

ZENworks Configuration Management Migration Guide

ZENworks 11 Support Pack 3

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Novell.



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Contents

About This Guide	7
1 Migration Process	9
2 Differences between ZENworks 11 Configuration Management SP3 and Traditional ZENworks	11
2.1 Architecture	11
2.1.1 Traditional ZENworks Architecture	11
2.1.2 The Next Generation ZENworks Architecture	13
2.1.3 More Detail on the Architectural Changes	15
2.2 System Management	18
2.3 Workstations	19
2.4 Inventory	19
2.5 Imaging	20
2.6 Remote Management	20
2.7 Application Management	20
2.8 Additional Features	21
3 Understanding the Migration Utility	23
3.1 Migration Tasks	24
3.2 Migration Source/Destination	24
3.3 Migrate Now Button	24
3.4 Cancel Button	24
3.5 Exit	25
3.6 Select Tab	25
3.6.1 Source eDir Tree	25
3.6.2 Destination Zone	26
3.7 Items to Migrate Tab	27
3.8 Migration History Tab	27
3.9 Options Icon	28
3.10 Overall Progress	28
4 Planning Your Migration to ZENworks Configuration Management	29
4.1 Migration Candidates	29
4.2 Downloading and Installing the ZENworks Migration Utility	30
4.3 What the ZENworks Migration Utility Does	30
4.3.1 Migrated	31
4.3.2 Not Migrated	31
4.3.3 Other Software	31
4.4 Planning Your Migration	32
4.4.1 Coexistence of the ZENworks Systems	32
4.4.2 LDAP Authentication	33
4.4.3 PXE Devices and Server Referral Lists	33
4.4.4 Incremental Migration	34
4.4.5 Migration Order	34
4.4.6 Management Zone Settings	35

4.4.7	Migrating Workstations	35
4.4.8	Identifying Users	36
4.4.9	Folder Usage in Configuration Management	36
4.4.10	Migration Modeling	37
4.4.11	What's Next?	37
5	Migrating to ZENworks Configuration Management	39
5.1	Prerequisites	39
5.2	Starting the ZENworks Migration Utility	41
5.3	Selecting the Migration Source	43
5.4	Selecting the Migration Destination	44
5.5	Migrating Applications	46
5.6	Migrating Images	52
5.7	Migrating Policies	56
5.8	Migrating Management Zone Settings	59
5.9	Migrating Workstations	61
5.10	Migrating Associations	64
5.11	Migrating Applications That Have the Same Application GUID	69
5.12	Setting Up Migrated Workstations to be Managed	70
5.13	Make an Image of the Migrated Workstations	71
5.14	Managing Your Traditional ZENworks Installation	71
A	Migration Data	73
A.1	Applications	73
A.2	Images	76
A.3	Policies	76
A.4	Management Zone Settings	78
A.5	Workstations	80
A.6	Associations	80
B	Migration Options	83
B.1	Using the Migration Utility to Configure Migration Options	83
B.1.1	General	84
B.1.2	Applications	85
B.1.3	Associations	86
B.1.4	Imaging	86
B.1.5	Policies	87
B.1.6	Zone Settings	87
B.1.7	Workstations	87
B.1.8	Web Client Configuration	87
B.2	Using the Registry Editor to Configure Additional Options for Migrating MSI Applications	87
C	Troubleshooting	89
D	Best Practices	95
D.1	Running the Migration Utility on a Windows Vista Device	95
D.2	Selecting a Migration Option	95
D.3	Uploading Objects to the Content Server	95
D.4	Migrating Applications as Actions or MSI	96
D.5	Using Network Files	96
D.6	Listing the Associations in the Migration Utility	96

D.7	Listing Application Objects with the AppFsRights Attribute in the Migration Utility	97
D.8	Specifying the File Upload HTTP Port and Web Service Port to Log In to the Migration Destination Management Zone	97
D.9	Migrating Group Policies	97
D.10	Migrating Applications with a Large Number of INI or Registry Operations as Individual Actions . . .	97

About This Guide

This *Novell ZENworks 11 SP3 Configuration Management Migration Guide* contains the information, steps, and processes that you need to move from traditional Novell ZENworks to Novell ZENworks 11 SP3 Configuration Management, the next generation of ZENworks. The information in this guide is organized as follows:

- ◆ Chapter 1, “Migration Process,” on page 9
- ◆ Chapter 2, “Differences between ZENworks 11 Configuration Management SP3 and Traditional ZENworks,” on page 11
- ◆ Chapter 3, “Understanding the Migration Utility,” on page 23
- ◆ Chapter 4, “Planning Your Migration to ZENworks Configuration Management,” on page 29
- ◆ Chapter 5, “Migrating to ZENworks Configuration Management,” on page 39
- ◆ Appendix A, “Migration Data,” on page 73
- ◆ Appendix B, “Migration Options,” on page 83
- ◆ Appendix C, “Troubleshooting,” on page 89
- ◆ Appendix D, “Best Practices,” on page 95

Audience

This guide is intended for ZENworks Configuration Management 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 11 SP3 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 11 SP3 documentation web site \(http://www.novell.com/documentation/zenworks113\)](http://www.novell.com/documentation/zenworks113).

1 Migration Process

Novell ZENworks 11 SP3 Configuration Management introduces architecture that is different from traditional versions of ZENworks. To leverage the power and new features of ZENworks, you need to migrate from traditional systems rather than perform a typical upgrade.

To migrate to Novell ZENworks 11 SP3 Configuration Management, do the following:

1. Review [Chapter 2, “Differences between ZENworks 11 Configuration Management SP3 and Traditional ZENworks,”](#) on page 11 to gain an understanding of how Configuration Management is different from traditional ZENworks.
2. (Optional) For an overview of Configuration Management, see “[Configuration Management](#)” in the *ZENworks 11 SP3 Administration Quick Start*.
3. Install ZENworks 11 SP3 Configuration Management to at least one server to establish the Management Zone where traditional ZENworks information can be migrated. For installation instructions, see the *ZENworks 11 SP3 Server Installation Guide*.
4. Migrate your traditional ZENworks installation to Configuration Management by using the instructions in:
 - ♦ [Chapter 4, “Planning Your Migration to ZENworks Configuration Management,”](#) on page 29
 - ♦ [Chapter 5, “Migrating to ZENworks Configuration Management,”](#) on page 39
5. (Optional) Migrate your traditional ZENworks Asset Management installation to Configuration Management by using the instructions in the *Novell ZENworks 11 SP3 Asset Management Migration Guide*.
6. (Optional) Install AdminStudio that is included in the various editions of Configuration Management by using the *AdminStudio Installation Guide* at the [Novell Documentation site \(http://www.novell.com/documentation/zenworks113\)](http://www.novell.com/documentation/zenworks113).

AdminStudio allows you to continue to standardize the way that you package, test, distribute, and manage your applications and patches.
7. Get started in Configuration Management with the *ZENworks 11 SP3 Administration Quick Start*, which shows how to perform tasks to get you up and running.

2 Differences between ZENworks 11 Configuration Management SP3 and Traditional ZENworks

To migrate to Novell ZENworks 11 Configuration Management SP3, you should first understand how Configuration Management is different from traditional ZENworks, then migrate the traditional data to your new Configuration Management installation.

The following sections describe what is new or different in ZENworks 11 Configuration Management SP3:

- ◆ [Section 2.1, “Architecture,” on page 11](#)
- ◆ [Section 2.2, “System Management,” on page 18](#)
- ◆ [Section 2.3, “Workstations,” on page 19](#)
- ◆ [Section 2.4, “Inventory,” on page 19](#)
- ◆ [Section 2.5, “Imaging,” on page 20](#)
- ◆ [Section 2.6, “Remote Management,” on page 20](#)
- ◆ [Section 2.7, “Application Management,” on page 20](#)
- ◆ [Section 2.8, “Additional Features,” on page 21](#)

2.1 Architecture

Like traditional versions of ZENworks Desktop Management, ZENworks 11 Configuration Management SP3 provides comprehensive management of Windows servers and workstations. However, its underlying architecture has changed extensively.

The following sections explain the architectural differences:

- ◆ [Section 2.1.1, “Traditional ZENworks Architecture,” on page 11](#)
- ◆ [Section 2.1.2, “The Next Generation ZENworks Architecture,” on page 13](#)
- ◆ [Section 2.1.3, “More Detail on the Architectural Changes,” on page 15](#)

For additional information about the new architecture, see “[System Architecture](#)” in the [ZENworks 11 SP3 Overview](#). This information is also contained in both the Standard and Advanced editions of the *Getting Started Guide*.

