

ZENworks 11 SP4 Patch Management Airgap Solution

October 2016

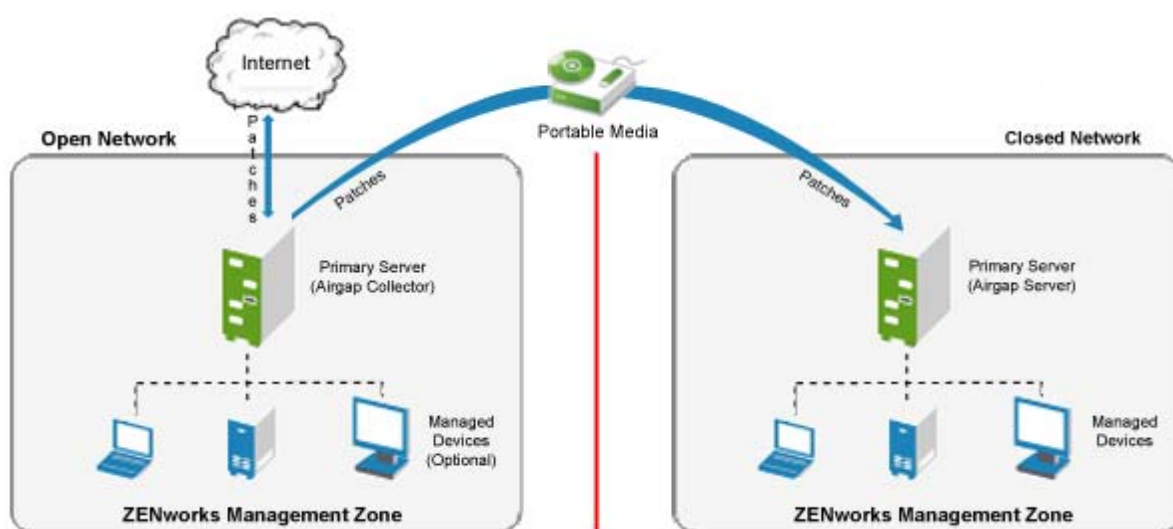
Novell

The Airgap solution for ZENworks Patch Management enables you to deliver patches to networks that are disconnected and isolated from the Internet. These networks are referred to as “airgapped” or “closed” networks.

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1 About the Airgap Solution

The Airgap solution requires two ZENworks Management Zones, one zone in the open (Internet-connected) network and one in the closed network. A Primary Server (referred to as the Airgap Collector) in the open zone receives patches through the subscription service. You then transfer the patches via portable media from the Airgap Collector to a Primary Server (referred to as the Airgap Server) in the closed zone. The Airgap Server deploys the patches to managed devices as if it had received them directly through the subscription service.



The ZENworks Management Zone in your open network can optionally include managed devices that you want to patch. The patches downloaded by the Airgap Collector are retained in the zone (in addition to being copied to a transfer directory) and can be deployed to managed devices within the open zone.

2 Prerequisites

- ♦ Two ZENworks Management Zones, one in the open network (*the Airgap Collector*) and another in the closed network (*the Airgap Server*).

ZENworks Servers must be at least version 11 SP4. For information about installing ZENworks, see the [ZENworks 11 SP4 Server Installation Guide](#).

- ♦ ZENworks Patch Management licensed in both zones, which includes a ZENworks Patch Management license for the Airgap Collector (open zone) and a ZENworks Patch Management Airgap license for the Airgap Server (closed zone). You cannot use an evaluation license.

NOTE: The Airgap license is a no-charge entitlement if you are a licensed ZENworks Patch Management customer with Maintenance. The license must be requested for you by your sales representative. After it has been requested, it is added to your ZENworks Patch Management entitlement in your Customer Center portal, and you add the license key to the Airgap Server using a system variable.

- ♦ Airgap Collector enabled prior to server replication or caching of patches on the Airgap Collector server.

