

Best Practices for Managing Your Assets

Using HP Web Jetadmin 10.0.0



Table of Contents

Overview	2
HP Web Jetadmin 10.0 Implementation Practices	2
HP Web Jetadmin Use	2
Users and Permissions	2
Hosting the Application	3
HP Web Jetadmin and Concurrent User Login	3
Application Performance	3
Other Resources for Planning and Implementation	4
Enterprise Systems Management Integration	4
Using HP Web Jetadmin 10.0 Lists	4
Device Polling	6
Poll Rate Settings	7
Default Polling Rate Settings	7
Polling Example	8
HP Web Jetadmin 10.0 Device Groups	8
Device Group Policies	8
HP Web Jetadmin 10.0 Templates	8
Cloning Device Settings Using Templates	9
HP Web Jetadmin 10.0 Task Scheduling	10
HP Web Jetadmin 10.0 Task Management	10
Active Tasks	10
Scheduled Tasks	11
Application Logging	11

Overview

HP Web Jetadmin 10.0 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 meaning that many users can access the software through simultaneous client sessions. HP Web Jetadmin 10.0 has been designed with usability and performance improvements that are made possible through an entirely new architecture and underlying technology. While much of the device management value hasn't changed, there are some features users should familiarize themselves with when implementing and utilizing this application.

HP Web Jetadmin 10.0 Implementation Practices

HP Web Jetadmin 10.0 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 fills the stated needs or goals of the installation. Here is a limited list of questions that should be asked when developing a deployment plan:

- What is the main purpose of the HP Web Jetadmin 10.0 implementation?
- Who will be using HP Web Jetadmin 10.0 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 10.0 implementation?

HP Web Jetadmin Use

In some cases, HP Web Jetadmin 10.0 is implemented for only one user. The more common case is where it is implemented for multiple users. In many cases, HP Web Jetadmin 10.0 will be hosted on an IT-supported server host but in some cases it will be hosted on a personal desktop or client host. When HP Web Jetadmin 10.0 is being used by multiple users, the implementation plan should consider how the software will be used. Here is a limited list of cases in which HP Web Jetadmin 10.0 might be used:

- Deployed on a Help Desk; multiple users access the software occasionally for troubleshooting.
- Deployed to a Print Management team; multiple users troubleshoot, configure, and update device firmware on regular basis.
- Deployed to a Facility Planning team, multiple users access the application to generate reports used in planning balance deployment.
- Deployed to a single print manager, uses the application to manage and monitor device usage.

Users and Permissions

In all but one of the cases listed above, HP Web Jetadmin 10.0 is deployed to multiple users. In the case where 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 Help Desk staff may be tasked with only viewing device status and using some troubleshooting tools. Or, the Print or Facility management teams may only need 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” for more information about *User Security* features.

Hosting the Application

HP Web Jetadmin Software and Drivers Downloads pages on hp.com contain an “HP Web Jetadmin Installation and Setup Guide”. This document is crucial for implantation planning. When considering the system specification for hosting the application, it will be important to understand how the software is going to be used. Here are a few examples:

- Software is hosted for one user: a desktop host with minimum system requirements may be sufficient.
- Software is hosted for multiple users with occasional access needs: a host with recommended hardware and software should be used.
- Software is hosted for a business critical team such as Help Desk: a server class host with extra memory and perhaps dual processors should be considered. IT should be involved with the implementation to determine best hosting practices.

HP Web Jetadmin and Concurrent User Login

HP Web Jetadmin 10.0 has been architected for multiple user access. The application was designed to support 15 or more concurrent connections while maintaining a high degree of performance. Of course, application usage will make 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 and simultaneous user connections. An example would be where a user is tasked with discovery of all devices in the enterprise while at the same time another user is establishing groups and generating reports. In this case, on a slower host, HP Web Jetadmin 10.0 may exhibit slow performance when large reports are being generated and when discoveries are being run at the same time. System resources, network bandwidth and other factors will have an impact on how well the software performs under these conditions. Background tasks and task management will be discussed with more detail later.

Application Performance

HP Web Jetadmin 10.0, like many other applications, processes large amounts of data while allowing users to work productively. When clients are viewing device lists, accessing device configuration or status details HP Web Jetadmin 10.0 spends 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 Microsoft’s Performance Monitor can view the result of this background processing. Here are some characteristics about performance and HP Web Jetadmin 10.0 software:

- During background task executions the application may tend to consume a high percentage of the host’s processor for only short durations of time. This is normal.
- Consumption of system processor may be pronounced on host systems that meet only minimum hardware requirements.
- Consumption of system processor may be pronounced on single host systems that are running both the HP Web Jetadmin 10.0 application and the client application on the same host.
- Performance gains can be realized with HP Web Jetadmin 10.0 running on multiple processor systems.