2.1.1 Traditional ZENworks Architecture

Your existing Novell ZENworks solution is powerful because:

- ◆ **It is flexible:** The logic is in the object store, making it simple to move content and services around without having to perform major architectural overhauls.
- ◆ **It is simple:** Services fit together very easily, and the architecture is very easy for administrators to understand, deploy, and manage.

- ◆ **It is scalable:** No other systems management product on the market scales to the level of ZENworks (in fact, there are no known limits to how many users a single ZENworks system can manage).

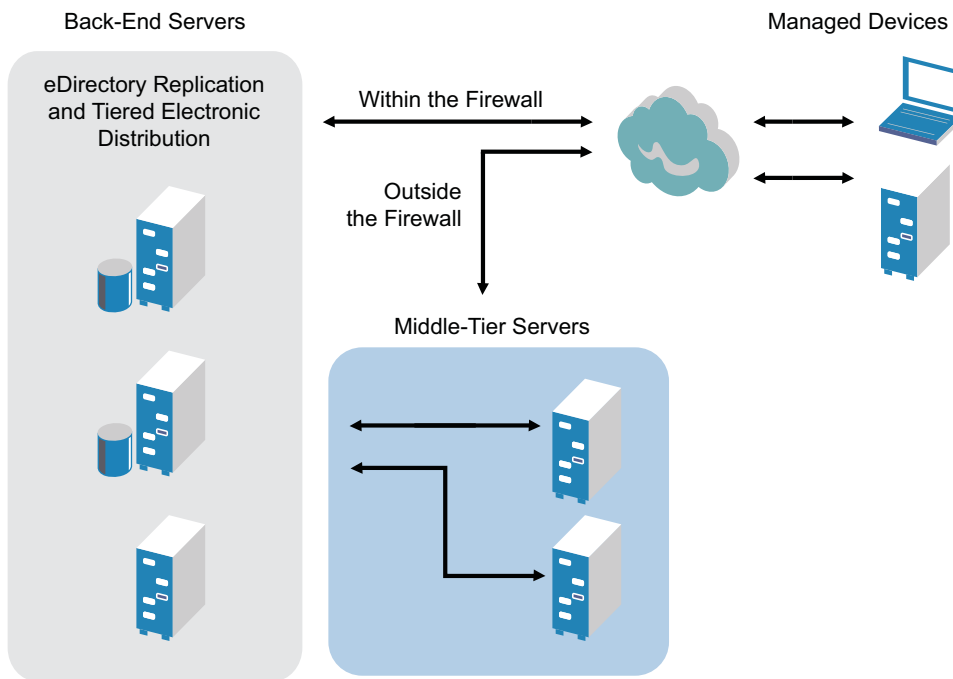
You will want your new infrastructure to be as flexible, simple, and scalable as your existing environment. Thus, it's helpful to have a solid understanding of the architectural differences between existing versions of ZENworks 11 Configuration Management SP3 and earlier versions of Novell ZENworks.

Novell ZENworks 7.x is the final release patterned after traditional ZENworks architecture. Traditional ZENworks architecture is two-tiered and relies on direct access to the object store (Novell eDirectory) for configuration information. Every workstation was required to have Novell Client32 installed or Middle tier configured in order to access ZENworks services—specifically object information, or logic, stored in the directory.

In traditional ZENworks, it is important to note that the bulk of the logic and processing is done on the client side in the form of policy searching, launcher refreshing, and so on. In other words, the client does most of the work. This setup has a dramatic effect on the scalability of the product. Instead of one server doing all of the work for 100 clients, the total workload is spread across all 100 clients.

Figure 2-1 illustrates the traditional architecture for Novell ZENworks Desktop Management:

Figure 2-1 ZENworks Desktop Management Architecture



Traditional ZENworks architecture is characterized as follows:

- ◆ The ZENworks Management Agent is installed on every workstation
 - ◆ Client32 is required in a NetWare environment
 - ◆ The use of the middle-tier server is required when the Novell Client is not installed on the managed devices
- ◆ eDirectory is the key requirement as the object store for all users' workstations and ZENworks objects
- ◆ Novell ConsoleOne is required to manage the ZENworks infrastructure

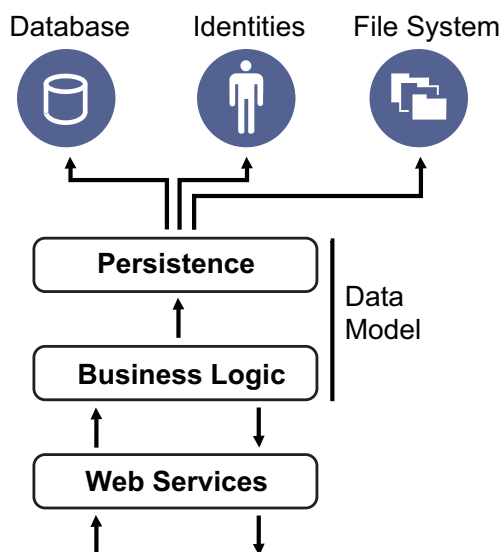
- All access to the eDirectory environment is via the NetWare Core Protocol (NCP)
- The product is cross-platform and supports services running on Linux, NetWare, and Windows

2.1.2 The Next Generation ZENworks Architecture

Novell ZENworks 11 Configuration Management SP3 features a three-tier architecture, commonly known as Services-Oriented Architecture (SOA). This architecture separates the components, making the product far more modular. Now the various tiers can be updated independently, making it easier to change business logic or add new modules.

With Novell ZENworks 11 Configuration Management SP3, the server-side infrastructure consists of two tiers (see [Figure 2-2](#)). The first is the data model, and the second comprises the file system (to store actual files), the database (for storing ZENworks information), and the optional identity store, which allows user-based resource management. With the release of ZENworks 11 Configuration Management, Novell eDirectory and Microsoft Active Directory are supported natively as user sources for user identity information.

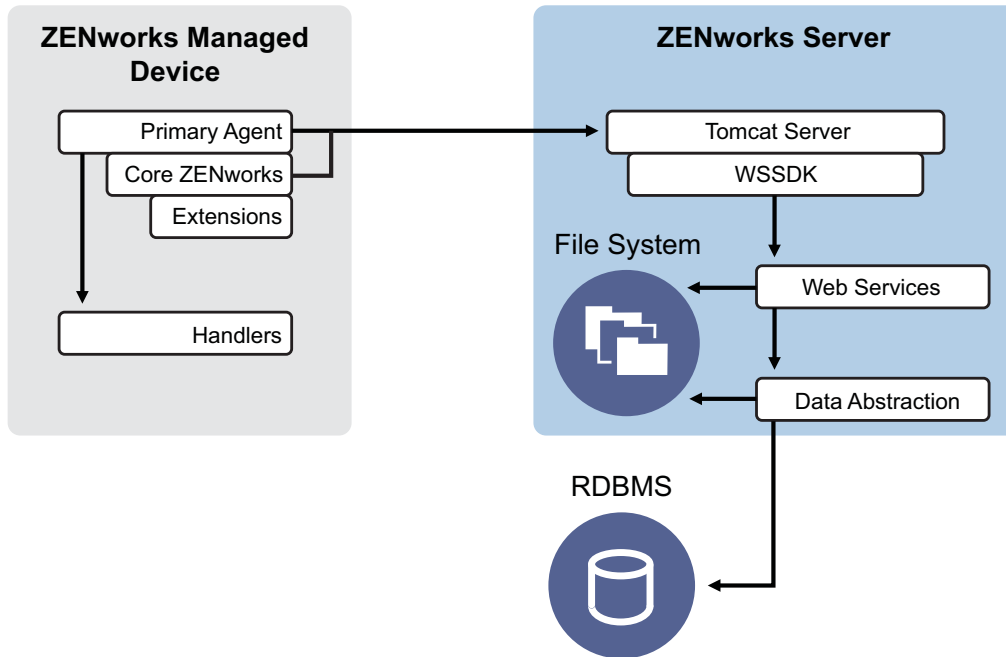
Figure 2-2 ZENworks 11 Three-Tier Architecture



In the new architecture, Novell ZENworks 11 Configuration Management SP3 has been decoupled from eDirectory, which is no longer a key requirement for the product to function. You no longer need to manage a directory in order to provide systems management services. This does not mean that you cannot benefit from integrating ZENworks 11 Configuration Management SP3 with your existing eDirectory environment. In fact, you can continue to use your existing directory infrastructure for user identity information, but you do not need to extend the schema or install the product on a server that runs eDirectory.

