Novell ZENworks® 10 Configuration Management

10.0.3

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INSTALLATION GUIDE

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Novell®

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About This Guide

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

- Chapter 1, “Minimum Requirements,” on page 9
- Chapter 2, “Installing ZENworks 10 Configuration Management,” on page 19
- Chapter 3, “Uninstalling ZENworks 10 Configuration Management,” on page 43
- Appendix A, “Installation Executable Arguments,” on page 45
- Appendix B, “Documentation Updates,” on page 47

Audience

This guide is intended for ZENworks administrators.

Feedback

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

Additional Documentation

ZENworks 10 Configuration Management is supported by other documentation (in both PDF and HTML formats) that you can use to learn about and implement the product. For additional documentation, see the ZENworks 10 Configuration Management documentation (http://www.novell.com/documentation/zcm10/index.html)

Documentation Conventions

In Novell documentation, a greater-than symbol (>) is used to separate actions within a step and items in a cross-reference path.

A trademark symbol (®, ™, etc.) denotes a Novell trademark. An asterisk (*) denotes a third-party trademark.

When a single pathname can be written with a backslash for some platforms or a forward slash for other platforms, the pathname is presented with a backslash. Users of platforms that require a forward slash, such as Linux*, should use forward slashes as required by your software.

Minimum Requirements

1

The following sections provide the Novell® ZENworks® 10 Configuration Management minimum requirements for hardware and software:

- Section 1.1, “Primary Server Requirements,” on page 9
- Section 1.2, “Management Zone Version Requirements,” on page 12
- Section 1.3, “Database Requirements,” on page 14
- Section 1.4, “LDAP Directory Requirements,” on page 14
- Section 1.5, “Managed Device Requirements,” on page 15
- Section 1.6, “Inventoried-Only Device Requirements,” on page 16
- Section 1.7, “Administration Browser Requirements,” on page 18
- Section 1.8, “Installation User Requirements,” on page 18

IMPORTANT: All requirements listed in the following sections are minimums. Therefore, later support packs, interim releases, dot releases, and higher version numbers are assumed to be supported. For example, the minimum Primary Server operating system requirement on Windows Server 2003 is listed as SP1, but SP2 or later is also supported.

1.1 Primary Server Requirements

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

Table 1-1 *Primary Server Minimum Requirements*

Item	Minimum Requirement
Server Usage	Your server might be capable of handling tasks in addition to the tasks a Primary Server performs for ZENworks 10 Configuration Management. However, we recommend that any server where you install the Primary Server software be used only for ZENworks 10 Configuration 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 and so on.

Item	Minimum Requirement
Operating System	Windows: ◆ Windows Server 2003 SP1 Ent x86, x86-64 ◆ Windows Server 2003 SP1 Std x86, x86-64 Linux: ◆ SUSE® Linux Enterprise Server 10 (SLES 10) on the 32-bit (x86) and 64-bit (x86-64) architectures (Intel* and AMD* Opteron* processors) BusinessObjects Enterprise XI Release 2 is supported only on SLES 10 with 32-bit (x86) architecture ◆ Open Enterprise Server 2 (OES Linux) x86, x86-64
Hardware	◆ Processor: Pentium* IV 2.8 GHz x86, 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 If you are installing BusinessObjects Enterprise XI Release 2 for ZENworks infrastructure reporting, the minimum is 3 GB (1 GB extra). If the Primary Server is running Patch Management, we recommend at least 4 GB of RAM. Running Patch Management is very processor and memory intensive. ◆ Disk Space: 2 GB minimum for installing; 4 GB recommended for running. Depending on the amount of content you need to distribute, this number can vary greatly. If you are installing BusinessObjects Enterprise XI Release 2 for ZENworks infrastructure reporting, the minimum is 5 GB (3 GB extra). 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 information on changing the default content repository location on a Windows server, see "Content Repository" in the *ZENworks 10 Configuration Management System Administration Reference*. 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. ◆ Display resolution: 1024 × 768 with 256 colors
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 (-).
IP Address	The server must have a static IP address or a permanently leased DHCP address. Also, an IP address must be bound to all NICs on your target server, because the installation hangs if it is trying to use a NIC that does not have an IP address bound to it.