Other Resources for Planning and Implementation

A number of documents as well as online help for HP Web Jetadmin 10.0 can be utilized in planning and implementing HP Web Jetadmin 10.0:

- “HP Web Jetadmin User Guide”: print or view the online help from within the application or download the PDF from hp.com.
- “HP Web Jetadmin Install and Setup Guide”: available in HP Web Jetadmin online help or download the PDF from hp.com.
- “HP Web Jetadmin Migration Tool”: available in HP Web Jetadmin online help or download the PDF from hp.com.
- “Security and HP Web Jetadmin 10.0”: a white paper available in PDF form at hp.com.
- “Discovering Devices Using HP Web Jetadmin 10.0”: a white paper available in PDF form at hp.com.
- “HP Web Jetadmin 10.0.0 vs. HP Web Jetadmin 8.1 Feature Differences”: available for download from hp.com.
- “HP Web Jetadmin 10.0 Late Breaking News”: release notes and up-to-date information, available for download from hp.com.

Enterprise Systems Management Integration

HP Web Jetadmin 10.0 provides a bridge link for enterprise systems management applications such as HP’s OpenView or IBM Tivoli. These applications and others can be configured to launch HP Web Jetadmin 10.0 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 status of network hosts such as routers, switches, servers and printers. 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 10.0 is that tool.

Once the HP Web Jetadmin 10.0 linkage, or “bridge”, has been created within HP OpenView software, the administrator simply configures any printing/imaging devices to launch an HP Web Jetadmin 10.0 device view when they are selected. HP Web Jetadmin 10.0 facilitates this device view launch with this simple URL format: <http://WJAServer:8000/device/xxx.xxxx.xxx.xxx> where xxx.xxx.xxx.xxx is the IP address of the printer. Note: hostname use is also possible. When HP Web Jetadmin 10.0 is launched in this way, the application will load with the device pre-selected in the *All Devices* list within HP Web Jetadmin 10.0.