Another major architectural change is the way that the client and server communicate with each other (see [Figure 2-3](#)). You continue to run a Novell ZENworks agent (ZENworks Adaptive Agent) on the managed device, but the bulk of the work (logic and workload) happens on the server side. As seen in [Figure 2-3](#), the client initiates communications with the server side (the Web server on the ZENworks 11 Configuration Management SP3 Primary Server), but the server can also communicate directly with the client. The client and server use industry-standard protocols, such as HTTP, HTTPS, SOAP, CIFS, and LDAP. The client communicates with the server over HTTP or HTTPS, and the server communicates with the Adaptive Agent via SOAP (Simple Object Access Protocol) over HTTPS.

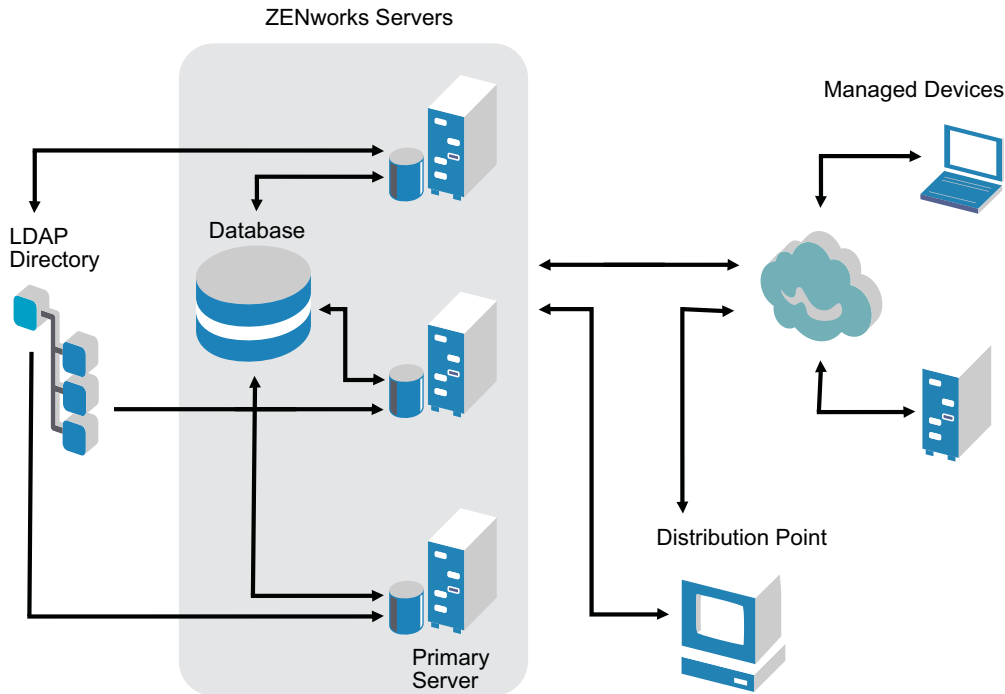
Figure 2-3 ZENworks 11 SP3 Client-Server Architecture



From an architectural perspective, the managed device communicates with the server back-end Web service, and the Primary Server tells the client what to do and where to obtain content (see [Figure 2-4](#)). In effect, the server sends instructions to the client, and the client uses the required handler to perform the task, such as installing software, applying a policy, managing systems remotely, and so on.

From an identity perspective, the user of a managed device authenticates directly to the identity store where user's object is stored, either Novell eDirectory or Microsoft Active Directory. The only identity-related information stored in the Novell ZENworks object store is a reference object pointing back to the actual identity, which increases the efficiency of user-based resource management.

Figure 2-4 ZENworks 11 SP3 Architecture



The new Novell ZENworks 11 Configuration Management SP3 architecture includes the following important characteristics:

- ◆ Installation of the ZENworks Adaptive Agent on every managed device
- ◆ Three-tier SOA
- ◆ Additional Primary Servers for computing tasks, which removes the workload from the managed device
- ◆ No more specific requirement for Novell eDirectory
- ◆ No more requirement for Novell Client32 to be installed on either the managed device or the server
- ◆ A new Web-based administrative console (ZENworks Control Center) to manage all ZENworks objects, configurations, and functions
- ◆ Native support for both Novell eDirectory and Microsoft Active Directory
- ◆ Based on industry-standard protocols
- ◆ Direct, one-time server installation, then managed devices are deployed from the server through ZENworks Control Center
- ◆ Installation of Primary Server software on either Windows Server 2003, Windows Server 2008, or SUSE Linux Enterprise Server

2.1.3 More Detail on the Architectural Changes

The following sections provide further detail on the architectural differences:

- ◆ [“Management Console” on page 16](#)
- ◆ [“Software Repository” on page 16](#)
- ◆ [“Novell eDirectory” on page 16](#)

- ♦ “Object Management” on page 17
- ♦ “User Management” on page 17
- ♦ “Client Agents” on page 18
- ♦ “Middle Tier Server” on page 18

Management Console

ZENworks Control Center, a Web-based management console is used as a graphical management interface for Configuration Management and it replaces ConsoleOne that is used in traditional ZENworks:

- ♦ **Administrator Roles:** ZENworks Control Center provides robust administrator roles unique to its new architectural design. For more information, see the [ZENworks 11 SP3 Administrator Accounts and Rights Reference](#).
- ♦ **Watch Lists:** ZENworks Control Center provides watch lists on a Home page where you can see the current status of selected devices and bundles, as well as overall Management Zone statistics. For more information, see “Creating a Watch List” in the [ZENworks 11 SP3 Administration Quick Start](#).
- ♦ **iManager:** If you already use Novell iManager to manage other Novell products, you can configure the ZENworks Control Center to be launched from iManager. For more information, see “Accessing ZENworks Control Center through Novell iManager” in the [ZENworks 11 SP3 ZENworks Control Center Reference](#).

Software Repository

Every Primary Server in the Management Zone contains the same content, providing redundancy for all managed devices in the zone. For more information, see “Content Repository” in the [ZENworks 11 SP3 Primary Server and Satellite Reference](#).

In Configuration Management, content replication and closest server rules replace the traditional load balancing techniques for fault tolerance. For more information, see “Content Replication” in the [ZENworks 11 SP3 Primary Server and Satellite Reference](#) and “Configuring the Closest Server Default Rule” in the [ZENworks 11 SP3 Location Awareness Reference](#).

Novell eDirectory

Novell eDirectory is no longer required for data storage. Instead, the ZENworks Configuration Management database is used. This is different from traditional ZENworks in several ways:

- ♦ **ZENworks Database:** A new ZENworks database replaces the old ZENworks database and all eDirectory tree object information stores. Instead of eDirectory containers and contexts, Configuration Management uses database folders and the inheritance functionality relevant to folder/object hierarchy. The new database is the content repository for all Configuration Management data.

For more information on which databases can be used with Configuration Management, see Database Requirements in the [ZENworks 11 SP3 System Requirements](#). For more information on maintaining your selected database, see the [ZENworks 11 SP3 Database Management Reference](#).

- ♦ **No Schema Extensions:** Because Configuration Management stores all the data in the ZENworks database, it does not impact your Novell eDirectory schema. Any access to eDirectory is read-only for the purpose of referencing user information.

- ♦ **User Sources:** You can use eDirectory and Active Directory as the source for users. To do this, you define a read-only LDAP link to a directory and specify the contexts where users reside. ZENworks creates references to the users in its own database that allow for ZENworks management activities to occur completely within the ZENworks database rather than in the directory. If you only plan to manage devices through device assignments rather than user assignments, user sources are not needed. For more information, see [“User Management” on page 17](#).
- ♦ **Management Zone:** Primary Servers and managed devices are organized into a Management Zone, replacing the organization provided by the eDirectory tree.

Object Management

Configuration Management uses ZENworks Control Center objects instead of eDirectory objects. The following describes some of the differences:

- ♦ **Dynamic Groups:** This is a new feature in Configuration Management. Both groups and dynamic groups are available. From the perspective of software and policy assignments, groups and dynamic groups have the same function. The only difference between the two types of groups is the way that devices are added to the group. With a group, you must manually add devices. With a dynamic group, you define criteria that a device must meet to be a member of the group, and then devices that meet the criteria are automatically added.

Several dynamic groups are predefined, but you can define your own.

For more information, see [“Groups”](#) in the *ZENworks 11 SP3 Administration Quick Start*.

- ♦ **Inheritance:** You can set configurations in several ways:
 - ♦ Globally for all ZENworks Control Center objects (devices or bundles) in the Management Zone
 - ♦ For all objects in a folder and its subfolders
 - ♦ For a group of objects (predefined, user-defined, and dynamic groups are available)
 - ♦ For an individual object

For more information, see [“Organizing Devices: Folders and Groups”](#) in the *ZENworks 11 SP3 Administration Quick Start*.

