Installation Guide

Novell®
ZENworks® 10 Asset Management SP3

10.3

November 17, 2011

www.novell.com

Contents

About This Guide

This *ZENworks 10 Installation Guide* includes information to help you successfully install a Novell ZENworks 10 Asset Management SP3 system.

ZENworks 10 Asset Management SP3 is also available as a software appliance that can be deployed to the supported virtual infrastructure. This software appliance is built on the customized SUSE Linux Enterprise Server 10 SP2 (SLES 10 SP2) and is pre-installed with ZENworks 10 Asset Management SP3 Server and ZENworks 10 Asset Management SP3 ZENworks Reporting Server.

For more information on how to deploy and manage ZENworks Appliance, see the *ZENworks 10 Asset Management Appliance Deployment and Administration Reference*.

The information in this guide is organized as follows:

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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.

Additional Documentation

ZENworks 10 Asset Management is supported by other documentation (in both PDF and HTML formats) that you can use to learn about and implement the product. For additional documentation, see the ZENworks 10 Asset Management documentation (http://www.novell.com/documentation/zam10/).

System Requirements

<div style="text-align: right; font-size: 3em;">1</div>

The following sections provide the Novell ZENworks 10 Asset Management SP3 requirements for hardware and software:

1.1 Primary Server Requirements

The server where you install the Primary Server software must meet the following requirements:

Table 1-1 *Primary Server Requirements*

Item	Requirements	Additional Details
Server Usage	Your server might be capable of handling tasks in addition to the tasks a Primary Server performs for ZENworks 10 Asset Management. However, we recommend that any server where you install the Primary Server software be used only for ZENworks 10 Asset Management purposes.	For example, you might not want the server to do the following: ◆ Host Novell eDirectory ◆ Host Novell Client32 ◆ Host Active Directory ◆ Be a terminal server

Item	Requirements	Additional Details
Operating System	Windows: ◆ Windows Server 2003 SP1 / SP2 x86, x86-64 (Enterprise and Standard editions) ◆ Windows Server 2008 SP1 / SP2 x86, x86-64 (Enterprise and Standard editions) ◆ Windows Server 2008 R2 x86-64 (Enterprise and Standard editions) ◆ Windows Server 2003 R2 SP2 x86, x86-64 (Enterprise and Standard editions) Linux: ◆ SUSE Linux Enterprise Server 10 (SLES 10) SP1 / SP2 / SP3 x86, x86-64 (Intel and AMD Opteron processors) ◆ Open Enterprise Server 2 (OES 2) SP1 / SP2 x86, x86-64 ◆ SLES 11 x86, x86-64 (Intel and AMD Opteron processors)	All the Core and Data Center Editions of Windows Server 2003 and Windows Server 2008 are not supported as Primary Server platforms. Windows Server 2008 Core is not supported because it does not support the .NET Framework. ZENworks 10 Configuration Management is supported on Windows Server 2003 and Windows Server 2008 editions with or without Hyper-V. **IMPORTANT:** If you want to install ZENworks Reporting Server on a Primary Server, you must install it either on SLES 10, OES 2, Windows Server 2003, or Windows Server 2008 platforms. ZENworks Reporting Server is currently not supported on SLES 11 and Windows Server 2008 R2. For more information, see TID 7004794 at Novell Support web site (http://www.novell.com/support/microsites/microsite.do).
Operating System additionally supported in Update for ZENworks 10 Configuration Management SP3 (10.3.1)	◆ SLES 11 SP1 x86, x86-64 (Intel and AMD Opteron processors)	
Operating System additionally supported in Update for ZENworks 10 Configuration Management SP3 (10.3.3)	Open Enterprise Server 2 (OES 2) SP3	
Hardware	**Processor:** Minimum - Pentium IV 2.8 GHz (x86 and x86-64), or equivalent AMD or Intel processor If the Primary Server is running Patch Management, we recommend a fast processor, such as the Intel Core Duo processor	
	RAM: 2 GB minimum; 4 GB recommended	

Item	Requirements	Additional Details
	Disk Space: 3 GB minimum for installing; 4 GB recommended for running. Depending on the amount of content you need to distribute, this number can vary greatly. Patch Management file storage (downloaded patch content) requires at least 25 GB of additional free disk space. All content replication servers also require this same amount of additional free disk space if Patch Management is enabled. If you use Patch Management in additional languages, each server also requires this additional amount of free space for each language used.	Because the ZENworks database file and ZENworks content repository can each become very large, you might want a separate partition or hard drive available. For Linux servers, you might want the `/var/opt` directory to be located on a large partition. This is where the database (if embedded) and content repository are stored. For Linux servers, you might want the `/opt/novell` directory to be located on a large partition. This is where the ZENworks Installables are stored and it is likely that the content in this directory might increase in size after each upgrade, until the Managed Zone is baselined.
	Display resolution: 1024 × 768 with 256 colors minimum	
Hostname Resolution	The servers and workstations in the Management Zone must resolve device hostnames by using properly configured DNS, otherwise some features in ZENworks will not work properly. If the DNS is not properly configured, the servers cannot communicate with each other, and the workstations cannot communicate with the servers. Server names must support DNS requirements, such as not having underscores in their names, or ZENworks login fails. Acceptable characters are the letters a-z (uppercase and lowercase), numbers, and the hyphen (-).	
IP Address	◆ The server must have a static IP address or a permanently leased DHCP address. ◆ An IP address must be bound to all NICs on your target server.	Installation hangs if it is trying to use a NIC that does not have an IP address bound to it.

Item	Requirements	Additional Details
Microsoft .NET (Only for Windows)	The Microsoft .NET 2.0 software and its latest updates must be installed and running on the Windows Primary Server in order to install ZENworks 10 Asset Management.	You are given the option to launch the .NET installation during installation of ZENworks. If you select the option, .NET 2.0 is installed. For better performance and stability, you should upgrade to the latest support packs and patches of .NET 2.0 through Windows Automatic Updates or Patch Management on the agent. NET 2.0 SP2 is the latest version supported by Microsoft on Windows Server 2003 and Windows Server 2008. On Windows Server 2003, you can directly download and install .NET 2.0 SP2 or upgrade to .NET 3.5 SP1, which includes .NET 2.0 SP2. On Windows Server 2008, you must upgrade to .NET 3.5 SP1 to get the .NET 2.0 SP2 update installed.

Mono (Only for SLES 11)	♦ Mono 2.0.1-1.17 must be installed on the SLES 11 Primary Servers.
	♦ The following RPM packages must be installed on the Linux Primary Servers:
	
	`libgdiplus0`
	`mono-core`
		You can choose to either install Mono during the installation of ZENworks or download the recommended Mono version and the RPM packages from the Mono Download Web site (http://www.go-mono.com/mono-downloads/download.html).

Item	Requirements	Additional Details
Firewall Settings: TCP Ports	80 and 443	Port 80 is for Tomcat non-secure port.
		Port 443 is for Tomcat secure port. It is also used by default to download system updates from NCC and to download Product Recognition Update (PRU).
		Primary Server downloads patch license related information and checksum data over HTTPS (port 443), and the actual patch content files over HTTP (port 80). ZENworks Patch Management license information is obtained from the Lumension licensing server (http://novell.patchlink.com), the patch content and checksum data is retrieved from an AKAMAI hosted content distribution network (novell.cdn.lumension.com). You must make sure that the firewall rules allow outbound connections to these addresses because the patch content distribution network is a large fault tolerant network of cache servers.
		Port 443 is also used for CASA authentication. Opening this port allows ZENworks Asset Management to manage devices outside of the firewall. It is a good practice to make sure that the network is configured to always allow communication on this port between the ZENworks Server and ZENworks Agents on managed devices.
		If other services are running on ports 80 and 443, such as Apache, or are used by OES2, the installation program asks you for new ports to use.
		IMPORTANT: If you plan to use AdminStudio 9.0 ZENworks Edition, it requires that the Primary Server is using ports 80 and 443.
	2645	Used for CASA authentication. Opening this port allows ZENworks Asset Management to manage devices outside of the firewall. It is a good practice to make sure that the network is configured to always allow communication on this port between the ZENworks Server and ZENworks Agents on managed devices.

Item	Requirements	Additional Details
	5550	Used by Remote Management Listener by default.You can change this port in the Remote Management Listener dialog box in ZENworks Control Center.
		Remote Management is used only with ZENworks Configuration Management.
	5750	Used by Remote Management proxy.
		Remote Management is used only with ZENworks Configuration Management.
	5950	Used by Remote Management service by default. You can change this port in the Remote Management Settings panel of the Remote Management Configuration page in ZENworks Control Center.
		Remote Management is used only with ZENworks Configuration Management.
	7628	Used by the Adaptive Agent for Quick Tasks.
	8005	Used by Tomcat to listen to shutdown requests. This is a local port, and cannot be accessed remotely.
	8009	Used by Tomcat AJP connector.
Firewall Settings: UDP Ports	67	Used by proxy DHCP when it is not running on the same device as the DHCP server.
	69	Used by the Imaging TFTP, but will not work across firewall because it opens random UDP port for each PXE device.
		The Imaging TFTP is used only with ZENworks Configuration Management.
	997	Used by the Imaging Server for multicasting.
		The Imaging Server is used only with ZENworks Configuration Management.
	4011	Used for proxy DHCP when it is running on the same device as the DHCP server. Make sure that the firewall is configured to allow the broadcast traffic to the proxy DHCP service.

Item	Requirements	Additional Details
	13331	Used by the zmgpreboot policy, but will not work across firewall because it opens random UDP port for each PXE device.
		The zmgpreboot policy is used only with ZENworks Configuration Management.
Virtual Machine Environments	ZENworks Asset Management server software can be installed in the following virtual machine environments: ◆ VMware Workstation ◆ Microsoft Virtual Server ◆ XEN (Novell SLES 10 and Citrix XenServer) ◆ VMware ESX ◆ Windows 2008 Hyper Visor	When using a SLES 10 32-bit guest OS on VMware ESX 3.5, do not use the VMI kernel. For more information, see TID 7002789 in the Novell Support Knowledgebase (http://support.novell.com/search/kb_index.jsp). For more information on Primary Servers running on ESX, see "Tasks to be performed on VMware ESX" on page 65

NOTE: If a Primary Server is behind a NAT firewall, the devices on the Internet or public network cannot communicate with it. To resolve the issue, you must configure additional IP addresses or DNS names for the Primary Server through ZENworks Control Center. For more information on how to configure additional access to a Primary Server, see "Configuring Additional Access to a ZENworks Server" in the *ZENworks 10 Asset Management System Administration Reference*.

1.2 Satellite Requirements

A satellite is a device that can perform certain roles that a ZENworks Primary Server normally performs. A satellite can be a managed device (Windows) or an unmanaged device (Linux) that has the ZENworks Adaptive Agent installed on it.

The following sections contain more information:

1.2.1 Windows Device Performing Satellite Roles

In addition to their usual functions, Windows devices can be used as satellites. Make sure that when you use these managed devices for satellites, they are capable of performing the satellite functions.

A Windows device performing satellite roles must meet the minimum requirements of a Windows managed device listed in Section 1.6, "Managed Device Requirements," on page 24 with the following exceptions:

- Windows Embedded XP is not a supported workstation operating system for Satellite devices.
- Satellite devices require additional TCP and UDP ports to be open.

The following table lists the additional TCP and UDP ports that must be open on a Satellite device:

Table 1-2 *Additional Ports Required for a Managed Device Performing Satellite Roles*

Item	Requirements	Additional Details
Firewall Settings: TCP Ports	80	If you plan to use AdminStudio 9.0 ZENworks Edition, it requires that the Primary Server is using port 80.
	443	Port 443 is used for CASA authentication. Opening this port allows ZENworks Asset Management to manage devices outside of the firewall. It is a good practice to make sure that the network is configured to always allow communication on this port between the ZENworks Server and ZENworks Agents on managed devices.
	998	Used by Preboot Server. The Preboot Server is used only with ZENworks Configuration Management.
Firewall Settings: UDP Ports	67	Used by proxy DHCP when it is not running on the same device as the DHCP server.
	69	Used by the Imaging TFTP, but will not work across firewall because it opens random UDP port for each PXE device. The Imaging TFTP is used only with ZENworks Configuration Management.
	997	Used by the Imaging Server for multicasting. The Imaging Server is used only with ZENworks Configuration Management.
	4011	Used for proxy DHCP when it is running on the same device as the DHCP server. Make sure that the firewall is configured to allow the broadcast traffic to the proxy DHCP service.
	13331	Used by the zmgpreboot policy, but will not work across firewall because it opens random UDP port for each PXE device. The zmgpreboot policy is used only with ZENworks Configuration Management.

1.2.2 Linux Device Performing Satellite Roles

Currently, ZENworks Asset Management lets you manage Windows devices only. However, you can use an unmanaged Linux device to perform satellite roles.

The Linux device performing satellite roles must meet the following requirements:

Table 1-3 *Linux Device Performing Satellite Roles Requirements*

Item	Requirements	Additional Details
Operating System: Servers	◆ SLES 10 SP1 / SP2 / SP3 x86, x86-64 (Intel and AMD Opteron processors) ◆ OES 2 SP1 / SP2 / SP3 x86, x86-64 ◆ SLES 11 x86, x86-64 (Intel and AMD Opteron processors)	
Operating System: Workstations	◆ SUSE Linux Enterprise Desktop 10 (SLED 10) SP1 / SP2 x86, x86-64 ◆ SLED 11 x86, x86-64	
Operating Systems additionally supported in Update for ZENworks 10 Configuration Management SP3 (10.3.1)	Servers: ◆ SLES 11 SP1 x86, x86-64 (Intel and AMD Opteron processors) Workstations: ◆ SLED 11 SP1 x86, x86-64	
Hardware	◆ **Processor:** Minimum - Pentium IV 2.8 GHz 32-bit (x86) and 64-bit (x86-64), or equivalent AMD or Intel processor ◆ **RAM:** 512 MB minimum; 2 GB recommended ◆ **Disk Space:** 128 MB minimum for installing; 4 GB recommended for running. Depending on the amount of content you need to distribute, this number can vary greatly. ◆ **Display resolution:** 1024 × 768 with 256 colors minimum	
Hostname Resolution	◆ The server must resolve device hostnames by using a method such as DNS (recommended). ◆ Server names must support DNS requirements, such as not having underscores in their names, or ZENworks login fails. Acceptable characters are the letters a-z (uppercase and lowercase), numbers, and the hyphen (-). If you use DNS, it must be properly set up, or some features in ZENworks might not work.	

Item	Requirements	Additional Details
IP Address	◆ The server must have a static IP address or a permanently leased DHCP address. ◆ An IP address must be bound to all NICs on your target server.	The agent installation hangs if it is trying to use a NIC that does not have an IP address bound to it
TCP Ports	80	80 is for Tomcat non-secure port. If the server is running other services on ports 80 and 443, such as Apache, or are used by OES2, the installation program asks you for new ports to use.
	998	Used by Preboot Server. The Preboot Server is used only with ZENworks Configuration Management.
	7628	Used by the Adaptive Agent.
	8005	Used by Tomcat to listen to shutdown requests. This is a local port, and cannot be accessed remotely.
	8009	Used by Tomcat AJP connector.
UDP Ports	67	Used by proxy DHCP when it is not running on the same device as the DHCP server.
	69	Used by the Imaging TFTP, but will not work across firewall because it opens random UDP port for each PXE device. The Imaging TFTP is used only with ZENworks Configuration Management.
	997	Used by the Imaging Server for multicasting. The Imaging Server is used only with ZENworks Configuration Management.
	4011	Used for proxy DHCP when it is running on the same device as the DHCP server. Make sure that the firewall is configured to allow the broadcast traffic to the proxy DHCP service.

Item	Requirements	Additional Details
	13331	Used by the zmgpreboot policy, but will not work across firewall because it opens random UDP port for each PXE device. The zmgpreboot policy is used only with ZENworks Configuration Management.
Virtual Machine Environments	ZENworks Asset Management server software can be installed in the following virtual machine environments: ◆ VMware Workstation ◆ Microsoft Virtual Server ◆ XEN (Novell SLES 10 and Citrix XenServer) ◆ VMware ESX ◆ Windows 2008 Hyper Visor	

1.3 Management Zone Version Requirements

If you are installing another Primary Server into an existing Management Zone, the product version of the installation media must be compatible with the product version of the Management Zone. For example:

Table 1-4   Management Zone Version Compatibilities with Installation Media Versions

Management Zone Product Version	Compatible Installation Media	Incompatible Installation Media
10.0.0: ZENworks 10 Asset Management (initial release, electronic-only). The version is established by installing the first server in the Management Zone.	ZENworks 10 Asset Management (10.0.0: initial release, electronic-only).	◆ Any version of the product that is newer than the Management Zone's version.
10.0.1: ZENworks 10 Asset Management (media and electronic release). The version is established by installing the first server in the Management Zone.	ZENworks 10 Asset Management (10.0.1: media and electronic release). or To perform an update from version 10.0.0, see TID 3407754 in the Novell Support Knowledgebase (http://support.novell.com/search/kb_index.jsp).	◆ ZENworks 10 Asset Management (10.0.0: initial release, electronic-only). ◆ Any version of the product that is newer than the Management Zone's version.