3 Setting Up the Open Zone

Complete the following tasks to configure the ZENworks Management Zone in your open network:

- ♦ [Section 3.1, “Mirroring the Closed Zone’s Managed Devices,” on page 2](#)
- ♦ [Section 3.2, “Licensing ZENworks Patch Management,” on page 4](#)
- ♦ [Section 3.3, “Enabling the Airgap Collector,” on page 4](#)
- ♦ [Section 3.4, “Limiting the Patch Content Downloaded by the Subscription Service,” on page 6](#)
- ♦ [Section 3.5, “Starting the Subscription Service,” on page 6](#)

3.1 Mirroring the Closed Zone’s Managed Devices

When a ZENworks Primary Server downloads patches from the subscription service, it downloads the patch fingerprints, not the entire patch. A patch fingerprint contains metadata about which operating systems the patch applies to. The Primary Server compares the downloaded patch fingerprints against the operating systems of the zone’s managed devices and displays the applicable patches in the Patches list. You can then select the patches you want to cache to the Primary Server for distribution to your managed devices.

In the following example, only one managed device is registered in the zone and it is running Windows XP Professional Service Pack 3; therefore, the Patches list displays only the patches that apply to that Windows version (11 patches), enabling you to easily select the patches to cache.

Dashboard Patch Policies Patches Status					
Patches					
New Delete Action					
<input type="checkbox"/>	Patch Name	Impact	Patched	Not Patched	Released On
<input type="checkbox"/>	Windows Malicious Software Removal Tool - November 2015 (KB890830)	Software Installer	0	1	Nov-10-2015
<input type="checkbox"/>	APSB15-28 Adobe Flash Player 19.0.0.245 for Windows (See Notes)	Critical	0	1	Nov-10-2015
<input type="checkbox"/>	Microsoft Visual C++ Redistributable for Visual Studio 2013 (All Languages) (Full Install) for Windows (See Notes)	Software Installer	0	1	Dec-30-2014
<input type="checkbox"/>	Update for Windows XP (KB2922717)	Recommended	0	1	Mar-11-2014
<input type="checkbox"/>	MS 2905247 2894842 Security Update for .NET Framework 4.0 (All Languages)	Recommended	0	1	Dec-10-2013
<input type="checkbox"/>	MS13-082 Security Update for Microsoft .NET Framework 4 on XP, Server 2003, Vista, Win 7, Server 2008 x86 (KB2858302)	Critical	0	1	Oct-08-2013
<input type="checkbox"/>	MS13-004 Security Update for Microsoft .NET Framework 4 on XP, 2003, Vista, Win7, 2008 x86 (KB2736428)	Critical	0	1	Jan-08-2013
<input type="checkbox"/>	MS13-007 Security Update for Microsoft .NET Framework 4 on XP, 2003, Vista, Win7, 2008 x86 (KB2736428)	Critical	0	1	Jan-08-2013
<input type="checkbox"/>	MS11-066 2567943 2487367 Security Update for .NET Framework 4.0 (All Languages)	Critical	0	1	Aug-09-2011
<input type="checkbox"/>	MS11-025 Security Update for Microsoft Visual C++ 2008 Service Pack 1 Redistributable Package (KB2538243)	Critical	0	1	Jun-14-2011
<input type="checkbox"/>	MS10-070 2418042 2416472 Security Update for .NET Framework 4.0 (All Languages) (re-released 02/22/11)	Critical	0	1	Feb-22-2011
1 - 11 of 11 items					

Search

Patch Name

Search Reset

Status

☐ Patched

☒ Not Patched

☐ Not Applicable

☐ Include Disabled

Impact

☒ Critical

☒ Recommended

☒ Informational

☒ Software Installers

Platform:

Windows

Vendor:

All

Cache Status:

All

CVE Identifier:

If possible, we recommend that you register devices in your open zone that mirror the operating systems of the closed zone's managed devices. This limits the Patches list to only those patches that are applicable for your closed zone's devices.

If you do not mirror your closed zone's devices in your open zone, the Patches list displays all patches, which in the following example totals 4,957 patches. In this case, you would either need to cache all patches or manually filter and cache only the patches that apply to devices in your closed zone.