- ♦ **Associations:** In Configuration Management, ZENworks Control Center objects are assigned to each other (such as bundles to devices), instead of being associated with eDirectory objects. The differences between assignments and associations should be considered when migrating to Configuration Management. For more information, see [Section 5.10, “Migrating Associations,” on page 64](#).

User Management

Configuration Management references existing LDAP user sources, in either eDirectory or Active Directory. Users are not migrated to Configuration Management. This way, ZENworks knows immediately of any changes done natively to user objects. For more information, see the *ZENworks 11 SP3 User Source and Authentication Reference*.

Client Agents

The ZENworks Adaptive Agent replaces the ZENworks Desktop Management Agent. The differences include the following:

- ♦ **Deployment:** You can use the ZENworks Control Center to deploy the Adaptive Agent to any workstation whose IP address or LDAP directory context you know (or have discovered using the network discovery of LDAP directory discovery technologies included in ZENworks).
- ♦ **Functionality:** All functionality (software distribution, imaging, remote management, policies) is automatically included with the installation of the Adaptive Agent. The only functionality you can choose to remove from the agent installation is remote management.
- ♦ **No Network Client:** The Adaptive Agent does not require network clients (Novell Client or Microsoft Client) to retrieve content (applications, etc.) from Primary Servers. The Adaptive Agent uses HTTP and Web services requests to retrieve the content.

NOTE: The latest version of the Novell client must be installed on the managed device before a Dynamic Local User policy or a Roaming Profile Policy that has Store User Profile in User's Home Directory enabled is enforced on the device. To obtain the latest version of Novell Client, see the [Novell Download web site \(http://download.novell.com/index.jsp\)](http://download.novell.com/index.jsp).

- ♦ **Integrated Interface:** The separate client programs (Workstation Manager, Remote Control, etc.) have been replaced with a common interface called the ZENworks Icon. The ZENworks Icon is displayed in the notification area at the bottom of the desktop. The NAL Window and NAL Explorer views are still available.
- ♦ **Configuration Settings** The Adaptive Agent behavior is now controlled through a combination of configuration settings and policy settings (ZENworks Explorer Configuration policy) rather than through the Launcher Configuration settings only. This allows for greater flexibility in determining which devices receive specific settings.
- ♦ **Inventory-Only Module:** If you have workstations that don't meet the requirements for installing the Adaptive Agent (see Managed Device Requirements in the [ZENworks 11 SP3 System Requirements](#)), you can still receive inventory information from these workstations by installing the Inventory-only module. For more information, see "Deploying the Inventory-Only Module" in the [ZENworks 11 SP3 Discovery, Deployment, and Retirement Reference](#).

For more information, see "ZENworks Adaptive Agent Deployment" in the [ZENworks 11 SP3 Discovery, Deployment, and Retirement Reference](#).

Middle Tier Server

The Middle Tier Server does not exist in Configuration Management. Instead, the ZENworks Adaptive Agent communicates directly with the Primary Server through Web services and HTTP requests.

2.2 System Management

Configuration Management provides several methods for managing ZENworks:

- ♦ **ZENworks Control Center:** This is the main Configuration Management administration interface. For more information, see the [ZENworks 11 SP3 ZENworks Control Center Reference](#).
- ♦ **Command Line Utilities:** You can administer Configuration Management by using the zman and zac command line utilities. For more information, see the [ZENworks 11 SP3 Command Line Utilities Reference](#).

- ♦ **Errors and Messages:** Traditional error messages and message logs have been replaced with the centralized Message Logging feature. For more information, see [“Using Message Logging”](#) in the *ZENworks 11 SP3 ZENworks Control Center Reference* and [“Viewing System Messages”](#) in the *ZENworks 11 SP3 Administration Quick Start*.
- ♦ **Software Updating:** The process of updating the ZENworks software is now automated in Configuration Management with the System Updates feature. For more information, see the *ZENworks 11 SP3 System Updates Reference*.

2.3 Workstations

Traditional workstation management using policies and importing into eDirectory is replaced by managed devices in Configuration Management.

Devices in Configuration Management include both Primary Servers, managed devices (Primary Servers and workstations), and inventoried-only devices. For more information, see [“ZENworks 11 SP3 System Requirements”](#).

Managing workstations is done in the following ways

- ♦ Workstations are imported into the Management Zone by using the new discovery and deployment feature. Devices are discovered on the network, registered in the Management Zone, and have software deployed to them. For more information, see *ZENworks 11 SP3 Discovery, Deployment, and Retirement Reference*.

To manually import devices, you can use a .csv file. For more information, see [“Importing Devices from CSV Files”](#) in the *ZENworks 11 SP3 Discovery, Deployment, and Retirement Reference*.

Servers become a member of the Management Zone when you install Configuration Management on them. For more information, see the *ZENworks 11 SP3 Server Installation Guide*.

- ♦ Registration rules and keys replace workstation importing and policies. For more information, see [“Creating Registration Keys and Rules”](#) in the *ZENworks 11 SP3 Administration Quick Start*.
- ♦ You can determine a device’s status in ZENworks Control Center. For more information, see [“ZENworks Icon”](#) in the *ZENworks 11 SP3 Software Distribution Reference*.
- ♦ Asset Management has been configured to work with ZENworks 11 SP3. For more information, see the *ZENworks 11 SP3 Asset Management Reference*.
- ♦ Many policies are essentially the same between traditional ZENworks and Configuration Management. However, some have been discontinued, some moved to become Management Zone configurations, and a new policy has been added. For more information, see the *ZENworks 11 SP3 Configuration Policies Reference*.

2.4 Inventory

Asset Inventory replaces Workstation Inventory. This is a completely new feature that is based on the Configuration Management content model. For more information, see *ZENworks 11 SP3 Asset Inventory Reference*.

Primary Servers can be hierarchically organized in the Management Zone so that all database information can be rolled efficiently to the one Primary Server that hosts the ZENworks database. However, the database can reside externally on a server that is not a Primary Server in the zone. For more information, see [“Server Hierarchy”](#) in the *ZENworks 11 SP3 Primary Server and Satellite Reference*.

2.5 Imaging

In Configuration Management, automated imaging is performed using bundles, instead of using traditional policies and eDirectory imaging objects. However, the ZENworks Imaging engine is much the same, and the file type for images continues to be `.zmg`.

Some improvements have been made to the imaging software, but it's essentially the same. You simply perform automated imaging differently. Manual imaging is similar, but enhanced.

The basic repository for image files is hard-coded, but you can create subfolders for organizing your images.

For more information, see the [ZENworks 11 SP3 Preboot Services and Imaging Reference](#).

2.6 Remote Management

This feature has been enhanced, including the use of Virtual Network Computing (VNC). For more information, see [ZENworks 11 SP3 Remote Management Reference](#).

2.7 Application Management

In ZENworks 11 Configuration Management SP3, new software distribution functionality replaces much of the traditional ZENworks Application Management functionality.

- ♦ **Bundles:** A bundle is a package of files and information, similar to an Application Object and its files but with far greater power and flexibility. A bundle wizard lets you create a bundle, configure the actions associated with a bundle, and then assign bundles to devices or users. There are four types of bundles: Linux, Linux Dependency, Preboot, and Windows. For more information, see the [ZENworks 11 SP3 Software Distribution Reference](#).
- ♦ **Actions and Action Sets:** A bundle contains actions to perform with its content. All actions are divided into six categories, referred to as action sets: Install, Launch, Verify, Uninstall, Terminate, and Preboot. You can identify your actions at the time you create the bundle, and you can also add or subtract the actions later in ZENworks Control Center. For more information, see “[Actions](#)” in the [ZENworks 11 SP3 Software Distribution Reference](#).
- ♦ **Content:** Applications and files, along with policy files, are referred to as content. Content is stored in a directory structure, called the content repository, on the Primary Server. The Primary Server and ZENworks Adaptive Agent (running on the managed device) communicate via standard Web protocols to provide access to the content. Unless you configure your system differently, content is automatically replicated among Primary Servers to ensure that it is available from all Primary Servers. For more information, see “[Content Delivery](#)” in the [ZENworks 11 SP3 Primary Server and Satellite Reference](#).
- ♦ **Cache:** Each managed device still uses a cache directory. However, the cache location has moved from `drive_root\nalcache` to `zenworks_home\cache`. All bundles are copied to the cache directory before installation. By default, this copy occurs when the bundle is first launched on the device.
- ♦ **Forced Caching:** You can use a distribution schedule to force cache a bundle so that it is immediately available for installation when the user launches it. The schedule can initiate an immediate distribution of the bundle, or delay distribution to a future time.
- ♦ **Forced Running:** You can use a launch schedule to force an application to run. For example, run the application immediately or when the device refreshes. For more information, see “[Launching a Bundle](#)” in the [ZENworks 11 SP3 Software Distribution Reference](#).

