, and provide protection against technology obsolescence. A variety of flexible, all-inclusive pay-per-use solutions are available through level pay, base plus click, and cost per page billing options with three, four, or five-year agreements and guaranteed support response times.

For more information, visit www.hp.com/go/printservices.

A—TECHNICAL SPECIFICATIONS

Supported network operating systems	Microsoft Windows XP Professional (with service pack 2 and above), Windows Server 2003 Enterprise, Windows Vista® Business Edition and Enterprise Edition. Print management features are supported with Microsoft Windows XP Professional (with service pack 2 and above) and Windows Server 2003.
Supported browsers	Microsoft Internet Explorer 6.0 or above (client host requirement)
Shared print queue creation support	Windows XP Professional; Windows Server 2003
Supported printers	HP Web Jetadmin supports HP printers connected through HP Jetdirect print servers or directly connected to PCs. Network-connected, standard MIB-compliant, non-HP devices are supported with a generic plug-in.
Network protocols	IPv4
Software upgrade and migration	HP Web Jetadmin 7.8, 8.0, 8.1, and 10.1 are supported with either upgrade or migration path installation to HP Web Jetadmin 10.2. Migration from HP Web Jetadmin 10.0 to 10.2 is only possible by first migrating to 10.1. (Operating systems and host requirements for software upgrade are the same as those required for new installation. For software migration, Windows 2000 Professional and Server are also supported.)
Database support	SQL Server 2005 Express (single configuration) included in application installation (requires service pack 2 when installed on Windows Vista) SQL Server 2008 Express
File system type	NTFS (no FAT support)
VMWare Server	VMWare Server, VMWare ESX
Host access requirements	Application host: local administrator required for installation or application upgrade Client host: local user access required for the Microsoft ClickOnce client application Administrator required for .NET installation
Minimum system requirements	(Configuration will affect performance—as more devices, alerts, and users are added, the load will increase.) Server requirements: 2.33 GHz dual core processor minimum (2.8 GHz dual core processor recommended) 3 GB RAM minimum .NET 3.5 SP 1 4 GB available disk space minimum recommended (will vary depending on data migrated from previous HP Web Jetadmin installations and data storage needs required by device data collections) Client requirements: 1.8 GHz processor minimum (2.4 GHz processor recommended) 1 GB RAM minimum .NET 2.0 SP 2 1024 by 768 display resolution (minimum) Web service client (OXPM) requirements: .NET 3.0

B—ORDERING INFORMATION

HP Web Jetadmin	Free print fleet management software for remotely installing, configuring, and managing a wide variety of devices.	J6052AA
HP Premium Web Jetadmin Support	A new, comprehensive, remote software support service designed to support your diversified print environment and improve end-user experience.	HA158AC

For more information about the HP Web Jetadmin software solution, including services, support, and ordering, please contact your HP account representative—or visit www.hp.com/go/webjetadmin.

Endnotes

¹ Program features and availability may vary by country/region. For more information, visit www.hp.com/learn/suresupply.



Microsoft, Windows, and Windows XP are registered trademarks of Microsoft Corporation. Windows Vista is either a registered trademark or trademark of Microsoft Corporation in the United States and/or other countries.

© Copyright 2009 Hewlett-Packard Development Company, L.P.

The information contained herein is subject to change without notice. The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

Technology for better business outcomes