Dashboard Patch Policies Patches Status					
Patches					
New Delete Action					
<input type="checkbox"/>	Patch Name	Impact	Patched	Not Patched	Released On
<input type="checkbox"/>	F-Secure Anti-Virus DEF File (November 12, 2015) (See Note)	Critical	0	0	Nov-12-2015
<input type="checkbox"/>	MS15-115 Security Update for Windows 7 x64 (KB3097877)	Critical	0	0	Nov-12-2015
<input type="checkbox"/>	MS15-115 Security Update for Windows Server 2008 R2 x64 (KB3097877)	Critical	0	0	Nov-12-2015
<input type="checkbox"/>	MS15-115 Security Update for Windows 7 (KB3097877)	Critical	0	0	Nov-12-2015
<input type="checkbox"/>	Trend Micro OfficeScan Virus Pattern File 12.145.00 (November 11, 2015)	Critical	0	0	Nov-11-2015
<input type="checkbox"/>	Windows Defender Definition Update 1.209.2485.0 (November 11, 2015)	Critical	0	0	Nov-11-2015
<input type="checkbox"/>	Trend Micro ServerProtect Virus Pattern File 12.145.00 for Windows (November 11, 2015)	Critical	0	0	Nov-11-2015
<input type="checkbox"/>	Windows Malicious Software Removal Tool for Windows 8, 8.1 and 10 - November 2015 (KB890830)	Software Installer	0	0	Nov-10-2015
<input type="checkbox"/>	MS15-116 Security Update for Microsoft Access 2013 32-Bit Edition (KB3085584)	Critical	0	0	Nov-10-2015
<input type="checkbox"/>	Definition Update for Microsoft Office 2013 64-Bit Edition (KB3101493)	Critical	0	0	Nov-10-2015
<input type="checkbox"/>	MS15-121 Security Update for Windows Server 2012 R2 (KB3081320)	Critical	0	0	Nov-10-2015
<input type="checkbox"/>	MS15-112 Cumulative Security Update for Internet Explorer 10 for Windows Server 2012 (KB3100773)	Critical	0	0	Nov-10-2015
<input type="checkbox"/>	MS15-116 Security Update for Microsoft Word 2013 32-Bit Edition (KB3101370)	Critical	0	0	Nov-10-2015
<input type="checkbox"/>	MS15-116 Security Update for Microsoft Access 2010 32-Bit Edition (KB3101544)	Critical	0	0	Nov-10-2015
<input type="checkbox"/>	MS15-118 Security Update for Microsoft .NET Framework 4.6 on Windows 8 (KB3098784)	Critical	0	0	Nov-10-2015
<input type="checkbox"/>	MS15-116 Security Update for Microsoft Publisher 2016 32-Bit Edition (KB2920680)	Critical	0	0	Nov-10-2015
<input type="checkbox"/>	Update for Microsoft Office 2013 32-Bit Edition (KB3101374)	Recommended	0	0	Nov-10-2015
<input type="checkbox"/>	MS15-116 Security Update for Microsoft OneNote 2013 64-Bit Edition (KB3101371)	Critical	0	0	Nov-10-2015
<input type="checkbox"/>	MS15-112 Cumulative Security Update for Internet Explorer 11 for Windows 7 x64 (KB3100773)	Critical	0	0	Nov-10-2015
<input type="checkbox"/>	Security Update for Windows Server 2012 (KB3108604)	Critical	0	0	Nov-10-2015
<input type="checkbox"/>	MS15-118 Security Update for Microsoft .NET Framework 4.5.1 and 4.5.2 on Windows 8.1 (KB3098779)	Critical	0	0	Nov-10-2015
<input type="checkbox"/>	MS15-116 Security Update for Microsoft Office 2010 32-Bit Edition (KB2899516)	Critical	0	0	Nov-10-2015
<input type="checkbox"/>	MS15-115 Security Update for Windows 7 x64 (KB3101746)	Critical	0	0	Nov-10-2015
<input type="checkbox"/>	MS15-118 Security Update for Microsoft .NET Framework 4.5, 4.5.1 and 4.5.2 on Windows 8 (KB3097995)	Critical	0	0	Nov-10-2015
<input type="checkbox"/>	MS15-118 Security Update for Microsoft .NET Framework 3.5 on Windows 8 and Windows Server 2012 x64 (KB3097991)	Critical	0	0	Nov-10-2015
1 - 25 of 4,957 items					