Management Zone Product Version	Compatible Installation Media	Incompatible Installation Media
10.0.2: Update for ZENworks 10 Asset Management. The version is established by updating the ZENworks database in the Management Zone to version 10.0.2 using the System Update feature in ZENworks Control Center. This is done by the Primary Server that performs the update task. For more information on System Updates, see "Introduction to ZENworks System Updates" in the *ZENworks 10 Asset Management System Administration Reference*.	ZENworks 10 Asset Management (10.0.1: media and electronic release). The newly installed server is automatically updated to version 10.0.2 under one of the following conditions: ◆ If only part of the zone has been updated, after the new server is installed it is automatically updated when the update moves to the remaining devices in the zone. ◆ If the configured update stages have all been completed, the new server is automatically updated after it is installed. ◆ If you have selected to bypass staging, the new server is automatically updated after it is installed.	◆ ZENworks 10 Asset Management (10.0.0: initial release, electronic-only). ◆ Any version of the product that is newer than the Management Zone's version.

Management Zone Product Version	Compatible Installation Media	Incompatible Installation Media
10.0.3: Update for ZENworks 10 Asset Management. The version is established by updating the ZENworks database in the Management Zone to version 10.0.3 by installing from the new installation media or by using the System Update feature. For more information on System Updates, see "Introduction to ZENworks System Updates" in the *ZENworks 10 Asset Management System Administration Reference*.	ZENworks 10 Asset Management update (10.0.3: media and electronic release). The newly installed server is automatically updated to version 10.0.3 under one of the following conditions: ◆ If only part of the zone has been updated, after the new server is installed it is automatically updated when the update moves to the remaining devices in the zone. ◆ If the configured update stages have all been completed, the new server is automatically updated after it is installed. ◆ If you have selected to bypass staging, the new server is automatically updated after it is installed. If you try to use the install from a previous version's media (prior to version 10.0.3), authentication to the zone fails and you receive the following error message: `The credentials you entered cannot be validated on the specified primary server. Please verify your server address and credentials, and/or network connectivity and try again.`	◆ ZENworks 10 Asset Management (10.0.0: initial release, electronic only). ◆ ZENworks 10 Asset Management (10.0.1: initial media release). ◆ Any version of the product that is newer than the Management Zone's version.
10.1.x	ZENworks 10 Asset Management (10.1.0).	ZENworks 10 Asset Management (10.0.x).
10.2.x	ZENworks 10 Asset Management (10.2.0 / 10.1.0).	ZENworks 10 Asset Management (10.0.x).
10.3.x	ZENworks 10 Asset Management (10.3.0 / 10.2.0).	ZENworks 10 Asset Management (10.1.0 / 10.0.x).

1.4 Database Requirements

If you choose to use a database for the ZENworks database other than the embedded Sybase SQL Anywhere database that is available as the default for ZENworks 10 Asset Management, the other database must meet the following requirements:

Table 1-5 *Database Requirements*

Item	Requirement
Database Version	Sybase SQL Anywhere 10.0.1; Sybase SQL Anywhere 10.0.1.3519 or later for ZENworks Reporting Server
	Microsoft SQL Server 2005 (Enterprise and Standard editions are supported)
	Oracle 10g Standard Release 2 - 10.2.0.1.0, 10.2.0.2, 10.2.0.4
TCP ports	The server must allow Primary Server communication on the database port. For MS SQL, make sure to configure static ports for the database server.
	The default ports are:
	◆ 1433 for MS SQL
	◆ 2638 for Sybase SQL
	◆ 1521 for Oracle
	IMPORTANT: You can change the default port number if you have a conflict. However, you must make sure that the port is opened for the Primary Server to talk to the database.
WAN consideration	Primary Servers and the ZENworks database must reside on the same network segment. Primary Servers cannot write across a WAN to the ZENworks database.
Default Character Set	For Sybase, the UTF-8 character set is required.
	For MS SQL, ZENworks Configuration Management does not require any specific character set. ZENworks Configuration Management supports all character sets supported by MS SQL.
	For Oracle, the NLS_CHARACTERSET parameter must be set to AL32UTF8 and the NLS_NCHAR_CHARACTERSET parameter must be set to AL16UTF16.
Collation	ZENworks 10 Configuration Management is not supported with a case-sensitive instance of the MS SQL database. Hence, you must make sure that the database is case insensitive before setting it up.
Database User	Make sure that there is no restriction for the ZENworks database user to connect to a remote database.
	For example, if the ZENworks database user is an Active Directory user, make sure that the Active Directory policies allow the user to connect to a remote database.

Item	Requirement
Database Settings	For MS SQL, set the READ_COMMITTED_SNAPSHOT setting to ON so that it allows read access to information in the database while data is being written or modified.
	To set the READ_COMMITTED_SNAPSHOT setting to ON, execute the following command at the database server prompt:
	`ALTER DATABASE database_name SET READ_COMMITTED_SNAPSHOT ON;`
	NOTE: You must adhere to the following guidelines to configure the database settings:
	◆ Before configuring the database settings, stop all the ZENworks Services on all the ZENworks Servers.
	◆ After configuring the settings, start all the ZENworks Services on all the ZENworks Servers.
	For detailed information on how to stop and start the ZENworks Services, see "ZENworks Server" in the *ZENworks 10 Asset Management System Administration Reference*.

1.5 LDAP Directory Requirements

ZENworks 10 Asset Management can reference existing user sources (directories) for user-related tasks such as . LDAP (Lightweight Directory Access Protocol) is the protocol used by ZENworks with respect to interacting with users.

Table 1-6 *LDAP Directory Requirements*

Item	Requirements
LDAP version	LDAP v3
	OPENLDAP is not supported. However, if you have eDirectory installed on a SUSE Linux server, you can use that as a user source. LDAP v3 can be used to access eDirectory on the Linux server using the alternate ports that you specified for eDirectory when installing it (because OPENLDAP might have been using the default ports).
Authoritative user source	◆ Novell eDirectory 8.7.3 or 8.8 (on all supported platforms)
	If you use eDirectory as the user source, make sure that no two eDirectory users have the same username and password. Even if the usernames are same, make sure that the passwords are different.
	◆ Microsoft Active Directory (as shipped with Windows 2000 SP4 or later)
	◆ Domain Services for Windows (DSfW)
LDAP user access	ZENworks requires only read access to the LDAP directory. For more information, see "Connecting to User Sources" in the *ZENworks 10 Asset Management Administration Quick Start*.

1.6 Managed Device Requirements

The ZENworks Adaptive Agent is the management software that is installed on all managed devices, including Primary Servers. Currently, Windows devices can be managed, but Linux devices cannot. However, when you install the Primary Server software on a Linux server, a portion of the Adaptive Agent is activated so that the System Updates feature can be used on your Linux Primary Servers.

Managed devices can be used as Satellites. If you want to use a managed device as satellite, then in addition to the requirements listed in this section, make sure that the device is capable of performing the satellite functions and meets the requirements listed in Section 1.2, "Satellite Requirements," on page 15.

ZENworks 10 Asset Management can manage any workstations and servers that meet the following requirements:

Table 1-7 *Managed Device Requirements*

Item	Requirements	Additional Details
Operating System: Windows Servers	◆ Windows 2000 Server SP4 ◆ Windows Server 2003 SP1 / SP2 x86, x86-64 (Enterprise and Standard editions) ◆ Windows Server 2008 SP1 / SP2 x86, x86-64 (Enterprise and Standard editions) ◆ Windows Server 2008 R2 (Enterprise and Standard editions)	All the Core Editions of Windows Server 2003 and Windows Server 2008 are not supported as a managed device platform because they do not support the .NET Framework. ZENworks 10 Configuration Management is supported on Windows Server 2003 and Windows Server 2008 editions with or without Hyper-V.
Operating System: Windows Workstations	◆ Windows 2000 Professional SP4 x86 ◆ Embedded XP SP2 / SP3 ◆ Windows Vista SP1 / SP2 x86, x86-64 (Business, Ultimate, and Enterprise versions only; Home versions are not supported) ◆ Embedded Vista SP1 / SP2 ◆ Windows XP Professional SP2 / SP3 x86 ◆ Windows XP Tablet PC Edition SP3 x86 ◆ Windows 7 x86, x86-64 (Professional, Ultimate, and Enterprise editions)	A managed device name must not exceed 32 characters. If a device name exceeds 32 characters, that device is not inventoried. In addition, make sure that the device name is unique so that the device is recognized appropriately in the inventory reports.

Item	Requirements	Additional Details
Operating Systems additionally supported in Update for ZENworks 10 Asset Management (10.3.3)	◆ Windows 7 SP1 x86, x86-64 (Professional, Ultimate, and Enterprise editions) ◆ Windows Server 2008 R2 SP1 (Enterprise and Standard editions)	
Operating System: Thin Client sessions	◆ Windows 2000 Server SP4 x86 ◆ Windows Server 2003 SP1 / SP2 x86, x86-64 (Enterprise and Standard editions) ◆ Windows Server 2008 SP1 / SP2 x86, x86-64 (Enterprise and Standard editions) ◆ Windows Server 2008 R2 (Enterprise and Standard editions) ◆ Citrix XenApp MetaFrame XP ◆ Citrix XenApp 4.5 ◆ Citrix XenApp 5.0 ◆ Windows Server 2008 R2 SP1 (Enterprise and Standard editions) is additionally supported in Update for ZENworks 10 Asset Management (10.3.3) or later	Windows Server 2008 Core is not supported as a managed device platform because the .NET Framework is not supported on Windows Server 2008 Core.
Hardware	The following are minimum hardware requirements. Use these requirements or the hardware requirements provided with your operating system, whichever is greater. ◆ Processor: Pentium III 700 MHz, or equivalent AMD or Intel ◆ RAM: 256 MB minimum; 512 MB recommended ◆ Display resolution: 1024 × 768 with 256 colors	

Item	Requirements	Additional Details
Automatic ZENworks Adaptive Agent Deployment	In order to automatically deploy the Adaptive Agent to your managed devices, the following are required: ◆ Your firewall must allow file and print sharing ◆ On Windows XP devices, Simple File Sharing must be turned off ◆ Administrator credentials must be known for the devices in order to install to them ◆ The date and time on the managed devices and ZENworks Server must be synchronized ◆ The *File and Printer Sharing for Microsoft Networks* option must be enabled	For detailed information about the prerequisites, see "Prerequisites for Deploying to a Device" in the *ZENworks 10 Discovery, Deployment, and Retirement Reference*.
Microsoft .NET	The Microsoft .NET 2.0 software and its latest updates must be installed and running on the managed device in order to install ZENworks 10 Asset Management.	You are given the option to launch the .NET installation during installation of ZENworks. If you select the option, .NET 2.0 is installed. For better performance and stability, you should upgrade to the latest support packs and patches of .NET 2.0 through Windows Automatic Updates or Patch Management on the agent. .NET 2.0 SP1 is the latest version supported by Microsoft on Windows 2000. .NET 2.0 SP2 is the latest version of .NET 2.0 supported by Microsoft on Windows XP, Windows Server 2003, Windows Server 2008, and Windows Vista. On Windows XP and Windows Server 2003, you can directly download and install .NET 2.0 SP2 or upgrade to .NET 3.5 SP1, which includes .NET 2.0 SP2. On Windows Vista and Windows Server 2008, you must upgrade to .NET 3.5 SP1 to get the .NET 2.0 SP2 update installed.
TCP Ports	7628	In order to view the status in ZENworks Control Center of the ZENworks Adaptive Agent for a managed device, ZENworks automatically opens port 7628 on the device if you are using the Windows firewall. However, if you are using a different firewall, you must open this port manually. Port 7628 must also be opened on the device if you want to send a QuickTask to the client from ZENworks Control Center.

Item	Requirements	Additional Details
	5950	For Remote Management where the ZENworks Adaptive Agent is running, the device listens on port 5950.
		You can change the port in ZENworks Control Center (*Configuration* tab >*Management Zone Settings* > *Device Management* > *Remote Management*).
		Remote Management is used only with ZENworks Configuration Management.
Virtual Machine Environments	ZENworks managed device software can be installed in the following virtual machine environments: ◆ VMware Workstation ◆ Microsoft Virtual Server ◆ XEN (Novell SLES 10 and Citrix XenServer) ◆ VMware ESX ◆ Windows 2008 Hyper Visor	

NOTE: If you choose to use Novell Client on the managed device, the following versions of the Novell Client has been tested with ZENworks:

◆ Novell Client 4.91 SP4 or higher (On Windows XP / Windows 2000 Server)

◆ Novell Client 2 or higher (On Windows Vista or Windows Server 2008)

◆ Novell Client 2 SP1 or higher (On Windows 7)

1.7 Inventoried-Only Device Requirements

You can use ZENworks 10 Asset Management to inventory workstations and servers that cannot be managed by the ZENworks Adaptive Agent. These inventoried-only devices must meet the following requirements:

Table 1-8 *Inventoried-Only Device Requirements*

Item	Requirements
Operating System: Servers	◆ AIX 5.1-6.1 IBM pSeries (RS6000) ◆ HP-UX 10.20-11.23 HP PA-RISC (HP9000) ◆ NetWare 5.1, 6, 6.5[1] ◆ OES 2 SP1 / SP2 x86, x86-64 ◆ Red Hat Enterprise Linux 2.1-4.*x* ◆ Solaris 2.6–10 Sun SPARC (32 and 64-bit) ◆ SLES 8.0-11 (all editions) ◆ Windows 2000 Server SP4 x86 ◆ Windows Server 2003 SP1 / SP2 x86, x86-64 (Enterprise and Standard editions) ◆ Windows Server 2008 SP1 / SP2 x86, x86-64 (Enterprise and Standard editions) ◆ Windows Server 2008 R2 (Enterprise and Standard editions)
Operating System: Workstations	◆ Mac OS X 10.2.4 or later ◆ Red Hat Linux 7.1-9 ◆ SLED 8.0-11 (all editions) ◆ Windows 2000 Professional SP4 x86 ◆ Embedded XP SP2 / SP3 ◆ Windows Vista SP1 / SP2 x86, x86-64 (Business, Ultimate, and Enterprise versions only; Home versions are not supported) ◆ Embedded Vista SP1 / SP2 ◆ Windows XP Professional SP2 / SP3 x86 ◆ Windows XP Tablet PC Edition SP3 x86 ◆ Windows 7 x86, x86-64 (Professional, Ultimate, and Enterprise editions)
Operating System: Sessions	Thin Client sessions: ◆ Windows 2000 Server SP4 x86 ◆ Windows Server 2003 SP2 x86, x86-64 ◆ Citrix XenApp MetaFrame XP ◆ Citrix XenApp 4.5 ◆ Citrix XenApp 5.0

Item	Requirements
Inventory Only Module	After installing ZENworks 10 Asset Management to your network, you must install this module on the above-listed devices to inventory them. For more information, see "Deploying the Inventory-Only Module" in the *ZENworks 10 Discovery, Deployment, and Retirement Reference*.
Hardware: Disk Space	The Inventory-Only module requires the following minimum disk space: ◆ AIX: 4 MB ◆ Solaris: 4 MB ◆ Linux: 900 KB ◆ HP-UX: 900 KB ◆ Windows: 15 MB ◆ Mac OS: 8 MB ◆ NetWare: 30 MB
System Libraries: AIX	The following system libraries are required on AIX devices: ◆ /unix ◆ /usr/lib/libc.a (shr.o) ◆ /usr/lib/libc.a (pse.o) ◆ /usr/lib/libpthread.a (shr_xpg5.o) ◆ /usr/lib/libpthread.a (shr_comm.o) ◆ /usr/lib/libpthreads.a (shr_comm.o) ◆ /usr/lib/libstdc++.a (libstdc++.so.6) ◆ /usr/lib/libgcc_s.a (shr.o) ◆ /usr/lib/libcurl.a (libcurl.so.3) ◆ /usr/lib/libcrypt.a (shr.o)
System Libraries: HP-UX	The following system libraries are required on HP-UX devices: ◆ /usr/lib/libc.1 ◆ /usr/lib/libc.2 ◆ /usr/lib/libdld.1 ◆ /usr/lib/libdld.2 ◆ /usr/lib/libm.2 ◆ /usr/local/lib/libcrypto.sl ◆ /opt/openssl/lib/libcrypto.sl.0 ◆ /opt/openssl/lib/libssl.sl.0 ◆ /usr/local/lib/libiconv.sl ◆ /usr/local/lib/libintl.sl ◆ /usr/local/lib/gcc-lib/hppa1.1-hp-hpux11.00/3.0.2/../../../libidn.sl

1.8 Administration Browser Requirements

Make sure the workstation or server where you run ZENworks Control Center to administer your system meets the following requirements:

Table 1-9 *Administration Browser Requirements*

Item	Requirements
Web Browser	The administration device must have one of the following Web browsers installed:
	◆ Internet Explorer 7 on Windows Vista, Windows Server 2003, Windows XP, and Windows Server 2008
	◆ Internet Explorer 8 on Windows Vista, Windows 7, Windows Server 2003, Windows XP, Windows Server 2008, and Windows Server 2008 R2
	◆ Internet Explorer 9 on Windows Vista, Windows 7, Windows Server 2008, and Windows Server 2008 R2
	◆ Firefox version 3.0.10 or the later patches of version 3.0 on Windows and Linux devices
	◆ Firefox version 3.5 or the later patches of version 3.5 Windows and Linux devices
	◆ Firefox version 3.6.6 or the later patches of version 3.6 Windows and Linux devices
	◆ Firefox version 5.0 or the later patches of version 5.0 Windows and Linux devices
	◆ Firefox version 6.0 or the later patches of version 6.0 Windows and Linux devices
	◆ Firefox version 7.0 or the later patches of version 7.0 Windows and Linux devices
JRE 5.0	In order to run Image Explorer, version 1.5 of the Java Virtual Machine (JVM) must be installed and running on the administration device.
TCP Ports	In order to fulfill a user's request for a remote session on a managed device, you must open port 5550 on the management console device in order to run Remote Management Listener.