Item	Minimum Requirement
.NET 2.0	The Microsoft* .NET software and its latest updates must be installed and running on the Windows Primary Server in order to install ZENworks 10 Configuration Management. However, you are given the option to launch the .NET installation during installation of ZENworks. Linux Primary Servers have the correct version of Mono® that comes with SLES 10.
TCP Ports	The server must allow traffic on TCP ports 67, 69, 80, 443, 1433, 1521,2638, 2645, 3306, 4011, 5550, 5950, 7628, 8005, and 8009. Port 67 is used by DHCP when sending out PXE requests. Port 69 is for TFTP, and is only UDP. Port 80 and 443 is for Tomcat non-secure and secure ports respectively. 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. **IMPORTANT:** If you plan to use AdminStudio 8.0 ZENworks Edition, it requires that the Primary Server is using ports 80 and 443. Port 1433 is used by an MS SQL database server. Port 2638 is used when a Primary Server needs access to another Primary Server where the Sybase* database resides. Port 2645 is used for CASA authentication. Port 3306 is used by the MySQL* database embedded in BusinessObjects Enterprise XI. Port 4011 is for proxy DHCP. For Remote Management where the ZENworks Adaptive Agent is running, the server listens on port 5950. If the Remote Management Listener is launched, it listens on port 5550 by default. You can change the port before launching it. Port 7628 is used by the Adaptive Agent. Port 8005 and 8009 is used by Tomcat.
Virtual Machine Environments	ZENworks 10 Configuration Management server software can be installed in VMware.

1.2 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 1-2 *Management Zone Version Compatibilities with Installation Media Versions*

Management Zone Product Version	Compatible Installation Media	Incompatible Installation Media
10.0.0: ZENworks 10 Configuration Management (initial release, electronic-only). The version is established by installing the first server in the Management Zone.	ZENworks 10 Configuration Management (v10.0.0: initial release, electronic-only).	Any version of the product that is later than the Management Zone's version.
10.0.1: ZENworks 10 Configuration Management (media and electronic release). The version is established by installing the first server in the Management Zone.	ZENworks 10 Configuration Management (v10.0.1: 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 Configuration Management (v10.0.0: initial release, electronic-only). or Any version of the product that is later than the Management Zone's version.
10.0.2: Update for ZENworks 10 Configuration 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 "ZENworks System Updates" in the *ZENworks 10 Configuration Management System Administration Reference*.	ZENworks 10 Configuration Management (v10.0.1: 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 Configuration Management (v10.0.0: initial release, electronic-only). or Any version of the product that is later than the Management Zone's version.

Management Zone Product Version	Compatible Installation Media	Incompatible Installation Media
10.0.3: Update for ZENworks 10 Configuration 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 "ZENworks System Updates" in the *ZENworks 10 Configuration Management System Administration Reference*.	ZENworks 10 Configuration Management update (v10.0.3: 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 Configuration Management (v10.0.0: initial release, electronic only). or ZENworks 10 Configuration Management (v10.0.1: initial media release). or Any version of the product that is later than the Management Zone's version.

1.3 Database Requirements

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

Table 1-3 *Database Minimum Requirements*

Item	Minimum Requirement
Database Version	Sybase SQL Anywhere 10.0 Microsoft SQL Server 2005 (Enterprise and Standard editions are supported)
Default Character Set	The UTF-8 character set is required.
Default Time Zone	UTC is required as the default time zone. **IMPORTANT:** The server where the external database is installed must have time synchronized with all of the Primary Servers in the Management Zone.
TCP ports	The server must allow Primary Server communication on the database port. The default ports are: ◆ 1433 for MS SQL ◆ 2638 for Sybase SQL
WAN/SQL consideration	Primary Servers and the SQL database must reside on the same network segment. Primary Servers cannot write across a WAN to the SQL database.

1.4 LDAP Directory Requirements

ZENworks 10 Configuration Management can use existing user sources for assigning content to them. LDAP (Lightweight Directory Access Protocol) is the protocol used by ZENworks with respect to interacting with users.

Table 1-4 *LDAP Directory Minimum Requirements*

Item	Minimum Requirement
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 (on all supported platforms) ◆ Microsoft Active Directory (as shipped with Windows 2000 SP4 or later)

Item	Minimum Requirement
LDAP user access	To be able to assign content to users, you must create a read-only connection to an LDAP directory that contains the users. This exposes the users in ZENworks Control Center and enables you to make the assignments. Your LDAP directory is not affected; ZENworks requires only read access to the LDAP directory and stores all assignment information in the ZENworks database. For more information, see "Connecting to User Sources" in the *ZENworks 10 Configuration Management Administration Quick Start*.

1.5 Managed Device Requirements

The ZENworks Adaptive Agent is the management software that is installed on all managed devices, including Primary Servers, but Linux is not supported as a managed device platform. 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.

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

Table 1-5 *Managed Device Minimum Requirements*

Item	Minimum Requirement
Operating System	Windows servers: ◆ Windows 2000 Server SP4 ◆ Windows Server 2003 SP1 Ent x86, x86-64 ◆ Windows Server 2003 SP1 Std x86, x86-64 Windows workstations: ◆ Windows 2000 Professional SP4 x86 ◆ Windows Embedded XP SP2 ◆ Windows Vista* x86, x86-64 (Business, Ultimate, and Enterprise versions only; Home versions are not supported) ◆ Windows Vista SP1 x86, x86-64 (Business, Ultimate, and Enterprise versions only; Home versions are not supported) ◆ Windows XP Professional SP2 x86 and SP3 x86 ◆ Windows XP Tablet PC Edition SP2 Thin Client sessions: ◆ Windows 2000 Server SP4 x86 ◆ Windows Server 2003 SP1 x86, x86-64
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	Minimum Requirement
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 For more information, see "Prerequisites for Deploying to a Device" in the *ZENworks 10 Configuration Management Discovery and Deployment Reference Discovery, Deployment, and Retirement Reference*.
TCP Ports	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.
Virtual Machine Environments	ZENworks 10 Configuration Management managed device software can be installed in VMware.