Search

Patch Name

Search Reset

Status

☐ Patched

☐ Not Patched

☐ Not Applicable

☐ Include Disabled

Impact

☒ Critical

☒ Recommended

☒ Informational

☒ Software Installers

Platform:

Windows

Vendor:

All

Cache Status:

All

CVE Identifier:

If you choose to mirror your closed zone's devices in your open zone, consider the following guidelines:

- ♦ In your closed zone, log in to ZENworks Control Center and review the Devices list. The list displays the operating system for each registered device.
- ♦ In your open zone, register devices that have the same operating systems as the ones displayed in your closed zone's Devices list.
- ♦ Registering a device in your open zone adds the device object to the zone. The device object is what is needed to automatically filter the Patches list to show applicable patches only. Once the device is registered in your open zone, it does not need to continue to contact the zone; if desired, you can re-register the device against your closed zone for management purposes. Optionally, you could retain the devices in your open zone and use the devices to test new patches.

3.2 Licensing ZENworks Patch Management

To activate your ZENworks Patch Management license, do the following:

- 1 Log in to the ZENworks Control Center for the zone in your open network.
- 2 Click **Configuration** in the navigation panel and scroll down in the **Configuration** page to locate **Licenses > Product Licensing**.
- 3 Click the **ZENworks 11 Patch Management** link, and select **Activate Product** in the Patch Management License panel.
- 4 Enter your Product Subscription Serial Number in the field provided, and click **Add**.

3.3 Enabling the Airgap Collector

You enable the Airgap Collector by adding a `PATCH_AIRGAP_COLLECTOR=true` system variable to your ZENworks Management Zone.

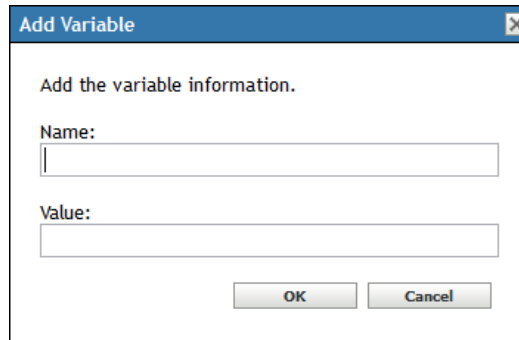
- 1 Log in to ZENworks Control Center for the zone in your open network.
- 2 Click **Configuration > Device Management** (in the **Management Zone Settings** panel) > **System Variables** to display the System Variables list.

The screenshot shows the 'System Variables' configuration window in the ZENworks Control Center. The window has a title bar with 'Configuration > System Variables' and a close button. Below the title bar is a section labeled 'System Variables' with a description 'Configure system variables.' and a close button. Below this is a table with the following structure:

System Variables	
	Add Remove Edit
<input type="checkbox"/> Name	Value
<input type="checkbox"/> com.novell.zenworks.zone.guid	4972467b6c147b6d003413ba7b6745b3

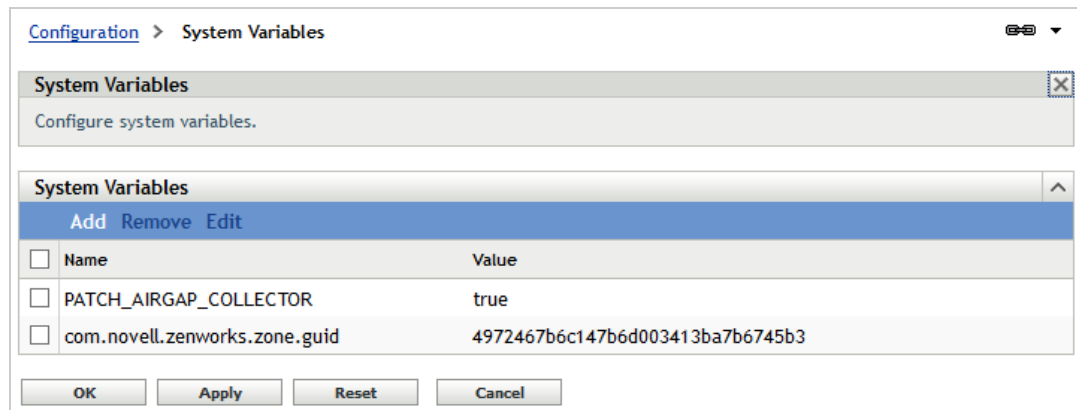
At the bottom of the window are four buttons: OK, Apply, Reset, and Cancel.