1.9 Installation User Requirements

The user running the installation program must have administrator privileges on the device. For example:

- ◆ **Windows:** Log in as a Windows administrator.
- ◆ **Linux:** If you log in as a non-root user, use the su command to elevate your privileges to root, then run the installation program.

Coexistence with Other ZENworks Products

2

If your environment includes other ZENworks products, please refer to the following sections for coexistence information you should be aware of before installing ZENworks 10 SP3:

2.1 ZENworks Desktop Management

The following information applies to ZENworks 10 SP3 coexistence with ZENworks 7.*x* Desktop Management (ZDM 7). ZENworks 10 does not coexist with ZENworks for Desktops 4.*x* or ZENworks 6.5 Desktop Management.

- **Server Coexistence:** The ZENworks 10 Server cannot coexist with the ZDM 7 Server or Agent. Do not install a ZENworks 10 Server on any network server that already has a ZDM 7 Server or Agent installed.

- **Agent Coexistence:** There are three issues related to agent coexistence:

  - **Issue 1:** The ZENworks 10 Adaptive Agent can coexist with the ZDM 7 Agent if Asset Management is the only ZENworks 10 Adaptive Agent feature installed.

    The Configuration Management features (Policy Management, Bundle Management, Remote Management, User Management, and Imaging) overlap with ZDM 7 Agent functionality. If you install these features (even to evaluate Configuration Management), the ZDM 7 Agent is automatically uninstalled.

    To summarize, you can use ZDM 7 and ZENworks 10 Asset Management on the same device, but you cannot use ZDM 7 and ZENworks 10 Configuration Management on the same device.

  - **Issue 2:** The ZDM 7 Agent must be installed on a device before the ZENworks 10 Adaptive Agent. Installing the ZDM 7 Agent after the ZENworks 10 Adaptive Agent can have undesirable consequences, including only being able to start Windows in Safe mode until the agents are removed.

  - **Issue 3:** When you install the Adaptive Agent on a ZDM 7 registered device, the ZDM 7 GUID is used to register the device in the ZENworks 10 Management Zone. This provides a migration path for the device if at a future time you decide to move from ZDM 7 to ZENworks 10 Configuration Management.

2.2 ZENworks Asset Management

The following information applies to ZENworks 10 SP3 coexistence with ZENworks 7.5 Asset Management (ZAM 7.5):

- ◆ **Server Coexistence:** There are no known coexistence issues. For performance reasons, however, we recommend that you do not install a ZENworks 10 Server on the same network server as a ZAM 7.5 Server.
- ◆ **Agent Coexistence** Beginning with ZAM 7.5 IR19, the ZENworks 10 Adaptive Agent (including the Inventory-Only Agent) and ZAM 7.5 client can coexist.

2.3 ZENworks Patch Management

The following information applies to ZENworks 10 SP3 coexistence with ZENworks 7.x Patch Management (ZPM 7) and ZENworks Patch Management 6.4 (ZPM 6.4):

- ◆ **Server Coexistence:** There are no known coexistence issues. For performance reasons, however, we recommend that you do not install a ZENworks 10 Server on the same network server as a ZPM 7/ZPM 6.4 Server.
- ◆ **Agent Coexistence:** The ZENworks 10 Adaptive Agent and ZPM 7/ZPM 6.4 Agents can coexist. If you decide to use ZENworks 10 Patch Management instead of ZPM 7/ZPM 6.4, you can remove the ZPM 7/ZPM 6.4 Agent because ZENworks 10 Patch Management uses the ZENworks 10 Adaptive Agent.

2.4 ZENworks Server Management

The following information applies to ZENworks 10 SP3 coexistence with ZENworks 7.x Server Management (ZSM 7) and ZENwork for Servers 3.x (ZfS 3):

- ◆ **Server Coexistence:** There are no known coexistence issues. For performance reasons, however, we recommend that you do not install a ZENworks 10 Server on the same network server as a ZSM 7/ZfS 3 Servers.
- ◆ **Agent Coexistence:** ZSM 7 and ZfS 3 do not include an agent.

2.5 ZENworks Linux Management

The following information applies to ZENworks 10 SP3 coexistence with ZENworks 7.x Linux Management (ZLM 7):

- ◆ **Server Coexistence:** There are two issues related to server coexistence:
  - ◆ **Issue 1:** The ZENworks 10 Server (Linux version) cannot coexist with the ZLM 7 Server. Do not install the ZENworks 10 Server on any Linux server that already has a ZLM 7 Server installed.
  - ◆ **Issue 2:** The ZENworks 10 Satellite (Linux version) cannot coexist with the ZLM 7 Server. Do not install the ZENworks 10 Satellite on any Linux server that already has a ZLM 7 Server installed.
- ◆ **Server/Agent Coexistence:** The ZENworks 10 Server and Satellite (Linux versions) cannot coexist with the ZLM 7 Agent, meaning that the ZENworks 10 Server and Satellite cannot be a managed device in your ZLM 7 zone. Do not install the ZLM 7 Agent on the same Linux server as a ZENworks 10 Server or Satellite.

◆ **Agent Coexistence:** There are no coexistence issues with the agents. The ZENworks 10 Adaptive Agent installs on Windows devices and the ZLM 7 Agent installs on Linux devices.

2.6 ZENworks Handheld Management

The following information applies to ZENworks 10 SP3 coexistence with ZENworks 7.*x* Handheld Management, ZENworks for Handhelds 5.x, and ZENwork for Handhelds 3.*x*:

 ◆ **Server Coexistence:** There are no known coexistence issues. For performance reasons, however, we recommend that you do not run the ZENworks 10 Server on the same network server as the traditional ZENworks Handheld Management Servers.

 ◆ **Agent Coexistence** The ZENworks 10 Adaptive Agent and ZENworks 7.5 Asset Management client can coexist

Preparation

3

The following sections provide information to prepare you for the installation of a ZENworks 10 Asset Management system:

- Section 3.1, "Understanding What the ZENworks Installation Does," on page 35
- Section 3.2, "Gathering Installation Information," on page 36
- Section 3.3, "Preinstallation Tasks," on page 36

3.1 Understanding What the ZENworks Installation Does

The first time you install ZENworks 10 Asset Management, you establish the Management Zone with a Primary Server, which is the first server you install to. Other Primary Servers can then be installed into that Management Zone.

The ZENworks installation program does the following during installation of your first Primary Server:

- Creates the Management Zone
- Creates a password that you supply for the default ZENworks Administrator account
- Establishes and populates the ZENworks database

The ZENworks installation does the following during installation of any Primary Server:

- Installs the ZENworks Adaptive Agent (Windows servers only) so that it can be managed
- Installs ZENworks Control Center (ZCC)
- Installs the zman command line utility
- Installs and starts the ZENworks services

The Adaptive Agent is installed on managed devices from files on the Primary Server. For more information, see "ZENworks Adaptive Agent Deployment" in the *ZENworks 10 Asset Management Administration Quick Start*.

You have three installation methods:

- **Graphical User Interface:** A graphical user interface (GUI) installation program that works with both Windows and Linux servers is provided on the installation CD. For Linux servers, GUI capability must already be installed.
- **Command Line:** A command line installation is available, but only for Linux servers. The Windows and Linux installation executables can both be run from a command line for purposes of using installation arguments, but for Windows it only starts the GUI installation program.
- **Unattended:** You can use either installation method to create a response file for an unattended installation of ZENworks to other servers.

To learn what you need to know before installing ZENworks, continue with Section 3.2, "Gathering Installation Information," on page 36.

3.2 Gathering Installation Information

During installation of ZENworks 10 Asset Management, you need to know the following information:

- Installation method to use (GUI, command line, or unattended)
- Installation path (for Windows only)
- Management Zone (zone name, username, password, and port)
- Database choice (embedded Sybase SQL, remote OEM Sybase SQL, external Sybase SQL, external Microsoft SQL, or Oracle 10g Standard database)

  For more information, see Section 3.3, "Preinstallation Tasks," on page 36.

- Database information (server name, port, database name, username, password, named instance, domain, and whether you are using Windows or SQL Server authentication)

  For Oracle and MS SQL, ensure that the database username adheres to the following conventions:

  - The name must begin with an alphabetic character.
  - The following characters cannot be used: - (hyphen) or . (period). Additionally, @ cannot be used in username for Oracle.

- Certificate Authority information (internal, or signed certificate, private key, and public certificate) in DER format
- License keys (60-day trial options are available)
- If you choose to deploy Primary Servers behind a L4 switch, ensure that all such Primary servers are running on the same HTTP and HTTPS ports.

For more information on these items, see Table 4-1, "Installation Information," on page 52.

To start a ZENworks installation, continue with Section 3.3, "Preinstallation Tasks," on page 36.

3.3 Preinstallation Tasks

Perform the following applicable tasks, then continue with Section 4.1, "Performing the Installation," on page 49:

- Section 3.3.1, "Verifying That the Minimum Requirements Have Been Met," on page 36
- Section 3.3.2, "Creating an Installation DVD from the ISO Download," on page 37
- Section 3.3.3, "Creating an External Certificate," on page 38
- Section 3.3.4, "Installing an External ZENworks Database," on page 40
- Section 3.3.5, "Installing Mono 2.0.1-1.17 on SLES 11," on page 48

3.3.1 Verifying That the Minimum Requirements Have Been Met

Before you begin the ZENworks installation, ensure that the following requirements are met:

- Ensure that the device where you want to install the Primary Server software fulfills the necessary requirements. For more information, see Chapter 1, "System Requirements," on page 9.

- Ensure that all the required ports are open. If you plan to install ZENworks 10 Configuration Management SP3 on SLES 11, you must manually open the ports.

  For more information on the ZENworks required ports, see Section 1.1, "Primary Server Requirements," on page 9.

- (Conditional) If you plan to install the Primary Server software on 64-bit Windows Server 2003 or 64-bit Windows Server 2008, ensure that the device has Windows Installer 4.5 or later installed.

- For optimal performance of the Primary Servers running on VMware ESX, set the reserved memory size to the size of the guest operating system memory. For more information, see TID 7005382 in Novell Support Knowledgebase (http://support.novell.com/search/kb_index.jsp).

3.3.2 Creating an Installation DVD from the ISO Download

If you obtained the ZENworks software as an ISO image download, do one of the following to create the installation DVD:

- "Using Windows to Create a ZENworks Installation DVD from an ISO Image" on page 37
- "Using Linux to Create a ZENworks Installation DVD from an ISO Image" on page 37

Using Windows to Create a ZENworks Installation DVD from an ISO Image

1 Download the ZENworks 10 Asset Management SP3 installation ISO image from the Novell Web site (http://www.novell.com/) and copy it to a temporary location on your Windows device.

2 Burn the ISO image to a DVD.

Using Linux to Create a ZENworks Installation DVD from an ISO Image

Optionally, you can simply run the installation program from the ISO mount point, instead of burning the DVD:

1 Download the ZENworks 10 Asset Management SP3 installation ISO image from the Novell Web site (http://www.novell.com/) and copy it to a temporary location on your Linux device.

2 Do one of the following:

- Mount the ISO image by using the following command:

  ```
  mount -o loop /tempfolderpath/isoimagename.iso mountpoint
  ```

  Replace *tempfolderpath* with the path to the temporary folder, replace *isoimagename* with the ZENworks ISO filename, and replace *mountpoint* with the path to the file system location where you want to mount the image. The path specified by *mountpoint* must already exist.

  For example:

  ```
  mount -o loop /zam10/zam10.iso /zam10/install
  ```

- Burn the ISO image to a DVD.

3.3.3 Creating an External Certificate

If you plan to use external certificates, install openssl and create individual server certificate with subject as the server's Fully Qualified Domain Name (FQDN) for all the devices on which you plan to install ZENworks Primary Server or to use it as Satellites with the authentication role configured.

Do the following to create an individual certificate file:

1 To generate a private key that is needed to create a Certificate Signing Request (CSR), enter the following command:

```
openssl genrsa -out zcm.pem 1024
```

2 To create a CSR that can be signed by the external CA, enter the following command:

```
openssl req -new -key zcm.pem -out zcm.csr
```

When you are asked for "YOUR name," enter the full DNS name assigned to the server where you are installing ZENworks 10 Asset Management.

3 To convert the private key from PEM format to DER format, enter the following command:

```
openssl pkcs8 -topk8 -nocrypt -in zcm.pem -inform PEM -out zcm.der -
outform DER
```

The private key must be in the PKCS8 DER format, and the signed certificate must be in the X.509 DER format. You can use the OpenSSL command line tool to convert your keys to the proper format. This tool can be obtained as part of the Cygwin toolkit, or as part of your Linux distribution.

4 Use the CSR and generate a certificate by using Novell ConsoleOne, Novell iManager or a true external CA such as Verisign.

- ◆ "Generating a Certificate by Using Novell ConsoleOne" on page 38
- ◆ "Generating a Certificate by Using Novell iManager" on page 39

Generating a Certificate by Using Novell ConsoleOne

1 Ensure that eDirectory is configured as the CA.

2 Issue the certificate for the Primary Server.

   2a Launch Novell ConsoleOne.

   2b Log in to the eDirectory tree as an administrator with the appropriate rights. For more information about the appropriate rights, see the Entry Rights Needed to Perform Tasks (http://www.novell.com/documentation/crt27/?page=/documentation/crt27/crtadmin/data/a2zibyo.html#a2zibyo) section in the *Novell Certificate Server 2.7* documentation.

   2c From the *Tools* menu, click *Issue Certificate*.

   2d Browse for and select the zcm.csr file.

   2e Click *Next*.

   2f Complete the wizard by accepting the default values.

   2g Specify the certificate basic constraints, then click *Next*.

   2h Specify the validity period, the effective and expiration dates then click *Next*.

   2i Click *Finish*.

   2j Choose to save the certificate in the DER-format, and specify a name for the certificate.

3 Export the Organizational CA's self-signed certificate.

    3a Log in to eDirectory from ConsoleOne.

    3b In the *Security* container, right-click the *CA*, then click *Properties*.

    3c In the *Certificates* tab, select the self-signed certificate.

    3d Click *Export*.

    3e When prompted to export the private key, click *No*.

    3f Export the certificate in DER format and choose the location in which you want to save the certificate.

    3g Click *Finish*.

You should now have the three files that you need to install ZENworks using an external CA.

Generating a Certificate by Using Novell iManager

1 Ensure that eDirectory is configured as the CA.

2 Issue the certificate for the Primary Server.

    2a Launch Novell iManager.

    2b Log in to the eDirectory tree as an administrator with the appropriate rights. For more information about the appropriate rights, see the Entry Rights Needed to Perform Tasks (http://www.novell.com/documentation/crt27/?page=/documentation/crt27/crtadmin/data/a2zibyo.html#a2zibyo) section in the *Novell Certificate Server 2.7* documentation.

    2c From the *Roles and Tasks* menu, click *Novell Certificate Server > Issue Certificate*.

    2d Click *Browse* to browse for and select the CSR file, `zcm.csr`.

    2e Click *Next*.

    2f Accept the default values for the key type, the key usage, and the extended key usage, then click *Next*.

    2g Accept the default certificate basic constraints, then click *Next.*

    2h Specify the validity period, the effective and expiration dates then click *Next*. Depending upon your needs, change the default validity period (10 years).

    2i Review the parameters sheet. If it is correct, click *Finish*. If it is incorrect, click *Back* until you reach the point where you need to make changes.

        When you click *Finish*, a dialog box is displayed explains that a certificate has been created. This exports the certificate into the binary DER-format.

    2j Download and save the issued certificate

3 Export the Organizational CA's self-signed certificate.

    3a Log in to eDirectory from iManager.

    3b From the *Roles and Tasks* menu, click *Novell Certificate Server > Configure Certificate Authority*.

        This displays the property pages for the Organizational CA, which include a General page, a CRL Configuration page, a Certificates page, and other eDirectory-related pages.

    3c Click *Certificates*, then select *Self Signed Certificate*.

