BEST PRACTICES FOR MANAGING YOUR ASSETS
with HP Web Jetadmin

CONTENTS

OVERVIEW

HP Web Jetadmin is a client/server application that is used for remotely managing HP and non-HP printing and imaging devices. It is a multi-user application, which means that many users can access the software through simultaneous client sessions.

HP WEB JETADMIN IMPLEMENTATION PRACTICES

HP Web Jetadmin implementations should always start with an implementation plan. A formal, phased implementation should be led and driven by a team of people. In some cases, executive sponsorship may be required to accomplish a successful implementation. Finally, a deployment plan should be created that meets the stated needs or goals of the installation. Following is a limited list of questions to ask when developing a deployment plan:

- What is the main purpose of the HP Web Jetadmin implementation?
- Who will be using HP Web Jetadmin, and which feature permissions will be required?
- Where will the application be hosted, and what are the hardware requirements for a successful implementation?
- Who will administer the HP Web Jetadmin implementation?

HP Web Jetadmin use

The implementation plan should consider how the software will be deployed, and the number of users interacting with it. In some cases, HP Web Jetadmin is implemented for only one user, but more commonly it is implemented for multiple users. An IT-supported server typically hosts HP Web Jetadmin, but in some cases a personal desktop or client hosts it. Following is a limited list of usage cases:

- Deployed at the helpdesk: Multiple users access the software occasionally for troubleshooting.
- Deployed to a print management team: Multiple users troubleshoot, configure, and update device firmware on a regular basis.
- Deployed to a facility planning team: Multiple users access the application to generate reports used in planning balanced deployment.
- Deployed to a single print manager: One user manages and monitors device usage.

Users and permissions

In all but the last case listed above, HP Web Jetadmin is deployed to multiple users. When the application is deployed to only one user, the administrator and the user may be the same person. In the other cases, there is probably going to be an administrator, and the users' needs should be assessed in order to provide the features necessary for completing tasks. For example, the helpdesk staff may be tasked with only viewing device status and using some troubleshooting tools. Or, the print or facility management teams may need only reporting features. In some cases, the administrator may want to reserve features like application management or discovery to the administrator team. In all cases, User and Roles features should be considered in implementation planning. See the online Help or the "HP Web Jetadmin Security" white paper on the Self Help and Documentation tab at www.hp.com/go/wja for more information about user security features.

Hosting the application

The HP Web Jetadmin Self Help and Documentation tab at www.hp.com/go/wja contains the "Web Jetadmin Installation and Setup Guide." This document is crucial for implementation planning. When

considering the system specifications for hosting the application, it is important to understand how the software will be used.

For example, the software can be hosted for:

- One user: a desktop host with the minimum system requirements is typically sufficient.
- Multiple users requiring occasional access: a host providing the recommended hardware and software should be used.
- A business-critical team such as the helpdesk: a server-class host with extra memory and perhaps dual processors should be considered. IT should be involved with the implementation to determine the best hosting practices.

HP strongly recommends using a dual processor host with at least 2 GB of memory. While this is above the minimum required hardware specified, commercial implementations of the software function much better on server-class hosts. Disk system performance is also critical to the software performance. Much of the disk activity is tied to HP Web Jetadmin's interaction with an SQL database instance. High-performance storage speeds up these operations and helps the application run much better.

Concurrent user login

HP Web Jetadmin is architected for multiple-user access, and supports 15 or more concurrent connections while maintaining high performance. Of course, application usage makes the performance at each client vary somewhat depending on client load and the hardware hosting the application. The hardware and software requirements should be considered when the application is to be loaded with multiple, simultaneous user connections. For example, if one user performs a device discovery for all devices in the enterprise while another user establishes groups and generates reports, HP Web Jetadmin may exhibit slow performance on a slower host. System resources, network bandwidth, and other factors impact software performance under these conditions. For information on background tasks and task management, see "HP Web Jetadmin task scheduling" and "HP Web Jetadmin task management," beginning on page 12.

Application performance

HP Web Jetadmin, like many other applications, processes large amounts of data while allowing users to work productively. When clients view device lists or access device configuration or status details, HP Web Jetadmin uses CPU bandwidth on multiple device data retrieval. In addition, the application collates and communicates device information back to multiple client sessions. An observant administrator using tools like the Microsoft® Performance Monitor can view the result of this background processing. Here are some characteristics about performance and HP Web Jetadmin software:

- During background task executions, the application may consume a high percentage of the host's processor for short time periods. This is normal.
- System processor consumption may be pronounced on host systems that meet only the minimum hardware requirements.

Best practice

Scale the platform to meet your HP Web Jetadmin use model. For example, reporting on thousands of devices drives processor and resource utilization.

- System processor consumption may be pronounced on single host systems that are running both the HP Web Jetadmin application and the client application on the same host.
- Performance gains can be realized with HP Web Jetadmin running on multiple processor systems.