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

Using HP Web Jetadmin 10.0 Lists

HP Web Jetadmin 10.0 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

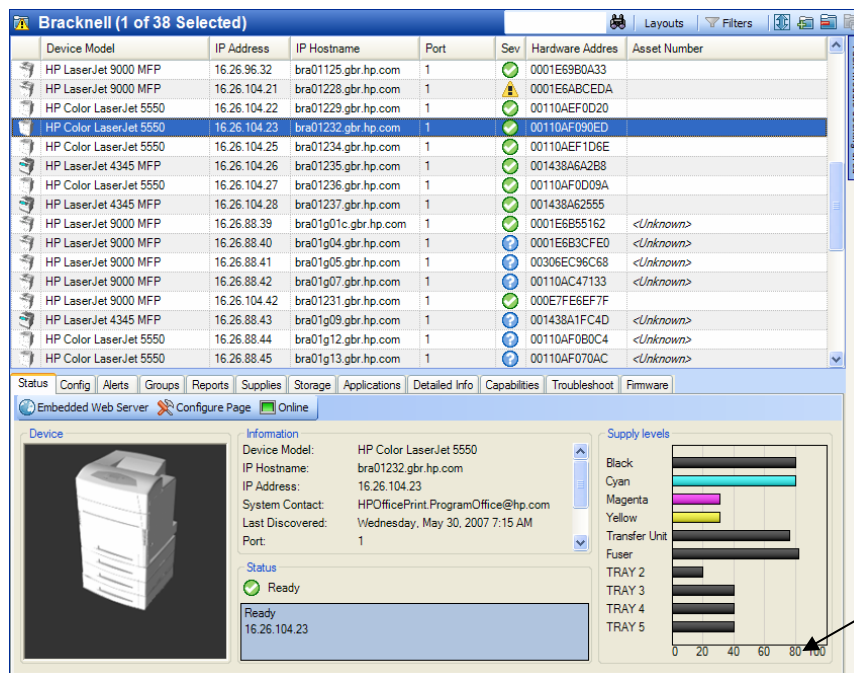


Figure 1 – HP Web Jetadmin 10.0 Device List

manageable device sets based on some 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 10.0 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 10.0 list will display devices along a 'y' or vertical axis and columns along the 'x' or horizontal axis (Figure 1). 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 on the column or choose the *Layouts* tool on the device list toolbar.
- Re-order columns: drag-and-drop on the column headers or use the *Layouts* tool on the device list toolbar.
- Sort the list according to column content: click on the column header. Click the column header again and the list resorts opposite from the last operation. For a secondary sort, hold down on the keyboard shift key.
- Filter lists: limit the content displayed using the *Filters* on the device list toolbar. Once filter criteria is established and applied to a list, HP Web Jetadmin 10.0 will evaluate the criteria and show only devices that match the criteria. Device lists with filtering applied are evaluated and changed immediately causing HP Web Jetadmin 10.0 to gather the data from the devices and store it into the database.

Once data is initially acquired, HP Web Jetadmin 10.0 will poll devices at a device list poll rate (described later) to continue evaluating devices for changes.

HP Web Jetadmin 10.0 will show actual device data from the HP Web Jetadmin 10.0 SQL database within lists or, it will show one of three data messages.

- *<Missing>*: displayed when the HP Web Jetadmin 10.0 client has not yet received actual data from the from the HP Web Jetadmin server. This can be quickly resolved by scrolling through the HP Web Jetadmin *Device List* or by sorting on the column where the message is being displayed.
- *<Unknown>*: displayed when the data is not yet present in the HP Web Jetadmin 10.0 SQL database. This data is collected at one of three polling rates (described later).
- *<Not supported>*: displayed when the device does not actually 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.

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 on the binocular icon located next to the *Search Text* field. In both cases, data content presently displayed within the list can be searched and devices can be pre-selected based on the search being performed. A few of the advanced search features are:

- End list wrap.
- Select all matches.
- Regular expressions.
- and more.

Device Polling

HP Web Jetadmin 10.0 stores all acquired device data into the Microsoft SQL Server Express 2005 database that is installed with the software. Once discovery of devices has occurred and initial data is stored to this database, HP Web Jetadmin 10.0 uses three polling methods to update existing information or retrieve new device information. These polling methods work independently from one other and can be adjusted regarding the speed and quantity of device queries that are made at any given time. The poll rates can be adjusted to improve device list performance and also to adjust the amount of query traffic the application is generating. 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. Bill would like to know if device security features and passwords are set correctly. Bill requires this knowledge once per week so that he can relay a report to Manager Cindy that hardware security is in place. Bill uses the HP Web Jetadmin Group listing named "Bill's Devices" and a built in HP Web Jetadmin list Layout named 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 Lists > Device List Polling Rates*
When one or more clients are viewing device lists, HP Web Jetadmin 10.0 polls devices for any column data that that has passed an age threshold in order to keep the data current. All devices are continually queried at the device list poll rate. This poll rate can be adjusted by navigating to *Tools > Options > Device Management > Device Lists > Device List Polling Rate* (see "Poll Rate Settings" below).

Device list polling continually runs to support *Automatic Groups*, *Supplies Groups*, and *Supplies Alerts*. HP Web Jetadmin 10.0 will continue to evaluate related device data needed to support the functioning feature even if there are no users logged into the application.

- *Device Management > Status > Multi Device View*
When one or more clients are displaying number of data elements or when a number of devices are selected to be displayed through the status tab, HP Web Jetadmin 10.0 will evaluate devices and data represented in the display for old information. When old information is detected, HP Web Jetadmin 10.0 will query devices at the multi device poll rate. This poll rate can be adjusted by navigating to *Tools > Options > Device Management > Device Lists > Status, Multi Device View* (see "Poll Rate Settings" below).
- *Device Management > Status > Single Device View*
Any time clients select single devices to be displayed through the *Status* tab, HP Web Jetadmin 10.0 will evaluate device data represented in that area for old information and will query the device in order to refresh old data. HP Web Jetadmin 10.0 will query the device at the single device poll rate. The single device poll rate can be adjusted by navigating to *Tools > Options > Device Management > Device Lists > Status > Single Device View* (see "Poll Rate Settings" below).