    3d Click *Export*.

        This starts Certificate Export wizard.

3e Deselect the *Export the Private Key* option, and choose the export format as *DER*.

3f Click *Next*, then save the exported certificate.

3g Click *Close*.

You should now have the three files that you need to install ZENworks using an external CA.

3.3.4 Installing an External ZENworks Database

If you want to install and use the embedded Sybase database for ZENworks 10 Configuration Management, see Section 4.1, "Performing the Installation," on page 49.

If you want to set up an external database, you have the following options:

- **Set up the database during the Primary Server installation:** This is the quickest and easiest method. For detailed information about this method, see Section 4.1, "Performing the Installation," on page 49.

- **Set up the database externally before installing the Primary Server:** This option is especially useful if your database administrator is not the same as your ZENworks administrator. Detailed information about this method is provided in this section.

During the ZENworks installation you have the following options to install or create external ZENworks databases:

- Install to a new remote OEM Sybase database

- Install to an existing Sybase SQL Anywhere external database

- Install to an existing Microsoft SQL Server external database

- Create a new Microsoft SQL Server external database

- Install to an existing Oracle 10g user schema

- Create a new Oracle 10g user schema

Some of these options require you to complete certain tasks for creating or setting up external databases before ZENworks can write to them during installation. Complete the prerequisites, then continue with the database installation.

- "Prerequisites for Installing External Databases" on page 40

- "Performing the External ZENworks Database Installation" on page 42

Prerequisites for Installing External Databases

Review the applicable sections:

- "Prerequisites for Remote OEM Sybase" on page 41

- "Prerequisites for Remote Sybase SQL Anywhere" on page 41

- "Prerequisites for Microsoft SQL Server" on page 41

- "Prerequisites for Oracle" on page 41

Prerequisites for Remote OEM Sybase

Before installing ZENworks 10 Asset Management to create the Management Zone, you must install the remote OEM Sybase database on your remote database server so that it can be properly configured during installation of the Primary Server that hosts the database.

NOTE: For this database, Novell Support provides problem determination, provision of compatibility information, installation assistance, usage support, ongoing maintenance, and basic troubleshooting. For additional support, including extended troubleshooting and error resolution, see the Sybase Support Web site (http://www.sybase.com/support).

Prerequisites for Remote Sybase SQL Anywhere

Before installing and configuring the Sybase SQL Anywhere database for ZENworks 10 Asset Management, make sure the following prerequisites are met:

- Install and set up the Sybase SQL Anywhere database so that it can be updated when you install ZENworks 10 Asset Management on the Primary Server.

- Ensure that the database user has read/write permissions to create and modify the tables on the database server.

NOTE: For this database, Novell Support provides problem determination, provision of compatibility information, installation assistance, usage support, ongoing maintenance, and basic troubleshooting. For additional support, including extended troubleshooting and error resolution, see the Sybase Support Web site (http://www.sybase.com/support).

Prerequisites for Microsoft SQL Server

Before installing and configuring the Microsoft SQL Anywhere database for ZENworks 10 Asset Management, ensure that the Microsoft SQL Server software is installed on the database server so that the ZENworks installation program can create the new Microsoft SQL database. For instructions on installing the Microsoft SQL Server software, refer to the Microsoft documentation.

Prerequisites for Oracle

During the installation of the ZENworks database on Oracle, you can choose to create a new user schema or specify an existing one that resides on a server in your network.

- **Create a new user schema:** If you choose to create a new user schema, ensure that the following requirements are met:
  - You must be aware of the database administrator credentials.
  - A tablespace must already exist for associating to the Oracle access user.
  - The tablespace must have sufficient space to create and store the ZENworks database schema.The tablespace requires a minimum of 100 MB to create the ZENworks database schema without any data in it.

- **Use an existing user schema:** You can install to an existing Oracle user schema that resides on a server in your network in the following scenarios:
  - The database administrator creates a user schema with the necessary rights and you receive the credentials for that user schema from the database administrator. In this case, the database administrator credentials are not required to install to an existing Oracle user schema.
  - You create a user schema in the Oracle database and choose to use it during ZENworks Asset Management installation.

  If you choose to use an existing user schema, ensure that the following requirements are met:
  - Ensure that the tablespace has sufficient space to create and store the ZENworks database schema.The tablespace requires a minimum of 100 MB to create ZENworks database schema without any data in it.
  - Ensure that the quota for the user schema is set to Unlimited on the tablespace that you plan to configure during the installation.
  - Ensure that the user schema has the following rights to create the database.

    ```
    CREATE SESSION
    CREATE_TABLE
    CREATE_VIEW
    CREATE_PROCEDURE
    CREATE_SEQUENCE
    CREATE_TRIGGER
    ```

IMPORTANT: For Oracle databases, performance can be affected by whether you configure your database to use shared server or dedicated server processes. Each ZENworks Primary Server is configured with a database connection pool whose size fluctuates with the ZENworks system load. This pool can grow at peak loads to a maximum of 100 concurrent database connections per Primary Server. If your Oracle database is configured to use dedicated server processes, it is possible that your database server resource usage can reach undesirable levels that affect performance when there are multiple Primary Servers in your zone. If you encounter this problem, consider changing your ZENworks database to use shared server processes.

Performing the External ZENworks Database Installation

1 Make sure that the server where you plan to install the external database fulfills the requirements in Section 1.4, "Database Requirements," on page 22 and "Prerequisites for Installing External Databases" on page 40.

2 Start the database installation program.

  2a On the server where you want to install the external database, insert the *Novell ZENworks 10 SP3* installation DVD.

  If the DVD autoruns the database installation program, exit the program.

  If the server is Windows, continue with Step 2b. If the server is Linux, skip to Step 2c.

  2b For Windows, enter the following at the command prompt on the external database server:

  DVD_drive:\setup.exe -c

  or

If ZENworks 10 Asset Management has already been installed on a device, and if you want to use the device to configure another instance of the ZENworks database (on the same device or on another device) by using the external database installation program, run the following command:

```
DVD_drive:\setup.exe -c --zcminstall
```

2c For Linux, run the following command on the external database server:

```
sh /media/cdrom/setup.sh -c
```

This provides additional options that you do not have when installing the Primary Server, especially if you want to make your OEM database a remote database. You can view the SQL files generating the ZENworks database, create access users, view creation commands (OEM Sybase only), and so on.

or

If ZENworks 10 Asset Management has already been installed on a device, and if you want to use the device to configure another instance of the ZENworks database (on the same device or on another device) by using the external database installation program, run the following command:

```
mounted_DVD_drive/setup.sh -c --zcminstall
```

Using the sh command resolves rights issues.

Only the GUI installation is available for installing a database.

3 On the Select ZENworks Database page, select one of the following:

 • **OEM Sybase SQL Anywhere:** Installs the default Sybase 10 database for ZENworks. It is configured as a service, the database user is created, and the required tables for the Primary Server are established.

   If you select this option, you must use the -o (or --sybase-oem) parameter with the setup.exe installation executable in order to successfully install to the database when you install the Primary Server software. This parameter allows ZENworks to authenticate the database prior to performing any operations on it.

   You should use the -o parameter only when you are using the Sybase installation that is provided on the *Novell ZENworks 10 Asset Management SP3* installation DVD.

   You must also select the *Remote Sybase SQL Anywhere* option during installation of the Primary Server.

 • **Sybase SQL Anywhere:** Sets up an existing Sybase database for writing ZENworks information to it.

 • **Microsoft SQL Server:** Creates a ZENworks database on a Microsoft SQL Server.

 • **Oracle:** Specifies a user schema that you can use to set up an external Oracle 10g database schema for use with ZENworks.

IMPORTANT: For external databases, the server hosting the database must have time synchronization with each of the Primary Servers in the Management Zone, when the databases are installed.

4 Click *Next*.

5 During installation, refer to the following information for details on the installation data that you need to know (you can also click the *Help* button for similar information):

 • "OEM Sybase SQL Anywhere Database Installation Information" on page 44

6 Continue with Section 4.1, "Performing the Installation," on page 49.

OEM Sybase SQL Anywhere Database Installation Information

The information you need is listed in the order of the installation flow.

Table 3-1 *OEM Sybase SQL Anywhere Information*

Installation Information	Explanation
Sybase Database Installation	Specify the path to where you want the OEM copy of the Sybase SQL Anywhere database software installed. On the target Windows server, only the drives that are currently mapped on the server are available.
	The default path is $drive$:\novell\zenworks, which you can change. The installation program creates the \novell\zenworks directory for the installation of Sybase.
Sybase Server Configuration	Specify the port used by the Sybase SQL Anywhere database server. By default, it is 2638. Change the default port number if you have a conflict.
Sybase Access Configuration	Defaults are provided for some of the information, which you can change as necessary.
	Database Name: Specify a name for the database to be created. **Username:** Specify a name to create a new user who can access the database. **Password:** Specify the password to be used to the access the database. **Database Server Name:** Specify a name for the Sybase SQL Anywhere database server.
Database File Location	Specify the path to where you want the ZENworks Sybase database file created. By default, the installation program creates the $drive$:\novell\zenworks directory for the installation of Sybase, which you can change. A \database directory is appended to the default directory.
	For example,. the default path is $drive$:\novell\zenworks\database.
Review Database Information	Review the database configuration information.
	The database driver information is automatically detected by the ZENworks Database installer.
Review SQL Scripts	Review the SQL scripts to be executed during the creation of the database.
Review Database Creation Command	Review the database commands used to create the database.

Sybase SQL Anywhere Database Installation Information

The information you need is listed in the order of the installation flow.

Table 3-2 *Sybase SQL Anywhere Information*

Installation Information	Explanation
Sybase Server Configuration	• **Server's name:** We recommend that you identify the server by its DNS name rather than its IP address, to be in sync with certificates that are signed with DNS names. **IMPORTANT:** If you later change your database server's IP address or DNS name, make sure that your corporate DNS server is updated with this change to keep DNS for the database server in sync. • **Port:** Specify the port used by the Sybase SQL Anywhere database server. By default, it is 2638. Change the default port number if you have a conflict.
Sybase Access Configuration	This server must have a Sybase SQL Anywhere database installed. Defaults are provided for some of this information, which can be changed as necessary. • **Database Name:** Specify the name of the existing database • **Username:** Specify the user who can modify the database. The user must have read/write permissions to modify the database. • **Password:** Specify the password of an existing user with read/write permissions to the database. • **Database Server Name:** Specify the name of your Sybase SQL Anywhere database server.
Review Database Information	Review the database configuration information. The database driver information is automatically detected by the ZENworks Database installer.
Review SQL Scripts	Review the SQL scripts to be executed during the creation of the database.
Review Database Creation Commands	Review the database commands used to create the database.

MS SQL Database Installation Information

The information you need is listed in the order of the installation flow.

Table 3-3 *Microsoft SQL Server Database Information*

Installation Information	Explanation
Select Database	You can choose to create a new database or connect to an existing database.

Installation Information	Explanation
External Database Server Configuration	The database server must have an MS SQL database installed. Defaults are provided for some of this information, which can be changed as necessary.
	◆ **Server Address:** We recommend that you identify the server by its DNS name rather than its IP address, to be in sync with certificates that are signed with DNS names.
	IMPORTANT: If you later change your database server's IP address or DNS name, make sure that your corporate DNS server is updated with this change to keep DNS for the database server in sync.
	◆ **Port:** Specify the port used by the MS SQL database server. By default it is 1433. Change the default port number if you have a conflict.
	◆ **Named instance:** This is the name of the SQL server instance that is hosting the existing ZENworks database. You must specify the named instance if you want it to be something other than the default of `mssqlserver`.
	◆ **Database Name:** Specify the name of the existing MS SQL database on which you want to host the ZENworks database. This option is available only for an existing database.
	◆ **Username:** Specify the user who can modify the database. The user must have read/write permissions to modify the database.
	For Windows authentication, provide a username on the current device or in the domain. For SQL authentication, provide a username that matches that of a valid SQL user.
	◆ **Password:** Type the password of user specified in the *Username* field.
	◆ **Domain:** It is important to know whether you installed the SQL Server by using SQL authentication, Windows authentication, or mixed. Be sure to select the option that coincides with your SQL Server options or the authentication will fail.
	If you are using Windows authentication, specify the Windows domain where the user you specified in the *Username* field exists. If you are not using a Windows domain, specify the server's short name.
External Database Configuration > Database Location (applicable only for the new database)	Specify the path of the existing MS SQL database file on the SQL server. By default, it is `c:\database`. Ensure that the path exists on the device hosting the database.
Review Database Information	Review the database configuration information.
Review SQL Scripts	Review the SQL scripts to be executed during the creation of the database. You can only view the scripts.

Oracle Database Installation Information

The information you need is listed in the order of the installation flow.

Table 3-4 *Oracle Database Information*

Installation Information	Explanation
Oracle User Schema Options	You can either create a new user schema or specify an existing one that resides on a server in your network. You can use the user schema to set up an external Oracle 10g database schema for use with ZENworks. If you are creating a new user schema, a tablespace must already exist for associating to the Oracle access user. In an existing user schema, the rights and tablespace must already be set up.
Oracle Server information	The database server must have an Oracle database installed. Defaults are provided for some of this information, which can be changed as necessary. ♦ **Server's Address:** We recommend that you identify the server by its DNS name rather than its IP address, to be in sync with certificates that are signed with DNS names. IMPORTANT: If you later change your database server's IP address or DNS name, make sure that your corporate DNS server is updated with this change to keep DNS for the database server in sync. ♦ **Port:** Specify the port used by the database server. By default, it is 1521. Change the default port number if you have a conflict. ♦ **Service Name:** For a new user schema, specify the instance name (SID) on which the user schema is to be created. For an existing user schema, specify the instance name (SID) on which the user schema has been created.
Oracle Administrator (applicable only for the new user schema)	♦ **Username:** Specify the user who can modify the database. The user must have read/write permissions to modify the database. ♦ **Password:** Specify the password to be used to the access the database.
Oracle Access User	♦ **Username:** For a new user schema, specify a name. For an existing user schema, specify the name of the user schema that already exists in the Oracle database. ♦ **Password:** For a new user schema, specify a password to be used to access the database. For an existing user schema, specify the password used to access the user schema that already exists in the Oracle database. ♦ **Default Tablespace:** For a new user schema, specify a name of the tablespace where you want the user schema to be created. For an existing user schema, specify the tablespace that contains the user schema specified in the Username field. By default, it is USERS.
Review Database Information	Review the database configuration information.
Review SQL Scripts	Review the SQL scripts to be executed during the creation of the database.

3.3.5 Installing Mono 2.0.1-1.17 on SLES 11

If your SLES 11 device on which you want to install ZENworks 10 Configuration Management SP3 does not have Mono installed, do the following to install Mono 2.0.1-1.17:

1 Start the ZENworks 10 Configuration Management SP3 installation program by using one of the following methods:.

   ◆ **Graphical User Interface (GUI) installation:** Mount the *Novell ZENworks 10 Management SP3* installation DVD, then run `sh /media/cdrom/setup.sh`. Using the `sh` command resolves rights issues.

   ◆ **Command Line installation:** Do the following:

   1. On the installation server, insert the *Novell ZENworks 10 Management SP3* installation DVD.

   2. Mount the DVD.

   3. To start a command line installation, do the following:

      a. To a directory where all (including "others") have read and execute access, either mount the DVD or copy the DVD's files.

      This cannot be in `/root` or any directory under it.

      If you copy the DVD's files, make sure that all (including "others") continue to have read and execute access to the destination directories.

      b. Run the following command:

      `sh /`*mount_location*`/setup.sh -e`

2 Install Mono bundled with ZENworks 10 Configuration Management.

3 (Optional) The ZENworks 10 Configuration Management installation program allows you to continue to install ZENworks 10 Configuration Management SP3. For more information on how to install ZENworks, see Section 4.1, "Performing the Installation," on page 49.

Installing the ZENworks Server

4

The Novell ZENworks 10 installation media includes the following products:

- ZENworks 10 Configuration Management SP3
- ZENworks 10 Asset Management SP3
- ZENworks 10 Patch Management SP3
- Asset Inventory for UNIX/Linux

All four products are always installed. You activate a product by supplying a valid product license during the installation or after the installation (through the ZENworks management console). If you do not have a valid license for a product, you can evaluate the product for 60 days. You can start the evaluation period during installation or after the installation.

Configuration Management and Asset Management can be used together or independently. Patch Management requires Configuration Management. Asset Inventory for UNIX/Linux requires Configuration Management or Asset Management.

Perform the tasks in the following sections to install the ZENworks 10 software:

NOTE: As with any product, if you are testing or reviewing ZENworks 10 Asset Management, we recommend that you deploy the product in a non-production environment.

4.1 Performing the Installation

1 Start the ZENworks installation program by using one of the following methods:

Graphical User Interface (GUI) Installation

1. On the installation server, insert the *Novell ZENworks 10 Asset Management SP3* installation DVD.

   For Windows, the installation page where you can select the language is displayed. If it is not automatically displayed after inserting the DVD, run `setup.exe` from the root of the DVD.