RAM paging is a process that Windows® uses when it runs out of RAM (memory). When HP Web Jetadmin runs on a host that has run out of RAM and the host has begun RAM paging, the application may respond very slowly. The user interface (UI) and most applications on the host will be sluggish. Steps can be taken to address this problem:

First, launch Windows **Task Manager** to see if the system has run out of memory. When **Available Physical Memory** displays zero, the host is RAM paging. If this is encountered, and the host does not have at least 3 GB of RAM, consider the appropriate actions:

- Add more RAM.
- Be sure you are using a separate host to run the client.
  > **NOTE** The client also requires a full 1 GB of RAM. Client and server applications running on the same host tend to use lots of RAM.
- Scale back the amount of memory being used by the SQL instance (**Tools**, **Options**, **Shared**, **General** settings). While this sounds like it will impede performance, it may actually free up some memory to be used by the HP Web Jetadmin service.
- Evaluate your HP Web Jetadmin host and usage:
  - Are too many users adding tasks like **Discovery**, **Exporting**, and **Reporting** to the system?
  - Is it severely underpowered for the way in which it is being used?
  - Is it being shared for other high-overhead applications?
  - Is it being run on a virtualized operating system (OS) that is not set up with proper resources or is it on a system that is itself underpowered?

Other resources for planning and implementation

A number of documents and online help can be used for planning and implementation of HP Web Jetadmin. The materials are available by going to www.hp.com/go/wja and clicking Self Help and Documentation, or from within the application itself, as stated below:

- "Web Jetadmin User Guide" (available via the software's online help)
- "Web Jetadmin Installation and Setup Guide" (available via the software's online help)
- "HP Web Jetadmin Migration Too" (available via the software's online help)
- "HP Web Jetadmin Security"
- "Discovering Devices in HP Web Jetadmin"
- "HP Web Jetadmin Late Breaking News"

Enterprise systems management integration

HP Web Jetadmin provides a bridge link for enterprise systems management applications such as HP OpenView or IBM Tivoli. These applications and others can be configured to launch HP Web Jetadmin software for specific printers and other imaging devices found within the enterprise application. Here is how an administrator might use this functionality when managing devices within an application such as HP OpenView.

IT administrators can use HP OpenView, **Network Node Manager** to monitor the status of network hosts such as routers, switches, servers, and devices. This is done within a **Network Node Manager** displayed map of the network or network segment. However, to arrive at appropriate and specific printing or digital imaging detail, the administrator requires the help of a tool that is focused on the wide variety of features needed to manage these devices. HP Web Jetadmin is that tool.

Once the HP Web Jetadmin linkage, or "bridge," has been created within HP OpenView, the administrator simply configures any printing or imaging device to launch an HP Web Jetadmin device view when they are selected. HP Web Jetadmin activates this device view launch with this simple URL format: http://WJAServer:8000/device/xxx.xxx.xxx.xxx, where xxx.xxx.xxx.xxx is the IP address of the device (you can also use the device hostname). When HP Web Jetadmin is launched in this way, the application loads with the device pre-selected in the **All Devices** list within HP Web Jetadmin.

Again, the linkage used to support the HP OpenView bridge is generic enough to be used in any enterprise systems management application that can be configured, or "bridged," into an application

like HP Web Jetadmin. Other enterprise systems management integration is possible depending on the application. Talk to your HP imaging and printing account team about HP Web Jetadmin Consulting engagements from HP Services, which are available for assessing and providing solutions for your needs.

USING HP WEB JETADMIN DEVICE LISTS

HP Web Jetadmin has a powerful device list feature designed for use with device groups, filtered device lists, and the **All Devices** lists. Device groups are lists created to organize devices into manageable device sets based on user criteria. Device groups can be populated automatically with filter criteria or manually by users adding and removing devices to and from the list.

Filtered device lists are any HP Web Jetadmin list with a filter applied to them. Filters are used to limit the content of any list based on user-specified criteria. The **All Devices** list shows all devices discovered and captured within the HP Web Jetadmin SQL database with the exception of hidden devices.

Each HP Web Jetadmin list will display devices along a "y"—or vertical—axis and columns along the "x"—or horizontal—axis (see Figure 1, on page 6). Columns display specific device data and can be enabled or disabled, re-ordered, or used to sort the list according to the string value present for each device.

Users can manipulate the columns on any device list:

- **Enable or disable columns**: Right-click the column or choose the **Layouts** tool on the device list toolbar.
- **Re-order columns**: Drag-and-drop the column headers or use the **Layouts** tool on the device list toolbar.
- **Sort the list according to column content**: Click the column header. When you click a column header a second time the list re-sorts opposite from the last operation. For a secondary sort, hold down on the keyboard shift key and click the desired column header.
- **Filter lists**: Limit the content displayed using **Filters** on the device list toolbar. Once filter criteria are established and applied to a list, HP Web Jetadmin evaluates the criteria and shows only devices that meet the criteria. Device lists with filtering applied are evaluated and changed immediately, causing HP Web Jetadmin to gather the data from the devices and store it into the database.