- 3 Click **Add** to display the Add Variable dialog box.



The 'Add Variable' dialog box has a title bar with a close button. The main area contains the text 'Add the variable information.' followed by two input fields: 'Name:' and 'Value:'. At the bottom are 'OK' and 'Cancel' buttons.

- 4 Fill in the following fields:
Name: PATCH_AIRGAP_COLLECTOR
Value: true
- 5 Click **OK** to add the variable to the list.



The 'System Variables' configuration window shows a breadcrumb 'Configuration > System Variables'. It has a title bar with a close button and a subtitle 'Configure system variables.'. Below is a table with columns 'Name' and 'Value'. The table contains two entries: 'PATCH_AIRGAP_COLLECTOR' with value 'true', and 'com.novell.zenworks.zone.guid' with value '4972467b6c147b6d003413ba7b6745b3'. Above the table are buttons 'Add', 'Remove', and 'Edit'. At the bottom are 'OK', 'Apply', 'Reset', and 'Cancel' buttons.

Name	Value
PATCH_AIRGAP_COLLECTOR	true
com.novell.zenworks.zone.guid	4972467b6c147b6d003413ba7b6745b3

- 6 Click **OK** to save the list.

3.4 Limiting the Patch Content Downloaded by the Subscription Service

Because you will be copying patches from your open zone (Airgap Collector) to your closed zone (Airgap Server), you should limit patch content downloads to the platforms, languages, and vendors your devices need. This reduces the amount of portable disk space required and speeds up the copy process.

- 1 In ZENworks Control Center, click **Configuration > Patch Management** (in the **Management Zone Settings** panel) > **Subscription Service Content Download** to display the content download settings.

The screenshot shows the 'Subscription Service Content Download' configuration page. At the top, there is a breadcrumb trail: 'Configuration > Subscription Service Content Download'. Below this is a title bar 'Subscription Service Content Download' with a close button. The main content area is titled 'Patch subscription content download settings'. It contains two sections. The first section, 'Subscription Service Content Download', has a sub-header 'Select the platforms to download' with three checked checkboxes: 'Windows', 'Linux', and 'Mac'. Below this is a section for 'RPM dependency' with a note 'Note: This option is performance intensive.' and an unchecked checkbox 'Resolve all RPM dependencies'. The second section, separated by a horizontal line, is titled 'Choose your language options for Windows operating systems'. It includes a descriptive paragraph: 'These languages are for Operating Systems prior to Vista and other third party patches. For the best performance results select only the languages used by your organization.' Below this are ten language checkboxes arranged in two rows: English (checked), Portuguese (Brazil), French, Italian, German, Japanese, Korean, Traditional Chinese, Simplified Chinese, and Hong Kong Chinese.

- 2 In the **Select the platforms to download** list, deselect any platforms that do not apply to devices in your closed zone.
- 3 If Windows is one of the platforms for which to download patches, select the languages you want to download.
- 4 Click **OK** to save your patch download settings.

NOTE: You can also configure the **Select vendors to use in the system** list to limit the number of vendor patches to only those that are required. However, the list is not populated until the first subscription update is complete after starting the Subscription Service. The Airgap Collector content will not reflect a change in this setting until another subscription download completes after configuring and saving the list.

3.5 Starting the Subscription Service

To ensure that you have all the required patches for your closed zone, you need to start the Subscription Service and wait for the subscription download to successfully complete. You can verify this in the Subscription Service History panel on the Patch Management Dashboard.

Information about caching patches after the subscription download completes is provided in Section 5 [Transferring Patches from the Open Zone to the Closed Zone](#).

IMPORTANT: Ensure that you [enable the Airgap Collector](#) before starting the subscription service or caching of patches. Otherwise, you may have missing patches for the Airgap Server.

To start the Subscription Service and initiate the patch download:

- 1 In ZENworks Control Center, click **Configuration > Patch Management** (in the **Management Zone Settings** panel) > **Subscription Service Settings** to display the Subscription Service Settings page.