   For Linux, mount the DVD, then run `sh /media/cdrom/setup.sh`. Using the `sh` command resolves rights issues.

2. If you installed an external OEM Sybase server (see Section 3.3.4, "Installing an External ZENworks Database," on page 40), you must run the executable manually with the following parameter in order for that database to be properly updated during this Primary Server installation:

```
DVD_drive\setup.exe -o
```

3. Continue with Step 2 below.

Command Line Installation (Linux only)

1. On the installation server, insert the *Novell ZENworks 10 Asset Management SP3* installation DVD.

2. Mount the DVD.

3. To start a command line installation, do the following:

   a. To a directory where all (including "others") have read and execute access, either mount the DVD or copy the DVD's files.

      This cannot be in `/root` or any directory under it.

      If you copy the DVD's files, make sure that all (including "others") continue to have read and execute access to the destination directories.

   b. Run the following command:

      ```
      sh /mount_location/setup.sh -e
      ```

   For more information on installation arguments, see Appendix A, "Installation Executable Arguments," on page 83.

4. Continue with Step 2 below.

2 During installation, refer to the information in Table 4-1, "Installation Information," on page 52 for details on the installation data that you need to know.

If you are using the GUI installation, you can also click the *Help* button for similar information.

For the command line method, you can type `back` and press Enter to return to a previous installation option to make changes.

3 Do one of the following on the Windows device:

   ◆ If you selected to reboot automatically (you selected the *Yes, restart the system* option during installation; see "Rebooting (or not)" on page 60), continue with Step 4 after the booting process has completed and the services have started.

   ◆ If you selected to reboot manually (you selected the *No, I will restart the system myself* option during installation; see "Rebooting (or not)" on page 60), you must wait for the installation to complete and the services to start in order to verify it in Step 4.

NOTE: On Windows or Linux, part of completing the installation process is for the database to be updated and for the PRU to be downloaded and installed, both of which cause high CPU utilization during their processes. This can cause the services to start up slowly, which can also affect how long it takes for ZENworks Control Center to open.

4 After the installation has completed and the server has been rebooted, do any of the following to verify that ZENworks 10 Asset Management SP3 is running:

   ◆ **Run ZENworks Control Center**

      If ZENworks Control Center did not automatically start, use the following URL to open ZENworks Control Center in a Web browser:

      https://*DNS_name_or_IP_address_of_Primary_Server*/zenworks

      This can be done either on the server where you just installed ZENworks, or on a qualified workstation.

If ZENworks Control Center does not open, and you are using DNS, verify that DNS is set up correctly. It must be working properly in order for ZENworks Control Center to open on the server. After you reconfigure DNS to work properly, then ZENworks Control Center should be accessible from the desktop icon.

For the Oracle 10g database, any administrator name is case sensitive, including login names from user sources. The default ZENworks administrator account automatically created during installation uses an initial capital, so in order to log in to ZENworks Control Center, you must enter Administrator.

 ◆ **Check the Windows services by using the GUI**

On the server, click *Start*, select *Administrative Tools* > *Services*, then review the status of the *Novell ZENworks Loader* and *Novell ZENworks Server* services.

If they are not running, start the ZENworks services. Right-click the *Novell ZENworks Server* service, select *Start*, right-click the *Novell ZENworks Loader* service, then select *Start*.

The *Restart* option stops all related services that are already running and starts each of them in their correct order, including *Novell ZENworks Loader*.

 ◆ **Check the Linux services by using the configuration command**

On the server, run the following command:

```
/opt/novell/zenworks/bin/novell-zenworks-configure -c SystemStatus
```

This lists all ZENworks services and their statuses.

To start the services, run the following command:

```
/opt/novell/zenworks/bin/novell-zenworks-configure -c Start
```

 ◆ **Check the Linux services by using the specific services' commands**

On the server, run the following commands:

```
/etc/init.d/novell-zenserver status
```
```
/etc/init.d/novell-zenloader status
```

If the services are not running, run the following commands to start the ZENworks services:

```
/etc/init.d/novell-zenserver start
```
```
/etc/init.d/novell-zenloader start
```

5 (Optional) If you want to set certain configuration parameters for how ZENworks is run on this server, see "Using the Config.xml File to Modify ZENworks Control Center Settings" in the *ZENworks 10 Asset Management System Administration Reference*.

6 Do any of the following that are applicable, then continue with Step 7:

 ◆ To create another Primary Server for the Management Zone using the same installation method that you just used, return to Step 1.

 ◆ If you created a response file in order to perform an unattended installation on other servers, continue with Section 4.2.2, "Performing the Installation," on page 62.

7 Continue with Section 4.3, "Post-Installation Tasks," on page 64.

4.1.1 Installation Information

The information you need is listed in the order of the installation flow.

Table 4-1 *Installation Information*

Installation Information	Explanation
Installation path (Windows only)	For Windows, the default is `%ProgramFiles%`. You can change it to any path currently available on the server. The installation program creates the `Novell\ZENworks` directory here for the installation of the ZENworks software files.
	IMPORTANT: If you want to install Reporting Server on a 64-bit Windows device that is using an Oracle database, you must specify a customized location to install ZENworks Configuration Management. This customized location must not include any parentheses in the pathname because Reporting Server fails to install in a path that has parentheses.
	NOTE: If you want to install ZENworks Reporting Server, ensure that short MS-DOS (also called 8.3) style naming convention is available for the installation location of the ZENworks 11 Server. By default, 8.3 is enabled on the device. For more information on how to enable 8.3 see, Microsoft documentation (http://technet.microsoft.com/en-us/library/cc959352.aspx)
	For Linux, several fixed installation paths are used:
	`/opt/novell/zenworks/`
	`/etc/opt/novell/zenworks`
	`/var/opt/novell/zenworks`
	`/var/opt/novell/log/zenworks/`
	If you are concerned about disk space on the Linux server, you might want the following directories to be located on a large partition:
	`/var/opt` directory: This is the directory where the database and content repository reside. **`/opt/novell` directory:** This is the directory where the ZENworks Installables are stored.
Response file path (optional)	If you started the installation executable with the `-s` parameter, you are required to provide a path for the file. The default path is `C:\Documents and Settings\Administrator\`, which you can change to any path available on the current server.
	The Primary Server software is not installed when you run the program to create a response file. It only displays the installation pages necessary to identify and create the response file.

Installation Information	Explanation
Prerequisites	If the required prerequisites are not installed, you are not allowed to continue with the installation. The requirements that are not fulfilled are displayed (GUI) or listed (command line). For more information, see Section 1.1, "Primary Server Requirements," on page 9. If the .NET prerequisite is not fulfilled, you can click the *ZENworks* link in the description to install the runtime version that is bundled with ZENworks. After .NET is installed, the installation of ZENworks proceeds.
Management Zone	**New Zone:** If you are installing to the first server in the zone, you need to know what name you want for the Management Zone and what you want to use for the zone's password, which is used for logging in to ZENworks Control Center. The zone name has a 20-character limit and should be a unique name. The zone name can contain only the following special characters: - (dash) _ (underscore) . (period). The zone name cannot contain special characters such as ~ ` ! @ # % ^ & * + = ( ) { } [ ] | \ : ; " ' < > , ? / $ The zone administrator password must contain at least six characters and is limited to a maximum of 255 characters. The password can contain only one instance of the $ character. By default, the login username is Administrator. After completing the installation, you can use ZENworks Control Center to add other administrator names that can be used to log in to the Management Zone. During the installation of the second (or subsequent) Primary Server, the server by default uses the ports used by first Primary Server. If the ports are in use on the second Primary Server, you are asked to specify another port. Note which port you specify because you will need to use it in the URL for accessing ZENworks Control Center. **Existing Zone:** If you are installing to an existing Management Zone, you need to know the following information: ◆ Server identification (either the DNS name or IP address). This is an existing Primary Server in the zone. We recommend using the DNS name to provide ongoing synchronization with certificates that are signed with DNS names. ◆ SSL Port used by the existing Primary Server in the Management Zone. If this Primary Server uses a different port than the default (443), specify that server port. ◆ The username for logging in to ZENworks Control Center. The default is Administrator. After completing the installation, you can use ZENworks Control Center to add other administrator names that can be used to log in to the Management Zone. ◆ The administrator's password. Specify the current password for the ZENworks administrative user specified in the *Username* field.

Installation Information	Explanation
Database options	For ZENworks 10 Asset Management, a database must be established. The database options are displayed only when the first server is installed to the zone. However, you can run the installation program specifically to install or repair a database (see Section 3.3.4, "Installing an External ZENworks Database," on page 40). You have the following database options: ♦ **Embedded Sybase SQL Anywhere:** Automatically installs the embedded database on the current server. If you select the embedded database option, no further database installation pages are shown. ♦ **Remote Sybase SQL Anywhere:** This database must already exist on a server in your network. It can be on the current server. To select this option, you should already have followed the steps in "Prerequisites for Remote Sybase SQL Anywhere" on page 41. You also use this option for installing to an existing remote OEM Sybase database. ♦ **Microsoft SQL Server:** You can create a new SQL database or specify an existing database that resides on a server in your network. It can be on the current server. Creating a new SQL database at this time provides the same results as the steps in "Prerequisites for Microsoft SQL Server" on page 41. ♦ **Oracle:** Specifies a user schema that you can use to set up an external Oracle 10g database schema for use with ZENworks. You can either create a new user schema or specify an existing one that resides on a server in your network. To select this option, you should already have followed the steps in "Prerequisites for Oracle" on page 41. IMPORTANT: For external databases, the time on the server hosting the database must be synchronized with each of the Primary Servers in the Management Zone.

Installation Information	Explanation
Database information	For the external database options (*Remote Sybase SQL Anywhere*, *Microsoft SQL Server*, and *Oracle*), you need to know the information listed below. Defaults are provided for some of this information, which can be changed as necessary.

- ◆ **All Databases:** The database server must have a Sybase SQL Anywhere, Microsoft SQL, or Oracle database installed.

  - ◆ Server's name. We recommend that you identify the server by its DNS name rather than its IP address, to be in sync with certificates that are signed with DNS names.

    IMPORTANT: If you later change your database server's IP address or DNS name, make sure that your corporate DNS server is updated with this change to keep DNS for the database server in sync.

  - ◆ Port used by the database server.

    Port 2638 is the default for Sybase SQL Anywhere and port 1433 is the default for Microsoft SQL Server.

    Change the default port number if you have a conflict.

- ◆ **(Optional) SQL Server Only:** Named instance that is the name of the SQL server instance that is hosting the existing ZENworks database. You must specify the named instance if you want it to be something other than the default of mssqlserver.

- ◆ **Oracle Only:** The name of the tablespace where you want the database to be created. By default, it is USERS.

- ◆ **New Database:**

  - ◆ The database administrator (*Username* field) must have read/write permissions in order to successfully perform the required operations on the database.

  - ◆ The administrator's database password.

- ◆ **SQL Server or New Database:**

  - ◆ If you are using Windows authentication, specify the Windows domain where the user you specified in the *Username* field exists. If you are not using a Windows domain, specify the server's short name.

  - ◆ Whether to use Windows or SQL Server authentication. For Windows authentication, provide the credentials for a user on the current device or in the domain. For SQL authentication, provide credentials that match those of a valid SQL user.

  It is important to know whether you installed the SQL Server by using SQL authentication, Windows authentication, or mixed. Be sure to select the option that coincides with your SQL Server options or the authentication will fail.

Installation Information	Explanation
Database access	For the external database options (*Remote Sybase SQL Anywhere, Microsoft SQL Server*, and *Oracle*), you need to know the information listed below. Defaults are provided for some of this information, which can be changed as necessary.

- **All Databases:** This server must have a Sybase SQL Anywhere, Microsoft SQL, or Oracle database installed.

  - Database name. Replace *zenworks_MY_ZONE* with either the desired database name, or an existing database name.

  - Database username. This user must have read/write permissions to modify the database.

    If Windows authentication is also selected, the specified user must already exist when you create a new SQL database. The user is granted login access to SQL Server and read/write access to the ZENworks database that is created.

    For an existing database, specify a user with sufficient permissions to the database.

  - Database password. For a new database, this password is automatically generated if SQL authentication is selected. For an existing database, specify the password of an existing user with read/write permissions to the database.

- **Sybase Databases Only:** The name of your Sybase SQL Anywhere database server.

- **Oracle Databases Only:** The name of the tablespace where you want the database to be created. By default, it is USERS.

- **SQL Databases Only:**

  - If you are using Windows authentication, specify the Windows domain where the user you specified in the *Username* field exists. If you are not using a Windows domain, specify the server's short name.

  - Whether to use Windows or SQL Server authentication. For Windows authentication, provide the credentials for a user on the current device or in the domain. For SQL authentication, provide credentials that match those of a valid SQL user.

  It is important to know whether you installed the SQL Server by using SQL authentication, Windows authentication, or mixed. Be sure to select the option that coincides with your SQL Server options or the authentication will fail.

| SSL configuration (shown only for first server installed in the Management Zone) | In order to enable SSL communications, an SSL certificate must be added to the ZENworks server. Select whether to use an internal or external certificate authority (CA).

For subsequent installations of Primary Servers to the Management Zone, the CA established by the first server's installation is used for the zone. |

IMPORTANT: ZENworks 10 Asset Management currently does not support changing the external certificate to an internal certificate on Primary Servers.

The *Restore Default* buttons restore the paths to those that were displayed when you first accessed this page.

Installation Information	Explanation
Signed SSL certificate and private key	To enter a trusted CA-signed certificate and private key, click *Choose* to browse for and select the certificate and key files, or specify paths to the signed certificate to be used for this server (*Signed SSL Certificate*), and the private key associated with the signed certificate (*Private Key*).
	For subsequent installations of Primary Servers to the zone, the CA established for the zone by the first server's installation is used.
	For information on creating external certificates to select when installing to a Linux or Windows server, see Section 3.3.3, "Creating an External Certificate," on page 38.
	For information on creating external certificates for installing to a server using a silent installation, see Section 4.2.1, "Creating Your Response File," on page 61.
Root certificate (optional)	To enter a trusted CA root certificate, click *Choose* to browse for and select it, or specify the path to the CA's public X.509 certificate (*CA Root Certificate*).

License key for Configuration Management, Asset Management, and Asset Inventory for UNIX/Linux	By default, the *Evaluate* check box is selected for all the ZENworks 10 products listed on the page. The products include:
	
	◆ ZENworks 10 Configuration Management SP3
	◆ ZENworks 10 Asset Management SP3
	◆ ZENworks 10 Asset Inventory for UNIX/Linux SP3
	
	If you choose to retain the default settings, all the products are installed with a 60-day trial license.
	
	Additionally, you can choose to do any of the following:
	
	◆ **Install the licensed version of the product:** Specify the license key that you obtained when you purchased the product. The *Evaluate* check box is automatically deselected when you specify the license key.
	
	◆ **Choose the products to be installed:** If you do not want to install either the licensed version or the evaluation version of a product, manually deselect the *Evaluate* check box and do not specify the license key for the product. However, you must install the licensed version or the evaluation version of one of the following products:
	
	   ◆ ZENworks 10 Configuration Management SP3
	   ◆ ZENworks 10 Asset Management SP3
	
	Additionally, you can install the licensed version or the evaluation version of ZENworks 10 Asset Inventory for UNIX/Linux SP3.
	
	If you choose to activate or evaluate only one of the ZENworks products, the other ZENworks products are also automatically installed; however, they are deactivated. You can activate them later through the ZENworks Control Center. For more information on how to activate the product, see the "ZENworks 10 Product Licensing" in the *ZENworks 10 Asset Management System Administration Reference*.

Installation Information	Explanation
License key for Patch Management	The ZENworks 10 Patch Management SP3 software is automatically installed. However, the product is activated for patch downloads only if the following conditions are met:

ZENworks 10 Configuration Management SP3 is active either in the licensed or evaluation mode.

A patch subscription license key is specified, which you must purchase independently.

You can activate the subscription service later through the ZENworks Control Center. For more information, see "ZENworks 10 Product Licensing" in the *ZENworks 10 Asset Management System Administration Reference*.

If you specify the license key, you must additionally specify the company name and the e-mail address.

If you do not want to install ZENworks 10 Patch Management SP3, manually deselect the *Activate* check box and do not specify the license key for the product. The product is automatically installed; however, it is deactivated.

| Pre-installation summary | **GUI Installation:** To make changes to any information entered up to this point, click *Previous*. After you click *Install*, the installation of the files begins. During installation, you can click *Cancel* to stop, which leaves the files on your server that were installed up to that point. |

Command Line Installation: If you want to make changes to any information entered up to this point, you can type `back` and press Enter as many times as necessary. As you progress forward through the commands again, press Enter to accept the decisions that you previously made.

| Installation complete (roll back option) | If installation errors occurred, this page is displayed at this time; otherwise, it is displayed after the Post-Installation Actions page. |

Installation Recovery: For both the GUI and command line installations, if there are serious installation errors you can roll back the installation to return your server to its previous state. This option is provided on a different installation page. Otherwise, you have two options:

If a previous installation was cut short and you install again, you might be given the option to reset the installation, depending on how far you got in the canceled installation. If you select to reset, this overwrites any configuration that might have occurred during the canceled installation.