  Once data is initially acquired, HP Web Jetadmin polls devices at a device list poll rate (for more information, see "Device polling" on page 9) to continue evaluating devices for changes.

> **Best practices**
> 1. Limit the content of any list by using filters that have settings based on user-specified criteria.
> 2. To reduce the amount of data traversing the network between server and client, as well as between server and device, use the **Hide/Show Device** tabs on the **Device List** page. This can increase application performance and enable you to see more devices within a list.

HP Web Jetadmin shows actual device data from the HP Web Jetadmin SQL database within lists or displays one of three data messages:

- **<Missing>**: Displayed when the HP Web Jetadmin client has not yet received data from the HP Web Jetadmin server. This can be quickly resolved by scrolling through the HP Web Jetadmin device list or by clicking the column header to sort where the **<Missing>** message is displayed.
- **<Unknown>**: Displayed when the data is not yet present in the HP Web Jetadmin SQL database. This data is collected at one of three polling rates (for more information, see "Device polling" on page 9).
- **<Not supported>**: Displayed when the device does not support the data column present in the list. An example of this is an older HP printer that does not support the device object **Asset Number**.

Figure 1—HP Web Jetadmin device list

Searching the list can be performed by using the **Search Text** field from the device list tool bar. An advanced search tool can also be displayed by clicking the binocular icon located next to the **Search Text** field. In both cases, data content displayed within the list can be searched and devices can be pre-selected based on the search being performed. A few advanced search features are **End list wrap**, **Regular expressions**, and **Select all matches**.

Best practices

To get specific information you need quickly, use list features like filtering, searching, and layouts.

Refreshing devices

Refresh Selection

From the device list, right-click and select **Refresh Selection** or press the F5 key to get real-time status information for one or multiple devices. With **Refresh Selection,** the HP Web Jetadmin client queries devices directly for all of the data it is tracking, even if the data within the database has not expired. After performing the refresh, normal polling and data threshold behavior continues.

NOTE   Although **Refresh Selection** offers a snapshot of the device status at the time you perform the feature, some device data—such as page counts—can change quickly, and may not be fully accurate even moments after the refresh.

Depending on the number of devices selected, there may be a short delay in the data update in your device list.

From the device list, right-click and select **Refresh Selection (Full)** to obtain complete device and status information. With **Refresh Selection (Full)**, HP Web Jetadmin clears device data for the selected device and then re-retrieves the data elements important to device identification. This is useful when, for example, you believe a device has become disassociated from the IP address recorded for it in the HP Web Jetadmin database. If the recorded IP address for a device is correct, HP Web Jetadmin simply updates the device status information, retaining all acquired data. If, however, the IP address in the database is associated with a different device, HP Web Jetadmin performs the equivalent of a device discovery and registers the new device into the database. Information about the previous device remains as well, but **Communication Error** displays in the device list until HP Web Jetadmin discovers it under a new IP address or it is deleted.

NOTE   For performance reasons, **Refresh Selection (Full)** is currently restricted to a single device. To refresh your device database, run a full discovery on your network, or on a specific list of IP addresses using **Specified Address Discovery**.

Managing MultiHomed devices

"MultiHomed" devices have multiple IP addresses associated with them. HP Web Jetadmin supports this configuration, and offers a dedicated **Device List** column to show MultiHomed devices. The **MultiHomed** column can be added to any **Device List** Layout. **Yes** and **No** values indicate whether a device is MultiHomed or not. When dealing with MultiHomed devices, keep the following in mind:

- Each IP address is considered as a separate and unique device in the **Device List**. For simplicity, assume one device—Bill's printer—with two IP addresses assigned to it, and two hostnames: Bill_Printer1 and Bill_Printer2.
- If a user-defined object (like **System Contact**) is defined for Bill_Printer1, the definition displays for Bill_Printer2 as well.
- When Bill's MultiHomed printer is added to a data collection, both Bill_Printer1 and Bill_Printer2 are included as individual devices.
- When Bill's MultiHomed printer is removed from a data collection, both Bill_Printer1 and Bill_Printer2 are removed.
- If Bill_Printer1 is deleted from the database, Bill_Printer2 remains unaffected and displays as active.
- If Bill_Printer1 is part of a data collection and is deleted from the database, only Bill_Printer1 is removed from the data collection.
- If both Bill_Printer1 and Bill_Printer2 are included in a page count report, the output for Bill's MultiHomed printer is counted twice. As a result, HP strongly advises against including MultiHomed devices in page count reports.

