AUTHORIZED DOCUMENTATION

Reference

Novell® ZENworks® 10 Patch Management SP3

10.3

August 26, 2010

www.novell.com

Legal Notices

Novell, Inc. makes no representations or warranties with respect to the contents or use of this documentation, and specifically disclaims any express or implied warranties of merchantability or fitness for any particular purpose. Further, Novell, Inc. reserves the right to revise this publication and to make changes to its content, at any time, without obligation to notify any person or entity of such revisions or changes.

Further, Novell, Inc. makes no representations or warranties with respect to any software, and specifically disclaims any express or implied warranties of merchantability or fitness for any particular purpose. Further, Novell, Inc. reserves the right to make changes to any and all parts of Novell software, at any time, without any obligation to notify any person or entity of such changes.

Any products or technical information provided under this Agreement may be subject to U.S. export controls and the trade laws of other countries. You agree to comply with all export control regulations and to obtain any required licenses or classification to export, re-export or import deliverables. You agree not to export or re-export to entities on the current U.S. export exclusion lists or to any embargoed or terrorist countries as specified in the U.S. export laws. You agree to not use deliverables for prohibited nuclear, missile, or chemical biological weaponry end uses. See the Novell International Trade Services Web page (http://www.novell.com/info/exports/) for more information on exporting Novell software. Novell assumes no responsibility for your failure to obtain any necessary export approvals.

Copyright © 2007-2010 Novell, Inc. All rights reserved. No part of this publication may be reproduced, photocopied, stored on a retrieval system, or transmitted without the express written consent of the publisher.

Novell, Inc.
404 Wyman Street, Suite 500
Waltham, MA 02451
U.S.A.
www.novell.com

Online Documentation: To access the latest online documentation for this and other Novell products, see the Novell Documentation Web page (http://www.novell.com/documentation).

Novell Trademarks

For Novell trademarks, see the Novell Trademark and Service Mark list (http://www.novell.com/company/legal/trademarks/tmlist.html).

Third-Party Materials

All third-party trademarks are the property of their respective owners.

Contents

About This Guide

This *Patch Management Reference* includes information to help you successfully install a Novell ZENworks 10 Patch Management system. The information in this guide is organized as follows:

Audience

This guide is intended for ZENworks administrators.

Feedback

We want to hear your comments and suggestions about this manual and the other documentation included with this product. Please use the User Comments feature at the bottom of each page of the online documentation, or go to the Novell Documentation Feedback site (http://www.novell.com/documentation/feedback.html) and enter your comments there.

Additional Documentation

ZENworks 10 Configuration Management is supported by other documentation (in both PDF and HTML formats) that you can use to learn about and implement the product. See the ZENworks 10 Configuration Management SP3 documentation Web site (http://www.novell.com/documentation/beta/zcm10).

Getting Started with ZENworks 10 Patch Management

1

Patch Management is a fully integrated feature of Novell ZENworks 10 that provides the same agent-based patch, vulnerability patch, and compliance management solution that was used in prior versions.

The ZENworks Server schedules a Discover Applicable Updates (DAU) task for all ZENworks managed devices (servers and workstations) and compiles information on the operating system, hardware, and software.

The results of the scan are sent to the ZENworks Server and can be viewed anytime in the Patches section under the *Patch Management* tab or in the *Devices* tab even if a workstation is disconnected from your network.

Based on the above information, it is determined whether the patches are applicable for each device. If applicable, the ZENworks Adaptive Agent performs another scan by using the patch fingerprints incorporated into each patch to determine the device's patch status (Patched or Not Patched) in relation to that patch. The results of the scan are posted under the *Patch Management* tab of the ZENworks Control Center, for review by an administrator.

After patch status is established, the ZENworks administrator can deploy the desired patch to each applicable device on the network.

The following features are included in ZENworks 10 Patch Management SP3:

1.1 Downloading Patches

Before you start downloading a patch, configure the downloading options in the *Configuration* tab. For more information, see Section 3.3, "Configuring Subscription Download Details," on page 22.

1.2 Deploying a Patch

To deploy a patch, you can use the Deploy Remediation Wizard. For more information, see Chapter 5, "Using the Deploy Remediation Wizard," on page 49.

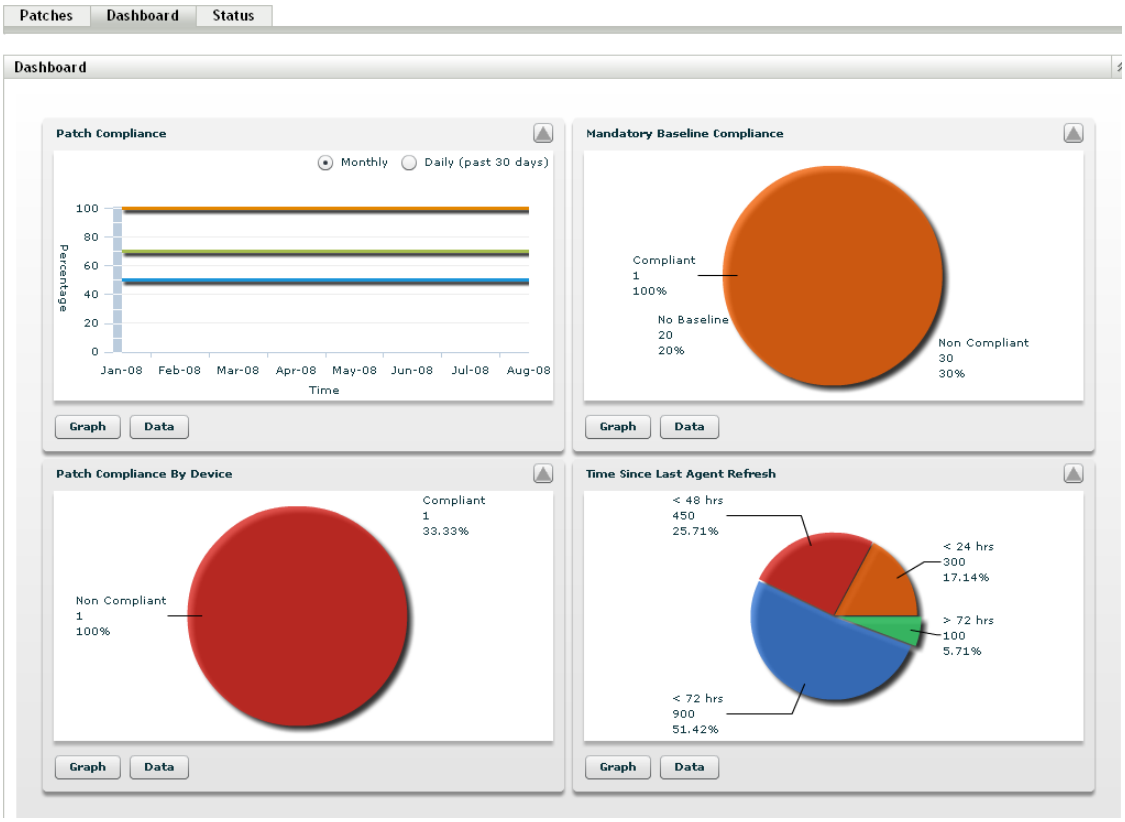
1.3 Setting a Baseline

To set a baseline, you must ensure that a group of devices is protected and that all the devices in the group are patched consistently. For more information, see Chapter 6, "Using Mandatory Baselines," on page 71.

1.4 Dashboard

The Dashboard tab contains graphs that allow users a direct overview of the devices in the network. For more information, see Section 4.2, “Dashboard,” on page 32.

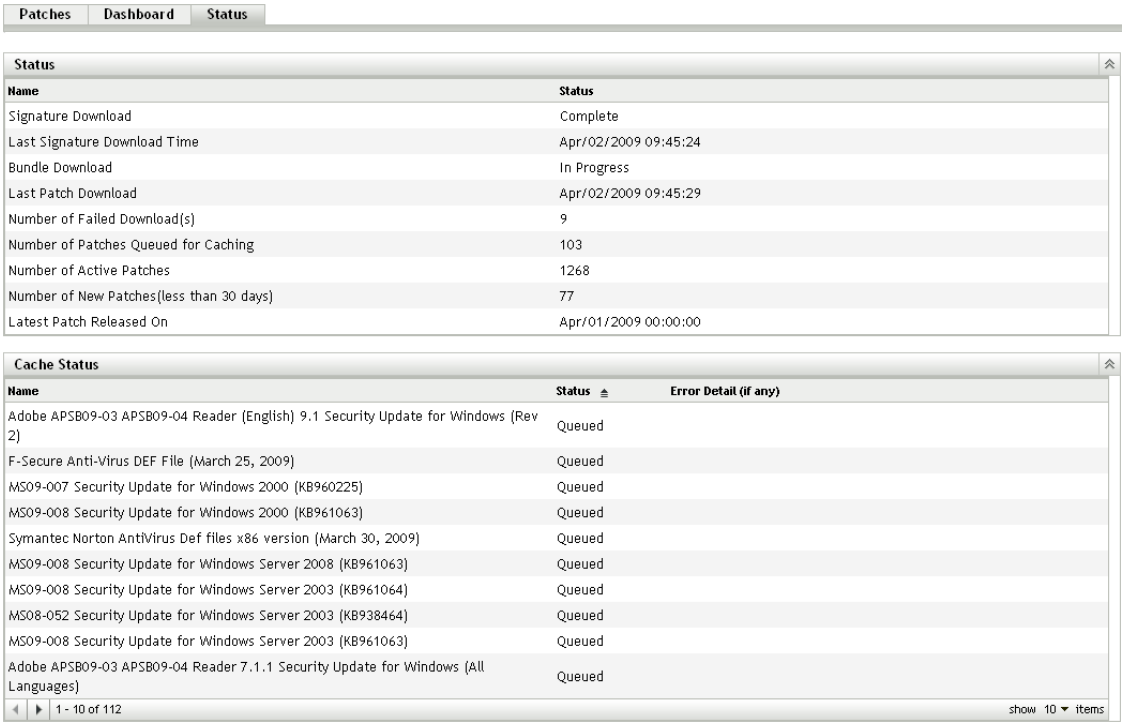
Figure 1-1 *Dashboard Page*



1.5 Patch Download Status

The Status page consists of the system and cache statuses, which show the overall patch information. For more information, see Section 4.3, “Status,” on page 34.

Figure 1-2 *Status Page*



Patch Management Overview

2

Novell ZENworks 10 Patch Management is a part of the ZENworks 10 product line that provides a fully integrated version of leading patch and patch management solutions for medium and large enterprise networks. Patch Management enables customers to easily translate their organizational security patch policies into automated and continuous protection against more than 90% of vulnerabilities that threaten today's enterprise networks. By providing the most accurate and timely vulnerability assessment and patch management available, Patch Management ensures that policy measurement and security audits are a true representation of network security status.

2.1 Product Overview

Patch Management is a fully integrated feature of the configuration management suite that provides the same agent-based patch, vulnerability patch, and compliance management solution that was used in prior stand-alone versions such as ZENworks Patch Management 6.4.

Patch Management provides rapid patch remediation, allowing you to proactively manage threats by automating the collection, analysis, and delivery of patches throughout your heterogeneous enterprise to secure end points.

The ZENworks Server has a Web-based management user interface known as ZENworks Control Center. Its Patch Management feature allows you to monitor and maintain patch compliance throughout the entire enterprise. The ZENworks 10 Configuration Management Primary Server can deploy a ZENworks Adaptive Agent on every client system in the target network, ensuring that all systems are protected with the latest security patches, software updates, and service packs.

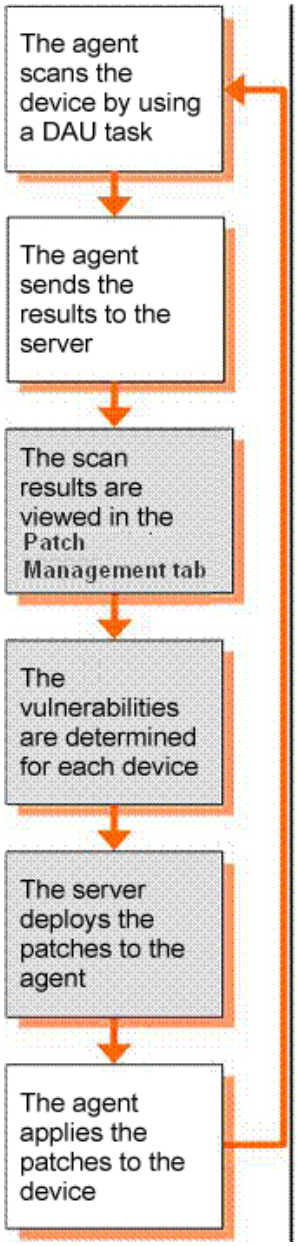
The Patch Management feature stays current with the latest patches and fixes by regular communication with the ZENworks Patch Subscription Network through a secure connection. After the initial 60-day free trial period, the Patch Management feature requires a paid subscription to continue its daily download of the latest patch and vulnerability information.

When a new patch is released into the ZENworks Patch Subscription Network, it is downloaded automatically to the ZENworks Server and an e-mail is sent to the administrator. When the administrator logs in to the ZENworks Control Center, the list of devices and the new patches that require deployment can easily be viewed along with the description and business impact. At this time, the administrator can choose to deploy the patch to a device or disregard the patch.

2.2 Patch Management Process

The following process map demonstrates how patch information is communicated between the ZENworks Server and the ZENworks Adaptive Agent:

Figure 2-1 *Process Map*



The patch detection cycle begins each day at the ZENworks Server where a Discover Applicable Updates (DAU) task is scheduled for all ZENworks managed devices (servers and workstations).

For all patches in the DAU task, the ZENworks Adaptive Agent performs patch detection by using the patch fingerprints incorporated into each individual patch, which determines the status (Patched, Not Patched, or Not Applicable) of that patch.

The results of the patch detection scan are sent to the ZENworks Server and can be viewed anytime in the Patches section under the *Patch Management* tab or in the *Devices* tab, even if a workstation is disconnected from your network.

After completion of the patch detection cycle, the ZENworks administrator can deploy the desired patches to each applicable device on the network.

2.3 Features of Patch Management

Patch Management has the world's largest repository of automated patches, including patches for all major operating systems and various third-party applications. Patch Management features an agent-based architecture, patch package pre-testing, highly scalable software, and easy-to-use features that allow customers to patch 13 times faster than the industry average.

Its patented Digital Fingerprinting Technology provides a highly accurate process for patch and vulnerability assessment, remediation and monitoring—leaving no systems open to attack. Remediation is fast and accurate with wizard-based patch deployments, support for phased rollouts, rapid verification of patch installations, and more. Patch Management continuously monitors end points to ensure that they achieve patch compliance quickly and then stay patched over time.

With Patch Management, you can be sure that your systems are effectively patched and compliant for successful IT and regulatory audits. Patch Management creates a Patch Fingerprint Profile that includes all missing patches for that machine, ensuring the continued compliance of each end point. Each end point is then continually monitored to make sure it stays patched. Administrators can also establish a mandatory baseline to automatically remediate end points that do not meet defined patch levels, which is a key aspect of regulatory compliance. In addition, because many organizations need to demonstrate patch compliance, Patch Management provides standard reports that document changes and demonstrate progress toward internal and external audit and compliance requirements.

The following table describes the important features of Patch Management:

Table 2-1 *Patch Management Features*

Feature	Description
Patented multi-platform patch management	Enables security of all operating systems and applications within heterogeneous networks, including Windows (32-bit and 64-bit) and Linux distributions. US Pat #6999660.
World's largest automated patch repository	Provides the largest repository of tested patches to support all major operating systems and applications used in the enterprise.
Extensive pre-testing	Reduces the amount of development and testing required prior to patch deployment.
Agent-based architecture	Protects laptop and mobile devices that are often disconnected from the network, and reduces network bandwidth usage.
Automatic notifications	Distributes e-mail alerts directly to administrators for proactive security and administrative management.

Feature	Description
Patch fingerprint accuracy	Ensures the highest level of accuracy in the detection of security patches.
Multi-patch deployments	Delivers multiple patches to multiple computers in one distribution to increase IT productivity.
Flexible application reporting	Audits and reports on the status of the organization's security.
Policy-based administration	Ensures that all systems meet a mandatory baseline policy, which is a key aspect of regulatory compliance.

Using Patch Management

3

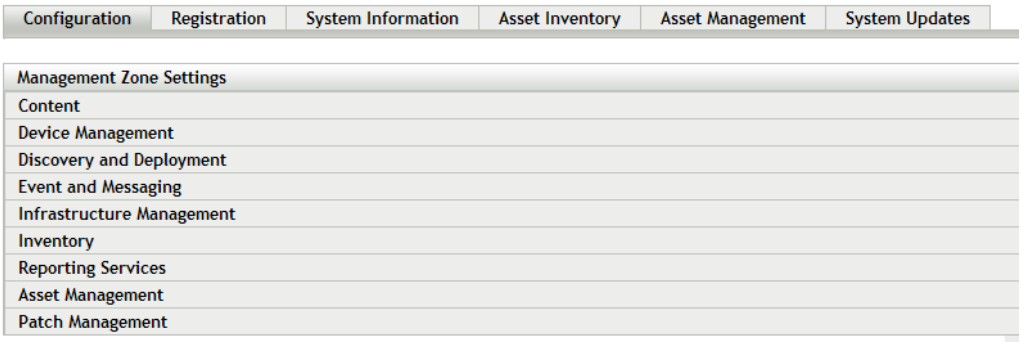
Novell ZENworks 10 Patch Management provides current information about your subscription status and allows you to activate and configure your subscription.

The following sections further introduce you to the capabilities of Patch Management:

3.1 Viewing Subscription Service Information

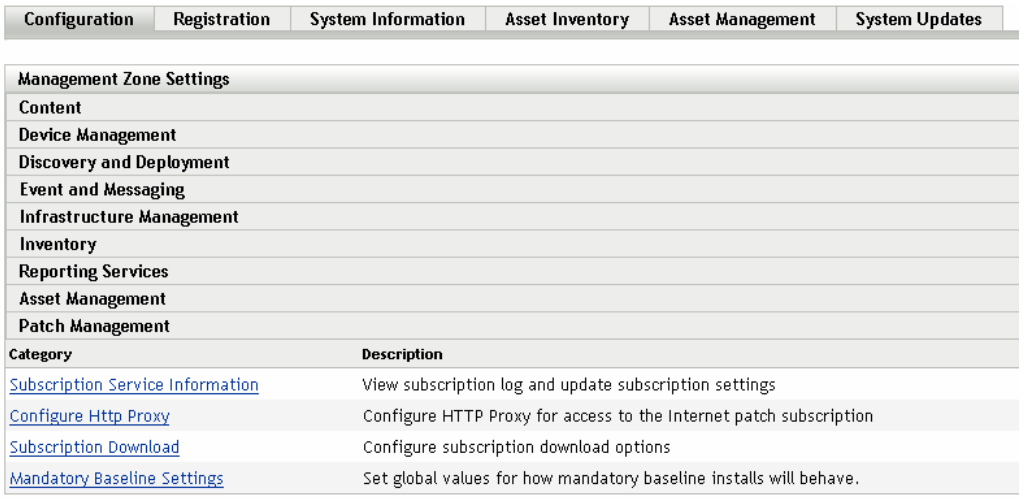
1 Click the *Configuration* tab in the left panel.

The Configuration page appears as shown in the following figure:



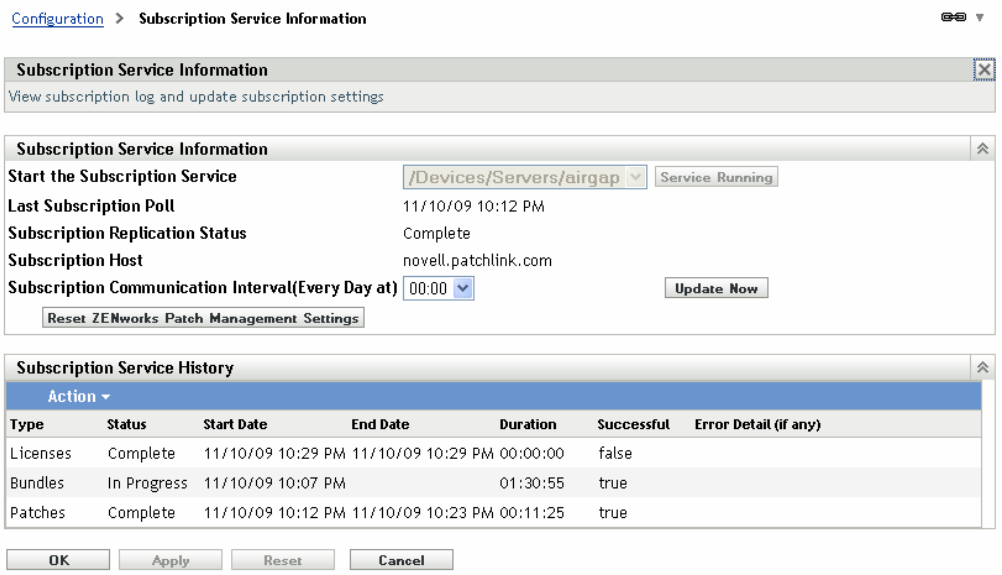
2 Click *Patch Management*.

Four links—*Subscription Service Information*, *Configure HTTP Proxy*, *Subscription Download* and *Mandatory Baseline Settings*—are displayed:



3 Click the *Subscription Service Information* link.

The Subscription Service Information page appears, as shown in the following figure:



The Subscription Service Information page displays all the information about your subscription, including the status. You can also update your subscription settings on this page.

You can refresh the subscription information by clicking the *Action* drop-down list on the Subscription Information page and selecting the *Refresh* option, as shown in the following figure:

The following table describes each status item featured on the Subscription Service Information page:

Status Item	Definition
Start the Subscription Service	Enables you to select a server from multiple servers in your management zone. You select a server from the drop-down list and click the *Start* button to start the subscription service. ◆ After the subscription service starts running, the *Start* button reads *Service Running*. ◆ If there are multiple ZENworks Servers in your management zone, you can select any one of them to be the Patch Management Server. The Patch Management Server selected will download new patches and updates daily, so it should have good connectivity to the Internet. **NOTE:** Selecting the Patch Management Server can be done only once per zone in this release.
Last Subscription Poll	The date and time of the last successful update.
Subscription Replication Status	The latest status of the process of patch subscription replication.
Subscription Host	The DNS name of the Patch Management licensing server (http://novell.patchlink.com).
Subscription Communication Interval (Every Day at)	The time at which the ZENworks Server will communicate with the ZENworks Patch Subscription Network to retrieve new patches and updates.
Reset ZENworks Patch Management Settings	Enables you to set all Patch Management settings, including deployments, back to the default state.

The following table describes the action of each button on the page:

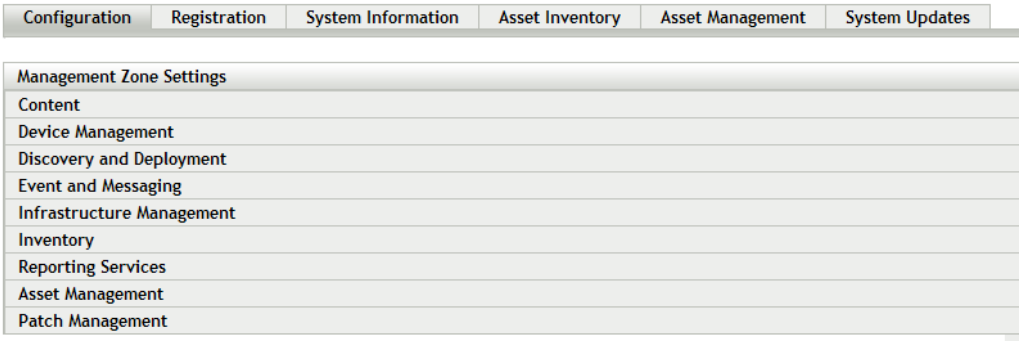
Button	Action
OK	Enables you to go back to the Configuration page.
Apply	Enables you to save the changes made to the Subscription Communication Interval.
Reset	Enables you to reset the replication status and initiate a complete replication with the ZENworks Patch Subscription Network.
Update Now	Initiates replication of the ZENworks Server with the ZENworks Patch Subscription Network and forces an immediate download of the patch subscription.
Cancel	Enables you to cancel the last action performed.

The *Subscription Service History* section displays the activity log of the subscription activities. The following table describes each item featured in this section.