To undo a successfully completed installation, follow the instructions in Chapter 7, "Uninstalling ZENworks Software," on page 73.

If there were serious installation errors, select *Roll Back*, which returns your server to its previous state. Upon exiting the installation program, the server is not rebooted. However, to complete the installation, you must reboot the server.

To determine whether to continue the installation or roll it back, review the log file that lists the errors to determine if any installation failures were significant enough for your action. If you select to continue, resolve the issues that are noted in the log after you have rebooted the server and completed the installation process.

To access the log file in the GUI installation, click *View Log*. In the command line installation, the path to the log file is displayed.

Installation Information	Explanation
Post installation actions	Options are presented for selecting actions to perform after installation of the software has successfully completed: ◆ For the GUI installation, a page displays the options listed below. Some items are selected by default. Click any check box to select or deselect the option, then click *Next* to continue. ◆ For a command line installation, the options are listed with option numbers. Select or deselect an option by typing its number to toggle its selection status. After configuring the selections, press Enter without typing a number to continue. Select from the following possible actions: ◆ **Run ZENworks Control Center:** (GUI installation only) Automatically opens ZENworks Control Center in your default Web browser after rebooting (Windows only), or immediately if you select to reboot manually or you installed to a Linux server. For a Linux installation without a GUI, a GUI-enabled device must be used to run ZENworks Control Center. For the Oracle 10g database, the administrator names are case sensitive. The default ZENworks administrator account automatically created during installation uses an initial capital. In order to log in to ZENworks Control Center, you must enter `Administrator`. ◆ **Place a shortcut to ZENworks Control Center on the Desktop:** (Windows only) Places the shortcut on your desktop. ◆ **Place a shortcut to ZENworks Control Center in the Start Menu:** (Windows only) Places the shortcut in your Start menu. ◆ **View Readme file:** For GUI installations, opens the ZENworks 10 Asset Readme in your default browser after rebooting (Windows only), or immediately if you select to reboot manually or you installed to a Linux server. For a Linux command line installation, the URL to the Readme is listed. ◆ **View Installation log:** Displays the installation log in your default XML viewer (GUI installation) after rebooting, or immediately if you select to reboot manually. For a Linux command line installation, the information is simply listed.
ZENworks System Status Utility	Allows you to launch a ZENworks services heartbeat check prior to closing the installation program. Results are posted in the installation log.

Installation Information	Explanation
Rebooting (or not)	Upon a successful installation, you can select between rebooting immediately or later:

Rebooting (or not)

Upon a successful installation, you can select between rebooting immediately or later:

- ◆ **Yes, Restart the System:** If you select this option, log in to the server when prompted. The first time you log in to the server, it takes a few minutes because the database is being populated with inventory data.
- ◆ **No, I Will Restart the System Myself:** If you select this option, the database is immediately populated with inventory data.

NOTE: This option is displayed only for Windows devices.

The process of populating the database can cause high CPU utilization during rebooting or immediately after the installation program closes if you select not to reboot. This database updating process can slow down the starting of the services and access to ZENworks Control Center.

The Patch Management downloads might also cause high CPU utilization, usually shortly after rebooting.

Installation completion

The actions you selected previously are performed after all of the files have been installed for ZENworks 10 Asset Management (if selected). These include:

- ◆ (Windows only) Creating the ZENworks Adaptive Agent icon in the notification area (system tray)
- ◆ (Windows only) Creating the ZENworks Control Center icon on the desktop or Start menu
- ◆ Displaying the Readme
- ◆ Displaying the installation log file
- ◆ Opening ZENworks Control Center

IMPORTANT: If you installed to a Linux server using the command line, and if you plan to run any zman commands in the current session, you need to get the newly installed /opt/novell/zenworks/bin directory into your session's path. Log out of your session and log back in to reset the PATH variable.

4.2 Performing an Unattended Installation

You can use a response file to perform an unattended installation of ZENworks 10 Asset Management SP3. You can either edit the default response file (provided at *DVD_drive*:\Disk1\InstData\silentinstall.properties), or perform an installation to create your own version of the response file that contains the basic installation information and edit that copy as needed.

For an embedded Sybase database, you must create a response file to perform an unattended installation; you cannot reuse the response file generated for a server that uses an external database.

Do the following to create the response file, then use it to perform an unattended installation:

4.2.1 Creating Your Response File

1 Run the ZENworks 10 Asset Management SP3 installation executable on a server by using one of the following methods:

- ◆ **Windows GUI:** `DVD_drive`:`\setup.exe -s`

- ◆ **Linux GUI:** `sh /media/cdrom/setup.sh -s`

  Using the `sh` command resolves rights issues.

- ◆ **Linux command line:** `sh /media/cdrom/setup.sh -e -s`

For more information on the installation arguments, see Appendix A, "Installation Executable Arguments," on page 83.

2 (Conditional) On a Windows server, ensure that the *Yes, Generate the Response File with Restart Enabled* option is selected so that server is automatically rebooted after the silent installation has completed.

A silent installation does not provide an installation progress bar.

3 When prompted, provide a path for your custom response file.

When you use the `-s` argument by itself, the installation program prompts you for a path for the response file. The default filename is `silentinstall.properties`, which you can rename later (see Step 4g).

4 Add the Management Zone and external database passwords to your custom response file.

Because the external database password that you enter during custom response file creation is not saved in the response file, you must add the database and the Management Zone passwords in each copy of the response file in order for it to be correctly provided during an unattended installation.

Optionally, you can create an environment variable to pass the password into the unattended installation. Instructions for this are contained in the response file where the password information is stored.

While you are editing the response file, you can make any other changes necessary to customize it for your unattended installation. The response file contains instructions for its various sections.

To add the external database and Management Zone passwords into the response file:

4a Open the response file in a text editor.

Your custom response file is located where you specified in Step 3.

If you are editing the default response file, it is located at `DVD_drive`:`\Disk1\InstData\silentinstall.properties`.

4b Search for `ADMINISTRATOR_PASSWORD=` .

4c Replace `$lax.nl.env.ADMIN_PASSWORD$` with the actual password.

For example, if the password is `novell`, then the entry will be as follows:

`ADMINISTRATOR_PASSWORD=novell`

4d (Conditional) If you are using an external database, then search for the line, `DATABASE_ADMIN_PASSWORD=`, and replace `$lax.nl.env.ADMIN_PASSWORD$` with the actual password.

4e (Conditional) If you are using an external database, then search for the line, `DATABASE_ACCES_PASSWORD=`, and replace `$lax.nl.env.ADMIN_PASSWORD$` with the actual password.

4f Save the file and exit the editor.

4g Make as many differently named copies as you need for your various installation scenarios, modify each copy as necessary, then copy each one to the server where it will be used.

If you want to add another Primary Server to the existing Management Zone, you must provide the following information in the response file:

`PRIMARY_SERVER_ADDRESS=$`*`Primary_Server_IPaddress`*`$`

`PRIMARY_SERVER_PORT=$`*`Primary_Server_port`*`$`

`PRIMARY_SERVER_CERT=-----BEGIN CERTIFICATE-----`
`MIID9DCCLotsOfEncryptedCharactersSja+bY05Y=-----END CERTIFICATE-----`

where

PRIMARY_SERVER_ADDRESS is the IP address or DNS name of the parent Primary Server if the secondary server is being installed to an existing Management Zone.

PRIMARY_SERVER_PORT is the SSL port used by the parent Primary Server if the secondary server is being installed to an existing Management Zone. By default, it is 443.

PRIMARY_SERVER_CERT= is the certificate you specified on the parent Primary Server if the secondary server is being installed to an existing Management Zone. The certificate must be in the base64 encoded string format of an x509 certificate, and the certificate string must be specified in one line. The above is just an example of the certificate information.

5 After you have completed modifications to your custom response file, copy it from the path that you specified in Step 3 to a location on each server where you will use it for the unattended installation.

6 To use the updated response file, continue with Section 4.2.2, "Performing the Installation," on page 62.

4.2.2 Performing the Installation

1 On the installation server where you will perform an unattended installation, insert the *Novell ZENworks 10 Asset Management SP3* installation DVD.

- ◆ For Windows, if the installation page where you can select the language is displayed, click *Cancel* to exit the GUI installation.
- ◆ For Linux, mount the installation DVD.

2 To start the unattended installation, use the `-f` option in the command:

- ◆ For Windows, run *`DVD_drive`*`:\setup.exe -s -f `*`path_to_file`*.
- ◆ For Linux, run `sh /media/cdrom/setup.sh -s -f `*`path_to_file`*.

where *path_to_file* is either the full path to the response file that you created in Section 4.2.1, "Creating Your Response File," on page 61, or a directory containing the `silentinstall.properties` file (it must use that filename).

Using the `sh` command resolves rights issues.

If you renamed the updated response file, include its new name with the path.

If a filename is not given, or if either the path or file does not exist, the `-f` parameter is ignored and the default installation (GUI or command line) is run instead of an unattended installation.

3 After the installation has completed and the server has been rebooted, do any of the following to verify that ZENworks 10 Asset Management is running:

   ◆ **Run ZENworks Control Center**

   If ZENworks Control Center did not automatically start, use the following URL to open ZENworks Control Center in a Web browser:

   https://*DNS_name_or_IP_address_of_Primary_Server*/zenworks

   This can be done either on the server where you just installed ZENworks, or on a qualified workstation.

   ◆ **Check the Windows services by using the GUI**

   On the server, click *Start*, select *Administrative Tools > Services*, then review the status of the *Novell ZENworks Loader* and *Novell ZENworks Server* services.

   If they are not running, start the ZENworks services. Right-click the *Novell ZENworks Server* service, select *Start*, right-click the *Novell ZENworks Loader* service, then select *Start*.

   The *Restart* option stops all related services that are already running and starts each of them in their correct order, including *Novell ZENworks Loader*.

   ◆ **Check the Windows services by using a command line**

   On the server, click *Start*, click *Run*, then run the following command:

   ```
   ZENworks_installation_path\bin\novell-zenworks-configure
   -c SystemStatus
   ```

   This lists all ZENworks services and their statuses.

   To start the services, run the following command:

   ```
   ZENworks_installation_path\bin\novell-zenworks-configure -c Start
   ```

   ◆ **Check the Linux services by using the configuration command**

   On the server, run the following command:

   ```
   /opt/novell/zenworks/bin/novell-zenworks-configure -c SystemStatus
   ```

   This lists all ZENworks services and their statuses.

   To start the services, run the following command:

   ```
   /opt/novell/zenworks/bin/novell-zenworks-configure -c Start
   ```

   ◆ **Check the Linux services by using the specific services' commands**

   On the server, run the following commands:

   ```
   /etc/init.d/novell-zenserver status
   /etc/init.d/novell-zenloader status
   ```

   If the services are not running, run the following commands to start the ZENworks services:

   ```
   /etc/init.d/novell-zenserver start
   /etc/init.d/novell-zenloader start
   ```

4 To create another Primary Server for the Management Zone by performing an unattended installation, return to Step 1; otherwise, continue with Step 5.

5 After the installation has completed, continue with Section 4.3, "Post-Installation Tasks," on page 64.

4.3 Post-Installation Tasks

After successfully installing ZENworks 10 Asset Management SP3, perform the following tasks:

◆ Take a reliable backup of the ZENworks database on a regular basis.

For more information on how to back up the ZENworks database, see "Database Management" in the *ZENworks 10 Asset Management System Administration Reference*.

◆ Procure and note down the credentials of the database.

To procure the credentials of the internal database, use one of the following commands:

```
zman dgc -U administrator_name -P administrator_password
```

or

```
zman database-get-credentials -U administrator_name -P
administrator_password
```

To procure the credentials of the external database, contact the database administrator.

◆ Take a reliable backup of the ZENworks Server (which only needs to be done one time).

For more information on how to back up the ZENworks Server, see "Backing Up a ZENworks Server" in the *ZENworks 10 Asset Management System Administration Reference*.

◆ Take a reliable backup of the Certificate Authority.

For more information on how to back up the Certificate Authority, see "Backing Up the Certificate Authority" in the *ZENworks 10 Asset Management System Administration Reference*.

◆ (Conditional) If you turn on the firewall on Windows Primary Server, you must configure the server to allow the following ZENworks 10 Configuration Management Imaging applications through the firewall by adding them to the Windows Firewall Exceptions list:

  ◆ `novell-pbserv.exe`
  ◆ `novell-proxydhcp.exe`
  ◆ `novell-tftp.exe`
  ◆ `novell-zmgprebootpolicy.exe`

For more information, review the following sections:

  ◆ "Adding Imaging Applications as Exceptions to Firewall on Windows Server 2003" on page 64
  ◆ "Adding Imaging Applications as Exceptions to Firewall on Windows Server 2008" on page 65

Adding Imaging Applications as Exceptions to Firewall on Windows Server 2003

1 From the desktop *Start* menu, click *Settings > Control Panel*.

2 Double-click *Windows Firewall*.

The Windows Firewall window is displayed.

3 Click the *Exceptions* tab.

4 Click *Add Program*.

The Add a Program window is displayed.

5 Click *Browse* to browse for and select `novell-pbserv.exe`.

All the Imaging applications including `novell-pbserv.exe` are located in the `zenworks_installation_directory\novell\zenworks\bin\preboot` directory

6 Click *OK*.

`novell-pbserv.exe` is added to the *Programs and Services* list and is automatically enabled.

7 Repeat Step 4 through Step 6 to add the following Imaging applications to the *Exceptions* list:

   ◆ `novell-proxydhcp.exe`

   ◆ `novell-tftp.exe`

   ◆ `novell-zmgprebootpolicy.exe`

8 Click *OK*.

Adding Imaging Applications as Exceptions to Firewall on Windows Server 2008

1 From the desktop *Start* menu, click *Settings > Control Panel*.

2 Double-click *Windows Firewall*.

The Windows Firewall window is displayed.

3 In the left pane, click *Allow a program or feature through Windows Firewall*.

4 Click the *Exceptions* tab.

5 Click *Add Program*.

The Add a Program window is displayed.

6 Click *Browse* to browse for and select `novell-pbserv.exe`.

All the Imaging applications including `novell-pbserv.exe` are located in the `zenworks_installation_directory\novell\zenworks\bin\preboot` directory

7 Click *OK*.

`novell-pbserv.exe` is added to the *Programs and Services* list and is automatically enabled.

8 Repeat Step 5 through Step 7 to add the following Imaging applications to the *Exceptions* list:

   ◆ `novell-proxydhcp.exe`

   ◆ `novell-tftp.exe`

   ◆ `novell-zmgprebootpolicy.exe`

9 Click *OK*.

4.3.1 Tasks to be performed on VMware ESX

For optimal performance for Primary Servers running on VMware ESX, set the reserved memory size to the size of the guest OS memory.

Additionally, if the ZENworks 11 guest OS supports it, enable additional java commands to set large pages

```
-XX:+UseLargePages
```

For more information on memory reservation and large memory pages, see Java in Virtual Machines on VMware ESX: Best Practices (http://www.vmware.com/files/pdf/Java_in_Virtual_Machines_on_ESX-FINAL-Jan-15-2009.pdf).

Perform the following applicable task:

- "Enabling Additional Java options on Windows" on page 66
- "Enabling Additional Java options on Linux" on page 66

Enabling Additional Java options on Windows

1 At the command prompt, run the following command:

```
zenserverw
```

2 In the Java tab, add the option under the Java Options to an appropriate location and ensure that each option is separated by its own line.

3 To start the Novell ZENworks Server services, click *Start > Settings > Control Panel*.

  3a Double-click *Administrative Tools > Services*.

  3b Double-click *Novell ZENworks Server*.

  3c In the Novell ZENworks Service Properties dialog box, click *Start > OK*.

4 To stop the Novell ZENworks Server services, click *Start > Settings > Control Panel*.

  4a Double-click *Administrative Tools > Services*.

  4b Double-click *Novell ZENworks Server*.

  4c In the Novell ZENworks Service Properties dialog box, click *Stop > OK*.

NOTE: If the Novell ZENworks Server properties dialog box is not displayed or the service fails to start, there is either a compatibility problem with the newly added option or the syntax is incorrect. To troubleshoot the service startup, enable the logging options on the Logging tab:

Set the log path. For example: `c:\`.

Set the Redirect Stdout. For example: `c:\stdout.log`

Set the Redirect Stderr.log. For example: `c:\stderr.log`

Enabling Additional Java options on Linux

1 Take a backup and open `/etc/init.d/novell-zenserver`.

2 In the CATALINA_OPTS string, add the appropriate options separated by spaces before the `-XX:PermSize` option.

CATALINA_OPTS is used to configure the Tomcat container options. For more information on Tomcat, see Tomcat online documentation.