The screenshot shows the 'Subscription Service Settings' page in ZENworks Control Center. The breadcrumb navigation at the top reads 'Configuration > Subscription Service Settings'. The page title is 'Subscription Service Settings' with a subtitle 'ZPM server with any HTTP proxy and 3rd party subscription settings'. The main settings area includes a 'Start the Subscription Service' dropdown menu set to 'Select One' with a 'Start Service' button. Below this are labels for 'Last Subscription Poll', 'Subscription Replication Status', 'Subscription Host', and 'Subscription Communication Interval(Every Day at)' with a time selector set to '00:00' and an 'Update Now' button. At the bottom of this section are 'Reset ZENworks Patch Management Settings' and 'Reset Subscription Service' buttons. The next section is 'HTTP Proxy Server Details' with input fields for 'Proxy Host', 'Port', and 'Http Credential'. The final section is 'Patch Subscription Credentials' with two sub-sections: 'RedHat Network Credentials' and 'SUSE Network Credentials', each with a password input field. At the very bottom are 'OK', 'Apply', 'Reset', and 'Cancel' buttons.

- 2 In the **Start the Subscription Service** list, select the ZENworks Primary Server, then click **Start Service** to start the subscription service on the Primary Server.
- 3 Click the **Update Now** button to initiate an immediate request for patches from the subscription service.
The initial subscription service request will take some time to process. You can use the Patch Management Dashboard (**Patch Management > Dashboard** tab) to monitor the request status.
- 4 By default, the Airgap Collector contacts the subscription service for patch updates at midnight each day. If desired, you can use the **Subscription Communication Interval** field to change the daily time.
- 5 Click **OK** to save your changes and exit the Subscription Service Settings page.

4 Setting Up the Closed Zone

In your closed network, you need to configure the ZENworks Management Zone to enable the Primary Server to act as an Airgap Server. When you transfer downloaded patches from your open network to the closed network, the Airgap Server pulls them into the ZENworks Management Zone as if it had received them directly through the subscription service. You then deliver the patches using the standard ZENworks Patch Management methods.

To set up the closed zone:

- 1 Log in to ZENworks Control Center for the zone in your closed network.
- 2 Enable the Airgap Server by adding several system variables:
 - 2a Click **Configuration > Device Management** (in the **Management Zone Settings** panel) > **System Variables** to display the System Variables list.

The screenshot shows the 'System Variables' configuration window in ZENworks Control Center. The breadcrumb navigation at the top reads 'Configuration > System Variables'. Below the title bar, there is a section labeled 'System Variables' with a sub-header 'Configure system variables.' and a close button. Below this is a table with the following structure:

System Variables	
<input type="checkbox"/>	Name
<input type="checkbox"/>	Value
<input type="checkbox"/>	com.novell.zenworks.zone.guid
	3d96cd26b800ed22233d2a5f1163a7a0

At the bottom of the window are four buttons: 'OK', 'Apply', 'Reset', and 'Cancel'.

- 2b Click **Add** to display the Add Variable dialog box.

The screenshot shows the 'Add Variable' dialog box. It has a title bar with the text 'Add Variable' and a close button. Inside the dialog, there is a label 'Add the variable information.' followed by two input fields: 'Name:' and 'Value:'. At the bottom of the dialog are two buttons: 'OK' and 'Cancel'.

- 2c Fill in the following fields:
Name: PATCH_AIRGAP_SERVER
Value: true
 - 2d Click **OK** to add the variable to the list.
 - 2e Repeat to add the following two variables:
 - ♦ **Name:** PATCH_AIRGAP_LICENSE
Value: The Airgap license key you received from your Sales Representative.

NOTE: This step validates licensing on the Airgap Server for the closed network. You do not need to activate a ZENworks Patch Management license for this zone in Product Licensing.

♦ **Name:** PATCH_AIRGAP_PATH

Value: The directory path from which the Airgap Server will retrieve the patches you've transferred from the open network (the Airgap Collector) to your closed network. For example:

c:\program files (x86)\novell\zenworks\zpm\airgap\cdn

or

/opt/novell/zenworks/zpm/airgap.

2f Click **OK** to save the list.