Poll Rate Settings

Each of the three polling mechanisms have three settings that can be adjusted through the *Tools > Options* menu tree. These are:

- *Polling interval setting* is in seconds and determines a period of time in seconds in which HP Web Jetadmin 10.0 can send device requests onto the network.
- *Time between polling intervals* is an inactive period (time in seconds) where the application does not send device queries.
- *Maximum devices to poll at a time* is the number of devices that can be queried concurrently. HP Web Jetadmin 10.0 will place X device queries onto the network in a poll burst and wait for responses. HP Web Jetadmin will continue to place X device queries onto the network each time a burst of queries are satisfied with response packets. It will continue to do this until the Polling interval time is expired and then will wait the Maximum devices to poll at a time duration before sending any new device queries.

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 Polling Rate Settings

Device List Polling Rates:

 Polling interval = 2 seconds

 Time between polling intervals = 5 seconds

 Maximum devices to poll at a time = 2

Single Device View:

 Polling interval = 5 seconds

 Time between polling intervals = 5 seconds

 Maximum devices to poll at a time = 3

Multi Device View:

 Polling interval = 5 seconds

 Time between polling intervals = 10.0 seconds

 Maximum devices to poll at a time = 3

Polling Example

There are 3 clients and all have 1 device selected. The *Single Device View* poll mechanism will query for information on all 3 devices during the 5 second polling interval. Once we have the responses from all 3 devices this poll mechanism will wait for the time between polling intervals (5 seconds).

If there are more clients with more devices selected the *single device view* poll mechanism will query for information on 3 devices. Once the responses have been received from the first 3 devices if there is still time remaining in the polling interval of 5 seconds it will query another 3 devices. If there is no time left in the 5 seconds the poll mechanism wait for the time between polling interval and query the next 3 devices in the next polling interval.

HP Web Jetadmin 10.0 Device Groups

As stated above, lists of specific devices are displayed through HP Web Jetadmin 10.0 *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 10.0, *Groups* are either *Manual* or *Automatic*. 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 10.0 *Groups*, see online help.

Device Group Policies

Create policies for automatically applying various types of operations on devices when they are added to and removed from a group. Figure 2 shows the *Edit Group Policies* wizard. These templates are created from the various feature sets and are applied on one of two triggers: device added to group or device removed from group. Polices which can be created on a per-group basis include:

- Enable Data Collection.
- Configure Devices.
- Add Devices to Supply Group.
- Subscribe/Unsubscribe to Alerts on Devices.
- Remove Devices from Supply Group.

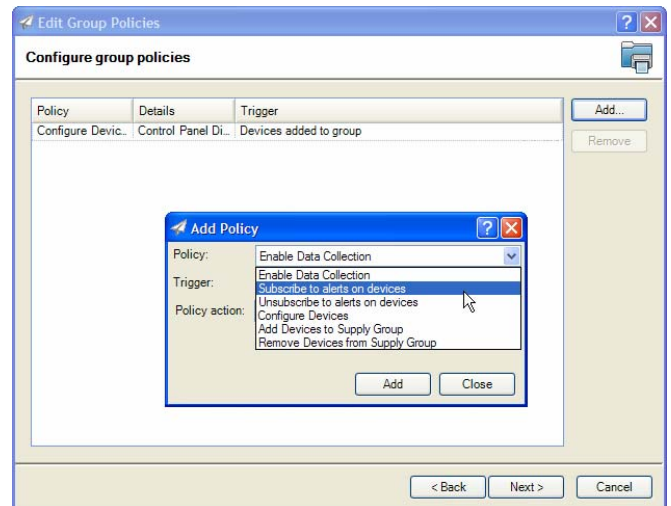


Figure 2 – *Edit Group Policies* pane

Note: In many cases, templates will need to be created before a *Group Policy* can be applied.

HP Web Jetadmin 10.0 Templates

Templates are named objects for storing HP Web Jetadmin 10.0 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 the Data Collection feature, time can be saved in adding devices to multiple collection types by using a Data Collection Template.

Figure 3 shows a Confirmation pane for a Data Collection Template that combines By User Tracking, Supply Utilization, and Peak Usage with an offset of 5 hours. The Data Collection Template can also be applied through Group Policy settings to take effect on devices as they are populated within a device group. The value of templates is in the time savings they provide to end users. A complex set of device configuration parameters can be created and the re-deployed again and again without the user having to get into all the details repeatedly. Configuration templates can also be created from existing device settings in the Configuration area by selecting an individual device.