Device uniqueness

To maintain accurate data, HP Web Jetadmin identifies individual, unique devices by querying them for a serial number. If a device does not have a serial number or does not respond to HP Web Jetadmin's request for a serial number, the device is marked as not being unique. Some third-party devices (and even some older HP devices) may not respond with a valid serial number. In such cases, HP Web Jetadmin may be limited in how it manages that device. In order to help manage device uniqueness, HP Web Jetadmin now offers a dedicated Device List column called **Unique**, which can be added to any **Device List** layout. **Yes** and **No** values indicate whether a device is unique or not. When dealing with device uniqueness, keep the following in mind:

- Make sure a device is unique before starting any data collections on it.
- After a valid serial number is added to a device that has been collecting data, the historical data from that device will be unavailable. This is because the device with the new valid serial number is treated as a new device, unrelated to the data collected from the device when it did not have a serial number.
- Make sure devices stay unique by following the proper HP procedure when replacing an HP device's formatter board (ensure the serial number is re-written to the new formatter board).

IP hostname vs. system name

In the HP Web Jetadmin device list, the **IP Hostname** column is enabled by default. The column is populated with a value from the hosting system name resolve API (Gethostbyaddr). This request is based on the device's IP address and is sometimes called a reverse lookup. The host uses a number of methods to resolve names that are not covered in this document, but that include DNS (Domain Name System) and WINS (Windows Internet Name Service). If the system is unable to resolve device name information the column will display **<Unknown>**. Figure 2, at right, shows an IP Hostname column example where both name values and **<Unknown>** exists.

NOTE: HP Web Jetadmin uses a call to Windows to get device IP Hostname and then stores this value into an SQL table along with many other device details. Web Jetadmin puts a time-to-live setting on the IP hostname attribute and won't check back with Windows name services until the value is at least 24 hours old. In most cases, Windows acquires this same value from a DNS server (some environments may vary). Windows has a default DNS cache setting of 24 hours. See Microsoft documentation regarding DNS, name services and also adjusting DNS cache settings.

IP Hostname	System Name
npie5ff8d.americ...	NPIE5FF8D
npi832002.ameri...	NPI832002
<Unknown>	NPI936F9A
npi813016.ameri...	NPI813016
npid09e9c.ameri...	NPID09E9C
npia2c802.ameri...	NPIA2C802
npi81772b.ameri...	NPI81772B
cwcascabel.ame...	cwcascabel
npia0ca32.ameri...	NPIA0CA32
NPIA2C821	NPIA2C821
maquis.rose.hp.c...	maquis

Figure 2—IP Hostname and System Name

System Name is another column heading, but it is not enabled by default. This reflects the System Name object that is stored on the HP Jetdirect network interface. This object is a proprietary HP item and is also called sysName. It may seem confusing that HP calls the sysName item "Host Name" within the HP Jetdirect embedded web server (EWS) configuration interface, but there is a reason for this.

The System Name, which in and of itself is not resolvable by the computer hosting HP Web Jetadmin, can be registered into network name services like DNS and WINS. This is key to understanding why in HP Web Jetadmin the System Name is sometimes mirrored in the IP Hostname column. Some HP Jetdirect devices can have a WINS address configured on them. If this item is configured on the HP Jetdirect interface, the System Name value could be registered with the WINS server on the network and the system hosting HP Web Jetadmin, if it is using WINS, could resolve that name making it appear in the IP Hostname column. As well, a DHCP (Dynamic Host Configuration Protocol)-configured HP Jetdirect interface (for some versions) can register the System Name value onto DNS by way of the DHCP process. If this occurs, and if the computer hosting HP Web Jetadmin resolves names via DNS (this is very common), the System Name value also appears in the IP Hostname column. Read the HP Jetdirect documentation to further understand both of

Best practices

Learn and understand your IT department's implementation of name services as well as the settings on the HP Web Jetadmin host computer. Both of these items are key to understanding the result in the HP Web Jetadmin IP Hostname column.

these mechanisms. Also, the HP Jetdirect device behavior varies depending on its firmware revision.

Another item to consider with IP Hostname values is where the IP address may have been used before for a previous device. A printer within the HP Web Jetadmin **All Devices** list may be configured with an IP address that used to belong to a workstation or server. In some cases, these IP addresses could have been configured via static means into network name services like WINS and DNS. Sometimes you may see an IP Hostname of "GeorgesPC" and wonder how George's PC became a printer. The solution typically involves contacting the people managing the network name services and asking them to undo the static reference. In addition, printers often use static IP addresses and, in order to get the correct naming within the HP Web Jetadmin IP Hostname column, static name reference configuration must take place on the network name service(s).