1.6 Inventoried-Only Device Requirements

ZENworks 10 Configuration Management can only inventory workstations and servers where they also meet certain requirements for installing the ZENworks Adaptive Agent on them. For more information, see the Hardware and TCP Ports sections in Section 1.5, "Managed Device

Requirements," on page 15. Inventoried-only devices must meet the following minimum requirements:

Table 1-6 *Inventoried-Only Device Minimum Requirements*

Item	Minimum Requirement
Operating System	Servers: ◆ AIX 4.3-5.3 IBM pSeries (RS6000) ◆ HP-UX 10.20-11.23 HP PA-RISC (HP9000) ◆ NetWare® 5.1 [1] ◆ NetWare 6 [1] ◆ NetWare 6.5 [1] ◆ OES (NetWare) [1] ◆ Red Hat Enterprise Linux 2.1-4.*x* ◆ Solaris 2.6–10 Sun SPARC (32 and 64-bit) ◆ SUSE Linux Enterprise Server 8.0-10 (all editions) ◆ Windows NT* 4 [1] Each NetWare operating system must have its latest Support Pack and the latest patch for `libc.nlm`. Workstations: ◆ Mac OS* X 10.2.4 ◆ Red Hat Linux 7.1-9 ◆ SUSE Linux Enterprise Desktop 8.0-10 (all editions) ◆ Windows 95 ◆ Windows 98 ◆ Windows Me
Inventory Only Module	After installing ZENworks 10 Configuration Management to your network, you must install this module on the above-listed devices in order to inventory them. For more information, see "Deploying the Inventory-Only Module" in the *ZENworks 10 Configuration Management Discovery and Deployment Reference Discovery, Deployment, and Retirement Reference*.

1.7 Administration Browser Requirements

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

Table 1-7 *Administration Browser Minimum Requirements*

Item	Minimum Requirement
Web Browser	The administration device must have one of the following Web browsers installed: ◆ Internet Explorer 6.0 SP1 on Windows Server 2003, Windows 2000 Server, and Windows 2000 ◆ Internet Explorer 6.0 SP2 on Windows XP ◆ Firefox* 2.0 (Windows only) BusinessObjects Enterprise XI reporting cannot be run in this version of the Web browser. However, it can run on Firefox 1.0.4.
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.

1.8 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:** Log in as a non-root user, use the `sux` command to elevate your privileges to root, then run the installation program.

Installing ZENworks 10 Configuration Management

2

Perform the tasks in the following sections to install Novell® ZENworks® 10 Configuration Management:

- Section 2.1, “Understanding What the ZENworks Installation Does,” on page 19
- Section 2.2, “Gathering Information for Installing ZENworks,” on page 20
- Section 2.3, “Preinstallation Tasks,” on page 21
- Section 2.4, “Installing ZENworks 10 Configuration Management,” on page 27
- Section 2.5, “Performing an Unattended Installation of ZENworks 10 Configuration Management,” on page 39

WARNING: If you are only testing or reviewing the product, do not deploy ZENworks 10 Configuration Management into a production environment.

ZENworks 10 Configuration Management does not require Novell eDirectory™, but instead uses a Management Zone and its own ZENworks database, so you should install to a test server in your network that is not being used for production purposes.

If you want to test managed devices, be aware that installing the ZENworks Adaptive Agent automatically uninstalls the traditional ZENworks agent because a managed device cannot concurrently run different ZENworks agents. However, it does not uninstall the ZENworks Patch Management Agent.

The ZENworks Patch Management Agent and ZENworks Adaptive Agent can coexist. You only need to remove the ZENworks Patch Management agent if you move the Patch Management duties to a ZENworks 10 Configuration Management server.

2.1 Understanding What the ZENworks Installation Does

ZENworks 10 Configuration Management is installed as a new product. You cannot upgrade to it from a previous version of ZENworks. However, you can migrate your traditional ZENworks data from Novell eDirectory to the new ZENworks 10 Configuration Management database. For more information, see the *ZENworks 10 Configuration Management ZENworks Migration Guide*.

The first time you install ZENworks 10 Configuration 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
- (Optional) Installs BusinessObjects Enterprise XI Release 2 for custom ZENworks infrastructure reporting

The Adaptive Agent is installed to managed workstations from files on the Primary Server. For more information, see "ZENworks Adaptive Agent Deployment" in the *ZENworks 10 Configuration 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. For more information, see Section 2.5, "Performing an Unattended Installation of ZENworks 10 Configuration Management," on page 39.