3 To restart the Novell ZENworks Server services, run the following command:

```
/etc/init.d/novell-zenserver start
```

4 To stop the Novell ZENworks Server services, run the following command:

```
/etc/init.d/novell-zenserver stop
```

NOTE: If the Novell ZENworks Server fails to start, there is either a compatibility problem with the newly added option or the syntax is incorrect. To troubleshoot the service startup, run the following commands:

`/etc/init.d/novell-zenserver debug`

The following log file is displayed:

`/opt/novell/zenworks/share/tomcat/logs/catalina.out`

Installing the ZENworks Adaptive Agent on Windows

Any devices you want to manage through ZENworks must have the ZENworks Adaptive Agent deployed to them. The Adaptive Agent collects software and hardware inventory, monitors software usage and license compliance, and performs all other ZENworks management tasks on the managed device.

For detailed information on deploying the ZENworks Adaptive Agent, see "ZENworks Adaptive Agent Deployment" in the *ZENworks 10 Discovery, Deployment, and Retirement Reference*.

IMPORTANT: If you plan to install the ZENworks Adaptive Agent on a device where the ZENworks 7 Desktop Management Agent is already installed, there are coexistence issues that you need to consider. Please review Chapter 2, "Coexistence with Other ZENworks Products," on page 31 before continuing with "ZENworks Adaptive Agent Deployment" in the *ZENworks 10 Discovery, Deployment, and Retirement Reference*.

Installing the ZENworks Adaptive Agent on Linux

<div style="text-align: right">6</div>

In order to use a Linux device as a ZENworks Satellite, you need to install the Linux Adaptive Agent package on the device and configure it as a Satellite. For more information on how to configure the device as a Satellite, see "Satellites" in the *ZENworks 10 Asset Management System Administration Reference*.

To install the Linux Adaptive Agent package on a Linux device:

1 Make sure the device meets the necessary requirements (see "Section 1.2, "Satellite Requirements," on page 15" in the *ZENworks 10 Asset Management Installation Guide*).

2 On the target device, open a Web browser to the following address:

https://*serve*r/zenworks-setup

where *server* is the DNS name or IP address of a ZENworks Server.
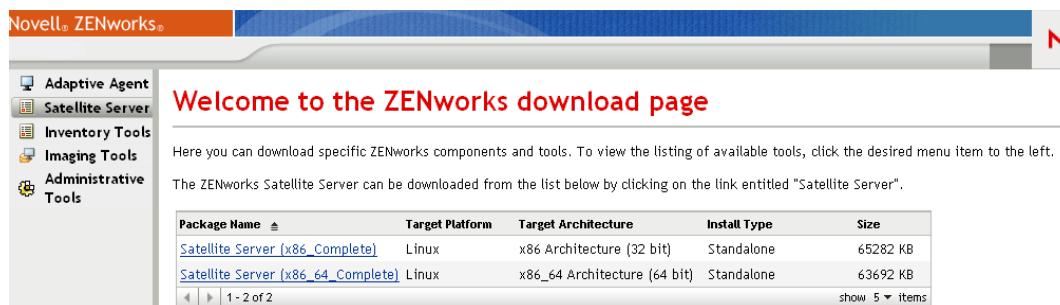
There is one standalone package for each architecture (32-bit and 64-bit).

3 Click the *Satellite Server* tab.

4 Click the name of the deployment package you want to use, save the package to the device's local drive, then give executable permissions to the file by running the command `chmod 755 filename`.

For information on the options you can use with the package, see "Package Options" on page 72.

5 In the terminal window, go to the directory where you have downloaded the package, then launch the package on the device by running the command `./filename`, where *filename* is the name of the package you downloaded in Step 4.

In ZENworks Control Center, the device appears under the `\Servers` folder structure or `\Workstation` folder structure on the Devices page.

After the installation is complete and if the device is connected to the network, the ZENworks Management Daemon in the agent registers itself with the Management Zone.

You can run the commands locally on the device by using the zac command line utility. If the agent was installed on the Linux device by using an xsession or ssh session, you need to run zac by entering the command `/opt/novell/zenworks/bin/zac`. However, after logging in again, you can run zac directly from the command line without typing the full path.

Package Options

You can use the options listed below when launching a deployment package from the command line.
The syntax is:

```
package name option1 option2 ...
```

For example:

```
SatelliteServer.bin -k regkey1
```

-d *target_path***:** Extracts the files to the specified target path. The default target path is
`c:\opt\novell\zenworks\stage.`

-h: Displays help information.

-k: The registration key used to register the device in the management zone.

-l: Lists the contents of the package only. Does not extract the package and run the installation.

-n: Extracts the package but does not run the installation.

-v: Turns on verbose screen logging.

In addition to the options listed above, there are two additional BUILDTIME options (-f *file* and -o
output_file) that are used when building packages. These options should only be used under the
direction of Novell Support.

Uninstalling ZENworks Software

<div style="text-align: right; font-size: 3em;">7</div>

You can uninstall the ZENworks software from Primary Servers, Satellites, and managed devices. If ZENworks Reporting Server is installed on a Primary Server, you must first uninstall the ZENworks Reporting Server (see "Uninstalling ZENworks Reporting Server" in the *ZENworks 10 Asset Management Reporting Server Installation Guide*), then uninstall the ZENworks software.

The embedded ZENworks database can only be removed by uninstalling the ZENworks software from the Primary Server hosting the Management Zone. If you are using an external database, the database remains intact after the uninstallation. To uninstall an external ZENworks database, see the instructions provided by the database manufacturer.

Review the following sections for more information:

7.1 Correct Order for Uninstalling ZENworks Software

When uninstalling ZENworks software from selected components of your Management Zone (for example, a Primary Server or a managed device), there is no specific order that you need to follow.

However, if you want to completely remove the ZENworks software from all components in your Management Zone (effectively removing ZENworks from your environment), we recommend that you uninstall the software in the reverse order that it was installed. This means that you would:

1. Uninstall the Adaptive Agent from each managed device.
2. Uninstall all Satellite devices.
3. Uninstall all Primary Servers other than your database Primary Server. Your database Primary Server is the one that is hosting the embedded ZENworks database. Or, if you are using an external ZENworks database, it is the first Primary Server that was installed.

   If you don't uninstall all Primary Servers before your database Primary Server, those Primary Servers become orphaned when you delete the database Primary Server and cannot be uninstalled from ZENworks Control Center.
4. Uninstall the database Primary Server.

7.2 Uninstalling a Windows Primary Server, Satellite, or Managed Device

Before uninstalling the ZENworks software from the Windows Satellite, if you demote the device to managed device, you must run the uninstallation program only after the Satellite roles (Authentication, Imaging, Content, and Collection) are removed from the device. To ensure that the roles are removed from the Windows managed device, double click the Ⓩ icon in the notification area. The left navigation pane should not contain the Satellite pages.

To uninstall a Windows Primary Server, Satellite, or managed device:

1 On the server or managed device, run:

zenworks_installation_directory\novell\zenworks\bin\ZENworksUninstall.exe

To see the list of uninstall options, run ZENworksUninstall.exe --help.

2 Refer to the information in the following table during uninstallation.

The information is listed in the order of the uninstallation flow.

Information	Explanation
Administrator Information of the zone to which the device is registered	Configure the following settings: **Primary Server:** Specify the IP address of the Primary server in the following format: https:// *IP_address or DNS_name_of_the_server:port_number* **NOTE:** You must specify the port number if you are not using the default port.
	Username: Specify the username. By default, the username is administrator. **Password:** Specify the password for the ZENworks administrative user specified in the *Username* field. **Local Uninstallation Only (Retain the Device in the Zone):** Select this option if you only want to uninstall ZENworks software from the device. The device continues to be registered in the Management Zone.
	NOTE: Ensure that you have the permission to uninstall the ZENworks Adaptive Agent. The *Allow Users to Uninstall Agent* option must be selected by the zone administrator in ZENworks Control Center (the *Configuration* tab > *Management Zone Settings* > *Device Management* > *ZENworks Agent* > *General*).
	This option is useful if you don't have a connection with the Management Zone when you want to remove ZENworks from the device, or if the device's ZENworks installation is corrupted and needs to be reinstalled. If you select the *Local Uninstallation Only (Retain the Device in the Zone)* option, then click *Next*, the Components To Be Retained page is displayed.

Information	Explanation
Operations To Perform	Select an option:
	◆ **Retire the Device from the Zone:** Makes all ZENworks operations ineffective on the managed device. However, the ZENworks Adaptive Agent is not uninstalled and the device continues to be registered in the Management Zone. This option is available only for a managed device.
	◆ **Uninstall the ZENworks Agent and Unregister the Device from the Zone:** Uninstalls ZENworks Adaptive Agent from the device and removes the device from the Management Zone.
	NOTE: Ensure that you have the permission to uninstall the ZENworks Adaptive Agent. The *Allow Users to Uninstall Agent* option must be selected by the zone administrator in ZENworks Control Center (the *Configuration* tab > *Management Zone Settings > Device Management > ZENworks Agent > General*).
	◆ **Uninstall the ZENworks Server and Unregister the Device from the Zone:** Uninstalls the ZENworks Server from the device.
	WARNING: If this device hosts the Management Zone, then the zone is also removed.
	◆ **Transfer the Device to Another Zone:** Unregisters the managed device from the existing zone and reregisters it to the new Management Zone. This option is available only for the managed device.
	If you select the *Transfer the Device to Another Zone* option, then the New Zone Information page is displayed.
	◆ **Demote the Satellite Server:** Demotes the Satellite to a managed device and removes all the roles assigned to the server. This option is available only for the Satellite.
New Zone Information	This page is displayed only if the *Transfer the Device to Another Zone* option is selected in the Actions page.
	Configure the following settings:
	New Primary Server: Specify the IP address of the new Primary server in the following format:
	https:// *IP_address or DNS_name_of_the_server:port_number*
	NOTE: You must specify the port number if you are not using the default port.
	Username: Specify the username. By default, the username is administrator.
	Password: Specify the password for the ZENworks administrative user specified in the *Username* field.

Information	Explanation
Components To Be Retained	This page is displayed only if you chose to uninstall the Primary Server, have selected the *Local Uninstallation Only (Retain the Device in the Zone)* option, or have selected the *Demote the Satellite Server* option for the Satellite with the Imaging role. Select an option: ◆ **ZENworks Pre-Agent:** Leaves the ZENworks Pre-Agent installed on the device, but removes all other ZENworks software. By default, this is not selected. If the ZENworks Pre-Agent continues to remain on the device, then it responds to the Advertised discovery requests, and also to ZENworks Ping requests if an IP-based discovery is performed on the device. To remove the ZENworks Pre-Agent from a device after ZENworks has been uninstalled from the device, see "Removing the ZENworks Pre-Agent from a Device" in *ZENworks 10 Asset Management System Administration Reference*. ◆ **CASA:** Leaves the CASA software installed. By default, this is selected because CASA can be used by other software programs. ◆ **ZENworks Imaging Files:** Leaves the ZENworks Imaging files on the device. By default, this is selected. **NOTE:** If you have selected the *Demote the Satellite Server* option and the device has the Imaging role configured, or if the device is a Primary Server, then only the *ZENworks Imaging Files* option is enabled.
Uninstallation Summary	Review the information and, if necessary, use the *Back* button to make changes to the information.
Status	Displays the status of uninstallation. By default, the *Restart Now* option is selected. Restarting completes the uninstallation process. Some files are not deleted until the device is restarted.

3 Click *Finish* to complete the uninstallation.

If you selected *Restart Now*, the device is rebooted to complete the uninstallation. If not, the uninstallation is not complete until you reboot.

4 If there are any files in the following locations after the device has rebooted, you can delete them manually:

◆ **CASA:** If you select to retain CASA during the uninstallation, and want to remove it later, you can do it from Windows Add/Remove Programs. If the `c:\program files\novell\casa` directory exists even after you select to uninstall CASA, you can manually delete it.

◆ **ZENworks:** Log files are purposely left here for your review. You can manually delete the `ZENworks_installation_path\ZENworks` directory at any time.

5 For Windows, if the ZENworks Control Center icon remains on the desktop, you can manually delete it.

6 (Conditional) If you have uninstalled the ZENworks agent, you must manually delete the registry entries from the Windows managed device that has ZENworks 10 Configuration Management SP3 uninstalled (after it has rebooted).

   6a Launch the Windows Registry Editor.

   6b Search for the following files, and delete their registry entries:

   ```
   nalshell.dll
   nalui.dll
   nalredir.tlb
   msrdp.ocx
   ```

   6c (Conditional) On Windows 2000, delete `HKey_Local_Machine\Software\Netware`.

   6d Close the Windows Registry Editor.

7.3 Uninstalling a Linux Primary Server

When you uninstall the ZENworks software from a Linux Primary Server, you can remove the device from the Management Zone (unregister it) or you can leave it registered. The following sections provide instructions for both uninstallation options:

   ◆ Section 7.3.1, "Uninstalling ZENworks Software and Removing the Device from the Zone," on page 77

   ◆ Section 7.3.2, "Uninstalling ZENworks Software While Retaining the Device in the Zone," on page 78

7.3.1 Uninstalling ZENworks Software and Removing the Device from the Zone

To uninstall the ZENworks software from a Linux Primary Server and remove (unregister) the device from the Management Zone, enter the following command at the server console prompt:

```
/opt/novell/zenworks/bin/zenuninstall –x –s http://
IPaddress_of_the_server:port_number -u username -p password [options]
```

Where,

`-x, --remove` = Uninstalls the ZENworks software from the device and removes the device from the zone

`-s` = IP address of the Primary Server and the port number on which the server is running. The IP address and port number must be specified in the following format: http:// *IPaddress_of_the_server*:*port_number*.

NOTE: If the Primary Server is running on the default port, 80, you need not specify the `-s` argument. However, you must specify the argument with the port number if the Primary Server is not running on the default ports.

`-u` = Management Zone administrator's username.

`-p` = Password of the Zone administrator.

The command accepts the following options:

Table 7-1 *Uninstallation Options*

Option	Functionality
-z, --zone	Name of the device's current zone.
-g, --guid	Device's GUID.
-l, --list	An ordered list of packages to uninstall, delimited by semicolons.
-L, --leave-packages	Retains the third-party packages. You must specify at least the first three characters of the package name to be retained. You can also specify more than one package name by separating them with a comma (,).
-c, --local-only	Uninstalls ZENworks software from the device but does not remove the device from the zone.
-o, --oem	Retains the ZENworks Pre-agent, but uninstalls the ZENworks Adaptive Agent packages.
-i, --delete-images	Deletes the ZENworks Imaging files from the specified device.
-a, --remove-auth	Uninstalls the authentication software (CASA), which is installed by ZENworks 10 Asset Management SP3 or is directly downloaded and installed from the Novell Support Web sites. If you do not specify the -a option, the CASA packages are retained.
-d, --remove-log-dir	Removes the logs directory.
-q, --quiet	Performs a silent uninstallation.
-h, --help	Displays the message and exit.

7.3.2 Uninstalling ZENworks Software While Retaining the Device in the Zone

To uninstall ZENworks software from a Linux Primary Server but continue to have the device registered in the Management Zone, enter the following command at the server console prompt:

```
/opt/novell/zenworks/bin/zenuninstall –x –s http://
IPaddress_of_the_server:port_number -u username -p password [options]
```

The command accepts the following options:

Table 7-2 *Uninstallation Options*

Option	Functionality
-c, --local-only	Uninstalls ZENworks software from the device but does not remove the device from the zone.
-a, --remove-auth	Uninstalls the authentication software (CASA), which is installed by ZENworks 10 Asset Management SP3 or is directly downloaded and installed from the Novell Support Web sites. If you do not specify the -a option, the CASA packages are retained.
-h, --help	Displays the message and exit.

This command does not remove the device from the Management zone.

7.4 Uninstalling ZENworks 10 Configuration Management SP3 Linux Satellite

You can perform the following types of uninstallation on a Linux Satellite:

7.4.1 Zone-Level Uninstallation

In the zone-level uninstallation, you demote the Linux Satellite and remove the Satellite roles assigned to it. Subsequently, you can remove the device from the Management Zone and uninstall the ZENworks Adaptive Agent from it.

Demoting a Linux Satellite

If a Linux device has satellite roles assigned to it, you demote the Satellite by removing the Satellite roles (Authentication, Imaging, Content, and Collection).

1 At the Linux Satellite console prompt, launch the uninstallation program by entering `/opt/novell/zenworks/bin/uninstall`.

2 Choose the locale (language) in which you prefer to run the uninstallation program by entering the locale number.

To select the default locale (English), enter `2` or press Enter.

> **TIP:** Pressing Enter at any prompt causes the uninstallation program to accept the default, which is the value shown in parentheses.

3 Read the introductory text, then press Enter.

4 On the Uninstallation Type screen, select the *Demote Satellite Server* option by pressing Enter.

5 On the ZENworks Management Zone Information screen, enter the IP address of the Primary Server to which the Linux Satellite is registered.

6 Enter the port number on which the Primary Server is listening.

To select the default port 443, press Enter.

7 Enter the username of the zone administrator.

To use the default username (Administrator), press Enter.

8 Enter the zone administrator's password.

9 (Conditional) If the Linux Satellite has the Imaging role configured, you are prompted to retain the images after the uninstallation. To retain the images, press Enter.