- ♦ **Distribution Points:** To improve content access for a group of devices without creating another Primary Server, you can create a Content Distribution Point on any managed device. Distribution Points are useful in slow WAN configurations. For more information, see “[Understanding the Satellite Roles](#)” in the *ZENworks 11 SP3 Primary Server and Satellite Reference*.
- ♦ **Dependencies:** Dependencies are now created automatically whenever you select specific types of actions for a bundle. For more information, see “[Creating a Bundle with Content and Dependency on Another Bundle](#)” in the *ZENworks 11 SP3 Software Distribution Reference*.
- ♦ **Proximity and Load Balancing:** Site lists (proximity) and source lists (workload) are replaced by a feature called Closest Server Rules. These are rules that you create to direct managed devices to the Primary Server from which they will receive content and configuration information. For more information, see the *ZENworks 11 SP3 Location Awareness Reference*.

2.8 Additional Features

Depending on the edition of Configuration Management (Standard, Advanced, or Enterprise), the following other software features are provided with Configuration Management:

- ♦ **Patch Management:** You can continue to automate patch application to minimize vulnerabilities and compliance issues. For more information, see the *ZENworks 11 SP3 Patch Management Reference*.

For the Standard Edition, Patch Management is provided as 60-day evaluation-only software.

- ♦ **Asset Management:** You can continue to monitor software license compliance, track software usage, manage contracts, and manage licenses. For more information, see the *ZENworks 11 SP3 Asset Management Reference*.

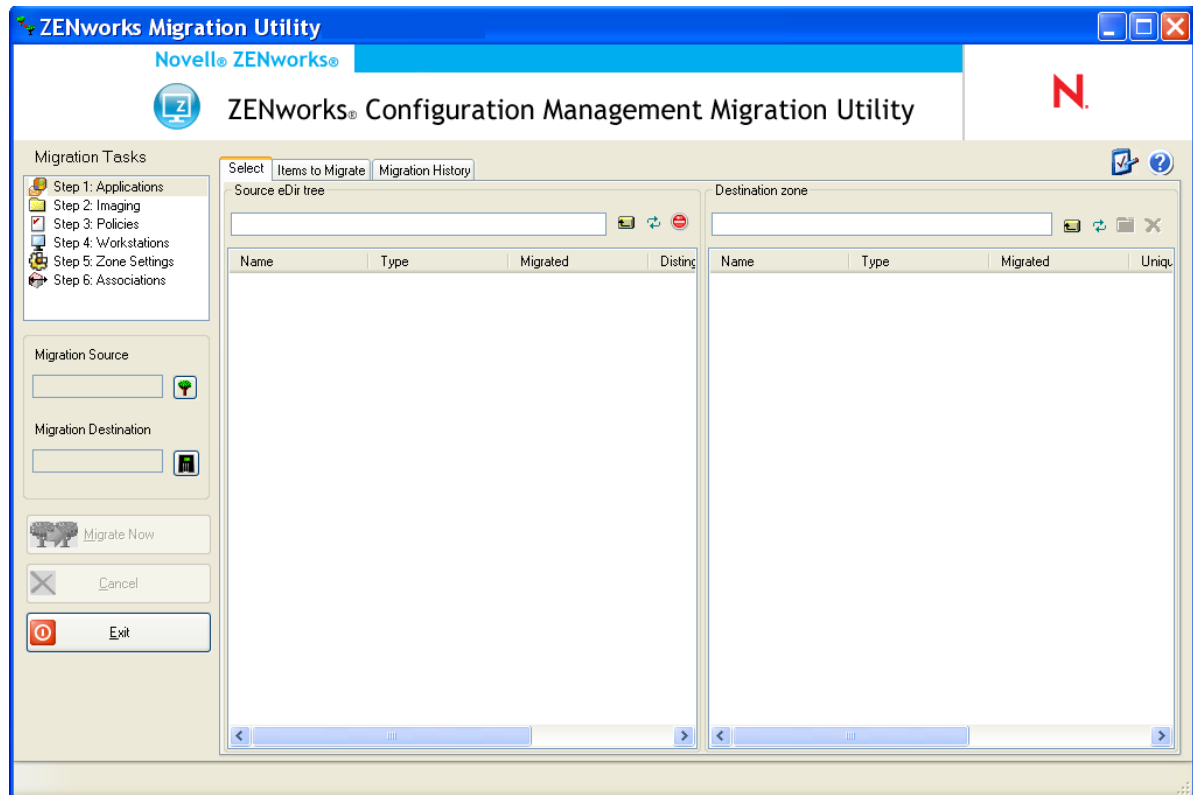
For the Standard and Advanced Editions, Asset Management is provided as 60-day evaluation-only software.

- ♦ **AdminStudio:** You can continue to standardize the way that you package, test, distribute, and manage your applications and patches. For more information, see the *AdminStudio Installation Guide* at the [Novell Documentation site \(http://www.novell.com/documentation/zenworks113\)](http://www.novell.com/documentation/zenworks113)

3 Understanding the Migration Utility

The ZENworks Configuration Management Migration Utility consists of a migration screen where you can model and perform the migration:

Figure 3-1 ZENworks Configuration Management Migration Utility



Review the following sections for more information on the Migration Utility's organization and its functions:

- ◆ Section 3.1, "Migration Tasks," on page 24
- ◆ Section 3.2, "Migration Source/Destination," on page 24
- ◆ Section 3.3, "Migrate Now Button," on page 24
- ◆ Section 3.4, "Cancel Button," on page 24
- ◆ Section 3.5, "Exit," on page 25
- ◆ Section 3.6, "Select Tab," on page 25
- ◆ Section 3.7, "Items to Migrate Tab," on page 27
- ◆ Section 3.8, "Migration History Tab," on page 27
- ◆ Section 3.9, "Options Icon," on page 28
- ◆ Section 3.10, "Overall Progress," on page 28

3.1 Migration Tasks



There are several types of Novell eDirectory data that you can migrate. You can model all types in one session or more (because the modeling information is saved); however, you can only migrate one type at a time. The type you have selected in the *Migration Tasks* field is migrated when you click the *Migrate Now* button.

The options displayed in the *Migration Tasks* field are filters that determine what is displayed on the *Select* tab. When you select a migration task, the fields (and their data) change appropriately in the *Select* tab's two panels (*Source eDir Tree* and *Destination Zone*). For example, when you select *Step 1: Applications*, only the paths, fields, and data applicable to applications are displayed in both panels. For the *Source eDir Tree* panel, you see what is in your eDirectory tree. For the *Destination Zone* panel, you see what currently exists in the ZENworks database, and is viewable in ZENworks Control Center.

The numbering for the *Migration Tasks* options represents the suggested migration sequence because of possible dependencies, such as associations that require their applications and associated objects to already exist in order to re-create those associations in Configuration Management. Therefore, you would migrate the applications first, then later migrate the associations. However, you can migrate eDirectory data in any order, including any subsets of a type. This can be useful for an incremental migration, such as migrating your various departments' applications at different times.

You can also delete any item from the *Destination Zone* panel, which deletes it from the ZENworks database so it is no longer viewable in ZENworks Control Center.

3.2 Migration Source/Destination

The *Migration Source* and *Migration Destination* fields display the current selections. If these fields are blank, or if you want to change the source or destination, click the  or  to display the eDir Login or Zone Login dialog boxes, then authenticate to those entities.

3.3 Migrate Now Button

After you select a migration type and select the items to be migrated (you have copied them from the *Source eDir Tree* panel into the *Destination Zone* panel to complete your modeling of the migration type), click this button to perform the migration. All of the items listed on the *Items to Migrate* tab are migrated one at a time. They are displayed with dimmed icons until they are migrated.

If you drag a site listed application that has a duplicate already queued, you are asked to resolve them during queuing by selecting which one to migrate. You can right-click an item and select *View attributes* for information that might help you in determining which item to migrate.

3.4 Cancel Button

This button can be clicked at any time during a migration to stop the process. Items already migrated remain migrated; items yet to be migrated continue to be displayed in the *Destination Zone* panel with dimmed icons and text.

3.5 Exit

Closes the Migration Utility. Any modeling you have done is saved for future sessions.

The saved migration information is based on a source and destination pairing. Therefore, the saved modeling information displayed in the *Destination Zone* panel depends on which source and destination pairing you select. The saved modeling files are kept in subdirectories (located where you run the utility from) that are based on the source and destination pairing. Keep this in mind when you are modeling migrations from multiple eDirectory trees to one Management Zone.