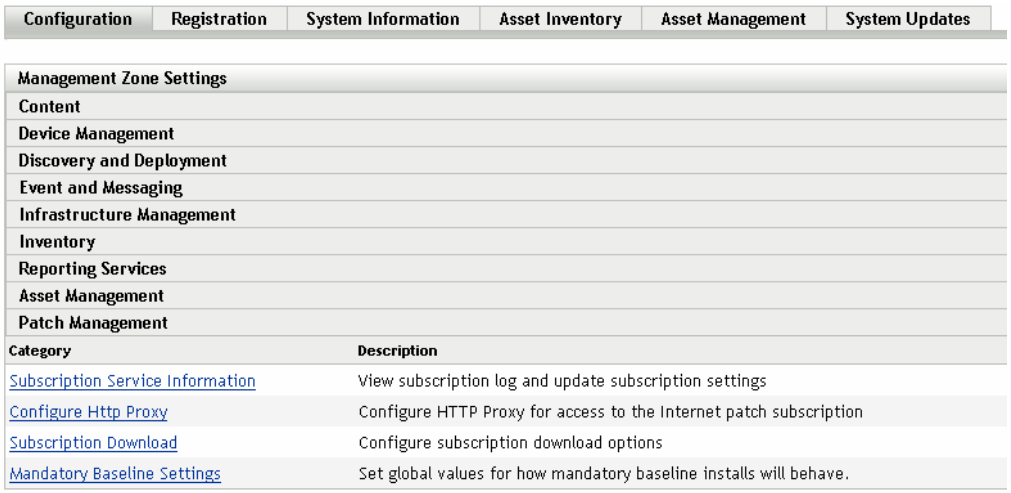
Item	Definition
Type	Subscription type defined for your account: Patches (Subscription Replication), Bundles (Subscription Replication), and Licenses.
Status	Status of the replication. When replication begins, the status reads *In Progress*. When replication ends, the status reads *Complete*. **NOTE:** If the replication process is interrupted, the status reads *Resetting*. This indicates that the replication process has continued from the point where it was interrupted.
Start Date	The date and time when replication started.
End Date	The date and time when replication ended.
Duration	The length of time the replication has been going on.
Successful	Indicates whether the replication was successful or not. *True* indicates successful replication and *False* indicates incomplete or failed replication.
Error Detail (if any)	Details of any error encountered during the patch download process.

3.2 Configuring HTTP Proxy Details

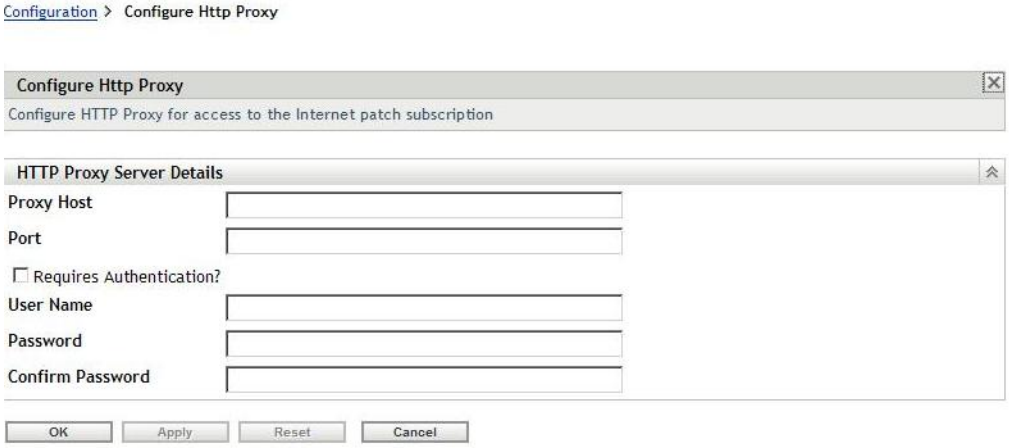
1 Click the *Configuration* tab in the left panel to display the Configuration page:



2 Click *Patch Management* to display the four links (*Subscription Service Information*, *Configure HTTP Proxy*, *Subscription Download* and *Mandatory Baseline Settings*):



3 Click the *Configure HTTP Proxy* link. The Proxy Server Details page appears:



The Proxy Server Details page enables you to configure an HTTP proxy for access to Internet patch subscriptions. The HTTP proxy server allows Patch Management to download the subscription service over the Internet.

The following table describes each field on the Proxy Server Details page:

Item	Description
Proxy Host	The proxy address used to connect to the ZENworks Patch Subscription Network.
Port	The proxy port used to connect to ZENworks Patch Subscription Network.
Requires Authentication	Selecting this check box ensures that the Proxy server can be used only after user authentication. If you select the check box, the *User Name* and *Password* fields are enabled.

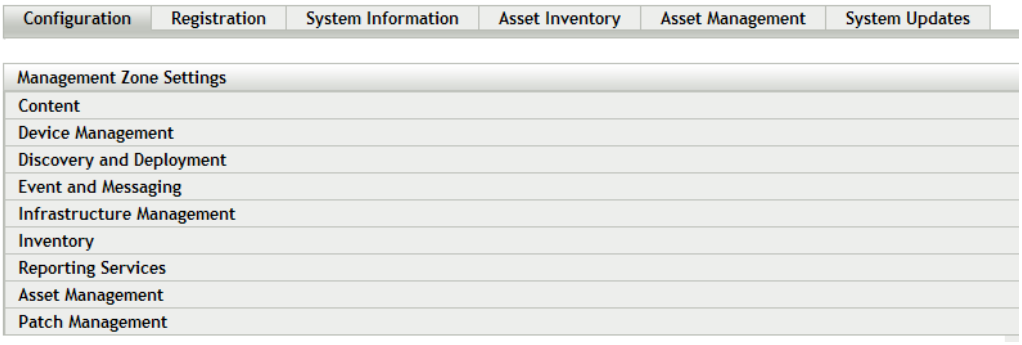
Item	Description
User Name	User's name used for authentication.
Password	User's password used for authentication.
Confirm Password	User's password for confirmation.

The following table describes the action of each button on the page:

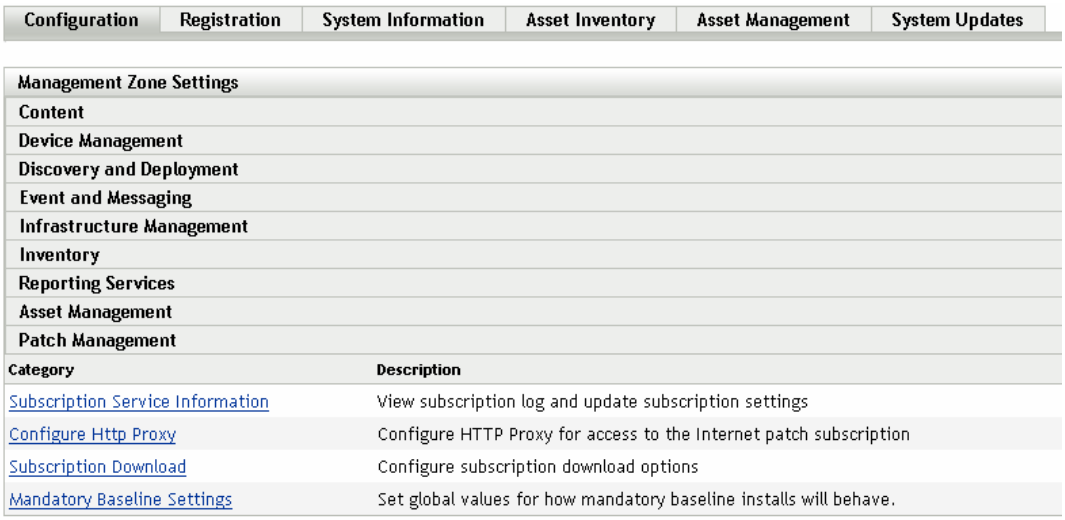
Button	Action
OK	Enables you to go back to the Configuration page.
Apply	Enables you to save the data entered in the text fields.
Reset	Enables you to reset the data entered in the text fields.
Cancel	Enables you to cancel the last action performed.

3.3 Configuring Subscription Download Details

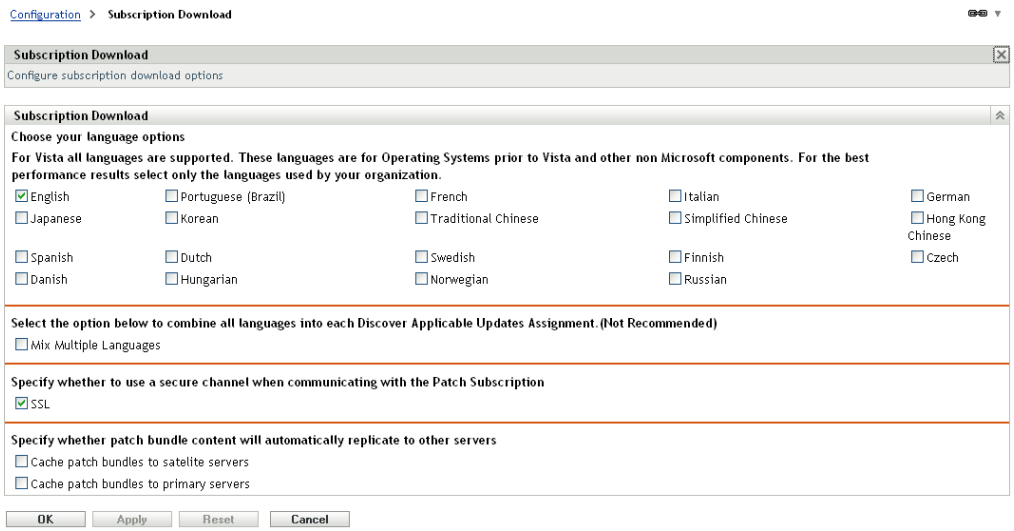
1 Click the *Configuration* tab in the left panel to display the Configuration page:



2 Click *Patch Management* to display the four links (*Subscription Service Information*, *Configure HTTP Proxy*, *Subscription Download* and *Mandatory Baseline Settings*):



3 Click the *Subscription Download* link to display the Subscription Download Options page:



The Subscription Download Options page allows you to configure the subscription download options for the Patch Management Server. You can select the languages that are used within your network to ensure that you only download the patches that are most applicable for your organization. The next time patch replication occurs, only those patches specific to the selected languages are downloaded, thereby saving download time and disk space on your Patch Management Server.

NOTE: Novell does not recommend selecting all languages because each language can represent hundreds of patches. Downloading unnecessary languages can result in thousands of unused patch definitions within your ZENworks Primary Server database that would then need to be disabled in the *Patch Management* tab.

The following table describes each option on the Subscription Download Options page:

Item	Description
Choose your language options	Enables you to select the language of patches you want to download. For example, if you select the *French* check box, only French language patches are downloaded.
Mix Multiple Languages	Enables you to combine all languages into each Discover Applicable Updates Assignment (not recommended).
SSL	Enables you to turn secured downloading of patch list information on or off. The recommended setting is On.
Cache patch bundles to satellites	Enables you to cache patch bundles to the servers or workstations that are managed by Primary Servers.
Cache patch bundles to primary servers	Enables you to cache patch bundles to Primary Servers only.

IMPORTANT: Customers with larger network environments should select both *Cache Patch Bundles to Satellites* and *Cache Patch Bundles to Primary Servers* for optimal distribution of patches and the daily Discover Applicable Updates task within their environment. Not selecting these options could cause very slow and inefficient delivery of these patch bundles within a highly distributed WAN environment.

Within an enterprise network environment, the customer usually installs more than one ZENworks 10 Configuration Management Primary Server. Although only one of these servers can be used to download patches, every Primary Server has a cache of patch bundle content for distribution to the agents that are closest to it within the zone. Thus, when an agent wants to get a bundle, it can get the bundle directly from its closest Primary Server rather than the Primary Server where the patches were downloaded.

In addition, the satellites that are installed within the customer network can also serve as a cache for bundle content. If an agent is at a remote branch office with a satellite, it can get its content directly from the satellite rather than the Primary Server where patches were downloaded.

The following table describes the action of each button on the page:

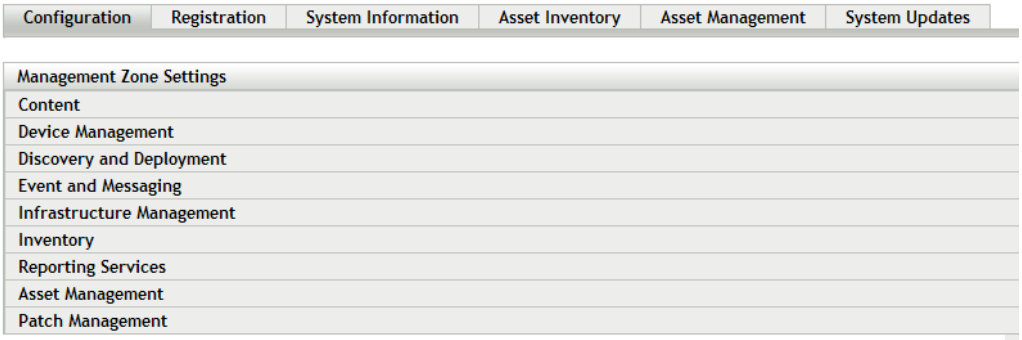
Button	Action
OK	Enables you to go back to the Configuration page.
Apply	Enables you to save the changes made to the page.
Reset	Enables you to reset the selected options.
Cancel	Enables you to cancel the last action performed.

Best practices recommendations for using the patch subscription:

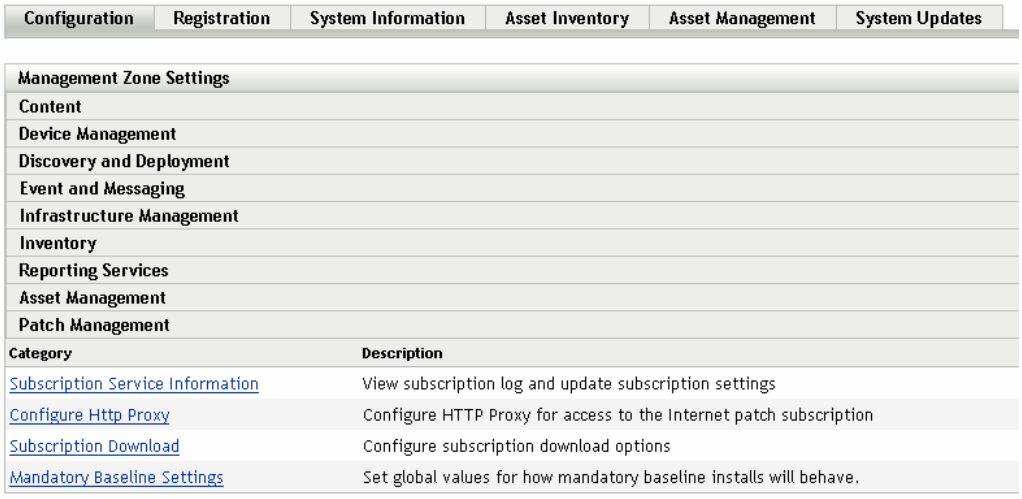
- Customers should always disable patches that they no longer require, because this minimizes the volume of patch scan data stored each day, as well as the time taken to scan each of the endpoint devices.
- We highly recommend that customers cache only the patches they need. When a patch is cached to the Primary Server where patches are downloaded, it needs to be copied to all Primary Servers and satellites within the zone. Downloading all patches wastes space and bandwidth within the ZENworks 10 Configuration Management content distribution network.

3.4 Configuring Mandatory Baseline Settings

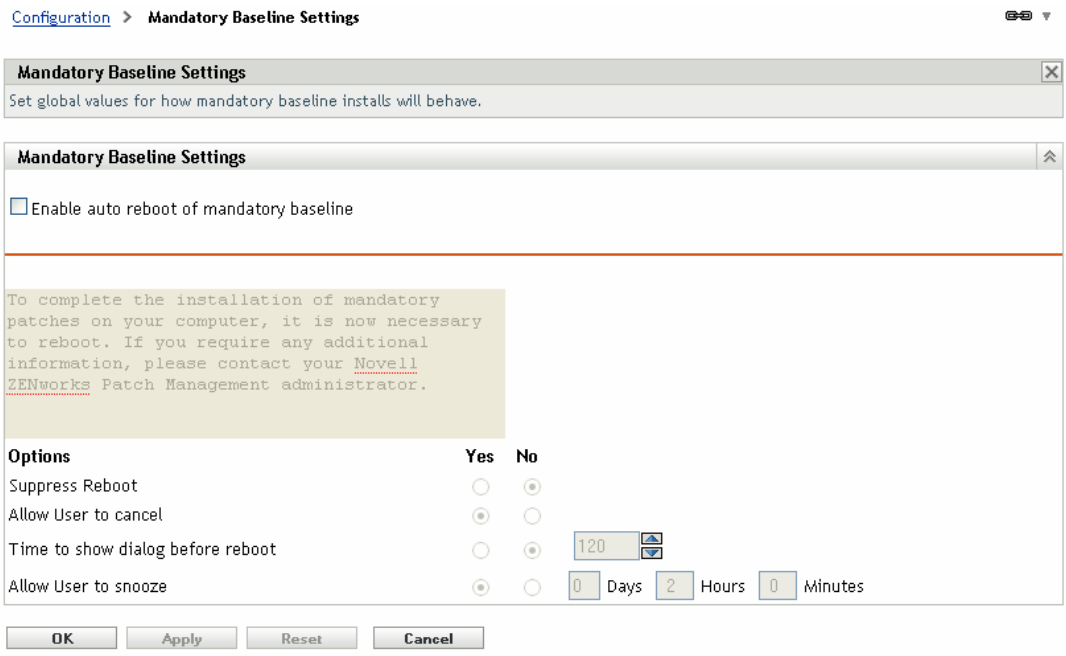
1 Click the *Configuration* tab in the left panel to display the Configuration page:



2 Click *Patch Management* to display the four links (*Subscription Service Information*, *Configure HTTP Proxy*, *Subscription Download*, and *Mandatory Baseline Settings*):



3 Click the *Mandatory Baseline Settings* link to open the Mandatory Baseline Settings page.



The Mandatory Baseline Settings page allows you to completely control deployment of mandatory baseline patches. For example, you can decide whether or not to automatically reboot the machine when a baseline patch is applied. The page also enables you to set global options for installation of mandatory baseline patches.

The page displays the following options:

- **Enable auto reboot of mandatory baseline:** Select this option to enable an automatic reboot of the machine when a mandatory baseline patch is applied.

  NOTE: The auto reboot option is not applied to patches that do not require rebooting after installation.

- **Message Box:** The text of the notification message.
- **Options:** When you define auto reboot options, you can specify whether to use the values in the default settings or the custom settings. There are four options:
  - **Suppress Reboot:** Allows the user to prevent rebooting after installation of a patch.
  - **Allow User to cancel:** Allows the user to cancel the reboot process.
  - **Time to show dialog before reboot:** The time in seconds for users to choose whether to reboot the machine after installation of a patch.
  - **Allow User to snooze:** This option allows the user to snooze the reboot.

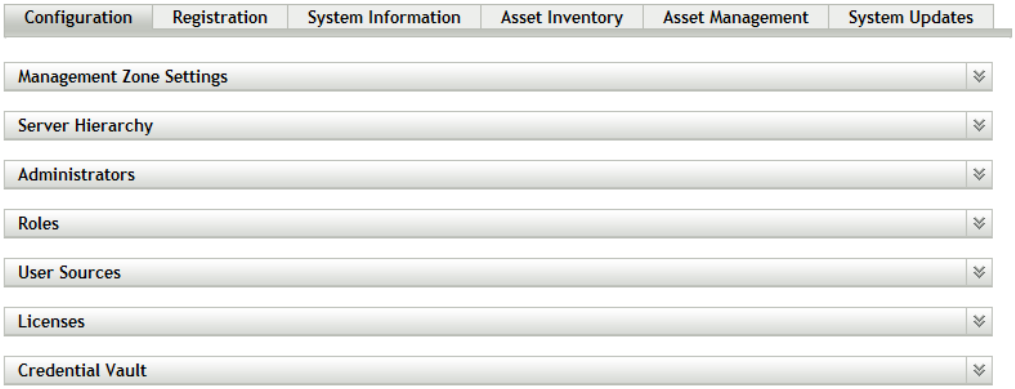
The page also contains the following buttons:

Button	Action
OK	Takes you back to the Configuration page.

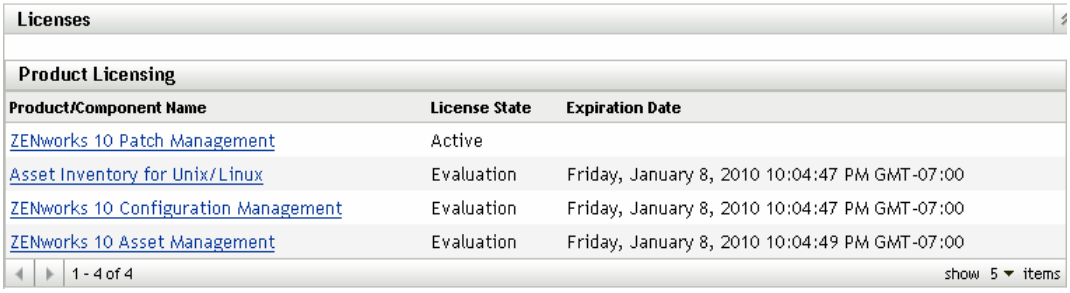
Button	Action
Apply	Saves the changes made to the page.
Reset	Resets the selected options.
Cancel	Cancels the last action.

3.5 Patch Management Licensing

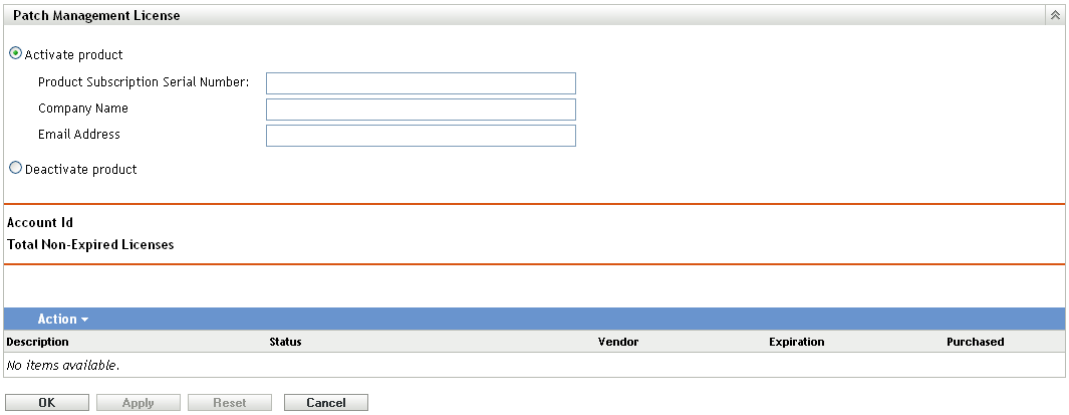
1 Click the *Configuration* tab in the left panel to display the Configuration page:



2 If necessary, expand the *Licenses* section:



3 Click *ZENworks 10 Patch Management*.



The Patch Management License page allows you to view and verify the patch management subscription for the ZENworks Primary Server. The page also allows you to activate or renew your paid subscription if it has expired, and provides a summary of all subscription elements that are part of your patch management activities. This information is updated after each replication with the Patch Management Subscription Service.

IMPORTANT: If you are upgrading from a prior version of Patch Management, you can use your existing Patch Management subscription serial number after your Patch Management 10.1 server has been uninstalled.

Patch Management provides a 60-day free trial period. You do not need to enter a serial number unless you have purchased the product or the 60-day free trial has expired.

To continue using the patch management features of the ZENworks Control Center after your 60-day free trial has ended:

1. Enter a valid subscription serial number for Patch Management along with the company name and e-mail address.
2. Revalidate the subscription serial number.

The license record is now valid, and displays its description, purchase date, vendor, effective date, and expiration date.

To validate the serial number and obtain the authorization to download patches, the Primary Server on which patch subscription is being downloaded must have port 443 (HTTPS) access to https://novell.patchlink.com/update.

The Patch Management content distribution network is a global cache infrastructure with many servers. Downloading patches from this network requires port 80 (HTTP) access to http://novell.cdn.lumension.com/novell/baretta.xml. For security reasons, it is also recommended that SSL access to the internet should be allowed. The *SSL* option is enabled by default and downloads the lists of patches from a secure and trusted site.

You should use nslookup to discover the local IP address for your nearest content distribution node. The content distribution network has over 40,000 cache distribution servers worldwide, plus multiple redundant cache servers in each geographic location. It is important to allow access to a range of addresses through the firewall.

The following table describes each field on the Subscription Serial Number page:

Table 3-1 *Patch Management License Items*

Item	Definition
Activate product	Activates the patch management service. The *Patch Management* tab is restored in the main panel and the *Patch Management* section is restored in the *Configuration* panel.
Deactivate product	Deactivates the patch management service. The *Patch Management* tab is removed from the main panel and the *Patch Management* section is removed from the Configuration page.
Product Subscription Serial Number	Patch Management license number (serial number).