DEVICE POLLING

HP Web Jetadmin stores all acquired device data in the Microsoft SQL Server Express 2005 database that is installed during software installation. Once device discovery has occurred and initial data is stored to this database, HP Web Jetadmin uses several polling methods to update existing information or retrieve new device information. These polling methods work independently from one another and can be adjusted regarding the frequency and quantity of device queries. The poll rates can be adjusted to improve device list performance and also to adjust the amount of query traffic the application generates. Also, all device information stored in the database has an age threshold that, when met, can drive the software into polling the device directly in order to refresh stale data. Consider this example:

Bill is responsible for managing 250 devices, and he needs to know whether device security features and passwords are set correctly. Bill requires this information once per week, so that he can relay a report to Cindy, his manager, that hardware security is in place. Bill uses an HP Web Jetadmin Group listing named "Bill's Devices" and a built-in HP Web Jetadmin list layout called Security. Security layout shows Bill which protocols are disabled and which device passwords have been set. Bill can use the column headers within the layout to find enabled or disabled security features and quickly assess device states. How does polling feed into this scenario?

Here are a number of device polling rate settings that can be found under **Tools** > **Options**:

- **Device Management** > **Device Polling** > **Background**
  Background polling is a new feature in HP Web Jetadmin 10.2. This polling mechanism is enabled by default and runs all the time. It supports device lists as they display data for clients. Any time a client host displays a device list, the columns enabled within that device list are added to the poll mechanism. In this way, polling is shared between the HP Web Jetadmin system and any clients that are displaying device lists. Background polling also supports filtered lists (found within the navigation tree under **All Devices**) and any **Automatic Groups** that have been established. The poll rate can be adjusted by navigating to **Tools** > **Options** > **Device Management** > **Device Polling** > **Background** (for more information, see "Poll rate settings" on page 10).

- **Device Management** > **Device Polling** > **Device Lists**
  Device list polling is a mechanism that supports list data viewed directly through any client logged into HP Web Jetadmin. This mechanism enables fast data updates from within the display view. For example, Bill has 10 devices within a device group and has 15 data columns enabled. 7 of these data columns appear on Bill's display. This means that 15x7 items are queued into the **Device List** poll mechanism and that Bill will see this data update very quickly. Device list polling puts a priority on the data being viewed by users. This poll rate can be adjusted by navigating to **Tools > Options > Device Management > Device Polling > Device List** (for more information, see "Poll rate settings" on page 10).

- **Device Management** > **Device Polling** > **Device Tabs**
  The **Device Tabs** poll mechanism supports the **Status** and **Troubleshooting** tabs within any device

list and for any devices selected by clients. With the **Status** or **Troubleshooting** tab enabled, selected devices are added to this poll mechanism. Data to support either or both of these tabs is also added to the poll mechanism. When a client logs off or changes the display to some other area of the software, these items are removed from the **Device Tabs** poll mechanism. The **Device Tabs** poll rate can be adjusted by navigating to **Tools** > **Options** > **Device Management > Device Polling > Device Tabs** (for more information, see "Poll rate settings" below).

Alerts and **Supplies** poll mechanisms and adjustment controls within **Tools > Options** are similar poll mechanisms developed to support respective features. See HP Web Jetadmin **Help** for further information on these items.

Poll rate settings

Each of the three polling mechanisms have three settings that can be adjusted by navigating to **Tools > Options**:

- **Polling interval setting**, measured in seconds, determines the period of time in which HP Web Jetadmin can send device requests onto the network.
- **Time between polling intervals**, measured in seconds, is an inactive period during which the application does not send device queries.
- **Number of devices per poll** is the number of devices that can be queried concurrently. HP Web Jetadmin places X device queries onto the network in a poll burst and waits for responses. It continues to place X device queries onto the network each time a burst of queries are satisfied with response packets, and continues to do this until the polling interval time expires.

Device Management > Status > Multi Device View has the additional setting **Maximum number of devices to show**. This restricts the number of devices that can be displayed through device list tabs.

Default poll rate settings

- Background Polling Rates:
    - Polling interval = 2 seconds
    - Time between polling intervals = 10 seconds
    - Maximum devices to poll at a time = 2
- Device List Polling Rates:
    - Polling interval = 5 seconds
    - Time between polling intervals = 7 seconds
    - Maximum devices to poll at a time = 2
- Device Tabs Poll Rates:
    - Polling interval = 5 seconds
    - Time between polling intervals = 2 seconds
    - Maximum devices to poll at a time = 3

Best practices

Devices have to be registered onto pollers. By default, HP Web Jetadmin does not poll devices until something drives that polling, such as when someone displays a list or status information. Other ways polling is initiated include alerts (scheduled) and automatic groups (such as when a group looks for certain IP addresses).

Data collection reporting is its own polling mechanism.

Polling example

Consider the following example: Each of three clients has one device selected and also has the **Status** tab enabled. The **Device Tabs** poll mechanism queries for information on all three devices during the five-second polling interval. After responses are received from all three devices, the poll mechanism waits for the time between polling intervals (two seconds). If there are more clients with more devices selected, the Device List Polling mechanism queries three devices. Once responses have been received from the first three devices, if there is still time remaining in the 5-second polling interval it queries another three devices. If there is not enough time, the poll mechanism waits for the time between polling intervals and queries the next three devices during the next polling interval.