10 Review the summary, then press Enter to begin the uninstallation.

The ZENworks uninstallation program perform the following actions:

- Removes all the Satellite roles from the device.

- Removes the entry for the device from ZENworks Control Center (*Configuration* tab > *Server Hierarchy* panel).

11 Ensure that the Satellite roles have been removed from the device by running the `zac satr` command.

12 (Conditional) If you want to uninstall the agent and unregister the device from the zone, continue with

Uninstalling the ZENworks Adaptive Agent and Unregistering the Device from the Zone

After demoting a Linux Satellite and removing the Satellite roles from it, perform the following steps to remove the device from the Management Zone and uninstall the ZENworks Adaptive Agent.

1 At the Linux Satellite console prompt, relaunch the uninstallation program by entering `/opt/novell/zenworks/bin/uninstall`.

2 Choose the locale (language) in which you prefer to run the uninstallation program by entering the locale number.

To select the default locale (English), enter `2` or press Enter.

> **TIP:** Pressing Enter at any prompt causes the uninstallation program to accept the default, which is the value shown in parentheses.

3 Read the introductory text, then press Enter.

4 On the Uninstallation Type screen, select the *Unregister and Uninstall From Zone* option by pressing Enter.

5 On the ZENworks Management Zone Information screen, enter the IP address of the Primary Server to which the Linux Satellite is registered.

6 Enter the port number on which the Primary Server is listening.

To select the default port 443, press Enter.

7 Enter the username of the zone administrator.

To use the default username (Administrator), press Enter.

8 Enter the zone administrator's password.

9 Review the summary, then press Enter to begin the uninstallation.

ZENworks uninstallation program performs the following actions:

- Uninstalls ZENworks Adaptive Agent.

- Removes all the RPMs related to ZENworks 10 Configuration Management SP3 from the device.

- Removes the device object from ZENworks Control Center (*Devices* tab > *Managed* tab > *Servers* folder).

NOTE: If the uninstallation fails, see the following log files:

- `/var/opt/novell/log/zenworks/`
  `ZENworks_Satellite_Server_Uninstall_<`*`timestamp`*`>.xml`

- `/tmp/err.log`

7.4.2 Local Uninstallation

The Local Uninstallation option uninstalls only the ZENworks Adaptive Agent.

1 Ensure that you have the permission to uninstall the Linux Satellite.

The *Allow Users to Uninstall Agent* option must be selected by the zone administrator in ZENworks Control Center (*Configuration* tab > *Management Zone Settings* > *Device Management* > *ZENworks Agent* > *General*).

2 At the Linux Satellite console prompt, launch the uninstallation program by entering `/opt/`
`novell/zenworks/bin/uninstall`.

3 Choose the locale (language) in which you prefer to run the uninstallation program by entering the locale number.

To select the default locale (English), enter `2` or press Enter.

TIP: Pressing Enter at any prompt causes the uninstallation program to accept the default, which is the value shown in parentheses.

4 Read the introductory text, then press Enter.

5 On the Uninstallation Type screen, select the *Local Uninstallation* option by entering 2, then pressing Enter again to finalize the selection.

6 (Conditional) If the Linux Satellite has the Imaging role configured, you are prompted to retain the images after the uninstallation. To retain the images, press Enter.

7 Review the summary, then press Enter to begin the uninstallation.

The ZENworks uninstallation program uninstalls the ZENworks Adaptive Agent by removing all the RPMs related to the Linux Satellite.

8 (Conditional) If the uninstallation fails, see the following log files:

- `/var/opt/novell/log/zenworks/`
  `ZENworks_Satellite_Server_Uninstall_<`*`timestamp`*`>.xml`

- `/tmp/err.log`

After the uninstallation of ZENworks Adaptive Agent, the Linux device object is still displayed in ZENworks Control Center (*Configuration* tab > *Server Hierarchy* panel) as having all the Satellite roles even though all the packages and RPMs related to the roles are removed from the device. If you want to delete the object, do the following in ZENworks Control Center:

1 Remove the roles assigned to the Satellite.

For more information on how to remove the roles, see "Removing Satellites from the Server Hierarchy" in the *ZENworks 10 Asset Management System Administration Reference*.

2 Click the *Devices* tab > *Servers* folder.

3 Select the check box next to the Linux server, then click *Delete*.

Installation Executable Arguments

A

To install Novell ZENworks 10 Asset Management SP3, the following arguments can be used with the `setup.exe` and `setup.sh` executable files that are located at the root of the installation DVD. You can run these files from a command line.

You should use the `sh` command with `setup.sh` in order to prevent rights issues.

Table A-1 *Installation Executable Arguments*

Argument	Long Form	Explanation
-e	--console	(Linux only) Forces a command line installation.
-l	--database-location	Specifies a custom OEM (embedded) database directory.
-c	--create-db	Launches a database administration tool.
		It cannot be used at the same time as the -o argument.
-o	--sysbase-oem	Authenticates to an OEM database that is not set up by the installation program. This causes the installation program to present you with only the necessary database options for an external database, instead of the usual database options.
		It cannot be used at the same time as the -c argument.
-s	--silent	If this is not used with the -f argument, it causes the installation that you are performing to create a response file (with a `.properties` filename extension) that you can edit, rename, and use for an unattended installation to another server.
		If this is used with the -f argument, an unattended installation on the server is started, using the response file that you specify with the -f argument.
-f *[path to file]*	--property-file *[path to file]*	Used with the -s argument, performs an unattended (silent) installation using the response file that you specify.
		If you do not specify a response file, or if the path or filename is incorrect, the default non-silent GUI or command line installation is used instead.

Some examples:

* To perform a command line installation on a Linux server:

  sh *unzip_location*/Disk1/setup.sh -e
* To specify a database directory:

  unzip_location\disk1\setup.exe -l d:\databases\sybase
* To create a response file:

  unzip_location\disk1\setup.exe -s

- To perform an unattended installation:

```
unzip_location\disk1\setup.exe -s -f c:\temp\myinstall_1.properties
```

Troubleshooting

B

The following sections provide solutions to the problems you might encounter while installing or uninstalling Novell ZENworks 10 Assset Management SP3:

B.1 Troubleshooting Installation

This section provides solutions to problems you might encounter when installing ZENworks 10 Assset Management SP3.

ZENworks 10 Configuration Management SP3 installation might fail on 64-bit Windows Server 2003 and 64-bit Windows Server 2008

Source: ZENworks 10 Assset Management SP3; Installation.

Explanation: If you are installing ZENworks 10 Management SP3 to a 64-bit Windows Server 2003 or 64-bit Windows Server 2008, the installation might fail or hang because of the Windows Installer (`msiexec`) utility. The following message is logged in the installation log:

```
Msiexec returned 1603:
```

Possible Cause: The device does not have Windows Installer 4.5 installed.

Action: Do the following on the 64-bit Windows Server 2003 or 64-bit Windows Server 2008 device:

1 Upgrade the Windows Installer (`msiexec`) utility to Windows Installer 4.5 or later. For more information on how to upgrade to Windows Installer 4.5, see the Microsoft Help and Support Web site (http://support.microsoft.com/KB/942288).

2 Reinstall ZENworks 10 Configuration Management SP3:

2a On the *Novell ZENworks 10* installation DVD, browse to `install\disk\instdata\windows\vm` and execute the following command:

```
install.exe -Dzenworks.configure.force=true
```

2b Follow the installation wizard prompts.

For more information, see the Section 4.1, "Performing the Installation," on page 49.

Installing from the root directory on a Linux device fails to create the self-signed certificates

Source: ZENworks 10 Assset Management SP3; Installation.

Action: On the Linux device, download and copy the ZENworks 10 installation ISO image to a temporary location to which all users have the Read and Execute permissions.

Configuring the ZENworks Server to an Oracle database fails

Source: ZENworks 10 Assset Management SP3; Installation.

Explanation: If the NLS_CHARACTERSET parameter is not set to AL32UTF8 and the NLS_NCHAR_CHARACTERSET parameter is not set to AL16UTF16, the database installation fails with the following error messages:

```
Failed to run the sql script: localization-updater.sql,
message:Failed to execute the SQL command: insert into
zLocalizedMessage(messageid,lang,messagestr)
values('POLICYHANDLERS.EPE.INVALID_VALUE_FORMAT','fr','La
stratÃ©gie {0} n''a
pas pu Ãªtre appliquÃ©e du fait que la valeur de la variable
"{1}" n''est pas
dans un format valide.'),
message:ORA-00600: internal error code, arguments:
[ktfbbsearch-7], [8], [],
[], [], [], [], []
```

Action: Set the NLS_CHARACTERSET parameter to AL32UTF8 and the NLS_NCHAR_CHARACTERSET parameter to AL16UTF16.

To ensure that the character set parameters are configured with the recommended values, run the following query at the database prompt:

```
select parameter, value from nls_database_parameters where
parameter like '%CHARACTERSET%';
```

Unable to establish a remote desktop session with a Windows device running the ZENworks 10 Configuration Management SP3 installation program

Source: ZENworks 10 Assset Management SP3; Installation.

Explanation: If you try to use a Remote Desktop Connection to connect to a Windows server on which the ZENworks 10 Configuration Management SP3 installation program is running, the session terminates with the following error message:

```
The RDP protocol component "DATA ENCRYPTION" detected an
error in the protocol stream and has disconnected the client.
```

Action: See the Microsoft Help and Support Web site (http://support.microsoft.com/kb/323497).

Installing a second server gives an error message

Source: ZENworks 10 Assset Management SP3; Installation.

Explanation: When you are installing the second server into a Management Zone, an error message might be displayed at the end of the installation that contains the following text somewhere in the message:

```
... FatalInstallException Name is null
```

However, the installation otherwise seems to complete successfully.

This error is being displayed erroneously because the program thinks that the server needs to be reconfigured, but it doesn't.

Action: Review the installation log file. If there are no errors there related to this error message, you can ignore it.

Mono installation on Linux fails

Source: ZENworks 10 Asset Management SP3; Installation.

Possible Cause: If the directory to which you have extracted the ZENworks 10 installation ISO image contains spaces and if you choose to install Mono bundled with ZENworks, the Mono installation fails on Linux.

Action: Ensure that the directory to which you want to extract the installation ISO image does not contain spaces.

ConfigureAction fails because of an error detected by HotSpot Virtual Machine

Source: ZENworks 10 Assset Management SP3; Installation.

Explanation: If you are installing the first Primary Server on a Linux device, and if at the end of the process that configures the database you see an error has occurred and you are given the option of continuing or rolling back, you should check the log file at `/var/opt/novell/log/zenworks/ZENworks_Install_[date].log`.xml. If you see the error specified below, it is safe to continue with the install.

```
ConfigureAction failed!:
```

```
select tableName, internalName, defaultValue from Adf where
inUse =?#
An unexpected error has been detected by HotSpot Virtual
Machine:
#SIGSEGV (0xb) at pc=0xb7f6e340, pid=11887, tid=2284317600
#
#Java VM: Java HotSpot(TM) Server VM (1.5.0_11-b03 mixed
mode)

#Problematic frame:
#C [libpthread.so.0+0x7340] __pthread_mutex_lock+0x20
```

Action: Ignore the error message.

Unable to install NetIdentity from Novell Client 32 on a device that has ZENworks installed

Source: ZENworks 10 Assset Management SP3; Installation.

Explanation: When you try to install the NetIdentity agent that ships with Novell Client32 on a device that has ZENworks Assset Management installed, the installation fails with the following error message:

```
An incompatible version of Novell ZENworks Desktop Management
Agent has been detected
```

Possible Cause: The NetIdentity agent is not installed before installing ZENworks.

Action: Do the following:

1 Uninstall ZENworks 10 Asset Management.

For more information on how to uninstall ZENworks Asset Management, see Chapter 7, "Uninstalling ZENworks Software," on page 73.

2 Install the NetIdentity agent from Novell Client32.

3 Install ZENworks Asset Management.

For more information on how to install ZENworks Asset Management, see Chapter 4, "Installing the ZENworks Server," on page 49.

ZENworks 10 Configuration Management SP3 Installation fails if you choose to configure ZENworks Server with the external Sybase database

Source: ZENworks 10 Assset Management SP3; Installation.

Explanation: During the ZENworks 10 Assset Management SP3 installation, if you choose to configure the ZENworks Server with either the Remote OEM Sybase or Remote Sybase SQL Anywhere database, the installation fails and the following message is logged in the Installation logs:

```
Caused by:
com.mchange.v2.resourcepool.CannotAcquireResourceException: A
ResourcePool could not acquire a resource from its primary
factory or source.
```

Possible Cause: The specified external database server name is incorrect.

Action: Relaunch the ZENworks 10 Configuration Management SP3 Installation Wizard and ensure that you specify the correct external database server details.

Unable to open the ZENworks 10 Configuration Management SP3 Installation logs by using a Web browser on a non-English Primary Server

Source: ZENworks 10 Assset Management SP3; Installation.

Explanation: On a non-English Primary Server that has ZENworks 10 Configuration Management SP3 installed, you are unable to open the Installation logs by using a Web browser. However, you can still open the Installation logs in a text editor.

The Installation logs are located at `/var/opt/novell/log/zenworks/` on Linux and `zenworks_installation_directory\novell\zenworks\logs` on Windows.

Action: Before opening the Installation logs (`.xml`) in a Web browser, change the encoding for all the Installation LogViewer files:

1 Using a text editor, open one of the following LogViewer files located at `/var/opt/novell/log/zenworks/logviewer` on Linux and `zenworks_installation_directory\novell\zenworks\logs\logv iewer` on Windows:

   ◆ `message.xsl`

   ◆ `sarissa.js`

   ◆ `zenworks_log.html`

   ◆ `zenworks_log.js`

   ◆ `zenworks_log.xsl`

   ◆ `zenworks_log_text.xsl`

2 Click *File > Save As*.

   The Save As dialog box is displayed.

3 In the *Encoding* list, select *UTF-8*, then click *Save*.

   NOTE: Do not change the filename and file type.

4 Repeat Step 1 through Step 3 for the remaining LogViewer files.

ZENworks-related files might be reported as malicious software during the ZENworks Adaptive Agent installation

Source: ZENworks 10 Assset Management; Installation.

Explanation: During the ZENworks Adaptive Agent installation, some ZENworks related files might be reported as malicious software by anti-virus software. Consequently, the installation abruptly stops.

Action: Do the following on the managed device where you want to install the ZENworks Adaptive Agent:

1 Manually add `System_drive:\windows\novell\zenworks` to the Exclusion list of the anti-virus software installed on the managed device.

2 Install the ZENworks Adaptive Agent.

On Windows XP, installing the ZENworks Adaptive Agent with the Remote Management component through Remote Desktop Connection hangs

Source: ZENworks 10 Assset Management SP3; Installation

Explanation: If you remotely connect to a managed device by using Remote Desktop Connection (RDP) and install ZENworks Adaptive Agent, the installation hangs.

Action: To fix the issue, download the patch from the Microsoft Support Web site (http://support.microsoft.com/kb/952132) and install it on the managed device prior to installing the ZENworks Adaptive Agent.

B.2 Uninstallation Error Messages

This section contains detailed explanations of the error messages you might encounter when uninstalling ZENworks 10 Configuration Management SP3:

◆ "Unable to proceed because the device does not exist in the Management Zone. For more information, see http://www.novell.com/documentation/zam10 for details." on page 90

◆ "Unable to proceed because the uninstaller is not able to determine the roles assigned to the device. For more information, see http://www.novell.com/documentation/zam10 for details." on page 90

◆ "An incorrect error message is displayed when the uninstallation completes on OES Linux" on page 91

Unable to proceed because the device does not exist in the Management Zone. For more information, see http://www.novell.com/documentation/zam10 for details.

Source: ZENworks 10 Assset Management SP3; Uninstallation on Linux Satellite.

Possible Cause: The specified IP address of the Primary Server to which the Linux Satellite is registered is incorrect.

Action: Specify the correct IP address of the Primary Server to which the Linux Satellite is registered.

Unable to proceed because the uninstaller is not able to determine the roles assigned to the device. For more information, see http://www.novell.com/documentation/zam10 for details.

Source: ZENworks 10 Assset Management SP3; Uninstallation on Linux Satellite.

Action: Ensure that the Primary server to which the Linux Satellite is registered is up and running, and the server is accessible by the Linux Satellite.

Action: For detailed information about the issue, see the following logs:

```
/var/opt/novell/log/zenworks/
  Zenworks_Satellite_Servertimestamp.xml
/tmp/err.log
```

Action: If the problem persists, contact Novell Support (http://www.novell.com/support).

An incorrect error message is displayed when the uninstallation completes on OES Linux

Source: ZENworks 10 Assset Management SP3; Uninstallation on Open Enterprise Server 2 (OES Linux).

Explanation: When the uninstallation completes on OES Linux, the following error message is logged in the Console logs:

```
The following error occurred during the uninstall:
WARN_PACKAGES_NOT_REMOVED
```

Action: None. Ignore the error message.