3.6 Select Tab

This tab displays the *Source eDir Tree* and *Destination Zone* panels. In both panels, the text of the migrated entries is teal-colored after you migrate the items. This is helpful in viewing which items have been migrated and which have not, even when you run the utility at a later date. If any entries are not migrated because of an error, their icons remain dimmed.

- ♦ [Section 3.6.1, “Source eDir Tree,” on page 25](#)
- ♦ [Section 3.6.2, “Destination Zone,” on page 26](#)

3.6.1 Source eDir Tree

After you log in to the eDirectory tree, the *Source eDir Tree* panel is populated with the applicable information, starting at the root of the tree. For example, if you select *Step 1: Applications*, only Application objects are displayed in the tree as you navigate it.




To select something to migrate that is listed in the *Source eDir Tree* panel, simply select the item, then drag it into the *Destination Zone* panel. You can use the Ctrl and the arrow keys or Shift and the arrow keys to select multiple items.

IMPORTANT: Selecting, dragging, and migrating objects does nothing to your eDirectory tree. Migration is only a read and copy operation. The eDirectory tree is left unchanged. So, you can perform migration by logging in to the eDirectory tree as a read only user also.

The *Source eDir Tree* field displays the full path of the currently selected context in the tree.

You can click the following icons to navigate the tree:

Table 3-1 Source eDir Tree Icons

	Navigate Up One Level: Moves the focus up one level from the current context.
	Refresh: Refreshes the view. For example, when you first authenticate to the tree, you receive the current state of the tree. If changes are made in the tree after that, you can click <i>Refresh</i> to capture them in the Migration Utility for migration.
	Stop Listing of Objects in the Source eDir Tree: Stops listing the objects in the <i>Source eDir Tree</i> field.

If you right-click an item in the list, you have two options:

- ♦ **View Attributes:** Displays attributes for the selected object in the Generic Attributes dialog box. This is useful for troubleshooting and support calls.

- ♦ **Add to Migration Queue:** Copies the item to list of items queued for migration in the *Destination Zone* panel and the *Items to Migrate* tab

Because these options can apply to selected items or to the panel as a whole, right-click the item for options applicable only to specific items. Right-click anywhere in the panel for an option applicable to all items.

If you select a container for migration that has different types of objects in it, such as both Workstation and Application objects, only the objects related to the active *Migration Tasks* selection are copied into the *Destination Zone* panel.

If you drag an item that was previously queued in the Destination Zone and it has not been migrated yet, no action takes place because the item is already there.





3.6.2 Destination Zone

The *Destination Zone* panel displays items to be migrated with dimmed icons, and items that were either already migrated or originally created in ZENworks Control Center are displayed with colored icons.

The *Destination Zone* field displays the full path of the selected destination of the migrated object in the Management Zone. A default location is displayed.

You can click the following icons to navigate the zone or to modify the selected items:

Table 3-2 *Destination Zone Icons*

	Navigate Up One Level: Moves the focus up one level from the current folder.
	Refresh: Refreshes the view. For example, when you first authenticate to the zone, you see the current state of the zone. If changes are made in the zone after that, you can click <i>Refresh</i> to update them in the Migration Utility.
	<p>Create New Folder: You can change the Configuration Management folder structure displayed in ZENworks Control Center to suit your management needs by adding new folders. For example, if you add a folder (such as <code>Files</code>) under <code>/~bundles~</code>, that <code>File</code> folder is displayed under <i>Bundles</i> in ZENworks Control Center, which contains all bundles that are created for the eDirectory objects that you copied there.</p> <p>Modeled folders are not added into ZENworks Control Center until you migrate them. However, you can model folders that are empty and add them to Configuration Management by clicking <i>Migrate Now</i>. This is useful for setting up your folder structures before migrating the objects.</p>
	<p>Delete Selected Object: Deletes the item that has a dimmed icon from the list, not from eDirectory or the ZENworks database. If the item has a colored icon, it was either previously migrated or it was originally created in ZENworks Control Center. If you select the <i>Delete Selected Object</i> icon, it deletes the item from the ZENworks database and it is no longer viewable in ZENworks Control Center.</p> <p>IMPORTANT: Because both migrated items and items originally created in ZENworks Control Center are displayed, be aware of this fact when you choose to delete items that have colored icons.</p>

If you right-click an item in the list, you have the following options:

- ♦ **Delete Selected Items:** Deletes the selected item from the list in this view. However, if the item has not been migrated yet, then the selected item is deleted from both this view and on the *Items to Migrate* tab.

- ♦ **New Folder:** Allows you to insert a new folder at the current level. This folder is not created in ZENworks Control Center until you perform the migration. You can create a folder structure to be migrated, including placing items within the folders.
- ♦ **View Zone Settings:** Displays the ZENworks Management Zone settings for the selected object.
- ♦ **View Attributes:** Displays attributes for the selected object in the Generic Attributes dialog box. This is useful for troubleshooting and support calls.

Because these options can apply to selected items or to the panel as a whole, right-click the item for options applicable only to specific items. Right-click anywhere in the panel for an option applicable to all items.

The *Unique Identifier* column provides you with a way to differentiate multiple objects of the same name because the identifier provides the full context from where it will be migrated. The ZENworks Migration Utility automatically prevents duplicate items from being added. However, this applies to the unique identifier, not the item's name in the *Name* column.

3.7 Items to Migrate Tab

This tab displays the items to be migrated. This is the active view while the migration is underway.

The top panel displays migration progress in the *Step* column as an item is migrated. If problems are encountered, they are indicated in the *Step* column.

The *Migration Status* panel displays the migration log being written as its data is migrated. This is also the content of the migration log file that is created after migrating the item. The log file is accessible by clicking the *View Log* button in the *Step* column. It can also be accessed from the same option in the *Migration Log* column on the *Migration History* tab.

If you right-click items in the list, or anywhere in the view, you have three options:

- ♦ **Delete Selected Items:** Deletes the selected items from the list of those to be migrated, both in this view and in the list under *Destination Zone* on the *Select* tab.
- ♦ **Delete All:** Deletes all of the listed items from the migration listing, whether selected or not, including all of them in the list under *Destination Zone* on the *Select* tab.
- ♦ **Delete Successful:** All items that were originally in the list before clicking *Migrate Now* remain in the list, showing their migration status. This option allows you to delete all successfully migrated items, leaving those that were unsuccessful for review and handling.

Because these options can apply to selected items or to the panel as a whole, right-click the item for options applicable only to specific items. Right-click anywhere in the panel for an option applicable to all items.

3.8 Migration History Tab


This tab displays all items that have been migrated, according to which migration type you selected in the *Migration Tasks* panel.

If you right-click items in the list, or anywhere in the view, you have the following options:

- ♦ **Delete Selected Items:** Deletes the selected items from the list of those that were migrated, but does not change the fact that they were migrated. This is useful for reducing the listing.
- ♦ **Delete All Items:** Deletes all of the listed items from the migration listing, but does not change the fact that they were migrated. This is useful for clearing the listing.

- ♦ **Refresh:** Refreshes the listing.
- ♦ **Migration Log:** The migration data is logged to an RTF log file. The migration log file is always available by double-clicking anywhere on a row. The log file is also accessible in the `\log` directory created where the ZENworks Migration Utility executable resides. However, its filename uses a GUID, so the Management Utility is usually the best way to access the migration log files.

3.9 Options Icon

The  icon accesses the [Options dialog box](#), where you can specify global options related to the types of eDirectory data that you are migrating. Some types might not have global options. The migration options are enforced during migration, and might also affect the display of information during modeling.

3.10 Overall Progress

This field, located at the bottom of the screen, shows the progress of the migration as a bar graph. On the *Items to Migrate* tab, you can also view the progress bar for individual items as they are being migrated.

4 Planning Your Migration to ZENworks Configuration Management

Novell ZENworks Configuration Management provides the ZENworks Migration Utility that allows you to migrate your traditional ZENworks Novell eDirectory objects and attributes into the ZENworks Configuration Management database. Because Configuration Management uses a different architecture than the traditional versions of ZENworks, migrating your traditional ZENworks data is the only method for upgrading to Configuration Management.

The Migration Utility allows you to migrate eDirectory objects in batches so that you can migrate incrementally. You can queue and migrate several hundred objects at a time. The utility provides modeling, object selection, simple raw attribute viewing, migration, and error reporting.

You cannot install AdminStudio Standard Edition and the Migration Utility on the same device. However, you can install AdminStudio Standard Edition and the Migration Utility on different devices in the same Management Zone.