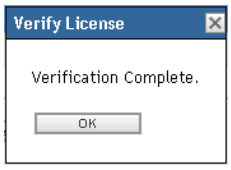
Item	Definition
Company Name	Name of the company that Patch Management Service is registered to.
Email Address	E-mail address that you can use for receiving alerts and for future communications.
Account ID	Key created by the ZENworks Server, which is passed to the Patch Management Subscription Service and used to validate the update request.
Total Non-Expired Licenses	Total number of active licenses. Each registered device requires one license.
Description	The description of the license or the name of the license.
Status	Status of license verification. When verification begins, the status reads *Initializing Verification*. When replication ends, the status reads *Completed*.
Vendor	The source where the license was purchased.
Expiration	The date the licenses expire. Typically, licenses expire one calendar year from the date of purchase.
Purchased	The total number of licenses purchased with the product.

The Patch Management serial number can be entered only once. When you have entered the serial number, you can verify the license by clicking the *Action* drop-down list on the Patch Management License page and selecting *Verify License*. To start the license verification process, click *Apply*. Automatic verification of the license happens every day with the replication process.

Figure 3-1 *Verify License option*

To start the license verification process, click *Apply*.

Figure 3-2 *Verify License message box*



The *Verify License* message box indicates that the verification of the subscription license is complete or the license has expired.

NOTE: You can check the resultant license verification status under the *Subscription Service History* panel on the Subscription Service Information page. When verification begins, the status column reads *Initializing Verification*. When verification ends, the status column reads *Completed*. The *Successful* column indicates whether the verification was successful or not. *True* indicates successful verification and *False* indicates incomplete or failed verification.

The following table describes the action of each button on the Patch Management License page:

Table 3-2 *Buttons on the Patch Management License Page*

Button	Action
OK	Enables you to go back to the Configuration page.
Apply	Enables you to start the license verification process.
Reset	Enables you to reset the data entered in the text fields.
Cancel	Enables you to cancel the last action performed.

Using the Patch Management Tab 4

The following sections provide more information on the Patches page:

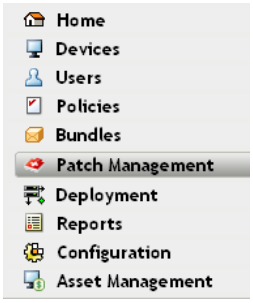
4.1 Viewing Patches

A patch consists of a description, signatures, and fingerprints required to determine whether the patch is applied or not patched. A patch also consists of associated patch bundles for deploying the patch.

The Patches page displays a complete list of all known patches reported by various software vendors. After they are reported and analyzed, the patches are registered for distribution to your ZENworks Server through the ZENworks Patch Subscription Network. The ZENworks Adaptive Agent should be installed on each device to check for known patches. A patch bundle called Discover Applicable Updates (DAU) is then assigned to run on each device on a daily basis to scan for known patches. This task returns the results that are displayed on the Patches page. The results are presented in a table of patch status. The total number of patches is displayed below the table in the bottom left corner.

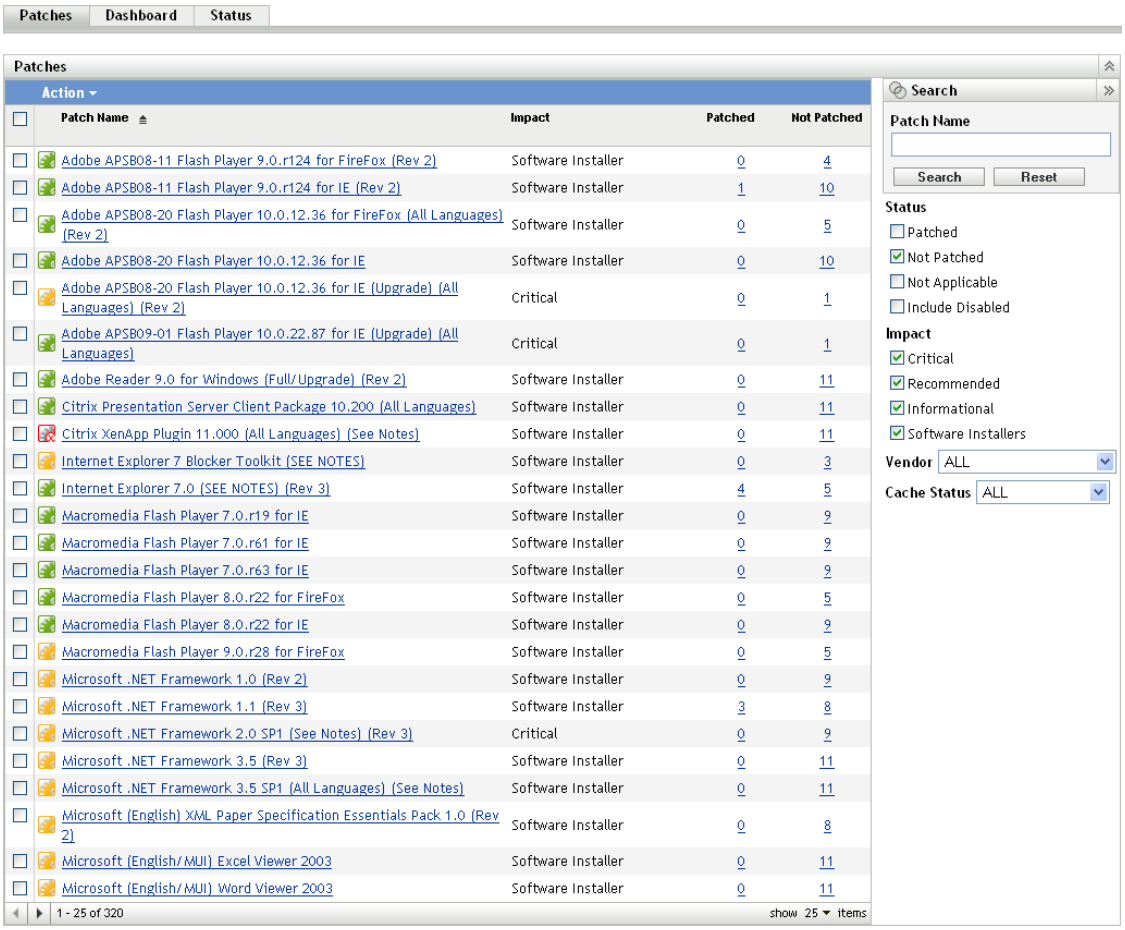
To view the patches in Patch Management, click the *Patch Management* tab on the left panel, as shown in the following figure:

Figure 4-1 *Patch Management Tab*



The patches are displayed, as shown in the following figure:

Figure 4-2 *Patches listed on the Patches page*



4.2 Dashboard

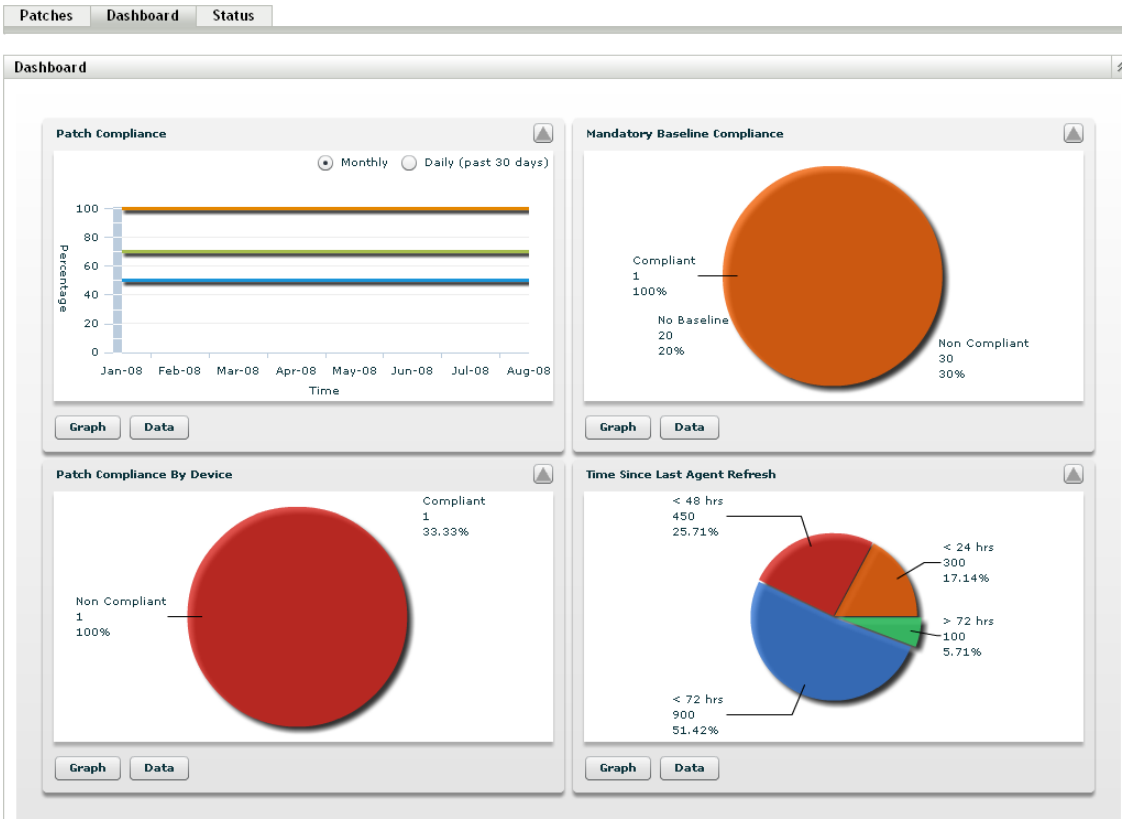
The Dashboard addresses operational, management, and compliance reporting needs with a graphical dashboard and four standard reports that document patches, patch deployments, patch status, trends, inventory and more, at individual machine or aggregated levels. This provides a unified view to demonstrate progress toward internal and external audit and compliance requirements. You can update the dashboard by clicking the *Update Dashboard Report* in the *Action* menu of the *Patch Management* tab.

The dashboard reporting thread captures daily statistics concerning the overall percentage of enabled patches that are actually patched on a given day. It will take at least 24 hours for the initial dashboard reports to be generated.

NOTE: To use patch management effectively, customers should disable the patches that are irrelevant to their environment, so that the daily compliance statistics are based only on patches relevant to their network of devices, giving the percentage of enabled patches actually applied on a given day.

Following is an illustration of the Dashboard page:

Figure 4-3 *Dashboard Page*



- **Patch Compliance:** Displays the monthly/daily trend of overall compliance for each patch impact category.

  Patch Management best practices recommend that an organization should monitor compliance over time to ensure that the intended patches are deployed regularly and the patch management solution is being used correctly. Mouse over the trend lines to see the actual calculated percentages for each impact category (Critical, Software, or Optional). Detailed information that shows the individual patched/not patched totals per patch is seen on the *Patches* tab of *Patch Management.*

  - **Monthly/Daily:** Time period for the compliance trend data.
  - **Critical Patched:** Percentage of Critical patches that are applied.
  - **Optional Patched:** Percentage of Recommended and Informational patches that are applied.
  - **Software Patched:** Percentage of Software patches that are applied
- **Mandatory Baseline Compliance:** Displays the percentage of device groups that are currently in mandatory baseline compliance.

Establishing a mandatory baseline policy allows the administrator to auto-deploy patches to device groups quickly and easily, and to ensure that known vulnerabilities do not return when a new computer is purchased or re-imaged. Each group is only evaluated as being in mandatory baseline compliance if all enabled baseline patches for that group are currently in a patched status for all group member devices.

- **Status:** Compliant, Non-Compliant, or No Baseline.
- **Group Count:** Number of groups in each state.

- **Patch Compliance By Device:** Displays the overall patch compliance of the devices that Patch Management is monitoring.

  Each device is evaluated as compliant only if it has a patched status for all of the active patches currently available within Patch Management. Patches that are not applicable should always be disabled within Patch Management so that this metric can be tracked only on the relevant patches for the managed network of devices.

  - **Status:** Compliant or Non-Compliant.
  - **Device Count:** Total number of devices in each state.

- **Time Since Last Agent Refresh:** Displays the elapsed time since the last DAU cycle for all managed devices within the network.

  Within a patch management system, it is vital to ensure that all devices are regularly scanned for missing patches. Even with a regular daily DAU cycle, it is very likely that some laptops or workstations are offline during any given day.

  - **Elapsed Time:** < 24 hrs, < 48 hrs, < 72 hrs, > 72 hrs.
  - **Device Count:** Total number of devices in each category.

The following table describes the action of each button on the page:

Button Name	Action
Graph	Displays the details graphically.
Data	Displays the details in tabular form.
Zoom Control	Enlarges or reduces a single graph into the full page size or restores it to the original size.

When you click the  button, the corresponding graph is in full page size mode; when you click the  button, the corresponding graph is restored to its former size.

4.3 Status

This page displays the download status for patches and bundles in table form, and also displays the details of patch caching and queuing status.

- Section 4.3.1, “Status,” on page 35
- Section 4.3.2, “Cache Status,” on page 35

4.3.1 Status

Table 4-1 *Status Table Items*

Item Name	Item Status
Signature Download	Indicates whether downloading of the signature has finished or is in progress.
Last Signature Download Time	Indicates the last time the local server contacted and downloaded the signature from the Patch Subscription server.
Bundle Download	Indicates whether the patch bundle download is finished or is in progress.
Last Patch Download	Indicates the last time the local server contacted and downloaded a patch from the Patch Subscription server.
Number of Failed Download(s)	Indicates the number of patches that failed to download from the Patch Subscription server.
Number of Patches Queued for Caching	Indicates the number of patches that are queued for download from the Patch Subscription server.
Number of Active Patches	Indicates the number of patches that are available for download from the Patch Subscription server.
Number of New Patches (less than 30 days)	Indicates the number of patches that have been uploaded to the Patch Subscription server in the last 30 days and are available for download.
Latest Patch Released On	Indicates the time when the latest patches were released.

4.3.2 Cache Status

Table 4-2 *Cache Status Table Column Headings*

Item	Definition
Name	The name of a patch.
Status	Whether the patch has been successfully downloaded.
Error Detail (if any)	Details of any error that occurred during the download process.

4.4 Using the Patches Page

The following sections provide more information on the Patches page:

4.4.1 Patches

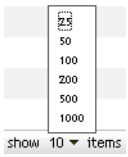
This section of the Patches page provides the following information about patches:

- Name of the patch
- Total number of patches available
- Impact of the patch
- Statistics of the patch

This section features the *Action* menu, which enables you to perform any of the five actions related to patches: *Deploy Remediation*, *Enable*, *Disable*, *Update Cache*, and *Update Dashboard Report*. For more information on these actions, see “Action Menu Items” on page 41.

The section also features the *show items* drop-down list that enables you to select the number of items to be displayed in this section, as shown in the following image:

Figure 4-4 *Show Items Drop-Down List*



The following sections explain the information on the Patches page:

- “Patch Name” on page 36
- “Total Patches Available” on page 37
- “Patch Impacts” on page 37
- “Patch Statistics” on page 38
- “Action Menu Items” on page 41

Patch Name

This is the name that identifies a patch. This name typically includes the vendor or manufacturer of the patch, the specific application, and version information.

An example of a patch name is shown as follows. It indicates that Adobe is the vendor, Acrobat Reader is the application, and 6.0.6 is the version information:

Figure 4-5 *Example of a Patch Name*

- All Microsoft security patches are titled with their Microsoft Security Bulletin number in the format MS0x-yyy, where *0x* indicates the year the patch was released and *yyy* indicates the sequential number of the released patch. These patches are critical and must be installed as soon as possible.

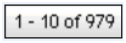
- Names of all Microsoft non-security patches include the Knowledge Base (KB) article number. These patches can be installed at your discretion.
- The names of Microsoft service packs and third-party patches do not usually contain a KB number, and never a Microsoft Security Bulletin number. Test these service packs thoroughly to ensure that they have the expected results.

For more information on the naming conventions for patches, refer to Comprehensive Patches and Exposures (CVE) (http://cve.mitre.org/), which is a list of standardized names for patches and other information exposures. Another useful resource is the National Patch Database (http://nvd.nist.gov/), which is the U.S. government repository of standards-based patch management data.

Total Patches Available

The total number of patches that are available for deployment is displayed in the bottom left corner of the table. In the following figure, the total number of available patches is 979:

Figure 4-6 *Show Items Drop-down List*



Patch Impacts

The type of patch defined on the basis of the severity of the patch; the type can be Critical, Recommended, Informational, or Software Installers. Each impact is described as follows:

- **Critical:** Novell has determined that this type of patch is critical, and should be installed as soon as possible. Most of the recent security updates fall in this category. ZENworks Server automatically downloads and saves the patches that have critical impact.
- **Recommended:** Novell has determined that this patch, although not critical or security related, is useful and should be applied to maintain the health of your computers. You should install patches that fall into this category.
- **Software Installers:** These types of patches are software applications. Typically, this includes software installers. The patches show *Not Patched* if the application has not been installed on a machine.
- **Informational:** This type of patch detects a condition that Novell has determined is informational. Informational patches are used for information only. There is no actual patch to be installed.

Patch Management impact terminology for its patch subscription service closely follows the vendor impact terminology for patch criticality. Each operating system has a vendor-specific impact rating and that impact is mapped to a Novell rating as described in this section. Patch Management, following the recommendations of Lumension Security, increases or steps up the severity of the impact rating. For example, Microsoft classifications for Critical, Important, and Moderate patches are all classified as Critical by Novell.

The following table lists the mapping between Novell and Microsoft patch classification terminology:

Table 4-3 *Novell and Microsoft Patch Impact Mapping*

Novell Patch Impacts	Windows	Other
Critical	Critical Security	NA
	Important	
	Moderate	
Recommended	Recommended	NA
	Low	
	Example: Microsoft Outlook 2003 Junk E-mail Filter Update	
Software Installers	Software Distribution	Adobe 8.1 software installer
	Example: Microsoft Windows Malicious Software Removal Tool (Virus Removal)	
Informational	NA	NA

Source: Lumension Security

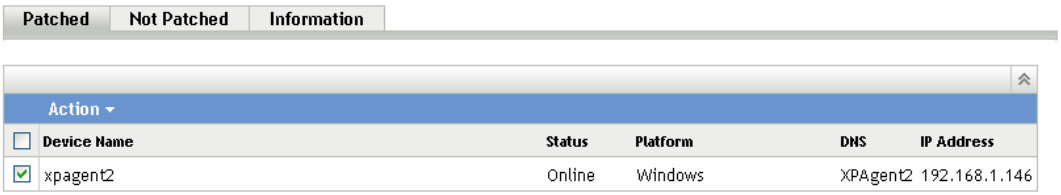
Patch Statistics

Patch statistics show the relationship between a specific patch and the total number of devices (or groups) within ZENworks Server that meet a specific status. The patch statistics appear in two columns on the far right side of the Patches page. Each column status is described as follows:

- **Patched:** Displays a link indicating the total number of devices to which the corresponding patch has been applied.

  Clicking this link displays a page that lists the patched devices.

  If a patch does not support uninstallation, the *Remove* option in the *Action* menu is disabled.



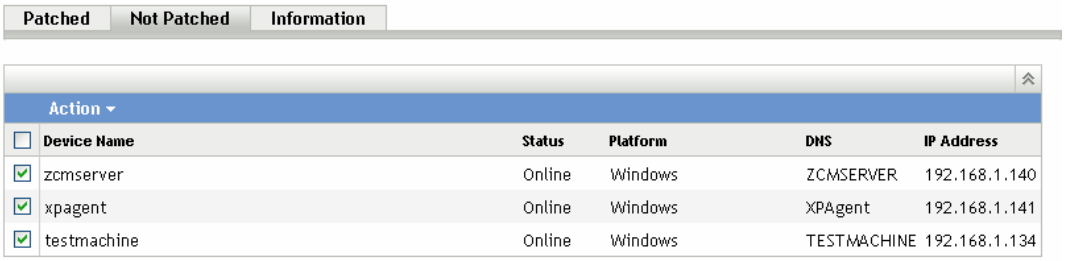
  The Patched page provides the following information about the devices to which a patch has been applied.

Item	Definition
Device Name	The name of the device registered with Novell ZENworks 10 Patch Management to which the patch is to be deployed.
Status	The status of the device. The status can be offline or online.
Platform	The operating system of the device.
DNS	The name of the DNS server.
IP Address	The IP address of the device.

You can uninstall the patch by using the *Remove* option in the *Action* menu.

- **Not Patched:** Displays a link indicating the total number of devices to which the corresponding patch has not been applied.

  Clicking this link displays a page that lists these devices.

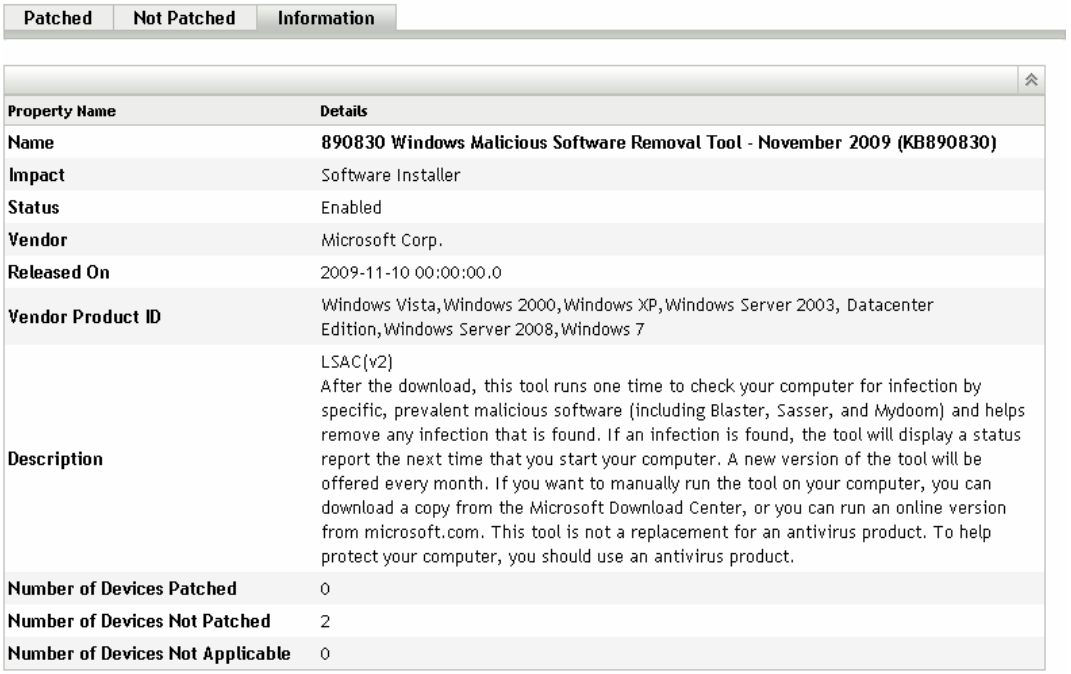


The Not Patched page provides the following information about the devices to which a patch has been applied.

Item	Definition
Device Name	The name of the device registered with Novell ZENworks 10 Patch Management to which the patch is to be deployed.
Status	The status of the device. The status can be offline or online.
Platform	The operating system of the device.
DNS	The name of the DNS server.
IP Address	The IP address of the device.

You can deploy the patch to these devices by using the *Deploy Remediation* option in the *Action* menu.

- **Information:** The Information page displays detailed information for a selected patch.



You can view the following information for a patch:

Property Name	Definition
Name	The name of the patch.
Impact	The impact of the patch as determined by Novell. See Patch Impacts.
Status	Status of the patch; can be *Enabled*, *Disabled (Superseded)* or *Disabled (By User)*.
Vendor	The name of the vendor.
Released on	The date the patch was released by the vendor.
Vendor Product ID	The ID number given to the product by the vendor.
Description	The description of the patch; includes detailed information concerning the defect or issue resolved by this patch, deployment notes, and the prerequisites for deployment.
Number of Devices Patched	The number of devices to which the patch has been applied.
Number of Devices Not Patched	The number of devices to which the patch has not been applied.
Number of Devices Not Applicable	The number of devices to which the patch does not apply.

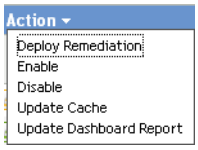
The patches shown in the Patches page have different icons indicating their current status. The following table describes the icons for each patch:

Table 4-4 *Patch Icons*

Patch Icon	Significance
	Indicates the patches that are disabled. Disabled patches are hidden by default. Use the *Include Disabled* filter in the *Search* panel to show these items.
	Indicates that only the fingerprint information for the patch has been brought down from the ZENworks Patch Subscription Network. This icon represents the patches that are not cached.
	Indicates that a download process for the bundles associated with the selected patch is pending.
	Indicates that a download process for the bundles associated with the selected patch has started. This process caches those bundles on your ZENworks Server.
	Indicates that the fingerprints and remediation patch bundles that are necessary to address the patch have been cached in the system. This icon represents the patches that are cached and ready for deployment.
	Indicates that an error has occurred while trying to download the bundle associated with the selected patch.