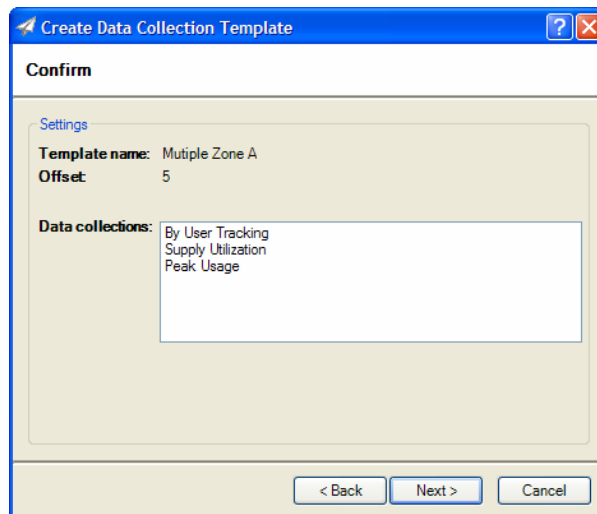


Figure 3 – Data Collection Template Confirmation Pane

Cloning Device Settings Using Templates

Figure 4 shows a device configuration being created from an existing device. All settings intended for storage in the template must be pre-selected. Once the template is created, settings can be deployed to single devices or cloned to batches of devices through drag-and-drop, right-click, scheduling, Group Policies, and more.

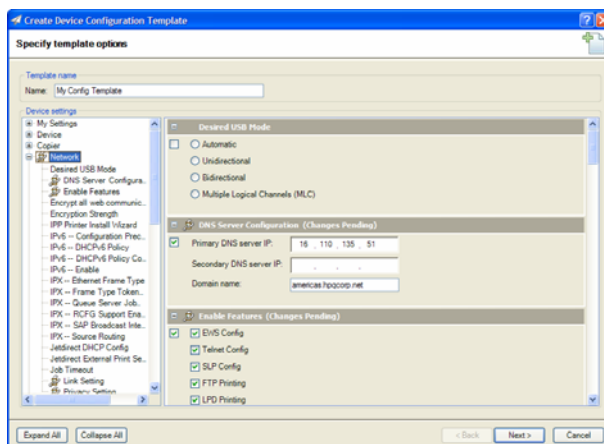


Figure 4 – Create Device Configuration Template

HP Web Jetadmin 10.0 Task Scheduling

Many HP Web Jetadmin 10.0 features can be applied as scheduled tasks through a robust scheduler. Figure 5 shows the scheduler interface for HP Web Jetadmin 10.0 *Discovery*. Here, we have enabled a recurring schedule to start discoveries only between the hours of 6:00 PM and 9:00 PM every three weeks on Mondays. If other tasks are running in this time period, the scheduler will not start the discovery. The option to queue the discovery to start outside of this timeframe is provided by removing the checkmark from the box near *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 may tax the HP Web Jetadmin 10.0 implementation. By planning and organizing when processor intensive tasks take place the administrator can keep application performance optimal.

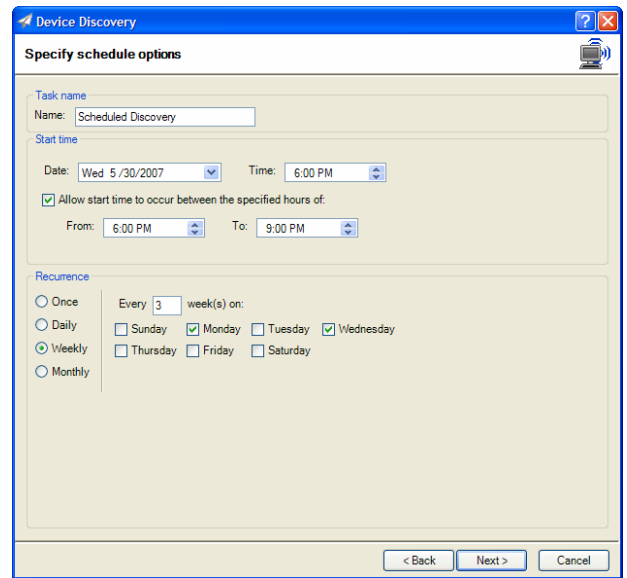


Figure 5 –Discovery Scheduler

HP Web Jetadmin 10.0 Task Management

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

Active Tasks

HP Web Jetadmin 10.0 has several features that allow the administrator to learn which tasks are running as well as those tasks that are scheduled to run. The *Active Tasks* task modules are used to view running tasks. High level or overview areas such as *Firmware, Discovery, and Application Management* have *Active Task* task modules to display tasks that are either queued or running. Other information displayed in these task modules are *Task Name, Initiator, and Start time*. Figure 6 shows the HP Web Jetadmin 10.0 *Active Tasks* task module displaying active tasks from all feature areas.