HP WEB JETADMIN DEVICE GROUPS

As stated above, lists of specific devices are displayed through HP Web Jetadmin **Device Groups**. In cases where the application has discovered thousands of devices, it is advantageous to segment devices into smaller groups. In HP Web Jetadmin, **Groups** are populated using either **Manual** or **Automatic** methods. Manual group membership is managed by users who can add or remove devices. Automatic groups are populated with devices based on user specified filter criteria. In either case, application performance and ease of device management can be enhanced by using groups. For more information on HP Web Jetadmin **Groups**, see the online Help.

Device group policies

Create policies for automatically applying various types of operations on devices. Figure 3, at right, shows the **Edit Group Policies** wizard, which offers templates created from the various feature sets. The templates are applied when devices are added to or removed from a group.

Polices that can be created on a per-group basis include:

- Enable data collection
- Configure devices
- Upgrade printer or HP Jetdirect firmware
- Manage device solutions
- Subscribe/unsubscribe to alerts on devices
- Remove devices from supply group

NOTE In many cases, templates must be created before a group policy can be applied.

Figure 3—Edit Group Policies pane

HP WEB JETADMIN TEMPLATES

Templates are named objects for storing HP Web Jetadmin feature settings. Templates can be applied by a user through a schedule or, in many cases, using the **Groups Policy** feature. **Discovery**, **Alerts**, **Data Collections**, **Reports**, and **Configuration** can all have associated templates. In the case of **Data Collection**, time can be saved in adding devices to multiple collection types by using a **Data Collection Template**.

Figure 4, at right, shows a confirmation pane for a **Data Collection Template** that combines **By User Tracking**, **Supply Utilization**, and **Peak Usage** data
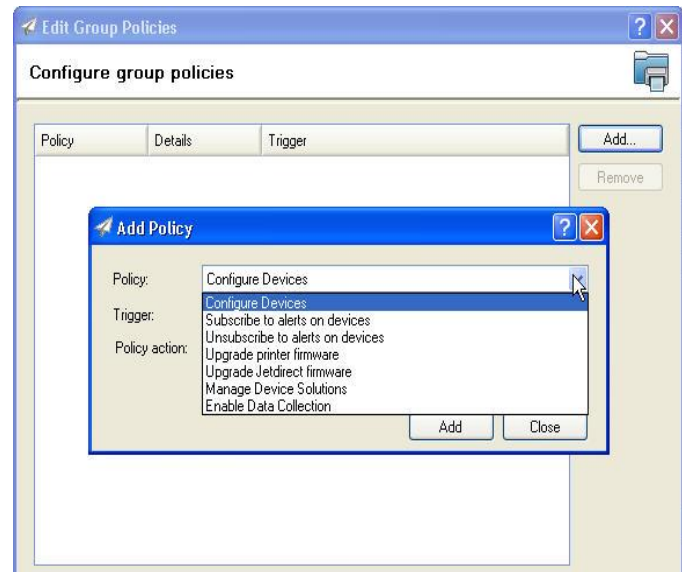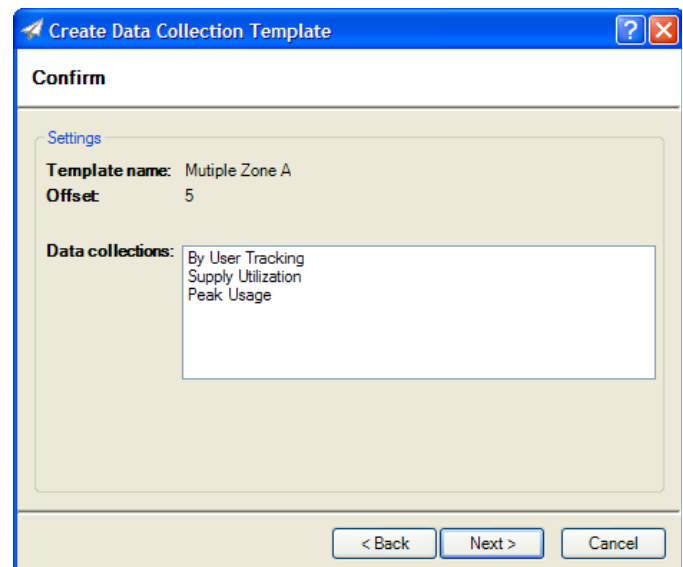

Figure 4—Data Collection Template confirmation pane

collections every five hours. The **Data Collection Template** can also be applied through group policy settings applied to devices as they are populated within a device group.

Templates save administrators time. A complex set of device configuration parameters can be created and then re-deployed on a schedule, without requiring the administrator to continually reset parameters. Configuration templates leverage configuration settings from an existing device, by selecting the device in the **Configuration** area.