The following sections provide concepts on migrating to Configuration Management:

- ♦ [Section 4.1, “Migration Candidates,” on page 29](#)
- ♦ [Section 4.2, “Downloading and Installing the ZENworks Migration Utility,” on page 30](#)
- ♦ [Section 4.3, “What the ZENworks Migration Utility Does,” on page 30](#)
- ♦ [Section 4.4, “Planning Your Migration,” on page 32](#)

4.1 Migration Candidates

The following ZENworks product can be migrated to ZENworks 11 Configuration Management SP3:

- ♦ ZENworks for Desktops 4.0.1
- ♦ ZENworks Desktop Management 6.5
- ♦ ZENworks 7.x Desktop Management

Migration of other ZENworks products will be added in a future version of Configuration Management.

4.2 Downloading and Installing the ZENworks Migration Utility

You must install the Migration Utility on a device that does not have AdminStudio previously installed. If you choose to install the Migration Utility on a device that already has AdminStudio installed, the migration of an AOT application fails. For more information on this issue, see the troubleshooting scenario “[Unable to migrate an AOT application](#)” on page 92.

Perform the following steps to download and install the ZENworks Migration Utility executable to the Windows device where you will be running the utility:

- 1 (Conditional) If an earlier version of the utility is already installed on the device, then uninstall it before installing the latest version.
- 2 You can download the ZENworks Configuration Management Migration Utility to a temporary location from one of the following locations by using your Web browser:
 - ♦ **ZENworks download page:** Go to http://zenworks_primary_server_id/zenworks-setup/?pageId=tools, and click `ZENmigration.exe`. You will be automatically redirected to a page on Novell Download Site from where you can download the utility.
 - ♦ **Novell Download Site:** Go to <http://download.novell.com/> and search for the ZENworks Configuration Management Migration Utility to download it.

Because the ZENworks Migration Utility saves its work files locally, you should plan to always run this utility from the same workstation in order to provide migration history information that you can use in both planning and during migration. These work files are not transferable to other workstations where you might install the utility. You will have disjointed histories if you use multiple workstations to perform the migration.

IMPORTANT: Novell strongly recommends that you do not run the Migration Utility from the Primary Server. The Migration Utility’s processes are CPU intensive and can noticeably slow down the server.

Also, Novell’s license from Macrovision prohibits installing the utility on more than one device per Management Zone.

Therefore, install the utility on a supported management workstation.

- 3 Run `ZENmigration.exe` to install it on your workstation.

4.3 What the ZENworks Migration Utility Does

The ZENworks Migration Utility is provided with Configuration Management (see [Step 5 on page 40](#) in [Section 5.1, “Prerequisites,” on page 39](#)). You copy and install it to your workstation from an executable file that resides on your Primary Server. The utility consists of a migration screen where you can model and perform the migration.

The following sections explain what is or is not migrated:

- ♦ [Section 4.3.1, “Migrated,” on page 31](#)
- ♦ [Section 4.3.2, “Not Migrated,” on page 31](#)
- ♦ [Section 4.3.3, “Other Software,” on page 31](#)

4.3.1 Migrated

The ZENworks Migration Utility does the following:

- ♦ Allows you to model your migration before performing it.
- ♦ Provides a unique view of assignments created from traditional ZENworks associations.
- ♦ Copies eDirectory objects and their attributes and associations to the ZENworks database, leaving eDirectory untouched in the process.
- ♦ Prompts you to resolve duplicates from site listed applications.
- ♦ Provides a status log of non-migrated attributes for your traditional ZENworks system's eDirectory objects that do not exist in Configuration Management.
- ♦ Converts Novell Application Launcher (NAL) applications into Configuration Management bundles.

MSI and AOT applications that have streams (files) associated with them are migrated to MSIs by using the AdminStudio Repackager, which is included with the ZENworks Migration Utility.

4.3.2 Not Migrated

The ZENworks Migration Utility does not migrate the following:

- ♦ **User Objects:** These are not migrated. Instead, in ZENworks Control Center, you simply point to their user sources. Therefore, any change to a user in eDirectory or Active Directory is immediately known in ZENworks Control Center.
- ♦ **Inventory Data:** Your traditional inventory data and the related eDirectory attributes are not migrated by this utility. For how to migrate ZENworks Asset Management inventory data, see [Section 4.3.3, "Other Software," on page 31](#).

For details on what is not migrated and what is changed during migration, see [Appendix A, "Migration Data," on page 73](#).

4.3.3 Other Software

The following are upgraded or migrated with other methods:

- ♦ **Inventory Data:** The ZENworks Asset Management Migration Utility can migrate your traditional inventory data, including inventory history, from ZENworks 7 to ZENworks Configuration Management. To access and run this utility:
 1. In your Web browser, access the following URL:
`http://zenworks_primary_server_id/zenworks-setup/?pageId=tools`
and download `ZAMmigration.exe` to a temporary location.
 2. Run `ZAMmigration.exe` to install it on your workstation.
 3. To run the utility on a supported Windows device, click *Start > All Programs > Novell ZENworks > ZENworks Asset Management Migration Utility*.
- ♦ **PatchLink:** PatchLink Update is automatically installed with its latest patches as part of the installation of ZENworks Configuration Management.
- ♦ **AdminStudio:** AdminStudio ZENworks Edition is provided on the *Novell ZENworks Configuration Management* CD. It is an optional installation. The portion of AdminStudio that is needed by the ZENworks Migration Utility for migrating Novell Application Launcher applications is automatically installed with the Migration Utility.

4.4 Planning Your Migration

To upgrade your traditional ZENworks to Configuration Management, you simply need to determine which eDirectory objects and associations to migrate from your traditional ZENworks system. You do not need to migrate all of them, or organize them the same way as they are organized in eDirectory.

Consider the following as you plan your migration:

- ◆ [Section 4.4.1, “Coexistence of the ZENworks Systems,” on page 32](#)
- ◆ [Section 4.4.2, “LDAP Authentication,” on page 33](#)
- ◆ [Section 4.4.3, “PXE Devices and Server Referral Lists,” on page 33](#)
- ◆ [Section 4.4.4, “Incremental Migration,” on page 34](#)
- ◆ [Section 4.4.5, “Migration Order,” on page 34](#)
- ◆ [Section 4.4.6, “Management Zone Settings,” on page 35](#)
- ◆ [Section 4.4.7, “Migrating Workstations,” on page 35](#)
- ◆ [Section 4.4.8, “Identifying Users,” on page 36](#)
- ◆ [Section 4.4.9, “Folder Usage in Configuration Management,” on page 36](#)
- ◆ [Section 4.4.10, “Migration Modeling,” on page 37](#)
- ◆ [Section 4.4.11, “What’s Next?,” on page 37](#)

4.4.1 Coexistence of the ZENworks Systems

When you introduce Configuration Management into your environment, the following takes place:

- ◆ **Installation:** Configuration Management is installed to a Primary Server in a Configuration Management Zone. This server cannot be running traditional ZENworks software.

Installation sets up a Management Zone and a ZENworks database. The first Primary Server installed hosts the database if you are not using an external database on another server.

- ◆ **Migration:** eDirectory data is migrated to the ZENworks database on the Primary Server by using read-only access.

Migration to Configuration Management consists of reading eDirectory data to create similar objects, attributes, and assignments in the ZENworks database. Users are not migrated to Configuration Management. Configuration Management simply uses eDirectory for a user source, if you have user associations to be migrated.

You must create the user source in ZENworks Control Center before migrating user associations.

- ◆ **Managed Devices:** The ZENworks Adaptive Agent is installed on each device to be managed by Configuration Management, such as workstations and Primary Servers in the Management Zone.

Installing the Adaptive Agent also deletes the traditional ZENworks Agent software from the managed device, so there are no managed device conflicts.

Certain considerations affect coexistence:

- ◆ The Configuration Management software cannot be running on the same server as your traditional ZENworks software.
- ◆ Configuration Management uses its own database, not eDirectory.
- ◆ The Adaptive Agent replaces the traditional ZENworks Agent on managed devices.

Because of these things, the Configuration Management and traditional ZENworks systems can run concurrently in your environment without conflicts. The Configuration Management and traditional ZENworks systems do coexist but are not interoperable. They remain as separate management software for the devices where their respective agents are running.

4.4.2 LDAP Authentication

The ZENworks Migration Utility authenticates to both the source eDirectory tree by using LDAP and the destination ZENworks Management Zone by using Web services, and both rely on SSL for security over TCP/IP. LDAP must be enabled, which is the default for eDirectory trees.

For eDirectory login, you must provide a fully distinguished user name that has sufficient rights to read eDirectory. Writing to eDirectory is not required because the migration process only reads eDirectory. If you are migrating images, the migration user must also have rights to read `.zmg` imaging files.