Action Menu Items

The *Patches* section also features an *Action* menu, which enables you to perform one of five actions on the patches listed on the page. The following figure shows the five options in the *Action* menu:



The *Action* menu consists of the following five options:

- **Deploy Remediation:** Enables you to deploy a patch. To use this option, select the check boxes for the patches you want to deploy and select *Deploy Remediation* from the *Action* menu options to open the Deploy Remediation Wizard. For more information, see Chapter 5, “Using the Deploy Remediation Wizard,” on page 49.
- **Enable:** Allows you to enable a disabled patch.
- **Disable:** Allows you to disable a patch. To use this option, select the check box for the desired patch and select *Disable*. The selected patch is removed from the list.

  Disabling a patch also disables all the bundles associated with it.
- **Update Cache:** Initiates the download process for the bundles associated with the selected patch and caches those bundles on your ZENworks Server.

  The remediation patch bundles must be cached before they are installed on the target device.

To use this option:

- Select one or more patches in the patches list.
- In the *Action* menu, click *Update Cache*.

  The patch icon changes to . While the download is in progress, the icon changes to . When caching is complete, the color of the patch icon changes to green. This indicates that the patch remediation is ready to be deployed.

You can sort the patches in ascending and descending alphabetical order. To sort, click the arrow in the column heading *Patch Name* as shown below.

Figure 4-7 *Patch Name Column*

- **Update Dashboard Report:** Enables you to update the dashboard report with the latest statistics.

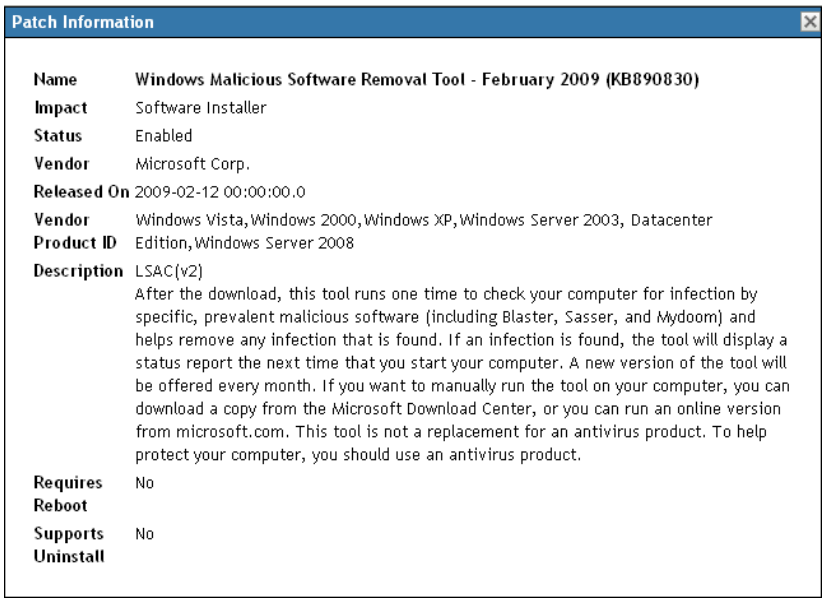
NOTE: To know when a patch was downloaded, view the *Message Log* panel for that patch in the *Bundles* section.

4.4.2 Patch Information

You can view detailed information for a selected patch in the *Patch Information* section. Clicking the name of a patch displays the details of that patch.

For example, if you select the patch called *Windows Malicious Software Removal Tool- February 2009 (KB890830)* from the list of patches, the *Patch Information* section displays the result of a patch analysis for the selected patch, as shown in the following figure:

Figure 4-8 *Patch Information for a Selected Patch*



The following table defines each property name in the *Patch Information* section:

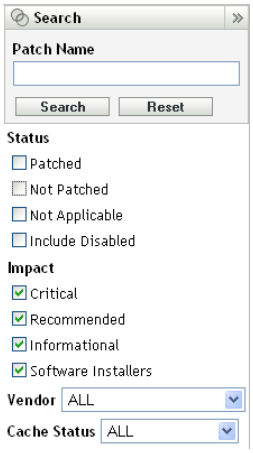
Table 4-5 *Property Names in the Patch Information Section*

Property Name	Definition
Name	The name of the patch.
Impact	The impact of the patch as determined by Novell. See Patch Impacts.
Status	Status of the patch; can be *Enabled*, *Disabled (Superseded),* or *Disabled (By User)*.
Vendor	The name of the vendor or manufacturer.
Released on	The date the patch was released by the vendor.
Vendor Product ID	The ID number given to the product by the vendor.
Description	The description of the patch; it includes the advantages of deploying the patch and the prerequisites for deployment.
Requires Reboot	Whether a reboot is required after patch deployment
Supports Uninstall	Whether the patch supports an uninstall after installation

4.4.3 Searching for a Patch

The *Search* section on the Patches page offers extensive search and data filtering options that allow you to search for specific patches and filter result sets based on the status and impact of the patches. Searching and filtering can be performed independently of each other or can be combined to provide extensive drill-down capabilities. The following figure shows the *Search* section:

Figure 4-9 *Search Section on the Patches Page*



To search for a patch:

1. Type all or part of the patch name in the *Patch Name* text box.
2. Select the desired check box under *Status* and *Impact*.

3 Select the vendor in the *Vendor* drop-down list.

4 Select the cache status in the *Cache Status* drop-down list.

5 Click *Search*.

NOTE: Click *Reset* to return to the default settings.

The following table describes the result of selecting each filter option under *Status*:

Table 4-6 *Status Filters in Search*

Status Filter	Result
Patched	Search results include all the patches in the patch list that have been applied to one or more devices.
Not Patched	Search results include all the patches in the patch list that have not been applied to any device.
Not Applicable	Search results include all the patches in the patch list that do not apply to the device.
Include Disabled	Search results include all the patches in the patch list that have been disabled by the administrator.

The following table describes the result of selecting each filter option under *Impact*:

Table 4-7 *Impact Filters in Search*

Impact Filter	Result
Critical	Search results include all the patches in the patch list that are classified as Critical by Novell.
Recommended	Search results include all the patches in the patch list that are classified as Recommended by Novell.
Informational	Search results include all the patches in the patch list that are classified as Informational by Novell.
Software Installers	Search results include all the patches in the patch list that are classified as Software Installers by Novell.

Table 4-8 *Vendor Filters and Cache Status Filter in Search*

Filter	Result
Vendor	Search results include all the patches relevant to the vendor in the patch list.
Cache Status	Search results include all the patches relevant to their cache status on the local server.

4.4.4 Patch Management

The following sections provide more information on the different options in the Patch Management pane:

Deploy Remediation

This option enables you to deploy a patch. To use this option, select the check boxes for the patches you want to deploy and click the *Deploy Remediation* link to open the Deploy Remediation Wizard. For more information, see Chapter 5, "Using the Deploy Remediation Wizard," on page 49.

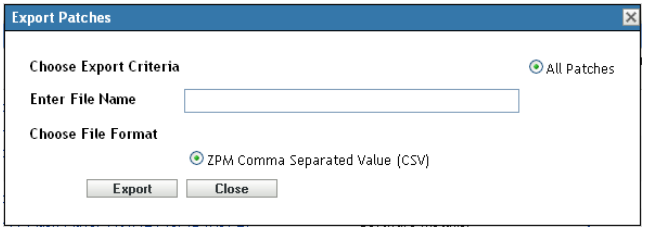
Export Patches

Details such as the status and impact of all patches can be exported into a comma-separated value (CSV) file. You can choose to save the file in a different file format after opening it from the download option.

1. Click the *Export Patches* link in the left pane.

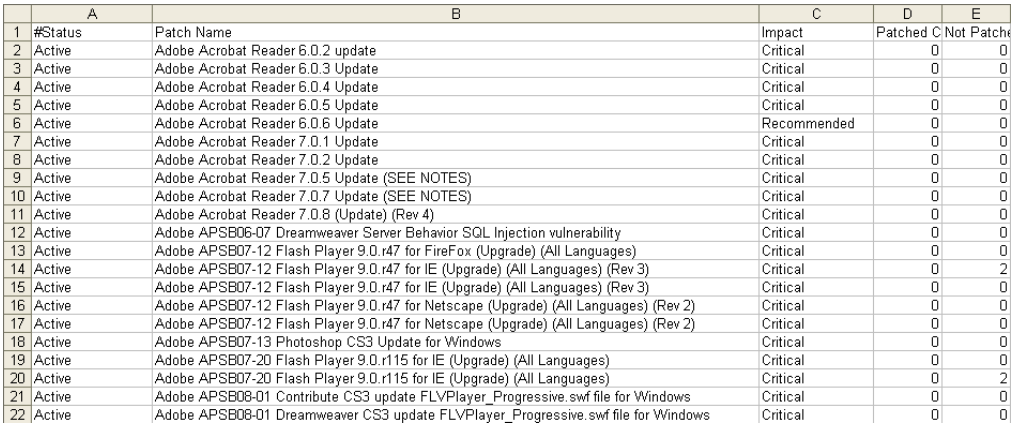
   This exports all data results, not just selected results. However, some data might not export or translate into `.csv` format in a readable format.

2. In the *Export Patches* dialog box, click *Export*.



3. In the *File Download* dialog box, select from the available options:
   - **Open:** Creates the file and opens it in your Web browser. From the browser, you can save to a variety of file formats, including CSV, XML, text, and numerous spreadsheet applications.
   - **Save:** Creates the file and saves it to a local folder. The file is saved in Microsoft Office Excel CSV format. The file is named `ZPMPatchesList.csv` by default.

- **Cancel:** The report is not created or saved.



	A	B	C	D	E
1	#Status	Patch Name	Impact	Patched C	Not Patche
2	Active	Adobe Acrobat Reader 6.0.2 update	Critical	0	0
3	Active	Adobe Acrobat Reader 6.0.3 Update	Critical	0	0
4	Active	Adobe Acrobat Reader 6.0.4 Update	Critical	0	0
5	Active	Adobe Acrobat Reader 6.0.5 Update	Critical	0	0
6	Active	Adobe Acrobat Reader 6.0.6 Update	Recommended	0	0
7	Active	Adobe Acrobat Reader 7.0.1 Update	Critical	0	0
8	Active	Adobe Acrobat Reader 7.0.2 Update	Critical	0	0
9	Active	Adobe Acrobat Reader 7.0.5 Update (SEE NOTES)	Critical	0	0
10	Active	Adobe Acrobat Reader 7.0.7 Update (SEE NOTES)	Critical	0	0
11	Active	Adobe Acrobat Reader 7.0.8 (Update) (Rev 4)	Critical	0	0
12	Active	Adobe APSB06-07 Dreamweaver Server Behavior SQL Injection vulnerability	Critical	0	0
13	Active	Adobe APSB07-12 Flash Player 9.0.r47 for FireFox (Upgrade) (All Languages)	Critical	0	0
14	Active	Adobe APSB07-12 Flash Player 9.0.r47 for IE (Upgrade) (All Languages) (Rev 3)	Critical	0	2
15	Active	Adobe APSB07-12 Flash Player 9.0.r47 for IE (Upgrade) (All Languages) (Rev 3)	Critical	0	0
16	Active	Adobe APSB07-12 Flash Player 9.0.r47 for Netscape (Upgrade) (All Languages) (Rev 2)	Critical	0	0
17	Active	Adobe APSB07-12 Flash Player 9.0.r47 for Netscape (Upgrade) (All Languages) (Rev 2)	Critical	0	0
18	Active	Adobe APSB07-13 Photoshop CS3 Update for Windows	Critical	0	0
19	Active	Adobe APSB07-20 Flash Player 9.0.r115 for IE (Upgrade) (All Languages)	Critical	0	0
20	Active	Adobe APSB07-20 Flash Player 9.0.r115 for IE (Upgrade) (All Languages)	Critical	0	2
21	Active	Adobe APSB08-01 Contribute CS3 update FLVPlayer_Progressive.swf file for Windows	Critical	0	0
22	Active	Adobe APSB08-01 Dreamweaver CS3 update FLVPlayer_Progressive.swf file for Windows	Critical	0	0

View Patch

Select a patch and click the *View Patch* link to display a page that provides details for that patch. The page provides three tabs as follows:

- **Patched:** Displays the patched devices for that patch.
- **Not Patched:** Displays all the devices that are not patched for that patch.
- **Information:** Displays detailed information for that patch.

4.5 Patch Management BOE Reports

Business Objects Enterprise (BOE) reports are available to customers who install ZENworks Reporting Services (ZRS) inside ZENworks 10 Configuration Management. The following predefined reports are included for Patch Management:

- **Mandatory Baseline Details:** Displays the applicable device names and patch statuses for the patches within the selected mandatory baseline. This report also helps you to monitor and communicate the compliance level for mandatory patches in the environment.
- **Mandatory Baseline Summary:** Displays the applicable device names and patch statuses for the patches. It also displays the criticality and the percentage of patched and not patched devices.
- **Vulnerability Analysis:** Displays the criticality level for patches that are applicable in an enterprise. It also displays the number of devices applicable to the patch, and the percentage of patched devices. This report is designed to assist in showing adherence to various compliances that require a level of patching efforts.

  NOTE: On a Linux server, the Vulnerability Analysis and the Mandatory Baseline Summary reports display blank columns even though the reports have data. To view the data, modify the reports and set the text color to black in the Formatting toolbar, then save the reports. You need to do this only once.

- **Patch Assessment Report:** Displays the patches released by vendors, and the number of patched, not patched, and not applicable devices.
- **Patch Release Report:** Displays the number of patches released by vendors. The details section displays the patch name and percentage patched by impact and vendor.

- **Top 10 Not Patched Critical Patches:** Displays the 10 most critical patches that have not been applied to any device.
- **Patch Bundle Assignment Summary**
  - **Summary Report:** Displays the patched, not patched, not applicable, and patch percentage statuses by bundle name and patch name.
  - **Detail Report:** Displays the devices, device patch status, and deployment state by Bundle and Patch.
- **Patch Analysis**
  - **Dashboard:** Displays the patch status by vendor for the selected deployment status and impact.
  - **Detail Page:** Displays the patch name, release date, impact, deployment state, and patch status.
- **Patch Detail Report:** Displays the devices and patch status for the selected vendors, patches, impact, and patch status.

Using the Deploy Remediation Wizard

5

The Deploy Remediation Wizard provides an interface to create or edit patch deployment schedules for multiple recipients or devices. The wizard assists in selecting devices, scheduling deployment of patches, and if required, setting recurrence.

You can access the Deploy Remediation Wizard from the *Devices* or *Patch Management* tab.

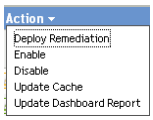
If you select multiple patches in the Deployment Remediation Wizard, the wizard automatically selects all the applicable devices and packages. If any device is selected, the wizard automatically selects all patches that are applicable for that device. If a group is selected, the wizard includes all patches applicable for the devices in that particular group.

The following sections provide more information on each step of the wizard:

5.1 Creating a Deployment Schedule

To create a deployment schedule for a patch for one or more devices:

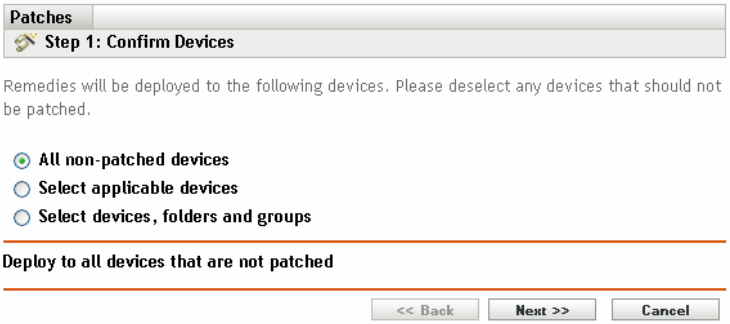
1. Click the *Patch Management* tab and select the patch that you want to deploy to one or more devices.
2. Select *Deploy Remediation* from the *Action* menu on the Patches page, as shown in the following figure. Alternatively, you can click the *Deploy Remediation* link in the *Patch Management* pane on the left side of the Patches page:



5.2 Confirm Devices

The Confirm Devices page allows you to select and confirm the devices for which you need to schedule a deployment. Confirming the device is the first step in scheduling a deployment for a selected patch.

Figure 5-1 *Confirm Devices Page*



The page indicates the total number of devices to which the selected patch will be deployed. In the following example, two devices will receive the patch:

Figure 5-2 *Total Number of Devices*

You can choose the total number of items to be displayed on the page by using the *show items* drop-down list:

Figure 5-3 *Show Items*

1. Select the devices for deployment, then click the *Next* button to open the License Agreement page.
2. Select one of the following options to determine the devices to which the patches are to be deployed.
   - Choose *All non-patched* devices to deploy the patch to those devices that are in a non-patched state, then continue with Section 5.2.1, “Confirm Devices: All Non-patched Devices,” on page 51.
   - Choose *Select applicable devices* to deploy the patch to specific devices, then continue with Section 5.2.2, “Confirm Devices: Select Applicable Devices,” on page 51.
   - Choose *Select devices, folders and groups* to deply the patch to specific devices, folders, or groups that are in a non-patched state. Then, continue with Section 5.2.3, “Confirm Devices: Select Devices, Folders, and Groups,” on page 52.

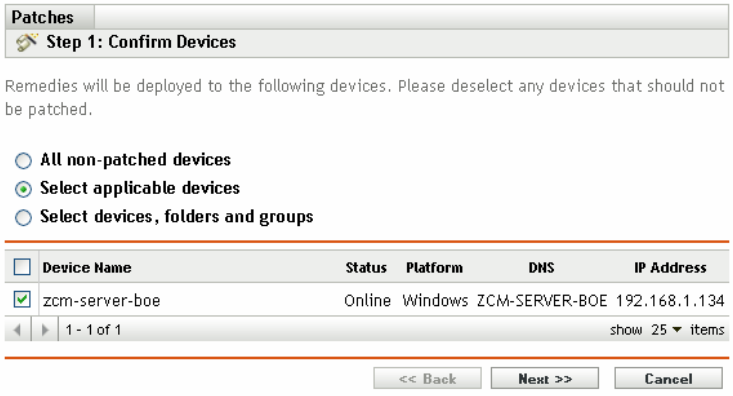
5.2.1 Confirm Devices: All Non-patched Devices

Selecting this option deploys the patch to all the devices that are not patched. This option is enabled by default.

5.2.2 Confirm Devices: Select Applicable Devices

When you select *Select applicable devices*, the Confirm Devices page appears as shown in the following figure:

Figure 5-4 *Confirm Devices Page for the Select Applicable Devices Type*



Selecting this option deploys the patch to the devices you select from the devices list. You can deploy a patch to a device regardless of its existing patch status, which can be patched or not patched.

NOTE: If you deploy a patch from the Patch Management page, the list of devices that appears is based on the patch *Status* filter you choose.

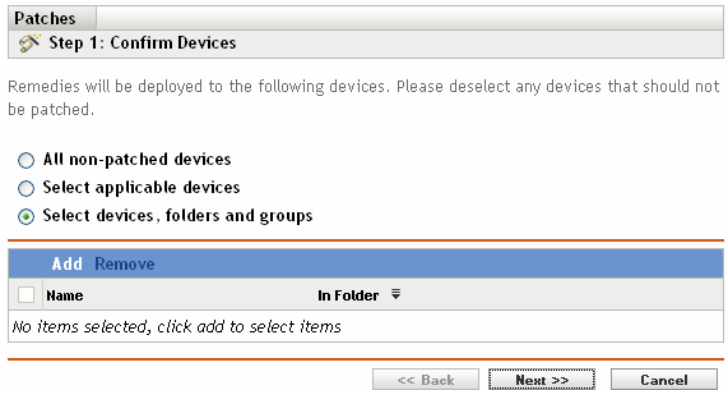
Table 5-1 *Confirm Devices Page Column Headings*

Column Heading	Description
Device Name	The name of the device.
Status	The status of the device. The status can be *offline* or *online.*
Platform	The operating system of the device.
DNS	The name of the DNS server.
IP Address	The IP address of the device.

5.2.3 Confirm Devices: Select Devices, Folders, and Groups

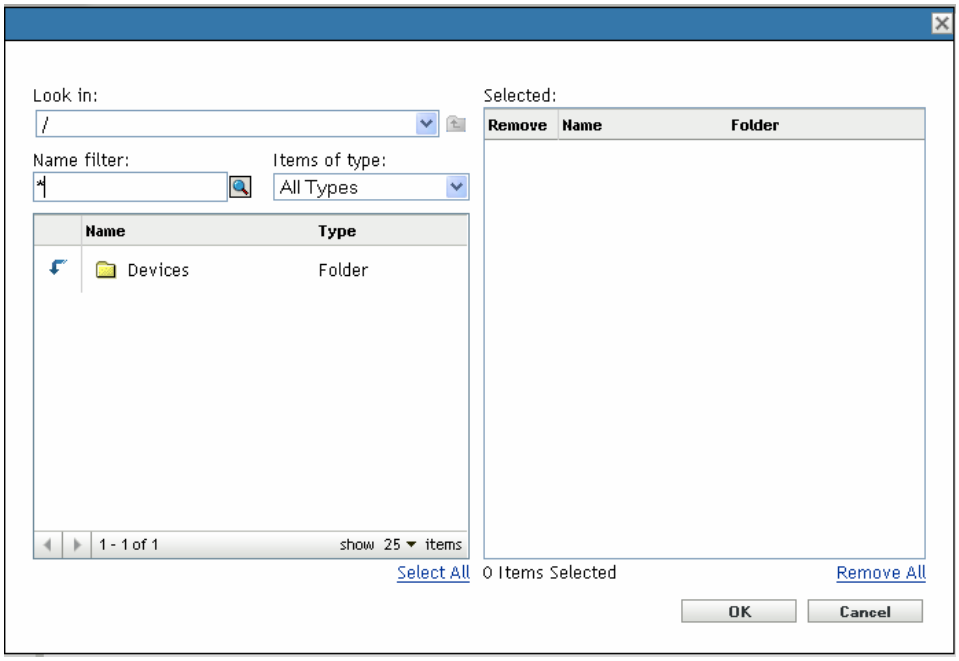
When you select *Select devices, folders and groups*, the Confirm Devices page appears as shown in the following figure:

Figure 5-5 *Confirm Devices Page for the Select Devices, Folders and Groups Type*



To select a device, folder, or group for deployment:

1 Click the *Add* menu item on the Confirm Devices page. The following window appears:



2 Click the arrow next to the *Devices* option on the left side of the window to display the available devices, folders, and groups.

3 Click the desired device to add it to the *Selected* panel on the right side of the window.

or

To remove a device from the panel, click the *Delete* button in the *Remove* column for that device.

4 Click *OK* to confirm device selection.

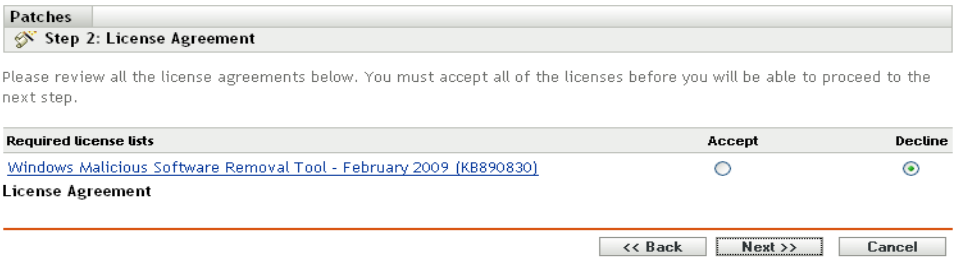
The window closes and the Confirm Devices page displays the selection.

You can remove a device from the list by selecting it and clicking the *Remove* menu item.

5.3 License Agreement

The License Agreement page displays all the third-party licensing information associated with the selected patches. Accepting or declining the license agreement of the patch is the second step in scheduling a deployment for a selected patch.

Figure 5-6 *License Agreement Page*



Select *Accept* for the license agreements you want to accept. To view the license agreement details, click the name of the patch.

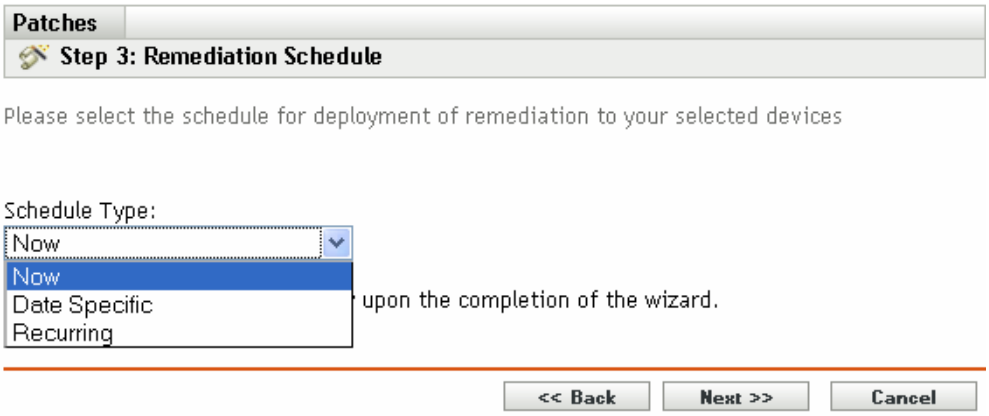
NOTE: All license agreements must be accepted before the deployment wizard allows you to proceed.