Cloning device settings using templates

Figure 5, at right, shows a device configuration template being created for an existing device. All settings intended for the template must be selected for the device. Once the template is created, settings can be deployed to single devices or cloned to batches of devices by dragging-and-dropping, right-clicking, scheduling, group policies, and more.

Templates can also be exported from one HP Web Jetadmin instance and then either stored or imported onto the same or a different HP Web Jetadmin instance. To find **Export** and **Import** configuration templates, right-click Device Management, then select **Overview,**

Figure 5—Create Device Configuration Template

Configuration, Templates in the navigation tree. Templates can be imported only when they have been exported from the same revision of HP Web Jetadmin.
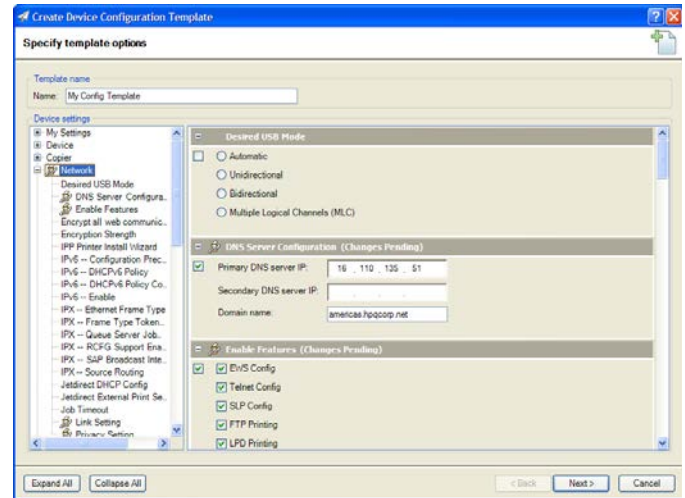
Best practices

- Templates can be created from scratch or copied from an existing single device configuration.
- By selecting one or more models from a device list and using the **Configuration** tab to create templates, you can create composite template settings based on model selection. This ensures that configuration items stored in the template are only those supported by these devices.
- When "cloning" by using single select, right-click the configuration item header to select or deselect all controls within a configuration category such as **Security** or **Device**. This speeds up template creation.

HP WEB JETADMIN TASK SCHEDULING

Many HP Web Jetadmin features can be applied as scheduled tasks through a robust scheduler. Figure 6, at right, shows the scheduler interface for HP Web Jetadmin **Discovery**. Here, we have enabled a recurring schedule to start discoveries only between the hours of 6:00 p.m. and 9:00 p.m. every three weeks on Mondays. If other tasks are running during this time period, the scheduler does not start the
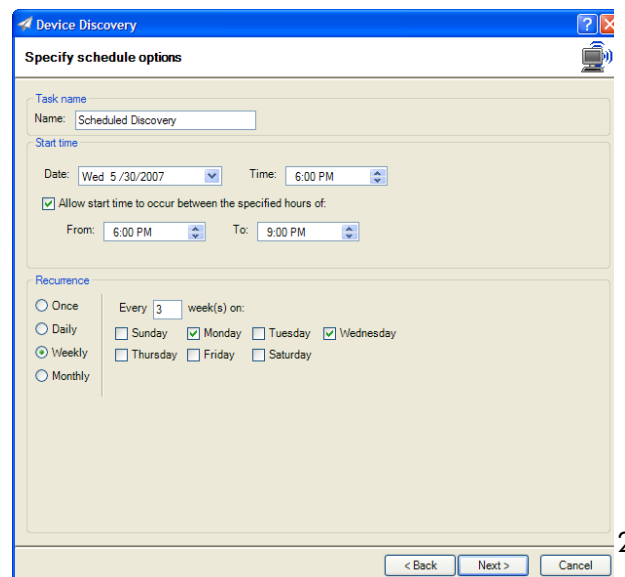
Figure 6—Discovery scheduler

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discovery. The option to queue the discovery to start outside of this timeframe is provided by deselecting **Allow start time to occur between the specified hours of**. Other features that can be scheduled include **Configuration**, **Firmware Upgrade**, **Reports**, **Predictive Supplies Reporting**, and **Synchronize Data**. Scheduling provides a means of organizing tasks that can impact the performance of your network and HP Web Jetadmin. By planning and organizing when processor-intensive-tasks occur, the administrator can keep application performance optimal.

> **Best practices**
>
> Optimize activities around peak device usage periods. For example, if your company shuts off printers at the end of the day, a discovery can't be scheduled because it wouldn't find those printers. It's better to discover during peak usage to see all of the printers, even though the discovery itself might degrade performance.

HP WEB JETADMIN TASK MANAGEMENT

It is important to know what background tasks are being processed by the application, and which tasks are scheduled to run at a future time. This section provides insight into a few task-management features and offers tips.