3 Start the Subscription Service:

3a Click **Configuration > Patch Management** (in the **Management Zone Settings** panel) > **Subscription Service Settings** to display the Subscription Service Settings page.

The screenshot shows the 'Subscription Service Settings' page in the ZENworks console. The page has a breadcrumb trail: 'Configuration > Subscription Service Settings'. Below the breadcrumb is a tabbed interface with the 'Subscription Service Settings' tab selected. The tab title is 'Subscription Service Settings' and the subtitle is 'ZPM server with any HTTP proxy and 3rd party subscription settings'. The main content area is divided into three sections: 1. 'Subscription Service Settings' (expandable): Contains 'Start the Subscription Service' (a dropdown menu with 'Select One' and a 'Start Service' button), 'Last Subscription Poll', 'Subscription Replication Status', 'Subscription Host', 'Subscription Communication Interval(Every Day at)' (a dropdown menu with '00:00' and an 'Update Now' button), and two buttons at the bottom: 'Reset ZENworks Patch Management Settings' and 'Reset Subscription Service'. 2. 'HTTP Proxy Server Details' (expandable): Contains 'Proxy Host', 'Port', and 'Http Credential' (with a search icon and a red 'X' icon). 3. 'Patch Subscription Credentials' (expandable): Contains 'RedHat Network Credentials' and 'SUSE Network Credentials' (both with search icons and red 'X' icons). At the bottom of the page are four buttons: 'OK', 'Apply', 'Reset', and 'Cancel'.

3b In the **Start the Subscription Service** list, select the ZENworks Primary Server, then click **Start Service** to start the subscription service on the Primary Server.

3c Click **OK** to exit the Subscription Service Settings page.

5 Transferring Patches from the Open Zone to the Closed Zone

To transfer patches from the open zone to the closed zone:

- 1 On the Airgap Collector in the open zone:
 - 1a (Optional) Make sure you have the latest patches. To do so, click **Configuration > Patch Management** (in the **Management Zone Settings** panel) > **Subscription Service Settings** to display the Subscription Service Settings page. Click the **Update Now** button to initiate an immediate request for patches from the subscription service.

Patches are updated daily at the time specified in the Subscription Service Settings. You only need to manually update if you want to ensure that you have any patches that might have been released since your last scheduled update. Use the Patch Management Dashboard (**Patch Management > Dashboard** tab) to monitor the status of the patch update.
 - 1b Cache all patches that you want to copy. To do so, click **Patch Management > Patches** to display the patch list. Select the patches you want to cache, click **Actions > Update Cache**.

If you chose not to mirror your closed zone's devices in your open zone (see [Section 3.1, "Mirroring the Closed Zone's Managed Devices," on page 2](#)), the **Patches** list does not display any applicable patches. In this case, deselect the **Not Patched** option in the Search box and click **Search** to display all available patches. Use this list to select the patches you want to cache. You will also need to do this if you mirrored some but not all of your closed zone's devices.
 - 1c After caching of the selected patches is complete, copy all contents (files and folders) from the following folder to your portable media:

Windows Airgap Server: c:\program files (x86)\novell\zenworks\zpm\airgap

Linux Airgap Server: /opt/novell/zenworks/zpm/airgap
- 2 On the Airgap Server in the closed zone, copy the patch content from the portable media to the Airgap directory you specified with the `PATCH_AIRGAP_PATH` variable when setting up the Airgap Server (see [Step 2e on page 8](#)).

If you have previously copied patch content to the Airgap Server, do not remove that content. Add the new patch content to the existing content.
- 3 Log in to ZENworks Control Center for the Airgap Server zone (in your closed network).
- 4 Click **Configuration > Patch Management** (in the **Management Zone Settings** panel) > **Subscription Service Settings > Update Now** to initiate an immediate patch content update.

The subscription service request will take some time to process. You can use the Patch Management Dashboard (**Patch Management > Dashboard** tab) to monitor the request status.
- 5 After the subscription service request completes, go to the Patches tab (**Patch Management > Patches** tab) to check the device status for each patch.
- 6 Deploy the patches. If necessary, see the [ZENworks 11 SP4 Patch Management Reference](#).

6 Legal Notices

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7 Third-Party Material

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