Click the *Next* button to open the Remediation Schedule page. Click the *Back* button to return to the previous page. Click *Cancel* to exit the wizard.

5.4 Remediation Schedule

The Remediation Schedule page allows you to select how a patch is scheduled and deployed for selected devices. Setting various deployment options for a selected patch is the third step in scheduling a deployment for the selected patch.

Figure 5-7 *Remediation Schedule Page*



To start setting the remediation schedule, you need to select the schedule type. Patch Management offers three types of schedules to determine when the patches are actually applied to the target device:

- Select *Now* to schedule the deployment to your selected devices immediately after you complete all the steps in the Deployment Remediation Wizard.
- Select *Date Specific* to schedule the deployment to your selected devices according to the selected date.
- Select *Recurring* to start the deployment on the selected day at a selected time, repeat the deployment every day/week/month, and if defined, end on a specific date.

By default, the Device Refresh Schedule is set to twice a day. For testing and demonstration purposes, you could increase the frequency to once every five to fifteen minutes.

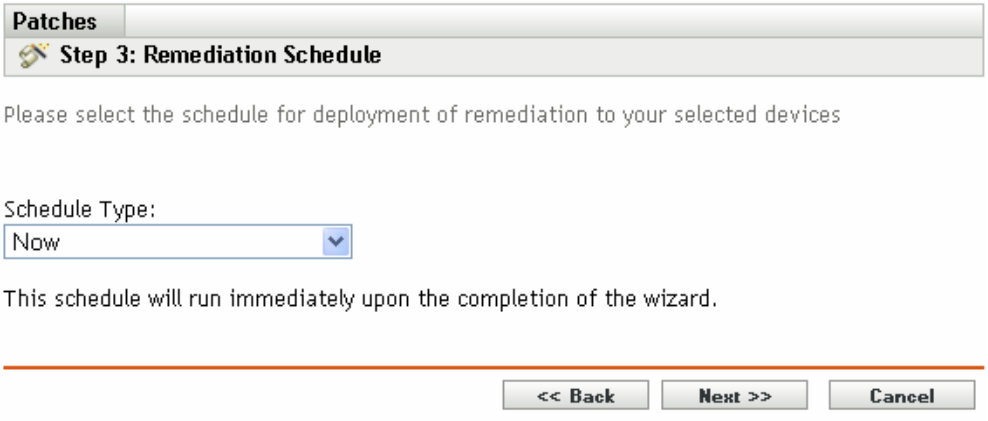
The following sections provide more information on schedule types:

- Section 5.4.1, “Remediation Schedule: Now,” on page 55
- Section 5.4.2, “Remediation Schedule: Date Specific,” on page 55
- Section 5.4.3, “Remediation Schedule: Recurring,” on page 57

5.4.1 Remediation Schedule: Now

When you select *Now*, the Remediation Schedule page appears as shown in the following figure:

Figure 5-8 *Remediation Schedule Page for the Now Schedule Type*

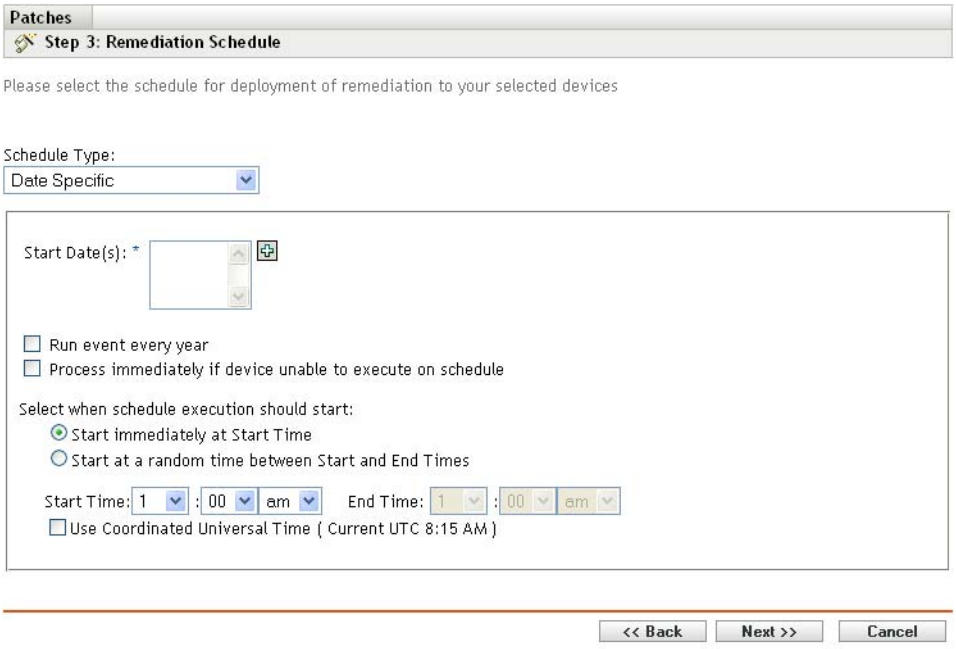


In this page, you can directly schedule deployment after completing the remaining steps in the Deployment Remediation Wizard.

5.4.2 Remediation Schedule: Date Specific

When you select *Date Specific*, the Remediation Schedule page appears as shown in the following figure:

Figure 5-9 *Remediation Schedule Page for the Date Specific Schedule Type*



Use this page to set the following deployment options:

- **Start Date:** Enables you to pick the date when you need to start the deployment. To do so, click the icon to open the calendar and pick the date. To remove the selected date, click the icon.
- **Run event every year:** Ensures that the deployment starts on a selected date at a selected time, repeats every year, and if defined, ends on a specific date.
- **Process immediately if device unable to execute on schedule:** Ensures that the deployment starts immediately if the device could not execute on the selected schedule.
- **Select when schedule execution should start:** There are two options to enable you to select the start time of the schedule execution namely:
  - **Start immediately at Start Time:** Deactivates the *End Time* panel and starts the deployment at the start time specified. In this option, you must set the start time in the *Start Time* panel:

  - **Start at a random time between Start Time and End Times:** Activates the *End Time* panel next to the *Start Time* panel. You can specify the end time and the start time so that the deployment occurs at a random time between them. The *End Time* panel appears as follows:

  In both time panels, the first drop-down list enables you to select the hour, the second drop-down list enables you to select the minute, and the third drop-down list enables you to select *am* and *pm*.

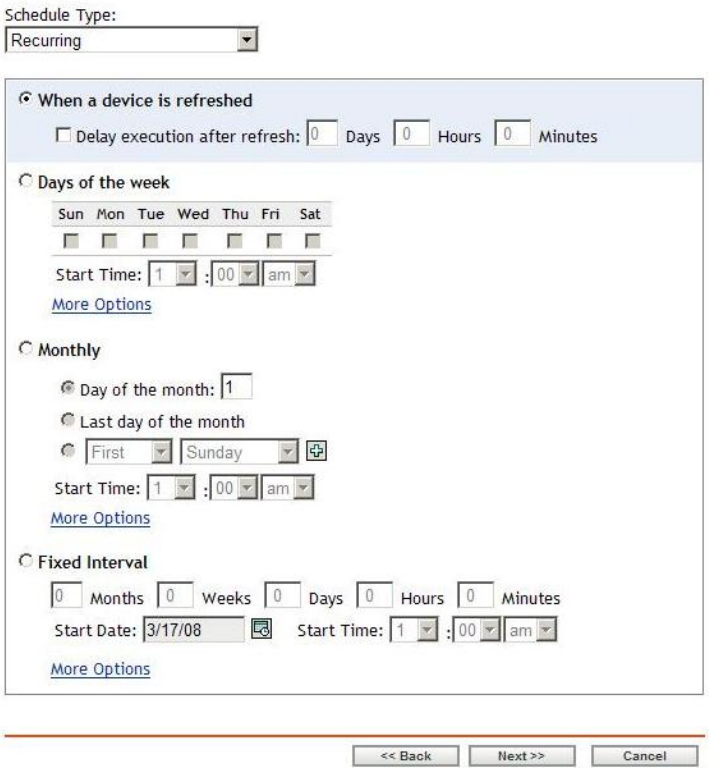
  Selecting the *Use Coordinated Universal Time* check box enables you to schedule the deployment of all devices at the same time, regardless of time zone differences. Coordinated Universal Time (UTC), also known as World Time, Z Time, or Zulu Time, is a standardized measurement of time that is not dependent upon the local time zone. Deselecting UTC schedules the distribution at the local time.

Click the *Next* button to open the Deployment Order and Behavior page. Click the *Back* button to return to the previous page. Click *Cancel* to exit the wizard.

5.4.3 Remediation Schedule: Recurring

When you select *Recurring*, the Remediation Schedule page appears as shown in the following figure:

Figure 5-10 *Remediation Schedule Page for the Recurring Schedule Type*



NOTE: By default, the bundle install frequency is set to *Install once per device.* For a recurring deployment, change it to *Install always*.

To change the schedule:

1. Click the *Actions* tab for the particular patch bundle assignment.
2. Click *Options*. This opens the Install Options window.
3. Select *Install always* and click *OK*.
4. Click *Apply*.

In this page, you can set the following options for a recurring deployment:

- “When a Device Is Refreshed” on page 58
- “Days of the Week” on page 58
- “Monthly” on page 59
- “Fixed Interval” on page 60

When a Device Is Refreshed

This option enables you to schedule a recurring deployment whenever the device is refreshed. In this option, you can choose to delay the next deployment until after a specific time.

To set the delay, select the *Delay execution after refresh* check box as shown in the following image, and specify the days, hours, and minutes of the time to delay the deployment:

Figure 5-11 *Delay Execution After Refresh Check Box*

NOTE: The device is refreshed based on the settings in the *Device Management* tab under the *Configuration* tab. Click the *Device Refresh Schedule* link under the *Device Management* tab to open the page displaying the option for either a *Manual Refresh* or *Timed Refresh*. Alternatively, you can refresh the device by selecting a device under the *Devices* tab and clicking the *Refresh Device* option under the *Quick Tasks* menu.

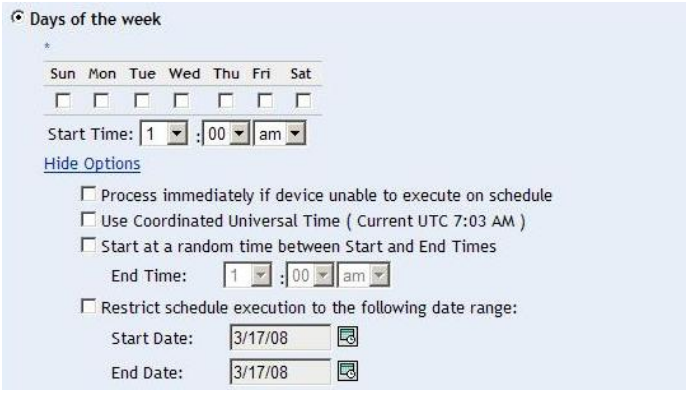
Days of the Week

This option enables you to schedule the deployment on selected days of the week:

Figure 5-12 *Weekly Deployment Options - Default*

- To set the day of deployment, select the *Days of the week* button, select the required day of the week, and set the start time of deployment.

  If you click the *More Options* link, additional deployment options appear as shown in the following figure. Click the *Hide Options* link to hide the additional deployment options and show only the default deployment options:



Selecting the *Use Coordinated Universal Time* check box enables you to schedule the deployment of all devices at the same time, regardless of time zone differences. Coordinated Universal Time (UTC), also known as World Time, Z Time, or Zulu Time, is a standardized measurement of time that is not dependent upon the local time zone. Deselecting UTC schedules the distribution at local time.

Selecting the *Start at a random time between Start Time and End Times* check box activates the *End Time* panel in addition to the *Start Time* panel. You can specify the end time and the start time so that the deployment occurs at any random time between the start and end times.

The *Restrict schedule execution to the following date range* option enables you to schedule a recurring deployment at the selected time, repeat the deployment on the days specified, and, if defined, end at the specific time. This option also enables you to restrict the deployment to the period between the start date and the end date. To set this option, select the *Restrict schedule execution to the following date range* check box and click the icon to open the calendar and pick a start date or end date. Click the *Close* button when you have finished selecting the date.

Monthly

This option enables you to specify the monthly deployment options:

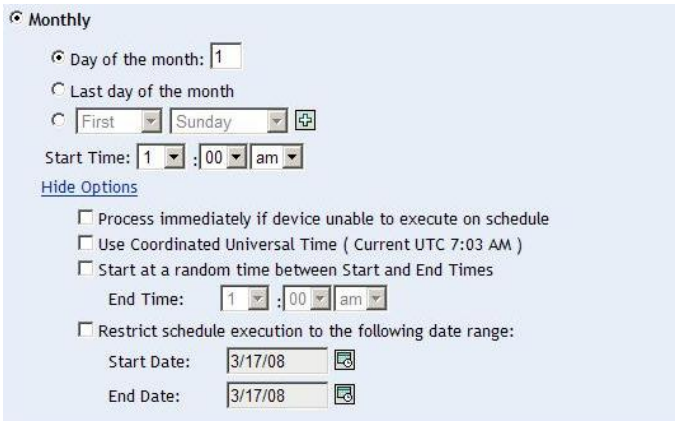
Figure 5-13 *Monthly Deployment Options – Default*

- In the *Monthly* deployment option, you can specify the following:
  - **Days of the month:** Enables you to schedule the deployment on a specific day of the month. You can specify any number between 1 and 31.
  - **Last day of the month:** Enables you to schedule the deployment on the last day of the month.
  - **Particular days of the month:** Enables you to schedule the deployment on specific days of every month. The valid options for the day are first, second, third, fourth, and fifth. The valid options for the weekday are Sunday through Saturday. To select one particular day of the month, use the drop-down arrows. An example is shown as follows.

To select an additional day of the month, click the icon and use the drop-down arrows in the second row shown as follows.

NOTE: To remove a particular day from the list, click the icon.

If you click the *More Options* link, additional deployment options appear as shown in the following figure. Clicking the *Hide Options link* hides the additional deployment options and shows only the default deployment options:



NOTE: The *Restrict schedule execution to the following date range* option enables you to schedule a recurring deployment at the selected time, repeat the deployment on the days specified, and, if defined, end on the specific time. This option also enables you to restrict the deployment to the period between the *Start Date* and the *End Date*. To set this option, select the *Restrict schedule execution to the following date range* check box and click the icon to open the calendar and pick a start date or end date. Click the *Close* button when you have finished selecting the date.

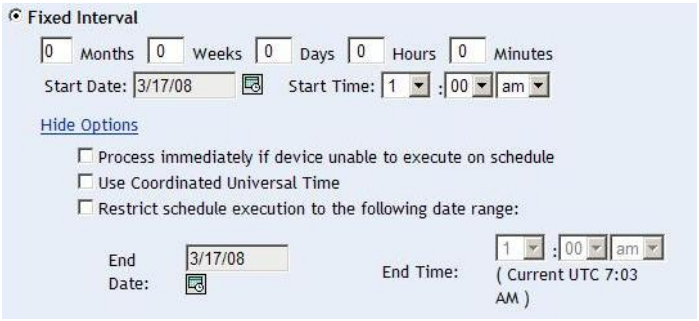
Fixed Interval

This option enables you to schedule a recurring deployment that runs after a fixed duration on a regular basis. You can choose the number of months, weeks, days, hours, and minutes of the interval and the start date for the deployment schedule, as shown in the following figure:

Figure 5-14 *Fixed Interval Deployment Options - Default*

If you click the *More Options* link, additional deployment options appear as shown in the following figure. Clicking the *Hide Options* link hides the additional deployment options and shows only the default deployment options:

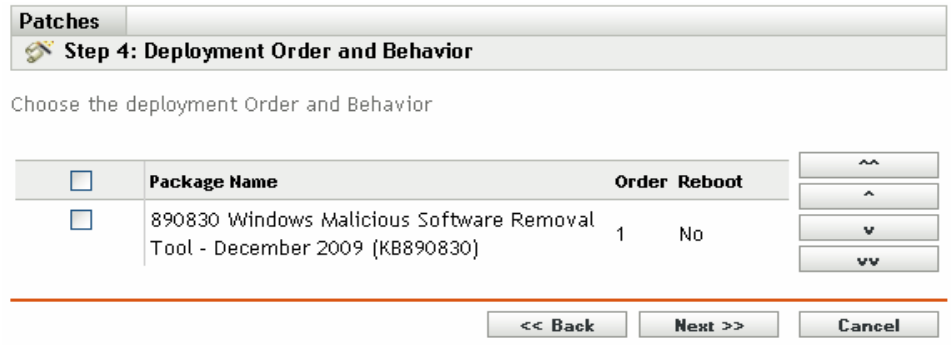
Figure 5-15 *Fixed Interval Deployment Options - All*



5.5 Deployment Order and Behavior

The Deployment Order and Behavior page of the Deploy Remediation Wizard enables you to set the order and behavior for each deployment schedule. Setting the order and behavior of deployment for a selected patch is the fourth step in scheduling a deployment for a selected patch.

Figure 5-16 *Deployment Order and Behavior Page*



The Deployment Order and Behavior page features the following:

- **Package Name:** The name of the patch that has been selected for deployment.
- **Order:** The order of execution of the deployment. The arrow appearing next to the column heading enables you to sort in ascending or descending order.
- **Reboot:** The reboot settings applicable for the corresponding patch.

The following table describes the actions of the various buttons in the Deployment Order and Behavior page:

Table 5-2 *Buttons in the Deployment Order and Behavior Page*

Button	Action
^^	Moves the patch to the top of all non-chained deployments

Button	Action
^	Moves the patch up one place
v	Moves the patch down one place
vv	Moves the patch to the bottom of the listing

NOTE: Chained patches can be moved only after removing their chained status.

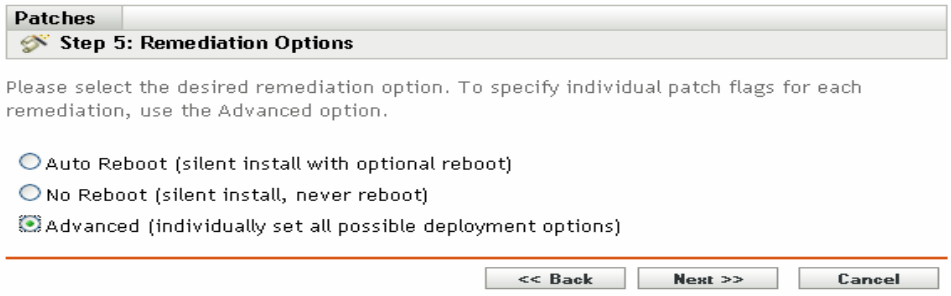
Click the *Next* button to open the Remediation Options page. Click the *Back* button to return to the previous page. Click *Cancel* to exit the wizard.

5.6 Remediation Options

The Remediation Options page enables you to select the required remediation option for each deployment schedule. Setting the remediation options for a selected patch is the fifth step in scheduling a deployment for a selected patch.

NOTE: The *Advanced* option enables you to specify individual patch flags for each remediation.

Figure 5-17 *Remediation Options Page*



The following table describes the functionality of each option available in the Remediation Options page:

Table 5-3 *The Remediation Options*

Remediation Option	Functionality
Auto Reboot (silent install with optional reboot)	Automatically sets all possible patches to deploy with QChain enabled. Allows the administrator to set the patch deployment flags as desired, using the default QChain (http://articles.techrepublic.com.com/5100-10878_11-1048774.html) and reboot settings defined for each patch.
No Reboot (silent install, never reboot)	Automatically sets all possible patches to deploy with QChain enabled. All necessary reboots must be performed manually.

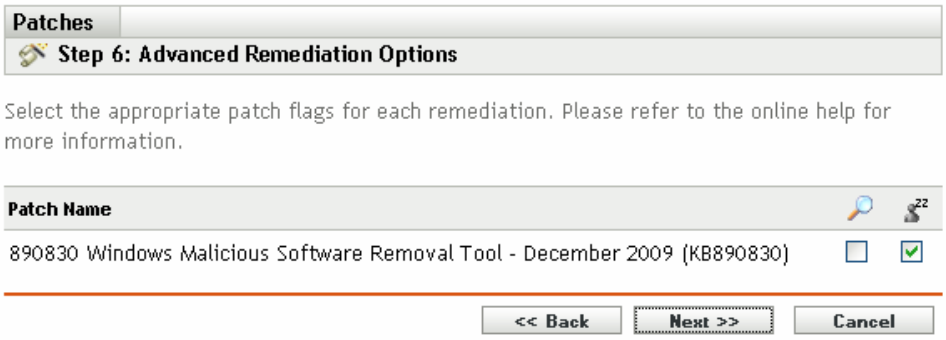
Remediation Option	Functionality
Advanced (individually set all possible deployment options)	Allows the administrator to set the patch deployment flags as desired, using the default QChain and reboot settings defined for each patch.

Click the *Next* button to open the Advanced Remediation Options page. Click the *Back* button to return to the previous page. Click *Cancel* to exit the wizard.

5.7 Advanced Remediation Options

The Advanced Remediation Options page enables you to set patch flags for each remediation. Setting the patch flags for a selected patch is the sixth step in scheduling a deployment for the selected patch. The icons displayed on the page represent the patch flags that can be set for each package.

Figure 5-18 *Advanced Remediation Options Page*



The following table describes the functionality of each icon on the Advanced Remediation Options page:

Table 5-4 *The Advanced Remediation Options Page*

Icon	Name	Functionality
	Uninstall	Uninstalls the packages.
	Force Shutdown	Forces all applications to close if the package causes a reboot.
	Do Not Back Up	Does not back up files for uninstalling.
	Suppress Reboot	Prevents the computer from rebooting after installation of the package.
	Quiet Mode	Sets the installer to function in quiet mode. Quiet mode suppresses any user interfaces (if a user is logged in) during the remediation.
	Unattended Setup	Installs the packages in the Unattended Setup mode.

Icon	Name	Functionality
	*List Hot Fixes*	Returns a list of the hot fixes installed on the target computers.
	*Force Reboot*	Forces the computer to reboot regardless of package requirements.
	*Reboot is Required*	Indicates that this package requires a reboot prior to completing the installation. Selecting this option reboots the device even if the specific bundle does not require a reboot.
	*Chain Packages*	Sets the package as chainable (if the package supports chaining). This option cannot be modified in this release; the package is always installed with the “chain” option.
	*Suppress Chained Reboot*	Suppress the reboot, allowing other chained packages to be sent following this package You should suppress the final reboot for all chained packages, then send a reboot deployment when all packages are finished.
	*Repair File Permissions*	Repairs file permissions after package installation.
	*Download Only*	Distributes the package without running the package installation script.
	*Suppress Notification*	Suppresses any user notifications during installations.
	*Debug Mode*	Runs the package installation in debug mode.
	*Do Not Repair Permissions*	Suppresses the repair of filename permissions after the reboot.
	*May Reboot*	Allows the package to force a reboot if required.
	*Multi-User Mode*	Performs the installation in Multi-User mode.
	*Single-User Mode*	Performs the installation in Single-User mode.
	*Restart Service*	Restarts the service following the deployment.
	*Do Not Restart Service*	Does not restart the service following the deployment.
	*Reconfigure*	Performs the system reconfigure task following the deployment.
	*Do Not Reconfigure*	Does not perform the system reconfigure task following the deployment.

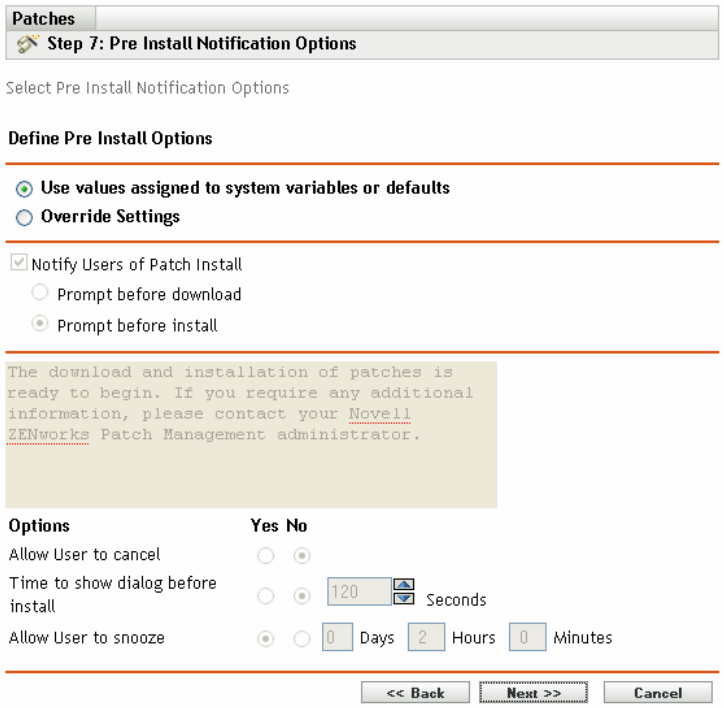
NOTE: Depending on the type of patch you select, the icons displayed in Table 5-4 on page 63 change dynamically, so you might not be able to select some of the options described in the table.