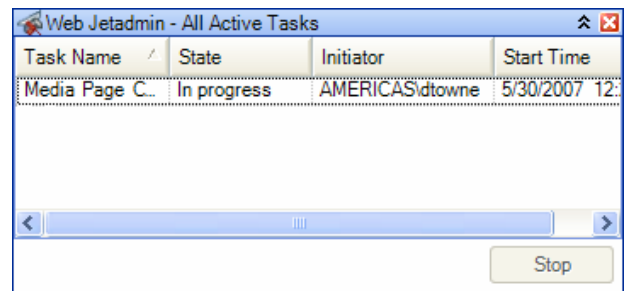
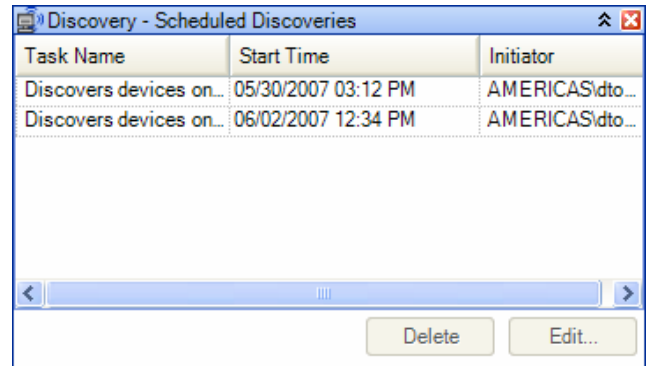


Figure 6 –Active Tasks Task Module

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 a bit of detailed information and in many cases provide feature controls or launch points.

Scheduled Tasks

Another important aspect in task management is keeping an eye on items that have been scheduled to execute at a future time (Figure 7). As with *Active Tasks* task modules, the *Scheduled Tasks* task 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 the administrator to edit or remove the scheduled task. The interface also shows who initiated the task schedule.

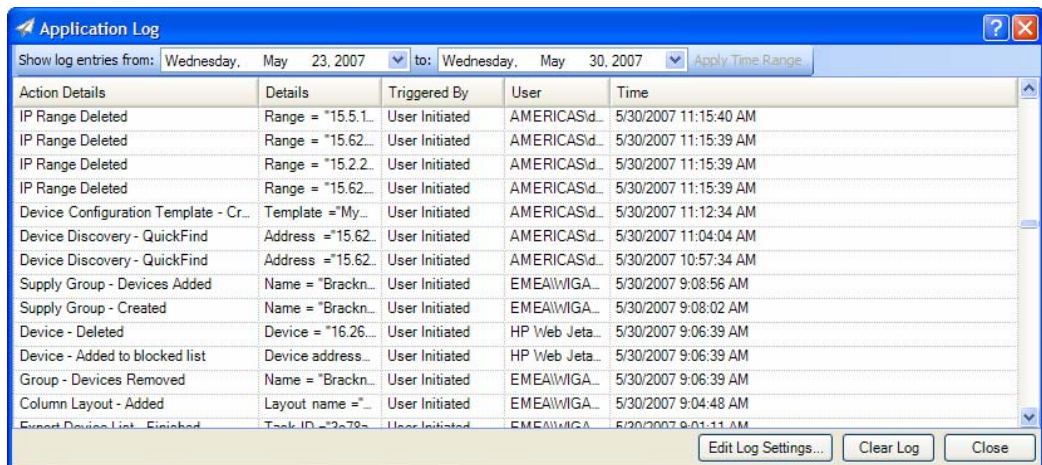


Task Name	Start Time	Initiator
Discovers devices on...	05/30/2007 03:12 PM	AMERICAS\dto...
Discovers devices on...	06/02/2007 12:34 PM	AMERICAS\dto...

Figure 7 – Scheduled Tasks Pane Showing Scheduled Discoveries

Application Logging

Finally, an application log exists within HP Web Jetadmin 10.0 that shows the different activities as well as the users that launched them. A variety of activities are logged here and can be helpful for both auditing and troubleshooting. Figure 7 shows the HP Web Jetadmin 10.0 *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 = "2a78...	User Initiated	EMEA\WIGA...	5/30/2007 9:01:11 AM

Figure 7 – HP Web Jetadmin 10 Application Log