To learn what you need to know before installing ZENworks, continue with Section 2.2, "Gathering Information for Installing ZENworks," on page 20.

2.2 Gathering Information for Installing ZENworks

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

- Which 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, or external Microsoft SQL)

  For more information, see Section 2.3, "Preinstallation Tasks," on page 21.
- Database information (server name, port, database name, username, password, named instance, domain, and whether you are using Windows or SQL Server authentication)
- Certificate Authority information (internal, or signed certificate, private key, and public certificate) in DER format
- License keys (60-day trial options are available)

- Whether to install BusinessObjects Enterprise XI for custom ZENworks infrastructure reporting

  If you plan to install BusinessObjects Enterprise XI, review the following information:

  - BusinessObjects Enterprise XI can be installed automatically when installing ZENworks 10 Configuration Management to the server, or manually at a later time to any Primary Server.
  - You can install BusinessObjects Enterprise XI to only one server in a Management Zone.
  - You cannot run the BusinessObjects Enterprise X1 installation from a network location.
  - Reporting does not work if BusinessObjects Enterprise XI is installed on a Linux Primary server, and the ZENworks database is a Microsoft SQL 2005 Server database.
  - Make sure that the network is up and running.

For more information on these items, see Table 2-1, “Installation Information,” on page 30.

To start a ZENworks installation, continue with Section 2.3, “Preinstallation Tasks,” on page 21.

2.3 Preinstallation Tasks

Perform the following applicable tasks, then continue with Section 2.4, “Installing ZENworks 10 Configuration Management,” on page 27:

- Section 2.3.1, “Verifying That the Minimum Requirements Have Been Met,” on page 21
- Section 2.3.2, “Creating an Installation DVD from the ISO Download,” on page 21
- Section 2.3.3, “Creating External CAs,” on page 22
- Section 2.3.4, “Installing an External ZENworks Database,” on page 23

2.3.1 Verifying That the Minimum Requirements Have Been Met

This section lists the requirements that must be met before you begin to install ZENworks Configuration Management:

- Make sure that the device where you want to install the Primary Server software fulfills the necessary requirements. For more information, see Chapter 1, “Minimum Requirements,” on page 9.
- Make sure that ports 8005 and 8009 are free. If the ports are not free, then ZENworks Server will not start.
- If you plan to install BusinessObjects Enterprise XI:
  - Make sure that ports 6400 and 3306 are free.
  - Make sure that the server is connected to the network.

2.3.2 Creating an Installation DVD from the ISO Download

If you obtained the ZENworks 10 Configuration Management 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 22
- “Using Linux to Create a ZENworks Installation DVD from an ISO Image” on page 22

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

1. Download the ZENworks 10 Configuration Management 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.

To create the DVD:

1. Download the ZENworks 10 Configuration Management installation ISO image from the Novell Web site (http://www.novell.com/) and copy it to a temporary location on your Linux device.
2. 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 /zcm10/ZCM10.iso /zcm10/install
   ```
3. Burn the ISO image to a DVD.

2.3.3 Creating External CAs

If you plan to use external CAs, install openssl and do the following to create the certificate files:

1. To generate a private key that is needed to create a 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 Configuration 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 using ConsoleOne or a true external CA such as Verisign.
5. Using ConsoleOne, export your CA's self-signed certificate.
6. To convert the signed certificate from PEM format to DER format, enter the following command:

```
openssl x509 -in cert.pem -inform PEM -out cert.der -outform DER
```

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

2.3.4 Installing an External ZENworks Database

During installation you have the following database options:

- Install to the embedded Sybase SQL Anywhere database that is provided by ZENworks
- Install to an existing 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

Some of these options require tasks for creating or setting up external databases before ZENworks can write to them during installation. The steps in this section show how to do that.

Regarding the different types of external databases:

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

  If the remote OEM Sybase server does not yet exist, you must create it first.

  On a remote Sybase database, this utility must be run on the database server itself. Unless you select to install the *OEM Sybase Database*, you are also required to have the Sybase database created and the service running.
- **External Sybase SQL Anywhere:** You must set up this database so that it can be updated during installation of ZENworks 10 Configuration Management on the Primary Server.
- **Microsoft SQ L Server:** You have two options:
  - Set up the database during the Primary Server installation

    This is the quickest and easiest method.
  - Set up the database externally before installing the Primary Server

    This option is especially useful if your DBA is not the same as your ZENworks administrator.

    To use the database installation program, on the external database server, run:

    Windows: *DVD_drive*`:\setup.exe -c`

    Linux: *mounted_DVD_drive*`/setup.sh -c`

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

Make sure that the server where you plan to install the external database fulfills the requirements in Section 1.3, “Database Requirements,” on page 14.

1 To start the database installation program:

1a On the server where you want to install the external database, insert the *Novell ZENworks 10 Configuration Management* installation DVD.

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

1b For Windows, enter the following at the command prompt on the external database server:

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

1c For Linux, run the following command on the external database server:

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

Using the `sh` command resolves rights issues.

Only the GUI installation is available for installing a database.

2 On the Select ZENworks Database page, select one of the following, then click *Next*.

- **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 when you install the Primary Server software in order to successfully install to the database. 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 Configuration Management*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.

  The database user must have read/write permissions to create and modify the tables on the database server.

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

  The Microsoft SQL Server software must already be installed on the database server in order for the ZENworks 10 Configuration Management installation program to create the new Microsoft SQL database. Refer to your Microsoft documentation for instructions on installing the Microsoft SQL Server software.

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

Reporting does not work if BusinessObjects Enterprise XI is installed on a Linux Primary server, and the ZENworks database is a Microsoft SQL 2005 Server database.

---

3 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.

Installation Information	Explanation
Database paths	For the *OEM Sybase SQL Anywhere* option, you need to provide 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. You need to provide the path for where you want the ZENworks Sybase database file created. A \database directory is appended to the default of *drive*:\novell\zenworks. If you need more disk space for your content repository than is in the Windows path that is available during installation, you can change the path to another location after completing the installation. For more information, see "Content Repository" in the *ZENworks 10 Configuration Management System Administration Reference*.

Installation Information	Explanation

SQL database information	For the two external database options (*Remote Sybase SQL Anywhere* and *Microsoft SQL Server*), 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 or Microsoft SQL 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 using 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, which 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`.
	◆ **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.
	NOTE: Reporting does not work if the ZENworks database is an SQL Server database, and the authentication mode is Windows Authentication. You must select the SQL Server authentication, and ensure that the SQL Server is configured to use the SQL Server Authentication mode.

Installation Information	Explanation

SQL database access	For the two external database options (*Remote Sybase SQL Anywhere* and *Microsoft SQL Server*), 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 or Microsoft SQL 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.
	◆ **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.

4 Continue with Section 2.4, "Installing ZENworks 10 Configuration Management," on page 27.

2.4 Installing ZENworks 10 Configuration Management

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

- **Graphical user interface (GUI) installation**
  1. On the installation server, insert the *Novell ZENworks 10 Configuration Management* 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 2.3.4, "Installing an External ZENworks Database," on page 23), 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.

- **Command line installation (Linux only)**

  1. On the installation server, insert the *Novell ZENworks 10 Configuration Management* 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:

        /mount_location`/setup.sh -e`

     For more information on installation arguments, see Appendix A, "Installation Executable Arguments," on page 45.

  4. Continue with Step 2.

- **Silent Installation**

  To install using a response file, see Section 2.5, "Performing an Unattended Installation of ZENworks 10 Configuration Management," on page 39.

2 During installation, refer to the information in Table 2-1, "Installation Information," on page 30 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 (Conditional) 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 37), 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 37), you must wait for the installation to complete and the services to start in order to verify it in Step 4.

In either case, part of completing the installation process is for the database to be updated, which causes high CPU utilization during that process. 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 Configuration Management is running:

- **Run ZCC**

  If ZCC did not automatically start, use the following URL to open ZCC 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.

  IMPORTANT: If you installed BusinessObjects XI, click the *Reports* tab, then click *Predefined Reports* to ensure that it is working.

  If the installation was unsuccessful, the following might be displayed at the top of the ZCC page for the *Reports* tab:

  ```
  There are no Business Objects Reporting servers configured
  in the Management Zone.
  ```

  If this is displayed, you need to manually install BusinessObjects XI. For instructions, see Section 2.4.2, “Manually Installing BusinessObjects Enterprise XI,” on page 37.

- **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 Configuration 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 2.5.2, "Performing an Unattended Installation," on page 41.

7 Continue with the *ZENworks 10 Configuration Management Administration Quick Start* for concepts and high-level instructions on how to further set up and use ZENworks 10 Configuration Management.

2.4.1 Installation Information

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

Table 2-1 *Installation Information*

Installation Information	Explanation

Installation path (Windows only)	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.
	
	If you need more disk space for your content repository than is in the Windows path that is available during installation, you can change the path to another location after completing the installation. For more information, see "Content Repository" in *ZENworks 10 Configuration Management System Administration Reference*.
	
	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, the `/opt` directory is where the database and content repository reside. Make sure it is on a partition large enough for them.

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 from where you left off.
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 ZCC. The zone name has a 20-character limit and should be a unique name. By default, the login username is `administrator`. After completing the installation, you can use ZCC to add other administrator names that can be used to log in to the Management Zone. If one or both of the default ZENworks 10 Configuration Management ports for ZCC is in use (HTTP = 80 or HTTPS = 443), such as by OES2, you will be asked to specify another port. Note which port you specify because you will need to use it in the URL for accessing ZCC. **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 any existing Primary Server in the zone. We recommend using the DNS name to provide ongoing synchronization with certificates that are signed with DNS names. ◆ 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's port. ◆ *Use SSL* check box: Specify whether the port you specified is secured. ◆ The username for logging in to ZCC. The default is `administrator`. After completing the installation, you can use ZCC 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. **BusinessObjects option:** For either zone option (new or existing), you have the option to install BusinessObjects Enterprise XI for ZENworks infrastructure reporting. However, you can also install BusinessObjects XI manually at a later time. The installation of the BusinessObjects XI files can take awhile.

Installation Information	Explanation
Database options	For ZENworks 10 Configuration 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 2.3.4, “Installing an External ZENworks Database,” on page 23). You have the following three 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 Section 2.3.4, “Installing an External ZENworks Database,” on page 23. ◆ **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. **IMPORTANT:** Reporting does not work if BusinessObjects Enterprise XI is installed on a Linux Primary server, and the ZENworks database is a Microsoft SQL 2005 Server database. Creating a new SQL database at this time provides the same results as the steps in Section 2.3.4, “Installing an External ZENworks Database,” on page 23. **IMPORTANT:** For external databases, the server hosting the database must have time synchronization with each of the Primary Servers in the Management Zone.

Installation Information	Explanation
Database information	For the external database options (*Remote Sybase SQL Anywhere* and *Microsoft SQL Server*), 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 or Microsoft SQL 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, which 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`. ◆ **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. **NOTE:** Reporting does not work if the ZENworks database is an SQL Server database, and the authentication mode is Windows Authentication. You must select the SQL Server authentication, and ensure that the SQL Server is configured to use the SQL Server Authentication mode.

Installation Information	Explanation
Database access	For the two external database options (*Remote Sybase SQL Anywhere* and *Microsoft SQL Server*), 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 or Microsoft SQL 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. ◆ **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:** After you install ZENworks 10 Configuration Management, you cannot change the CA type. 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 2.3.3, "Creating External CAs," on page 22. For information on creating external certificates for installing to a Linux server using a silent installation, see Step 4 in Section 2.5.1, "Creating Your Response File," on page 39.
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	Specify the license key that you obtained when you purchased the product, or leave the field blank to use the 60-day trial license.
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 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 3, "Uninstalling ZENworks 10 Configuration Management," on page 43.
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. 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 so that the ZENworks database can be populated with the inventory data. 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 files 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 System Status Utility:** Launches a ZENworks services heartbeat check prior to closing the installation program. Results are posted in the installation log. ◆ **Run ZENworks Control Center:** (GUI installation only) Automatically opens ZCC 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 ZCC. ◆ **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 Configuration Management 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. ◆ **Install Add-On: BusinessObjects Enterprise XI:** Installs BusinessObjects XI for custom ZENworks infrastructure reporting. If you receive a warning on port conflicts, you must free ports 6400 and 3306, then continue with the installation by entering the appropriate default port. 6400 is the default Central Management Server port and 3306 is the default Service port. Installation of the BusinessObjects XI files can take awhile. **IMPORTANT:** If you want to install BusinessObjects XI at a later time, follow the instructions in Section 2.4.2, “Manually Installing BusinessObjects Enterprise XI,” on page 37 when you are ready to install it.

Installation Information	Explanation
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 Configuration Management and BusinessObjects XI (if selected). These include: ◆ (Windows only) Creating the ZENworks Adaptive Agent icon in the notification area (system tray) ◆ (Windows only) Creating the ZCC icon on the desktop or Start menu ◆ Displaying the Readme ◆ Displaying the installation log file ◆ Opening ZCC To install BusinessObjects XI manually, follow the instructions in Section 2.4.2, “Manually Installing BusinessObjects Enterprise XI,” on page 37. **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.

2.4.2 Manually Installing BusinessObjects Enterprise XI

If you need to manually install BusinessObjects XI on an existing Windows Primary Server, do one of the following:

- “GUI Installation” on page 38
- “Command Line Installation” on page 38

If you need to manually install BusinessObjects XI manually on an existing Linux Primary Server, use “Command Line Installation” on page 38.

GUI Installation

You can use the GUI installation mode only to manually install BusinessObjects XI on an existing Windows Primary Server.

1. Select the Primary Server where you want to install BusinessObjects XI and make sure that you have fulfilled the RAM and disk space requirements for installing BusinessObjects XI.

   Specifically, you need an additional 512 MB of RAM (1 GB additional is recommended) and at least 3 GB of free disk space for the BusinessObjects XI files.

2. Make sure that ports 6400 and 3306 are free.

3. On this server, run *DVD_drive*:\setup.exe -b.

   This executable is found at the root of the *Novell ZENworks 10 Configuration Management* or *Novell ZENworks 10 Configuration Management v10.0.3* DVD.

   The command does not work if ZENworks 10 Configuration Management is not installed on the server.

4. Specify the path to the BusinessObjects XI executable on the DVD.

   By default, the path is *DVD_drive*:\novell\zenworks\boe\windows\setup.exe.

5. After the installation has completed, restart the server.

   Installation of the BusinessObjects XI files can take awhile, even after the installation progress bar disappears.

6. To verify that the installation completed successfully, open ZENworks Control Center, click the *Reports* tab, then click *Predefined Reports*.

   If the installation was successful, the Predefined Reports page should be displayed.

   If the installation was unsuccessful, the following might be displayed at the top of the ZCC page for the *Reports* tab:

   ```
   There are no Business Objects Reporting servers configured in
   the Management Zone.
   ```

   For more information, review the BusinessObjects XI installation log file, *Installation_path*\Novell\ZENworks\share\boe\BusinessObjectsEnterprise11.5\Logging\BOEInstall_0.log

Command Line Installation

You can use the Command Line installation mode to manually install BusinessObjects XI on an existing Linux or Windows Primary Server.

1. Select the Primary Server where you want to install BusinessObjects XI and make sure that you have fulfilled the RAM and disk space requirements for installing BusinessObjects XI.

   Specifically, you need an additional 512 MB of RAM (1 GB additional is recommended) and at least 3 GB of free disk space for the BusinessObjects XI files.

2. Make sure that ports 6400 and 3306 are free.

3. Run the following command on the target Primary Server:

   ```
   ZENworks_installation_path\novell\zenworks\bin\novell-zenworks-
   configure.bat -c InstallBOE
   ```

If you change to the `\novell\zenworks\bin` directory to run `novell-zenworks-configure`, you need to provide a relative path to the executable in Step 5.

4 Type `1` and press Enter to select *Yes* to install BusinessObjects XI, then press Enter again to continue.

5 Specify the path to the BusinessObjects XI executable on the DVD. For example:

`DVD_drive:\novell\zenworks\boe\windows\setup.exe`

6 If you receive a warning on port conflicts, you must free ports 6400 and 3306, then continue with the installation by entering the appropriate default port. 6400 is the default Central Management Server port and 3306 is the default Service port.

7 Follow the installation prompts.

Installation of the BusinessObjects XI files can take awhile, even after the installation progress bar disappears.

8 After the installation has completed, restart the server.

9 To verify that the installation completed successfully, open ZENworks Control Center, click the *Reports* tab, then click *Predefined Reports*.

If the installation was successful, the Predefined Reports page should be displayed.

If the installation was unsuccessful, the following might be displayed at the top of the ZCC page for the *Reports* tab:

```
There are no Business Objects Reporting servers configured in
the Management Zone.
```

For more information, review the BusinessObjects XI installation log file.

- **On a Windows server:** `Installation_path\Novell\ZENworks\share\boe\BusinessObjectsEnterprise11.5\Logging\BOEInstall_0.log`
- **On a Linux server:** `/var/opt/novell/log/zenworks/install_boe.log`

2.5 Performing an Unattended Installation of ZENworks 10 Configuration Management

You can use a response file to perform an unattended installation of ZENworks 10 Configuration Management. 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.

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

- Section 2.5.1, “Creating Your Response File,” on page 39
- Section 2.5.2, “Performing an Unattended Installation,” on page 41

2.5.1 Creating Your Response File

1 Run the ZENworks 10 Configuration Management 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 45.

2 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 3e). The default response file is modified by the installation program to create your custom response file.

3 Add the Management Zone password to your custom response file.

Because the Management Zone password that you enter during installation is not saved in the response file, you must add the password 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 Management Zone password into the response file:

3a Open the response file in a text editor.

Your custom response file is located where you specified in Step 2.

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

3b Search for `ADMINISTRATOR_PASSWORD=` .

3c Replace `$DOLLAR$lax.nl.env.ADMIN_PASSWORD$DOLLAR$` with the actual password.

3d Save the file and exit the editor.

3e 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.

You must retain the `.properties` filename extension when renaming your copies.

4 If you plan to use this response file to perform a silent installation to an Open Enterprise Server 2 (OES Linux) server, insert the following into the file:

```
PRIMARY_SERVER_ADDRESS=123.456.78.9
PRIMARY_SERVER_PORT=443
PRIMARY_SERVER_USE_SSL=true
PRIMARY_SERVER_CERT=-----BEGIN CERTIFICATE-----
MIID9DCCLotsOfEncryptedCharactersSja+bY05Y=-----END CERTIFICATE---
--
```

where PRIMARY_SERVER_CERT= is the certificate you specified in the first Primary Server that you installed to. The above is just an example of the certificate information.

Optionally, you can set the PRIMARY_SERVER_USE_SSL= variable to false:

```
PRIMARY_SERVER_USE_SSL=false
```

This allows you to do a clear text installation so that you do not need to specify the Primary Server's certificate.

5 After you have completed modifications to your custom response file, copy it from the path that you specified in Step 2 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 2.5.2, "Performing an Unattended Installation," on page 41.

2.5.2 Performing an Unattended Installation

1 On the installation server where you will perform an unattended installation, insert the *Novell ZENworks 10 Configuration Management* 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 2.5.1, "Creating Your Response File," on page 39, 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 Reboot the server after the silent installation has completed.

Rebooting is not automatically done after performing a silent installation. You must reboot the server for the installation to be completed.

A silent installation does not provide an installation progress bar.

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

- **Run ZCC**

  If ZCC did not automatically start, use the following URL to open ZCC 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
  ```

5. To create another Primary Server for the Management Zone by performing an unattended installation, return to Step 1; otherwise, continue with Step 6.
6. After the installation has completed, continue with the *ZENworks 10 Configuration Management Administration Quick Start* for concepts and high-level instructions on how to further set up and use ZENworks 10 Configuration Management.

Uninstalling ZENworks 10 Configuration Management

3

You can uninstall Novell® ZENworks® 10 Configuration Management from a Primary Server, or uninstall the ZENworks Adaptive Agent from a managed device.

You cannot separately uninstall BusinessObjects Enterprise XI. To uninstall BusinessObjects Enterprise, you must uninstall ZENworks 10 Configuration Management.

To uninstall an external ZENworks database, see the instructions provided by the database manufacturer. The embedded ZENworks database can only be uninstalled by uninstalling ZENworks 10 Configuration Management from the device hosting the Management Zone.

WARNING: If you uninstall on the first Primary Server where you installed an embedded ZENworks 10 Configuration Management database and established the Management Zone, all other Primary Servers in the Management Zone are orphaned because the Management Zone and database are no longer available. Therefore, to completely remove ZENworks 10 Configuration Management from your network, we recommend that you uninstall the software in the reverse order that you installed it. For example, 1) uninstall the Adaptive Agent from each managed device, 2) uninstall the other Primary Servers, then 3) uninstall the Primary Server hosting the Management Zone.

To uninstall Novell ZENworks 10 Configuration Management:

1. On the server or managed device, do the following:
   - For Windows, run:
     `zenworks_installation_directory\novell\zenworks\bin\zenworksuninstall.exe`
   - For Linux, run:
     `mono /opt/novell/zenworks/bin/ZENworksUninstall.exe`
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	Specify the Management Zone password.

Information	Explanation
Uninstallation Options	Select an option: ◆ **Remove Device from Zone:** Uninstalls ZENworks from the device and removes it from the Management Zone. **WARNING:** If this device hosts the Management Zone, this also removes the zone. ◆ **Local Uninstallation Only:** Only uninstalls ZENworks from the device. It continues to be registered in the Management Zone. This 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.
Leave Files	Select an option: ◆ **ZENworks Agent:** Leaves the ZENworks Adaptive Agent installed on the device, but removes all other ZENworks 10 Configuration Management software. By default, this is not selected. ◆ **CASA:** Leaves the CASA software installed. By default, this is selected because CASA can be used by other software programs.
Restart	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 installation. 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 are not using CASA for other programs, you can delete this directory.
- **ZENworks:** Log files are purposely left here for your review. You can manually delete the ZENworks directory at any time.

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

Installation Executable Arguments

A

To install Novell® ZENworks® 10 Configuration Management, 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
```

Documentation Updates

B

This section contains information on documentation content changes that were made in this *Installation Guide* after the initial release of Novell® ZENworks® 10 Configuration Management. The information can help you to keep current on updates to the documentation.

All changes that are noted in this section are also made in the documentation. The documentation is provided on the Web in two formats: HTML and PDF. The HTML and PDF documentation are both kept up-to-date with the documentation changes listed in this section.

The documentation update information is grouped according to the date the changes are published. Within a dated section, the changes are alphabetically listed by the names of the main table of contents sections in the guide.

If you need to know whether a copy of the PDF documentation you are using is the most recent, the PDF document contains its publish date on the front title page.

The documentation was updated on the following dates:

- Section B.1, “May 16, 2008 (Version 10.0.3),” on page 47

B.1 May 16, 2008 (Version 10.0.3)

The following changes were made:

Location	Change
Section 1.1, “Primary Server Requirements,” on page 9	1. Increased the RAM to 2 GB minimum; 4 GB recommended. 2. Added the following TCP ports: ◆ Port 2645 is used for CASA authentication. ◆ Port 8005 and 8009 is used by Tomcat.
Section 1.5, “Managed Device Requirements,” on page 15	Added support for the following platforms: ◆ Windows Vista SP1 x86, x86-64 and Windows XP SP3 ◆ Windows XP Professional SP3 x86