Click the *Next* button to open the Pre Install Notification Options page. Click the *Back* button to return to the previous page. Click *Cancel* to exit the wizard.

5.8 Pre Install Notification Options

The Pre Install Notification Options page of the Deploy Remediation Wizard allows you to define whether users receive any notification when patches are downloaded and installed, and to customize the notification. Setting the notification and allowing users to cancel options is the seventh step in scheduling a deployment for a selected patch.

Figure 5-19 *Pre Install Notification Options Page*



The page provides the following options:

- **Notify Users Of Patch Install:** Select this option to notify the user prior to the installation of the patch. There are two options:
  - **Prompt before download:** Select this option to notify the user when the patch download process begins.
  - **Prompt before install:** Select this option to notify the user when the patch installation process begins.
- **Message Box:** The text of the notification message.
- **Use values assigned to system variables or defaults:** Select this option to use the default settings for each agent. This option disables all other installation and notification options.

TIP: System variables or defaults are defined to configure the agent settings at the system level in the properties file, such as pre-install notification options. If the *Use values assigned to system variables or defaults* option is selected, the settings for the current agent are taken directly from system variables or defaults; otherwise, the settings customized by the user take effect only for the current agent.

The following table describes system variables or defaults for pre-install notification options:

System Variable	Variable Value
Notify Users of Patch Install	Not selected
Prompt before download	Not selected
Prompt before install	Selected
Message box of Patch Install	The download and installation of patches is ready to begin. If you require any additional information, please contact your Novell ZENworks Patch Management administrator.
Allow User to cancel	No
Time to show dialog before install	No
	120 seconds
Allow User to snooze	Yes
	0 Days 2 Hours 0 Minutes

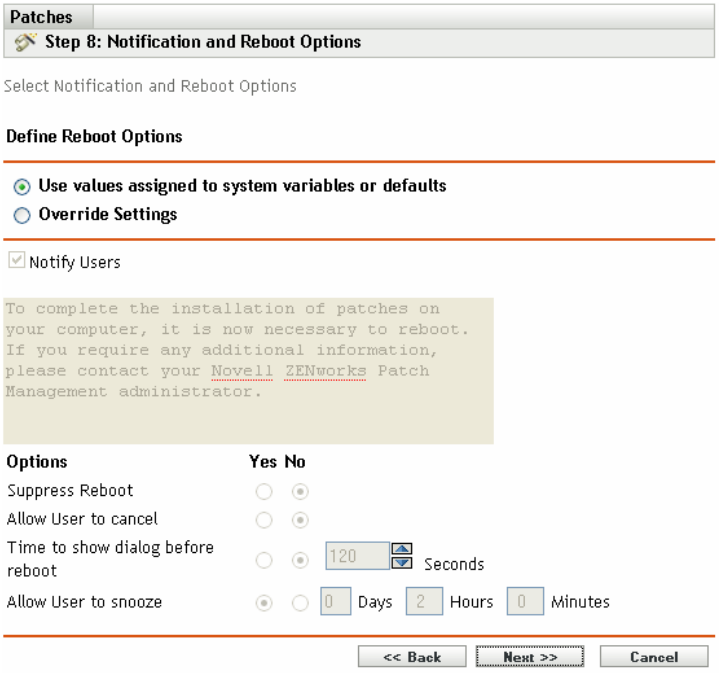
- **Override Settings:** Select this option to use the settings chosen by users for each agent. Selecting this option enables all other notification options and enables you to edit the default settings.
- **Options:** When defining installation options, you can specify whether to use the values in the default settings (the *Use values assigned to system variables or defaults* check box) or the custom settings. There are three options:
  - **Allow User to cancel:** Allows the user to cancel the installation.
  - **Time to show dialog before install:** The time in seconds for users to choose whether to download and install patch.
  - **Allow User to snooze:** This option allows the user to snooze the installation.

Click the *Next* button to proceed to the Notification and Reboot Options page. Click the *Back* button to return to the previous page. Click *Cancel* to exit the wizard.

5.9 Notification and Reboot Options

The Notification and Reboot Options page of the Deploy Remediation Wizard allows you to define whether users receive notification of patch deployments and reboots, and to customize the notification. Setting the notification and reboot options is the eighth step in scheduling a deployment for a selected patch.

Figure 5-20 *Notification and Reboot Options Page*



The page provides the following options:

- **Notify Users Of Patch Install:** Select this option to notify the user prior to the installation of the patch.
- **Message Box:** The text of the notification message.
- **Use values assigned to system variables or defaults:** Select this option to use the default settings for each agent. This option disables all other reboot notification options.

  The following table describes system variables or defaults for notification and reboot options:

System Variable	Variable Value
Notify Users of Patch Install	Selected
Message box of Patch Install	To complete the installation of patches to your computer, it is now necessary to reboot. If you require any additional information, please contact your Novell ZENworks Patch Management administrator.
Suppress Reboot	No
Allow User to cancel	No

System Variable	Variable Value
Time to show dialog before reboot	No
	120 seconds
Allow User to snooze	Yes
	0 Days 2 Hours 0 Minutes

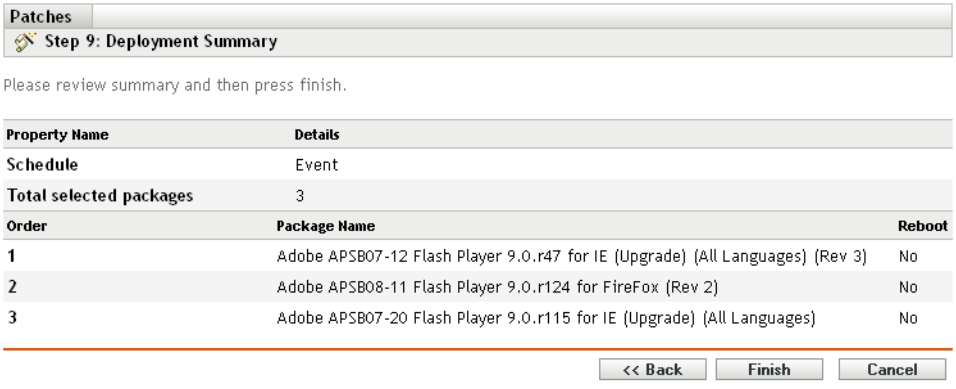
- **Override Settings:** Select this option to use the settings chosen by users for each agent. Selecting this option enables all other notification options and enables you to edit the default settings.
- **Options:** When defining reboot options, you can specify whether to use the values in the default settings (the *Use values assigned to system variables or defaults* check box) or in the custom settings. There are four options:
  - **Suppress Reboot:** Prevents a reboot even if the patch bundle requires a reboot.
  - **Allow User to cancel:** Allows the user to cancel the reboot.
  - **Time to show dialog before reboot:** The time in seconds that allows user to choose whether to reboot after installation of a patch.
  - **Allow User to snooze:** Allows the user to snooze the reboot.

Click the *Next* button to proceed to the Deployment Summary page. Click the *Back* button to return to the previous page. Click *Cancel* to exit the wizard.

5.10 Deployment Summary

The Deployment Summary page of the Deploy Remediation Wizard displays the summary of the deployment you have scheduled in the previous steps. Summarizing the important points of the deployment is the last and ninth step in scheduling a deployment for a selected patch.

Figure 5-21 *Deployment Summary Page*



The Deployment Summary page displays the following details about the deployment you have scheduled:

- **Schedule:** The schedule selected for the deployments as defined on the Remediation Schedule page.
- **Total Selected Packages:** The total number of patches selected for deployment.

- **Order:** The order of deployment of the patches as defined on the Deployment Order and Behavior page.
- **Package Name:** The name of the patch you have selected for deployment.
- **Reboot:** The reboot setting of the selected patch as defined in the Deployment Order and Behavior page.

Click the *Finish* button to complete the process of scheduling the deployment of a selected patch. Click the *Back* button to return to the previous page. Click *Cancel* to exit the wizard.

Using Mandatory Baselines

6

Establishing a mandatory baseline ensures that a group of devices is protected and that all devices in the group are patched consistently.

6.1 About Mandatory Baselines

A mandatory baseline is a user-defined compliance level for a group of devices. If a device falls out of compliance, a mandatory baseline ensures that the device is patched back into compliance.

IMPORTANT: Mandatory baselines are an automatic enforcement method based on the most recent discovery scan results, so there is no control over the deployment time or order for patches applied in this manner. Unless a stringent Content Blackout Schedule is in effect, do not apply mandatory baselines to groups of mission-critical servers or other devices where unscheduled patch deployments would disrupt daily operations.

The Content Blackout Schedule panel lets you define times when content (bundles, policies, configuration settings, etc.) will not be delivered to the devices.

When a mandatory baseline is created or modified:

- The ZENworks Server automatically schedules a daily Discover Applicable Updates (DAU) task for all devices in that group.
- Every few hours, depending on the results of the DAU task, the ZENworks Server determines the devices that are applicable and out of compliance (based upon the patches added to the baseline).
- Necessary bundles, as defined in the baseline, are then deployed as soon as possible for each device.
- After patches have been deployed, it might be necessary to reboot those devices for them to be detected as patched.

  The baseline function does not auto-reboot devices that have been patched.

NOTE: Some patches, such as MDAC and IE, require both a reboot and an administrator level login to complete. If these or similar patches are added to a baseline, the deployment stops until the login occurs.

The following sections provide more information on mandatory baselines:

6.1.1 Viewing Mandatory Baselines

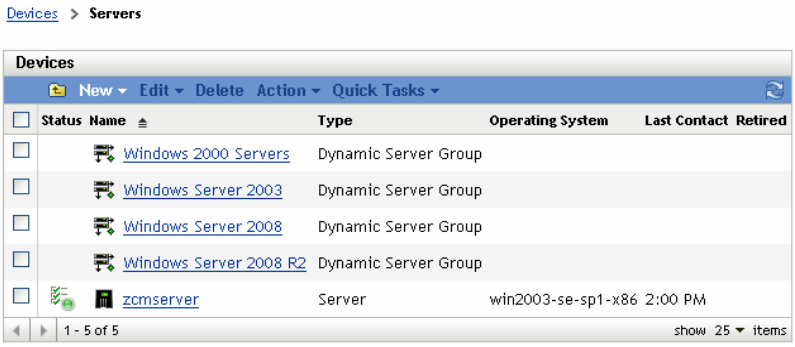
1 Click the *Devices* tab in the left panel.

A page displaying the root folders for each type of device appears, as shown in the following figure:

The *Servers* folder is the root folder for all managed servers and the *Workstations* folder is the root folder for all managed workstations in the network.

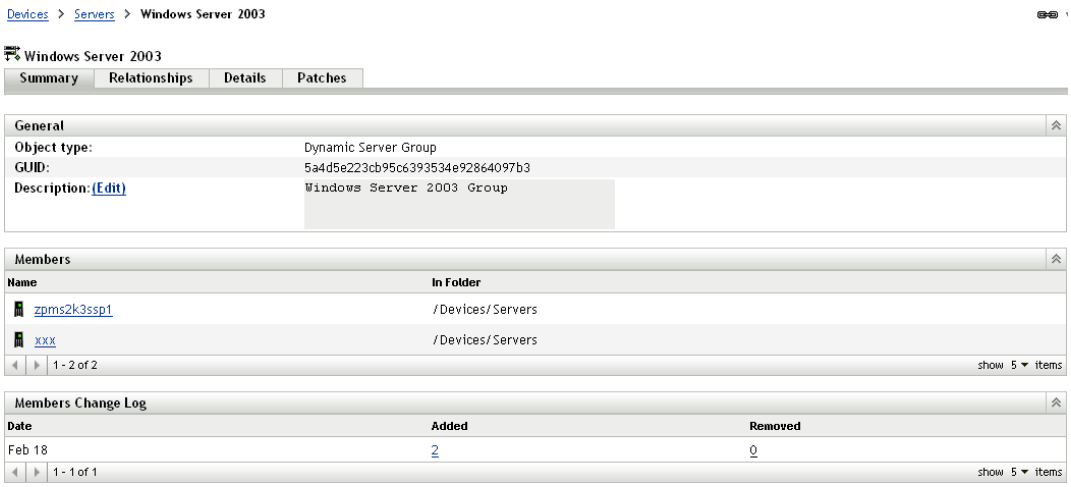
2 Click the *Servers* or *Workstation*s link.

A list of server or workstation groups classified on the basis of their operating systems appears. The following figure shows a list of server groups:



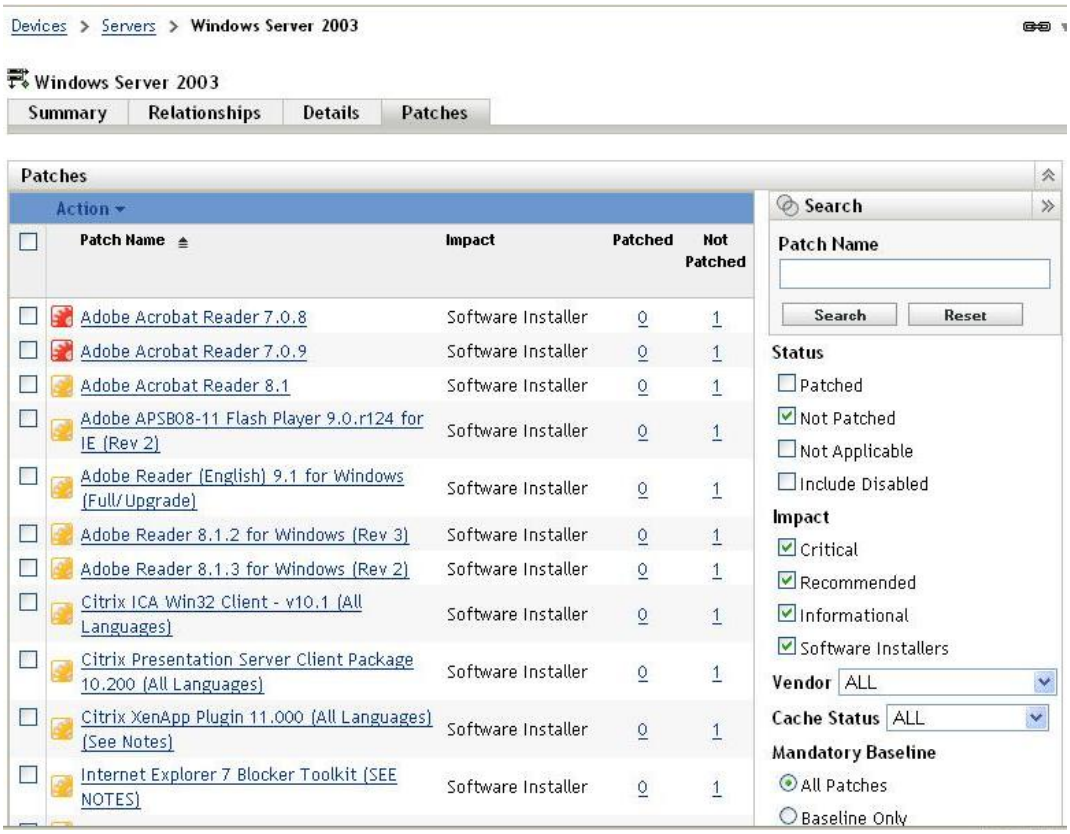
3 On the Servers or Workstation page (in this case, it is the Servers page), select any group.

A page displaying the general details of the group and the members in the group appears. The following figure shows such a page that appears when a Dynamic Server Group called *Windows Server 2003* is selected:



4 Click the *Patches* tab.

The patches applicable to the member devices of the selected group are displayed. If the selected group is *Windows Server 2003*, the *Patches* tab displays all the patches applicable to the member devices within the group *Windows Server 2003*, as shown in the following figure:



A patch that has been assigned to the baseline (also called the mandatory baseline patch) has the icon displayed next to its name, as shown in the above figure.

Alternatively, you can view the baseline patches by using the *Search* panel on the Patches page to search for mandatory baseline patches.

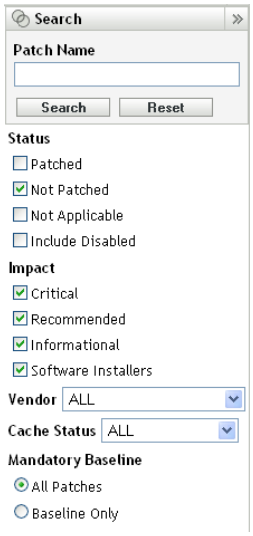
For detailed information on *Patches* and *Patches Information* panels, refer to Chapter 4, “Using the Patch Management Tab,” on page 31.

6.1.2 Using the Mandatory Baseline Page

You can use the *Search* panel on the Mandatory Baseline page to view the baseline patches.

The *Search* panel on the Device Group Patches page, as shown in Figure 6-1, enables you to search for mandatory baseline patches. The *Search* panel also enables you to search for other patches based on the status and impact of the patches.

Figure 6-1 *Mandatory Baseline Search*



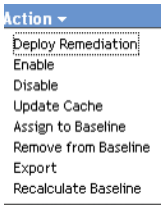
You can search for the mandatory baseline patches based on the following filter options:

- **All Patches:** Displays all patches, including mandatory baseline items.
- **Baseline Only:** Displays only those patches that are marked as “mandatory baseline” for the group.

6.2 Working with Mandatory Baselines

The *Action* menu on the Device Group Patches page enables you to perform various actions concerning mandatory baseline patches. The *Action* menu options also assist you in managing and deploying patches in a consistent and uniform manner across groups. The following figure shows the various menu options that help you work with mandatory baselines:

Figure 6-2 *Action Menu Items*



- The *Deploy Remediation* option enables you to deploy a patch. To use this option, select the check boxes for the patches you want to deploy and select *Deploy Remediation* from the *Action* menu options to open the Deploy Remediation Wizard.
- The *Enable* option allows you to enable a disabled patch.
- The *Disable* option enables you to disable a patch. To use this option, select the check box for the required patch and select *Disable*. The selected patch is removed from the list.
- The *Update Cache* option initiates a download process for the bundles associated with a selected patch and caches those bundles on your ZENworks Server. See Section 6.2.3, “Using Update Cache,” on page 78.

- The *Assign to Baseline* option enables you to assign a baseline to a patch. For more information, see Section 6.2.1, “Assigning or Managing a Mandatory Baseline,” on page 75.
- The *Remove from Baseline* option enables you to remove a patch from a baseline. See Section 6.2.2, “Removing a Mandatory Baseline,” on page 77 for more information.
- The *Export* option enables you to export details such as the status and impact of selected patches into a comma-separated value (CSV) file. You can choose to save the file in a different file format after opening it from the download option.
- The *Recalculate Baseline* option enables you to start the thread that normally runs automatically about every four hours, which, in turn, creates baseline deployments to the relevant devices without waiting for four hours.

The following sections provide more information on mandatory baselines:

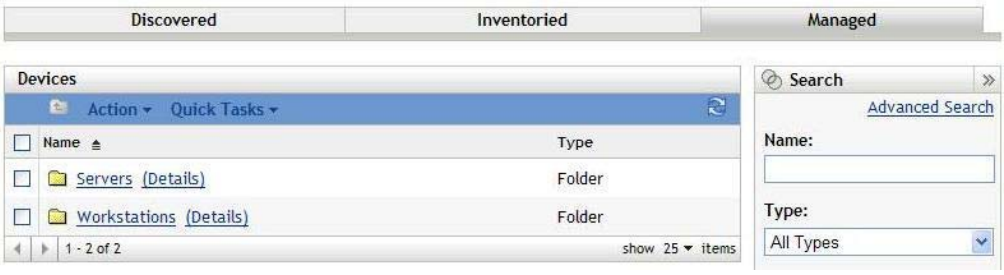
6.2.1 Assigning or Managing a Mandatory Baseline

Mandatory baselines can be applied only to groups, and each group can have only one mandatory baseline applied to it. However, a single device can be a member of multiple groups, each of which could have a different mandatory baseline.

To create or manage a mandatory baseline:

1 Click the *Devices* tab in the left panel.

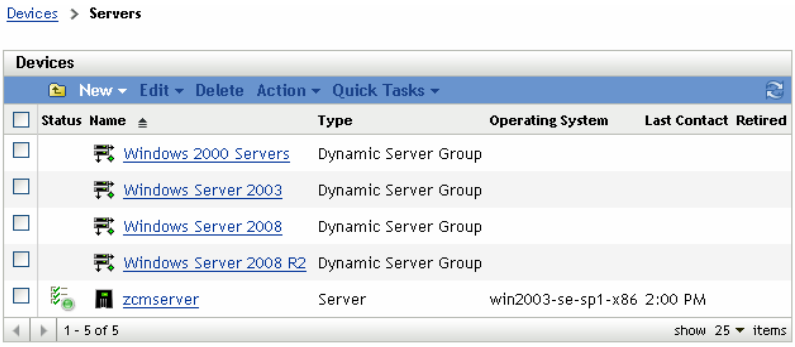
A page displaying the root folders for each type of device appears, as shown in the following figure:



The *Servers* folder is the root folder for all managed servers and the *Workstations* folder is the root folder for all managed workstations in the network.

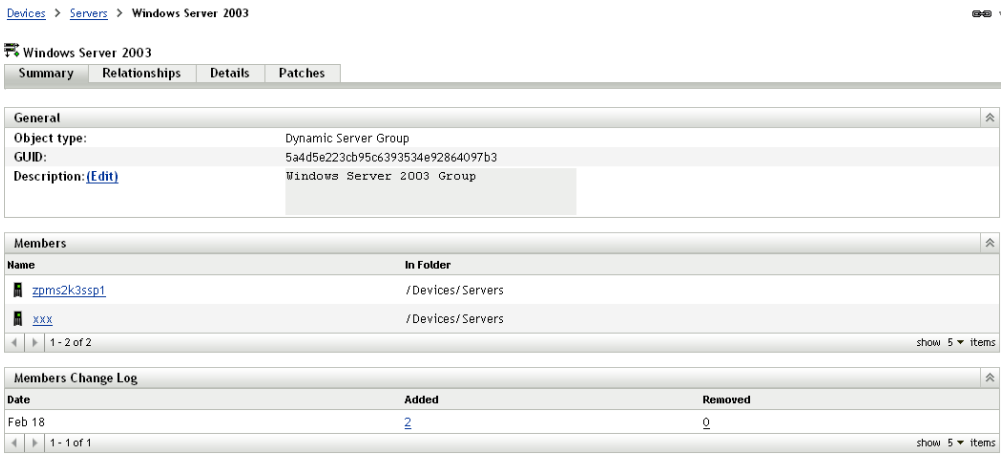
2 Click the *Servers* or *Workstation*s link.

A list of server or workstation groups classified on the basis of their operating systems appears. The following figure shows a list of server groups:



3 On the Servers or Workstation page (in this case, it is the Servers page), select any group.

A page displaying the general details of the group and the members in the group appears. The following figure shows such a page that appears when a Dynamic Server Group called *Windows Server 2003* is selected:



4 Select the required patch and choose *Assign to Baseline* from the *Action* menu. An icon appears next to the patch, indicating that it has been assigned to the baseline.

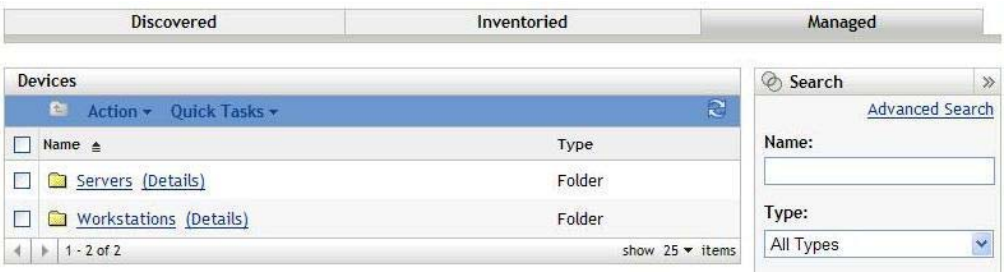
After a patch has been assigned to the baseline, the following process takes place:

1. The ZENworks Server automatically schedules a daily Discover Applicable Updates task for all devices in that group.
2. Every few hours, depending on the results of the DAU task, the ZENworks Server determines the devices that are applicable and out of compliance (based upon the patches added to the baseline).
3. Necessary bundles, as defined in the baseline, are deployed as soon as possible for each device.
4. After patches have been deployed, it might be necessary to reboot those devices for them to be detected as patched.