Active tasks

HP Web Jetadmin has several features that allow the administrator to see which tasks are running and which tasks are scheduled to run. The **Active Tasks** modules are used to view running tasks. High-level or overview areas such as **Firmware**, **Discovery**, and **Application Management** have **Active Task** modules to display tasks that are either queued or running. Other information displayed in these task modules are **Task Name**,

Figure 7—All Active Tasks module

Initiator, and **Start time**. Figure 7, at right, shows the HP Web Jetadmin **All Active Tasks** module displaying active tasks from all feature areas.
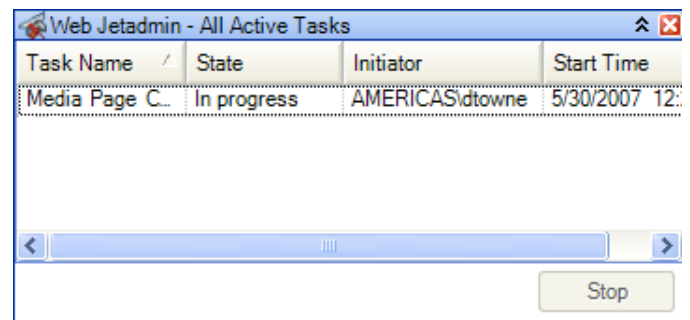
NOTE   Task modules are small feature blocks within the application that can be enabled in feature overview workspaces or within the **Task Module Docking Area**. Task modules are interfaces that provide detailed information and in many cases provide feature controls or launch points.

Scheduled tasks

Another important aspect of task management is keeping an eye on items that have been scheduled to execute at a future time (see Figure 8, at right). As with **Active Tasks** modules, the **Scheduled Tasks** modules can be launched from within a feature overview workspace or from the **Task Module Docking Area**. These task modules show tasks queued in scheduling and allow the administrator to
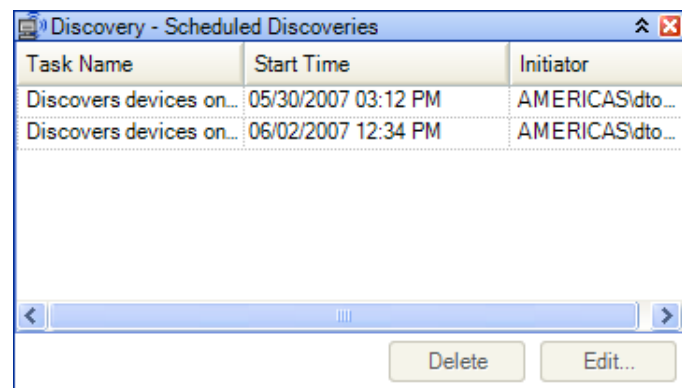

Figure 8—Scheduled Tasks pane showing Scheduled Discoveries

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edit or remove the scheduled task. The interface also
shows who initiated the task schedule.

Application logging

HP Web Jetadmin includes an application log that shows
different activities as well as the users who launched them.
A variety of activities are logged here and can be helpful for both auditing and troubleshooting.
Figure 9, below, shows the HP Web Jetadmin **Application Log**.

Action Details	Details	Triggered By	User	Time
IP Range Deleted	Range = "15.5.1...	User Initiated	AMERICAS\d...	5/30/2007 11:15:40 AM
IP Range Deleted	Range = "15.62...	User Initiated	AMERICAS\d...	5/30/2007 11:15:39 AM
IP Range Deleted	Range = "15.2.2...	User Initiated	AMERICAS\d...	5/30/2007 11:15:39 AM
IP Range Deleted	Range = "15.62...	User Initiated	AMERICAS\d...	5/30/2007 11:15:39 AM
Device Configuration Template - Cr...	Template ="My...	User Initiated	AMERICAS\d...	5/30/2007 11:12:34 AM
Device Discovery - QuickFind	Address ="15.62...	User Initiated	AMERICAS\d...	5/30/2007 11:04:04 AM
Device Discovery - QuickFind	Address ="15.62...	User Initiated	AMERICAS\d...	5/30/2007 10:57:34 AM
Supply Group - Devices Added	Name = "Brackn...	User Initiated	EMEA\WIGA...	5/30/2007 9:08:56 AM
Supply Group - Created	Name = "Brackn...	User Initiated	EMEA\WIGA...	5/30/2007 9:08:02 AM
Device - Deleted	Device = "16.26...	User Initiated	HP Web Jeta...	5/30/2007 9:06:39 AM
Device - Added to blocked list	Device address...	User Initiated	HP Web Jeta...	5/30/2007 9:06:39 AM
Group - Devices Removed	Name = "Brackn...	User Initiated	EMEA\WIGA...	5/30/2007 9:06:39 AM
Column Layout - Added	Layout name ="...	User Initiated	EMEA\WIGA...	5/30/2007 9:04:48 AM
Export Device List - Finished	Task ID ="2c78c...	User Initiated	EMEA\WIGA...	5/30/2007 9:01:11 AM

Figure 9—HP Web Jetadmin Application Log