NOTE: The baseline function does not auto-reboot devices that have been patched.

6.2.2 Removing a Mandatory Baseline

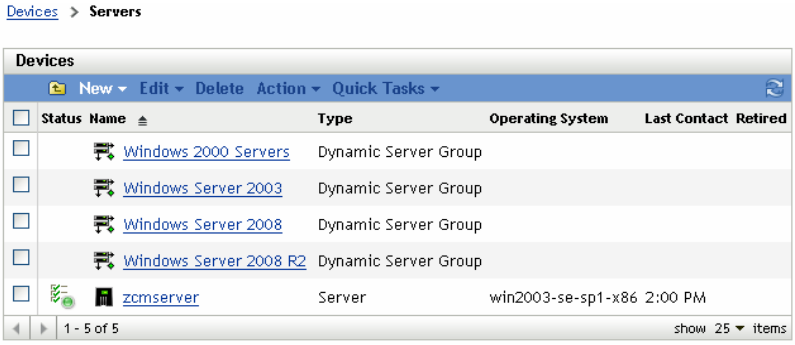
1 Click the *Devices* tab in the left panel to display the Devices page, which shows the root folders for each type of device:



The *Servers* folder is the root folder for all managed servers and the *Workstations* folder is the root folder for all managed workstations in the network.

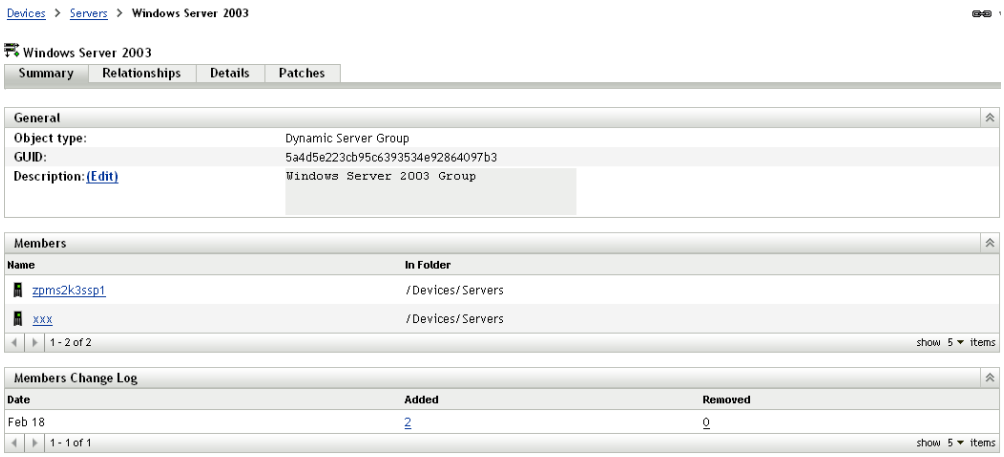
2 Click the *Servers* or *Workstation*s link.

A list of server or workstation groups classified on the basis of their operating systems appears. The following figure shows a list of server groups:



3 On the Servers or Workstation page (in this case, it is the Servers page), select any group.

A page displaying the general details of the group and the members in the group appears. The following figure shows such a page that appears when a Dynamic Server Group called *Windows Server 2003* is selected:



4 Select the mandatory baseline item (the patch that has been assigned to baseline) and select the *Remove from Baseline* option from the *Action* menu.

   The patch is removed from the baseline.

NOTE: The *Remove from Baseline* menu option is enabled for a patch only if the patch has been added to the baseline.

6.2.3 Using Update Cache

The *Action* menu *Update Cache* option (see Figure 6-2 on page 74) initiates a download process for the bundles associated with a selected patch and caches those bundles on your ZENworks Server.

NOTE: The remediation bundles must be cached before they are installed on the target device.

To update caching of patch data:

1 In the *Patches* list, select one or more patches.

2 In the *Action* menu, click *Update Cache*.

   The icon changes to  . While the download is in progress, the icon changes to  . When the caching is complete, the color of the patch icon changes to green. This indicates that the patch remediation is ready to be deployed.

Patch Management for a Device 7

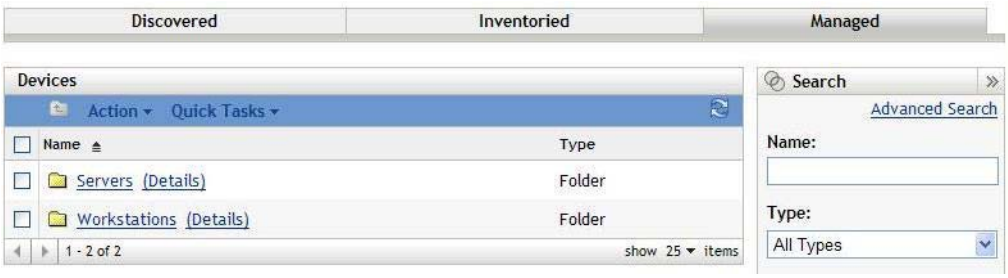
Device patches are the patches associated with a selected device (a server or a workstation). The patches listed for a specific device are the ones that are applicable only for that device. The following sections describe device patch information for Novell ZENworks 10 Patch Management:

7.1 Accessing the Patches Tab for a Device

To view the patches for a specific server device:

1 Click the *Device* tab on the left panel.

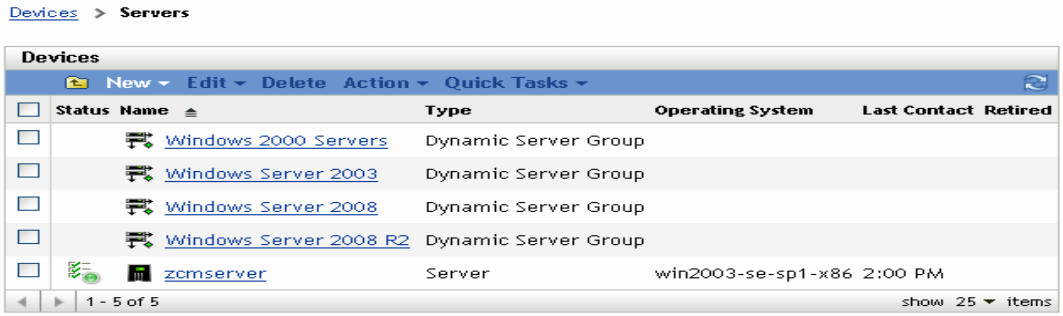
A page displaying the root folders for each type of device appears, as shown in the following figure:



The *Servers* folder is the root folder for all managed servers and the *Workstations* folder is the root folder for all managed workstations.

2 Click the *Servers* link.

A list of server groups classified on the basis of their operating systems appears, as shown in the following figure:



You see the following icons on the Servers page:

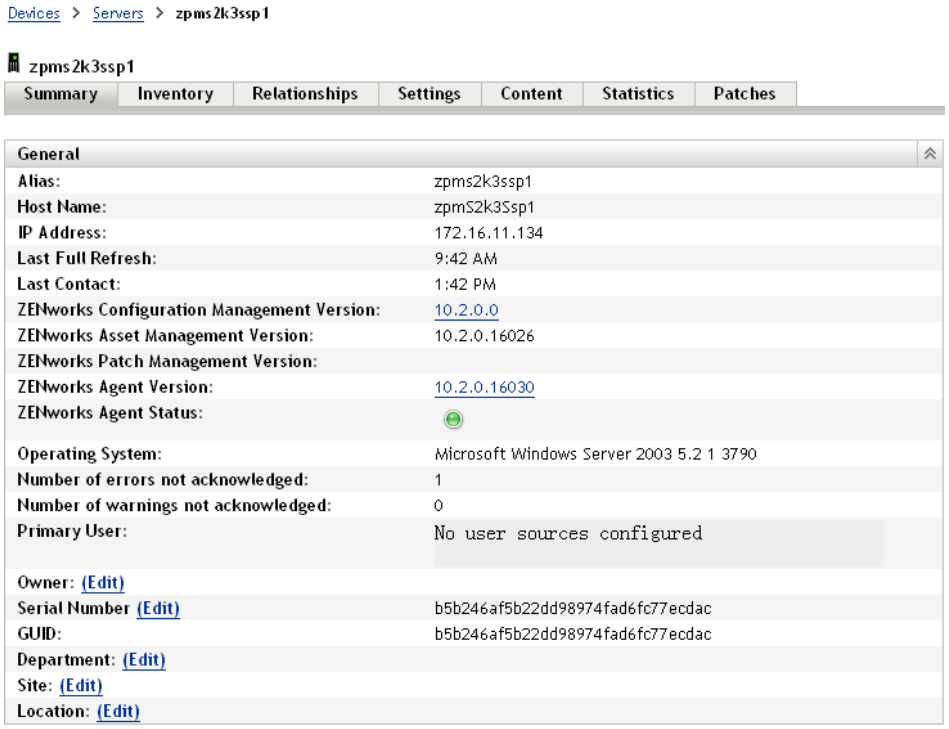
Icon	Status
	Message Status: Normal Device Status: Bundle and policy enforcement successful
	Message Status: Warning Device Status: Bundle and policy enforcement successful
	Message Status: Error Device Status: Bundle and policy enforcement successful
	Message Status: Error Device Status: Bundle and/or policy enforcement failed on one or more bundles or policies.

Devices can also be found by searching. The following filters are available:

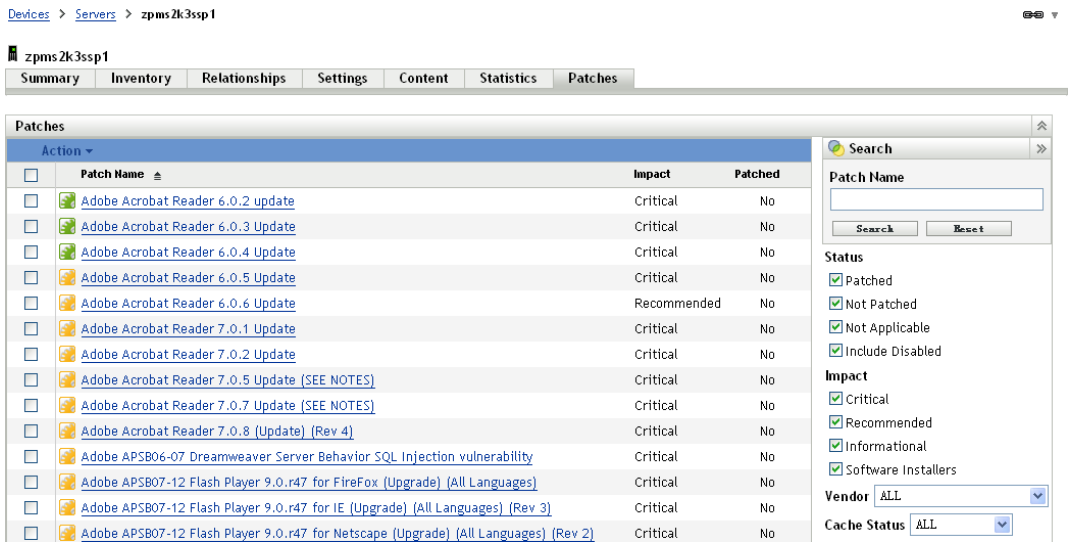
Filter Item	Result
Name	Searches for devices with a particular name.
Type	Searches for devices of a specific type.
Operating System	Searches for devices running a particular operating system.
Message Status	Searches for devices that display a particular message status.
Compliance Status	Searches for devices based on their compliance status, such as *Yes* or *No*.
Device Status	Searches for devices based on the device status.
Include subfolders	The search is also executed in the subfolders.

3 Click the required group (Server or Dynamic Server Group) to view details of the group and the members of the group. Alternatively, you can click the managed device.

A page displaying details about the managed device or member is displayed, as shown in the following figure, where the name `zpms2k3ssp1` for the managed device is an example. The network administrator decides the name of the managed device.



4 Click the *Patches* tab to display the patches associated with the server device:



7.2 Using the Patches Tab for a Device

- Section 7.2.1, “Patches,” on page 82

7.2.1 Patches

This section of the Patches page provides the following information about patches:

- Name of the patch
- Total number of patches available
- Impact of the patch
- Statistics of the patch

This section features the *Action* menu, which enables you to perform any of the following actions related to patches: *Deploy Remediation*, *Enable*, *Disable*, *Scan Now*, *Update Cache, and Export*. For more information on these actions, see Section 7.2.6, “Action Menu Items,” on page 84.

The *Patches* section also features the *show items* option that enables you to select the number of items to be displayed in this section:

Figure 7-1 *Show Items drop-down List*

7.2.2 Patch Name

The patch name typically includes the vendor or manufacturer of the patch, the specific application, and version information.

An example of a patch name is shown in the following figure, where patch name is given, Adobe is the vendor, Acrobat Reader is the application, and 6.0.6 is the version information:

Figure 7-2 *Example of a Patch Name*

7.2.3 Total Number of Patches Available

The total number of available patches is displayed in the bottom left corner of the table. In the following example, there are 979 patches available:

Figure 7-3 *Total Number of Patches*

7.2.4 Patch Impacts

Based on the release date and impact, a patch can be classified as Critical, Recommended, Informational, or Software Installers:

- **Critical:** Novell has determined that this type of patch is critical, and should be installed as soon as possible. Most of the recent security updates fall into this category. ZENworks Server automatically downloads and saves the patches that have critical impact.
- **Recommended:** Novell has determined that this patch, although not critical or security related, is useful and should be applied to maintain the health of your computers. Therefore, Novell recommends that you implement patches that fall in this category.
- **Informational:** This type of patch detects a condition that Novell has determined as informational. Informational patches are used for information only. There is no actual patch to be installed.
- **Software Installers:** These types of patches are software applications. Typically, they include installers. The patches show *Not Patched* if the application has not been installed on a machine.

Patch Management impact terminology for its patch subscription closely follows the vendor impact terminology for patch criticality. Each operating system has a vendor-specific impact rating and that impact is mapped to a Novell rating as described in this section. Patch Management, following the recommendations of Lumension Security, increases or steps up the severity of the impact rating. For example, Microsoft classifications for “Critical,” “Important,” and “Moderate” patches are all classified as “Critical” by Novell.

The following table lists the mapping between Novell and Microsoft patch classification terminology:

Table 7-1 *Novell and Microsoft Patch Impact Mapping*

Novell Patch Impacts	Windows	Other
Critical	Critical Security	NA
	Important	
	Moderate	
Recommended	Recommended	NA
	Low	
	Example: Microsoft Outlook 2003 Junk E-mail Filter Update	

Novell Patch Impacts	Windows	Other
Software Installers	Software Distribution Example: Microsoft Windows Malicious Software Removal Tool (Virus Removal)	Adobe 8.1 software installer
Informational	NA	NA

Source: Lumension Security

7.2.5 Patch Statistics

Patch statistics show the relationship between a specific patch and the selected device. The patch statistics appear in the *Patched* column on the far right side of the Patch page. This column indicates whether the selected device has been successfully patched or not. If the device has been patched, this column shows *Yes*; if the device has not been patched, this column shows *No*.

7.2.6 Action Menu Items

The *Action* menu on the Patches page for a selected device consists of the following six options:

Figure 7-4 *Action Menu*

- **Deploy Remediation:** Enables you to deploy a patch. To use this option, select the check box for the patch you want to deploy and select *Deploy Remediation* to open the Deploy Remediation Wizard.
- **Enable:** Allows you to enable a disabled patch. To use this option, select it from the *Action* menu.
- **Disable:** Enables you to disable a patch. To use this option, select the check box for the required patch and select *Disable*. The selected patch is removed from the list.

  NOTE: Disabling a patch also disables all the bundles associated with it.

- **Update Cache:** Initiates a download process for the bundles associated with the selected patch and caches those bundles on your ZENworks Server.

  NOTE: The remediation bundles must be cached before they are installed on the target device.

  To use this option:

  1. Select one or more patches in the patches list.
  2. In the *Action* menu, click *Update Cache*.

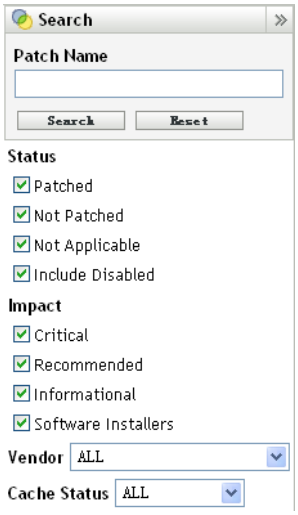
     The patch icon changes to . While the download is in progress, the icon changes to . When the caching is complete, the color of the patch icon changes to green. This indicates that the patch remediation is ready to be deployed.

- **Export:** Enables you to export the details such as the status and impact of selected patches into a comma-separated value (CSV) file. You can choose to save the file in a different file format after opening it from the download option.

7.2.7 Searching Patches

The *Search* section on the Patches page offers extensive search and data filtering options that allow you to search for specific patches and filter result sets based on the status and impact of the patches. Searching and filtering can be performed independently of each other or can be combined to provide extensive drill-down capabilities. The following figure shows the *Patch Search* section:

Figure 7-5 *Search Section on the Patches Page*



To search for a patch:

1. Type all or part of the patch name in the *Patch Name* text box.
2. Select the desired check box under *Status* and *Impact*.
3. Select the vendor in the *Vendor* drop-down list.
4. Select the cache status in the *Cache Status* drop-down list.
5. Click *Search*.

Clicking *Reset* enables you to return to the default settings.

The following table describes the result of selecting each filter option under *Status*:

Table 7-2 *Status Filters in Search*

Status Filter	Result
Patched	Search results include all the patches in the patch list that have been applied to one or more devices.
Not Patched	Search results include all the patches in the patch list that have not been applied to any device.

Status Filter	Result
Not Applicable	Search results include all the patches in the patch list that do not apply to the device.
Include Disabled	Search results include all the patches in the patch list that have been disabled by the administrator.

The following table describes the result of selecting each filter option under *Impact*:

Table 7-3 *Impact Filters in Search*

Impact Filter	Result
Critical	Search results include all the patches in the patch list that are classified as Critical by Novell.
Recommended	Search results include all the patches in the patch list that are classified as Recommended by Novell.
Informational	Search results include all the patches in the patch list that are classified as Informational by Novell.
Software Installers	Search results include all the patches in the patch list that are classified as Software Installers by Novell.

Table 7-4 *Vendor Filters and Cache Status Filter in search*

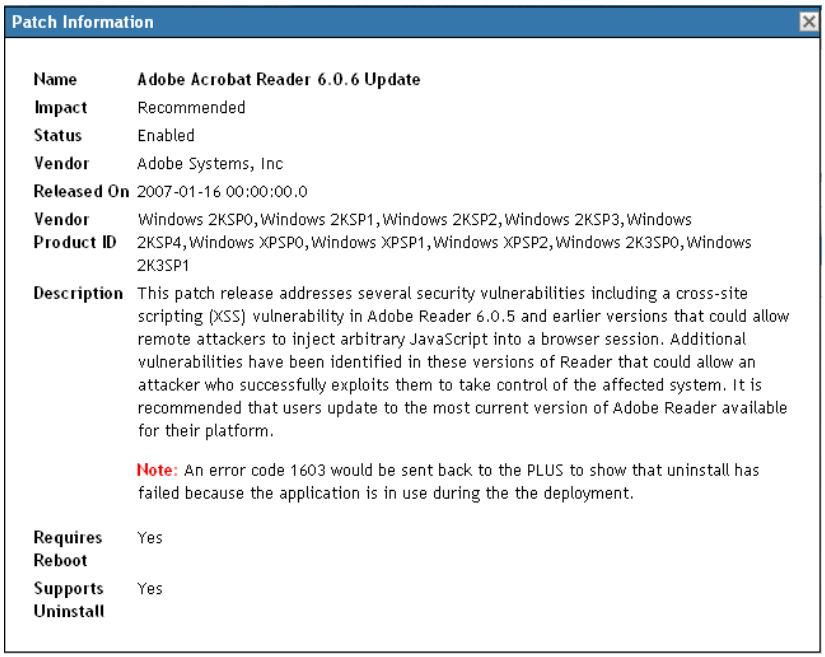
Filter	Result
Vendor	Search results include all the patches relevant to the vendor.
Cache Status	Search results include all the patches that have been cached or not been cached on the local server.

7.2.8 Patch Information

You can view detailed information for a selected patch in the *Patch Information* section. Clicking the name of a patch displays the details of that patch.

For example, if you select the patch called *Adobe Acrobat Reader 6.0.6 Update* from the list of patches, the *Patch Information* section displays the result of a patch analysis for the selected patch, as shown in the following figure:

Figure 7-6 *Patch Information for a Selected Patch*



The following table defines each property name in the *Patch Information* section:

Table 7-5 *Property Names in the Patch Information Section*

Property Name	Definition
Name	The name of the patch.
Impact	The impact of the patch as determined by Novell. See Section 7.2.4, “Patch Impacts,” on page 83.
Status	Status of the patch; can be *Enabled*, *Disabled (Superseded)* or *Disabled (By User)*.
Vendor	The name of the vendor or manufacturer.
Released on	The date the patch was released.
Vendor Product ID	The ID number given to the product by the vendor.
Description	The description of the patch; it includes the advantages of deploying the patch and the prerequisites for deployment.
Requires Reboot	Whether a reboot is required after patch deployment.

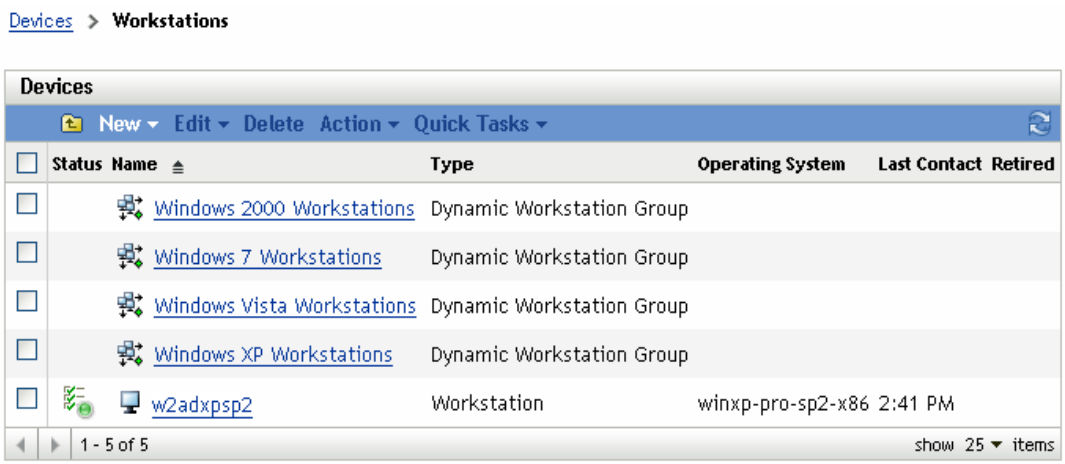
Property Name	Definition
Supports Uninstall	Whether the patch supports uninstallation.

7.2.9 Workstation Device Patches

To view the patches for a specific workstation device:

1 Click the *Workstation* link on the Devices page.

A list of workstation groups classified on the basis of their operating systems appears, as shown in the following figure:



You see the following icons on the Workstations page:

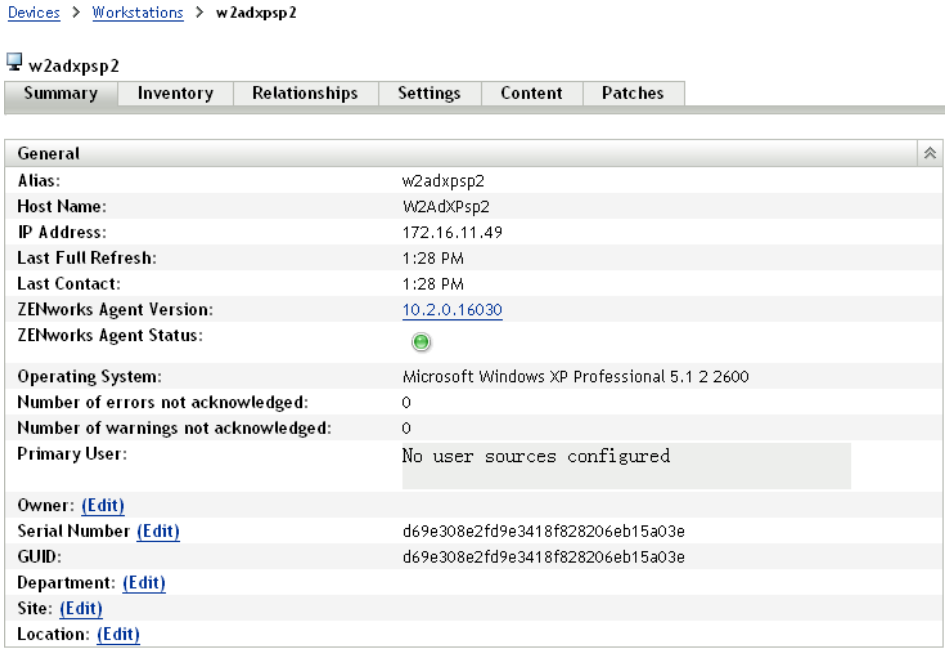
Icon	Status
	Message Status: Normal Device Status: Bundle and policy enforcement successful
	Message Status: Warning Device Status: Bundle and policy enforcement successful
	Message Status: Error Device Status: Bundle and policy enforcement successful
	Message Status: Error Device Status: Bundle and/or policy enforcement failed on one or more bundles or policies.

Devices can also be found by using *Search* (see section "Filter Item" on page 80).

2 Click the required group (Workstation or Dynamic Workstation Group) to view the details of the group and its members.

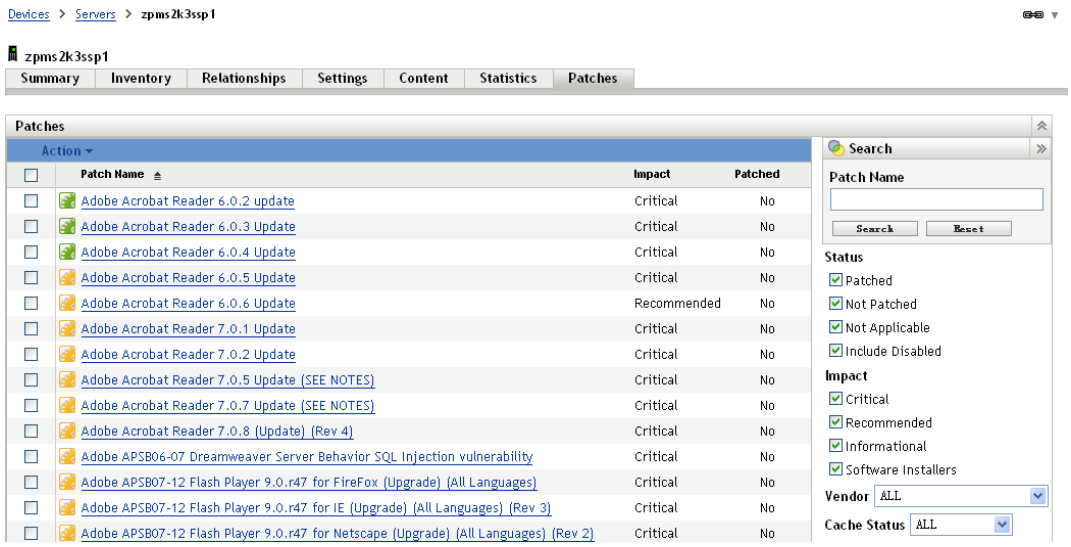
3 Click the required member or workstation device.

A page displaying the member's details is displayed. The following figure shows the page displaying details for the workstation device *w2adxpsp2*:



4 Click the *Patches* tab.

The patches associated with the workstation device appear as shown in the following figure:



Patch Management for a Device Group

8

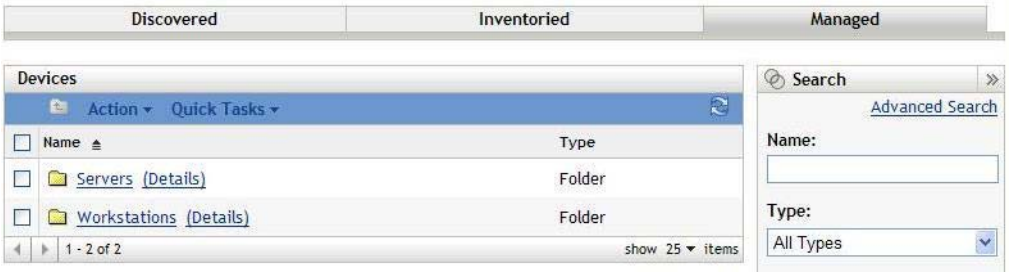
Device group patches refers to the patches that have been assigned to members of the server group or the workstation group of devices in the network and displays the status of each patch for the devices. This view displays only the patches applicable to the member devices of the selected group.

8.1 Using the Patches Tab within a Server Group

This view displays the patches applicable to the member devices of the selected server group.

1 Click the *Devices* tab on the left panel.

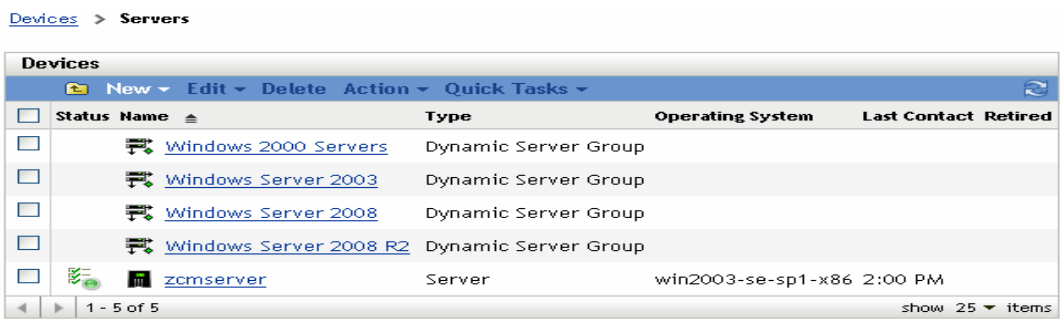
A page displaying the root folders for each type of device appears, as shown in the following figure:



The *Servers* folder is the root folder for all managed servers and the *Workstations* folder is the root folder for all managed workstations in the network.

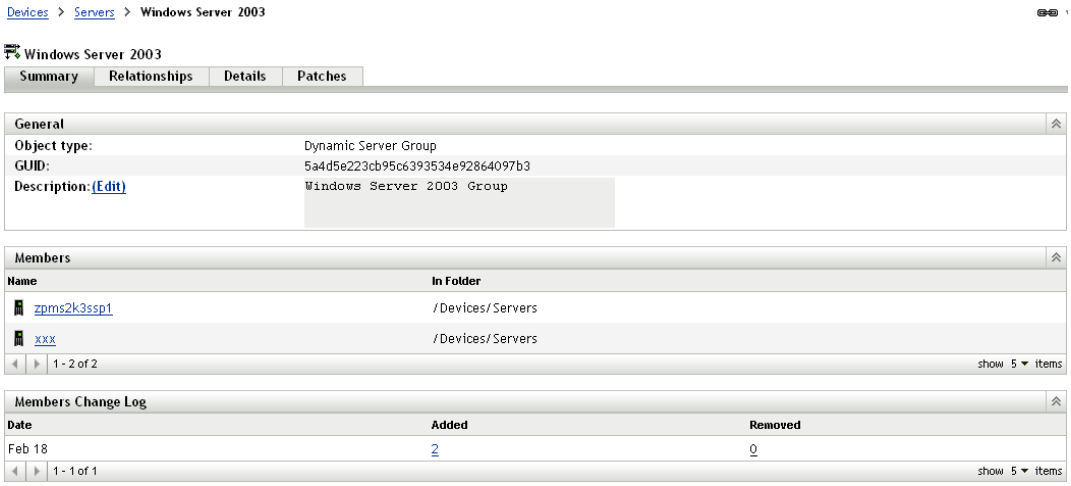
2 Click the *Servers* link.

A list of server groups classified on the basis of their operating systems appears, as shown in the following figure:



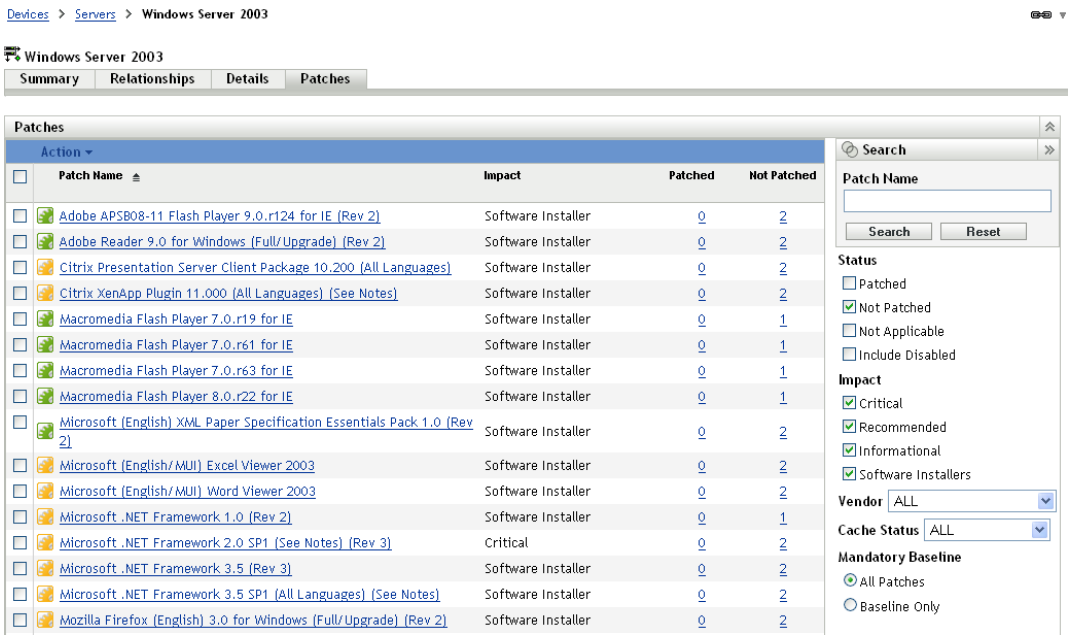
3 Click the required group (Server or Dynamic Server Group).

A page displaying the general details of the group and the members in the group appears. The following figure shows the page that appears when the *Windows Server 2003* type is selected:



4 Click the *Patches* tab.

The patches applicable to the member devices of the selected group are displayed. If the selected group is *Windows Server 2003*, the *Patches* tab displays all the patches applicable to the member devices within the group *Windows Server 2003*, as shown in the following figure:



For information on the features of the Device Group Patches page for the selected server group, see "About Mandatory Baselines" on page 71.

8.2 Using the Patches Tab within a Workstation Group

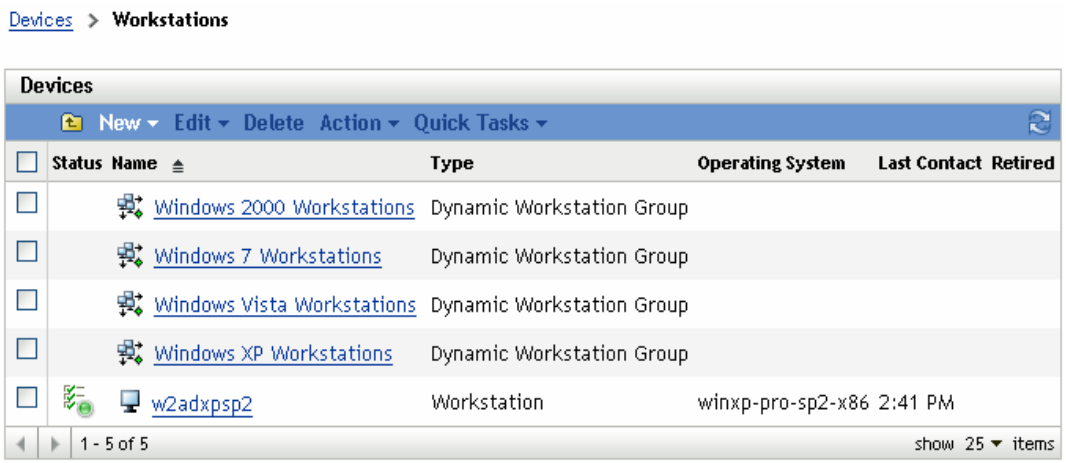
This view displays the patches applicable to the member devices of the selected workstation group.

1 Click the *Devices* tab on the left panel.

A page displaying the root folders for each type of device appears

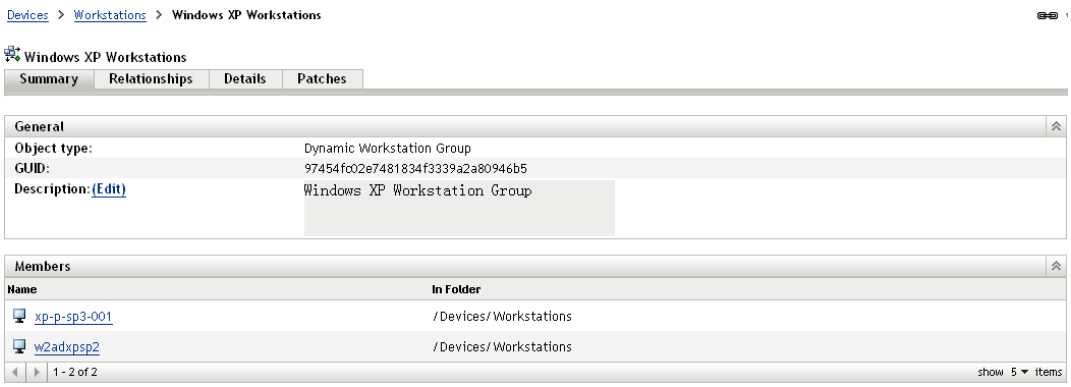
2 Click the *Workstations* link.

A list of workstation groups classified on the basis of their operating systems appears, as shown in the following figure:



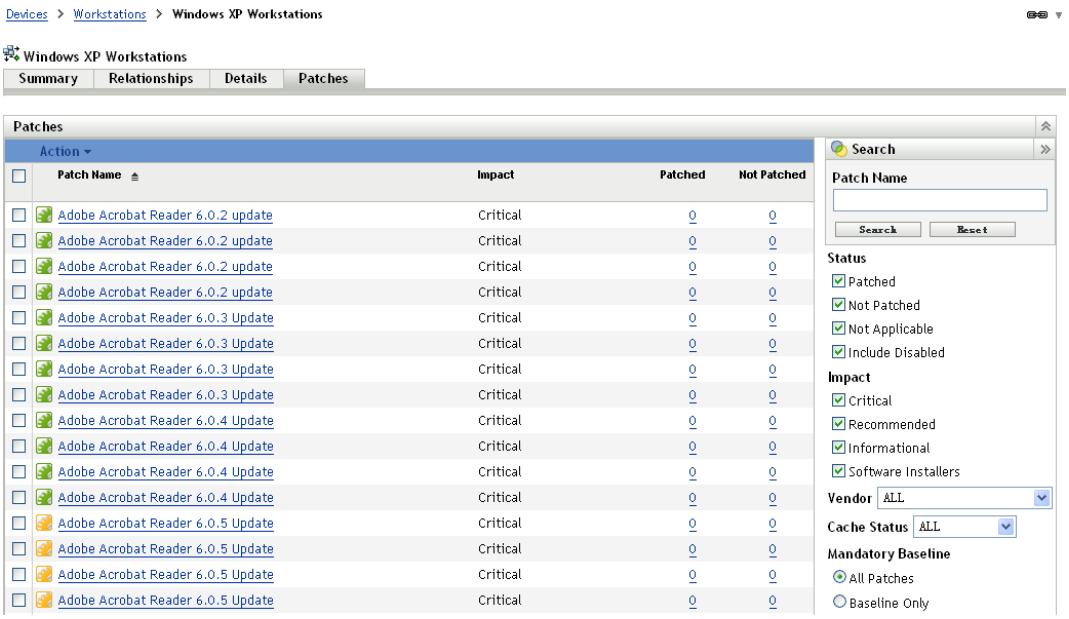
3 Click the required group (Workstation or Dynamic Workstation Group).

A page displaying the general details of the group and the members in the group appears. The following figure shows the page that appears when the Dynamic Workstation Group called *Windows XP Workstations* is selected:



4 Click the *Patches* tab.

The patches applicable to the member devices of the selected group are displayed. If the selected group is Windows XP Workstations, the *Patches* tab displays all the patches applicable to the member devices within the group Windows XP Workstations, as shown in the following figure:



For information on the features of the Device Group Patches page for the selected workstations group, see "About Mandatory Baselines" on page 71.

Troubleshooting Patch Management

A

The following sections contain detailed explanations of the error messages you might receive or problems you might encounter when using Novell ZENworks 10 Patch Management.

A.1 Patch Management Issues

Patches are unavailable because of the CDN switch to Akamai for ZENworks Patch Management

Source: ZENworks 10 Configuration Management; Patch Management.

Explanation: In the week of 18 February 2008, the hosting infrastructure for the patch content Web site used by ZENworks 10 Patch Management was migrated to Akamai as the new host provider. This switch was done through a global DNS change.

Action: Follow the steps below:

1. Open access to the following Web sites:
   - PLHOST licensing servers (https://novell.patchlink.com)
   - Akamai patch download (http://novell.cdn.lumension.com)
   - Microsoft patch Web site (http://www.download.windowsupdate.com)
2. Turn off *SSL Download* on the Configuration page (see “Configuring Subscription Download Details” on page 22).

3 Test your connectivity to the new hosting provider from your ZENworks Primary Server that the Patch Management feature is currently running on:

- Ping test:

  Log in to the server console, and launch a command prompt or shell window:

  ```
  ping novell.cdn.lumension.com
  ```

  If your server is able to connect to the Akamai hosting network without a problem, you see a response similar to the one shown below:

  ```
  Pinging a1533.g.akamai.net [12.37.74.25] with 32
  bytes of data:
  Reply from 12.37.74.25: bytes=32 time=14ms TTL=55
  Reply from 12.37.74.25: bytes=32 time=14ms TTL=55
  Reply from 12.37.74.25: bytes=32 time=14ms TTL=55
  Reply from 12.37.74.25: bytes=32 time=13ms TTL=55
  Ping statistics for 12.37.74.25:
  Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
  Approximate round trip times in milli-seconds:
  Minimum = 13ms, Maximum = 14ms, Average = 13ms
  ```

  The ping command shows you the address of the nearest AKAMAI server to your current location.

  If you receive the following message:

  ```
  Ping request could not find host
  novell.cdn.lumension.com. Please check the name and
  try again.
  ```

  The firewall administrator needs to open access to the Akamai network for both ping and HTTP (TCP port 80) traffic.

- Browser test:

  Using a Web browser, type in the following URL:

  ```
  http://novell.cdn.lumension.com/novell/pulsar.xml
  ```

  The browser should display formatted output from the Web site, as shown in the figure below:

If your browser cannot access the XML file, you experience a browser timeout and receive some kind of error message. If the ping test succeeds and the browser test fails, this indicates that the firewall administrator has limited access to the Akamai network, but that the HTTP (TCP port 80) is blocked.

The license server is still using the same address as in ZENworks Patch Management 6.4. If you want to enter a serial number to register your Patch Management usage, you need to leave the IP addresses of our old servers in your firewall rules.

- Firewall information for ZENworks 10 Configuration Management:

  ZENworks 10 Patch Management license replication goes to the following servers:

  206.16.247.2

  206.16.45.34

  Port 443

  ZENworks 10 Patch Management content replication goes to the following DNS name:

  `http://novell.cdn.lumension.com/novell`

  To find out what IP your specific server is using, ping `novell.cdn.lumension.com` from several machines and enter the applicable address range into your firewall rules.

No patches are shown in the Patches tab

Source: ZENworks 10 Configuration Management; Patch Management.

Possible Cause: The server has just been installed.

Action: You need to start the patch subscription download, and then wait twenty minutes or more for patches to be downloaded automatically from novell.patchlink.com.

Patches do not seem to be deployed on the target device

Source: ZENworks 10 Configuration Management; Patch Management.

Possible Cause: The ZENworks administrator hasn't deployed the patches into the applicable devices in the ZENworks server, or the patches have been deployed in the server but the device refresh schedule hasn't been triggered in the ZENworks adaptive agent.

Actions: Check to see if the *Device Refresh Schedule* option is set as *Manual Refresh* or *Timed Refresh* on the Configuration tab, and wait for the specified interval.

The Cancel button disappears in the Reboot Required dialog box

Source: ZENworks 10 Configuration Management; Patch Management.

Explanation: When two or more patches are deployed, if the *Allow User to Cancel* option is set as No on the Pre Install Notification Options page and the Notification and Reboot Options page of the server, the *Cancel* button disappears in the Reboot Required dialog box for all patches of the agent.

Action: None necessary.

Superseded patches are shown as NOT APPLICABLE

Source: ZENworks 10 Configuration Management; Patch Management.

Explanation: In earlier releases of Patch Management, a patch showed its status as PATCHED or NOT PATCHED, regardless of whether the patch was new or outdated. This often caused many more patches to show as NOT PATCHED than were actually necessary for deployment to a given target device. This issue has been addressed in many of the new advanced content patches provided with the ZENworks 10 Configuration Management SP3:

- When a patch is superseded, it is automatically disabled.
- If the patch is re-enabled and detected, in most cases the patch shows as NOT APPLICABLE because it has been replaced by a more recent patch.

Although this is inconsistent with the behavior of earlier versions of Patch Management, this change is an improvement because only the patches that currently need to be installed are reported or analyzed on each device.

Action: None necessary.

Patch deployment might not start when scheduled

Source: ZENworks 10 Configuration Management; Patch Management.

Possible Cause: If the deployment schedule type includes both the *Recurring* and *Process Immediately If the Device Is Unable to Execute* options, when the device becomes active, the deployment of the patch does not start on the first of its scheduled recurring dates. However, the patch is deployed when the next recurring date occurs.

Action: Instead of selecting a recurring schedule, select a date-specific schedule so that the patch is applied when the device becomes active.

Microsoft System Installer (MSI) might need to be updated for some patches

Source: ZENworks 10 Configuration Management; Patch Management.

Explanation: Deployment of certain .NET patches might require that the latest MSI is installed. Otherwise, you might receive errors when deploying those patches.

Action: Prior to deploying .NET patches, verify whether an MSI version is a prerequisite. If necessary, create a bundle to deploy the latest MSI (version 3.1 or later) to your systems. MSIs are available from Microsoft (http://www.microsoft.com/downloads/details.aspx?familyid=889482fc-5f56-4a38-b838-de776fd4138c&displaylang=en).

A.2 Configuration Issues

- "Deploying patches with Auto Reboot causes the device to shut down" on page 98

Deploying patches with Auto Reboot causes the device to shut down

Source: ZENworks 10 Configuration Management; Patch Management.

Possible Cause: Trying to deploy patches with auto-reboot might shut down the machine instead of rebooting. It might also fail to report patch results to the ZENworks Server.

Action: Perform reboots with a Quick Task rather than using the Auto Reboot option.

Documentation Updates

B

This section contains information on documentation content changes that were made in this *ZENworks Patch Management Reference* for Novell ZENworks 10 Configuration Management SP3. The information can help you to keep current on updates to the documentation.

The documentation for this product is provided on the Web in two formats: HTML and PDF. The HTML and PDF documentation are both kept up-to-date with the changes listed in this section.

If you need to know whether a copy of the PDF documentation that you are using is the most recent, the PDF document includes a publication date on the title page.

The documentation was updated on the following date:

B.1 August 26, 2010: SP3 (10.3)

Updates were made to the following sections:

Location	Update
Section 3.5, "Patch Management Licensing," on page 27	Updated url for Patch Management content distribution network.

B.2 March 30, 2010: SP3 (10.3)

Updates were made to the following sections:

Location	Update
Section 3.1, "Viewing Subscription Service Information," on page 17	• Updated the graphic to show Mandatory Baseline Settings under Patch Management. • Updated the graphic for Subscription Service Information. • Added an additional entry to the table for Subscription Service Information status items.
Section 3.3, "Configuring Subscription Download Details," on page 22	Updated the graphic for the Subscription Download Options page.
Section 3.4, "Configuring Mandatory Baseline Settings," on page 25	Added a section on Mandatory Baseline Settings.
Section 4.4.1, "Patches," on page 36	• Added content related to patch uninstallation support in Patch Statistics section. • Added graphics and descriptions for the Patched, Not Patched, and Information pages in Patch Statistics.

Location	Update
Section 5.2, “Confirm Devices,” on page 50	Changed the graphic and the section content because of a change in the interface.
Section 5.4, “Remediation Schedule,” on page 54	Replaced the Event Schedule option with Now.
Section 5.4.1, “Remediation Schedule: Now,” on page 55	Replaced Remediation Schedule: Event with a new section for Remediation Schedule: Now.
Section 5.9, “Notification and Reboot Options,” on page 67	Updated the graphic.
Section 5.8, “Pre Install Notification Options,” on page 65	Updated the graphic to show additional pre-install notification options and added an itemized list and system variable table entries explaining the variables.