For reading information from eDirectory, the default port for LDAP SSL is 636. The default non-LDAP SSL port is 389.

Although you can migrate without Novell Client32 running on the device where you are running the migration utility, Client32 might be necessary to access files on NetWare volumes.

Authentication to the ZENworks Management Zone is done using the administrator login name and password that you established when installing Configuration Management. If you added other administrator logins in ZENworks Control Center after installation, these are also valid, provided they have the necessary Read rights to eDirectory and Write rights to the ZENworks Configuration Management database.

For writing to the zone's database, the default port for SSL is 443.

4.4.3 PXE Devices and Server Referral Lists

If you have both Configuration Management and ZENworks Linux Management systems running concurrently, the following information might apply:

- ♦ **PXE Devices:** When a PXE device boots, it makes a broadcast request on the network for PXE services. The ZENworks Proxy DHCP server (the `novell-proxydhcp` daemon) responds to this request with information that includes the IP address of an imaging server where the device can send requests for assigned preboot work.

Because PXE devices can exist in an environment with both newer and traditional ZENworks systems running concurrently, the device can fail to determine its assigned preboot work if it cannot find the imaging server for its own ZENworks version.

In ZENworks Configuration Management, devices can exist in multiple Management Zones. It is essential that the PXE device contact PXE services associated with its home zone so that it can correctly determine if there is any preboot work assigned to it. When there is only a single Management Zone, this is easy to do because all Proxy DHCP servers provide addresses to services that belong to the same zone. Any device can request preboot work from any imaging server in the same zone and get the same response.

The PXE device's initial request for PXE services is sent as a broadcast to the network, and all Proxy DHCP servers respond with information pertaining to their respective zones (in ZENworks Configuration Management and ZENworks Linux Management) or Proxy DHCP servers in their trees (in traditional ZENworks versions using Windows or NetWare imaging servers). Because it

is impossible to determine which Proxy DHCP server responds first (if multiple Proxy DHCP servers respond), or which server's response is used by the device, it is impossible to ensure that each PXE device contacts servers in its home zone or tree.

- ♦ **Server Referral Lists:** For a ZENworks environment that has PXE services, the Server Referral List configuration section provides a method for getting PXE devices to connect with their proper imaging servers. Server referral lists are only used by PXE devices, and in ZENworks Configuration Management only one Management Zone needs to have an active Proxy DHCP server and server referral list. Because you can only have one referral list active in a network segment, if you have ZENworks Linux Management running with a referral list configured, you need to disable the Proxy DHCP service for Linux Management. This allows the Configuration Management referral list to be used by all PXE devices.

A server referral list allows you to ensure that all devices contact their home zone or tree for preboot work assignments. The list should contain the IP address of an imaging server in each known Management Zone or traditional ZENworks system's tree. When a device requests preboot work from a server, the server first determines if the device belongs to the same zone or tree as the server. If it does not, that server refers the request to each server in its server referral list until it finds the device's home zone or tree. The device is then instructed to send all future requests to the correct `novell-proxydhcp` daemon.

If two server referral lists are active, do the following:

- 1 Install ZENworks Configuration Management.
For instructions, see the [ZENworks 11 SP3 Server Installation Guide](#).
- 2 Configure a server referral list in your Configuration Management system.
- 3 Disable the Proxy DHCP service in your Linux Management system.

4.4.4 Incremental Migration

The migration screen's design provides granularity that allows you to migrate one item or thousands of items at a time. Therefore, you can migrate any number of items in a session and you can use as many sessions as you need.

Because traditional ZENworks and Configuration Management can run concurrently, but are not interoperable, you can migrate eDirectory objects incrementally, such as by department or geographical region.

When migrating, the ZENworks Migration Utility preserves GUIDs and version numbers, but cache is not used. Therefore, we recommend when you migrate Workstation objects that you migrate all eDirectory associations related to those workstations before you register the workstations in Configuration Management.

4.4.5 Migration Order

The following list represents what can be migrated and shows the suggested migration order. However, you can migrate in any order, including any subsets of these migration types:

1. Applications
2. Images
3. Policies
4. Zone Settings
5. Workstations
6. Associations

This order is recommended because of possible dependencies, such as associations that require their applications and associated objects to already exist in order to re-create those associations in Configuration Management.

4.4.6 Management Zone Settings

You can migrate the following eDirectory information for Novell Application Launcher configuration settings and for the Imaging policies; they become Management Zone settings in ZENworks Configuration Management:

Table 4-1 ZENworks Management Zone Settings for Migration from eDirectory

ZENworks Management Zone Setting	eDirectory Source
Default Gateway	Imaging policies
Device Imaging Assignment Rules	Imaging policies
DNS Suffix	Imaging policies
Full Refresh Frequency	Launcher configuration setting for workstations For users, these are migrated to the ZENworks Explorer Configuration policy in Configuration Management.
Name Servers	Imaging policies
PXE Menu Settings	Imaging policies
Random Refresh Max Time to Wait	Launcher configuration setting for workstations
Refresh Manually	Launcher configuration setting for workstations
Subnet Mask	Imaging policies
Unassigned Days to Uninstall	Launcher configuration setting for workstations
IP Configuration	Imaging policies
Workgroup	Imaging policies
Computer Name Prefix	Imaging policies

Only the launcher configuration settings for workstations that are listed above are migrated as zone settings, and launcher configuration settings for users are migrated as ZENworks Explorer Configuration policy in ZENworks Configuration Management. For more information, see [Section A.4, “Management Zone Settings,” on page 78](#).

Only the Imaging policies information listed above is migrated to ZENworks Configuration Management.

4.4.7 Migrating Workstations

There are two different ways you can set up your workstations as managed devices in the ZENworks Management Zone:

- ◆ Use the Migration Utility to migrate them, then use ZENworks Control Center to deploy the Adaptive Agent to them.

This maintains any eDirectory associations that you have between the workstations and other eDirectory objects.

This also maintains GUIDs that are established in the eDirectory objects for your workstations.

- ◆ Use ZENworks Control Center to discover them and deploy the Adaptive Agent to them.

Established eDirectory associations and GUIDs are not maintained, so you must use ZENworks Control Center to make new assignments to the workstations.

Determine whether you want to maintain associations to Workstation objects and whether you have GUIDs that you want to maintain for the workstations. If so, migrate your workstations by using the Migration Utility and use ZENworks Control Center to deploy the Adaptive Agent to them. If not, use ZENworks Control Center to discover them and deploy the Adaptive Agent to them, thus skipping the workstation step in the Migration Utility.

4.4.8 Identifying Users

Users are not migrated to Configuration Management; their eDirectory objects are simply pointed to from Configuration Management. Then, any changes that you make to user objects in eDirectory are immediately known in Configuration Management.

You should first configure your user source in ZCC, then migrate the object types in the [recommended order](#). Dependencies on users are more easily resolved during migration if the user sources are known by Configuration Management.

IMPORTANT: The user source and the associated objects that you are migrating must be in the same tree.

Active Directory users are utilized in Configuration Management in the same manner as eDirectory users. However, traditional ZENworks systems do not have directory objects in Active Directory to migrate. If Active Directory is configured in ZENworks Control Center and eDirectory and Active Directory are synchronized by using Novell Identity Manager or any similar utility, then the eDirectory user associations can be migrated to the Active Directory users.

4.4.9 Folder Usage in Configuration Management

In a way that is similar to using contexts to organize your objects in eDirectory, Configuration Management uses folders. You should plan how to organize your migrated data in Configuration Management by defining a folder structure.

Keep in mind the following when creating folders in Configuration Management:

- ◆ Configuration Management does not have an accessible root directory where you can place folders, such as the eDirectory tree name context. Instead, Configuration Management provides certain basic root-level folders for the different Configuration Management components, which provide default starting paths for where you can migrate the objects. For example, all migrated policies are placed under a Policies folder. Then in ZCC, your migrated policies are displayed on the Policies page.
- ◆ You can migrate eDirectory contexts to Configuration Management. They are converted to folders for the ZENworks database. Everything downstream in the context applicable to the current type you are migrating is also queued for migration.

For example, if you are migrating applications, all application objects under the container are added to the queue, including any application objects found in all of its subcontainers. Before migrating, you can delete unwanted objects in any queued folder.

- ♦ You can use the migration screen to create new folders in Configuration Management. These folders can be nested in any fashion. You can then drag eDirectory objects into these folders no matter where they resided in eDirectory.

You don't need to maintain the same organization in Configuration Management that you have in eDirectory. However, because of possible associations to containers, we recommend that when you have eDirectory objects grouped in containers, that you migrate those contexts instead of the individual objects contained in them.

- ♦ Before you drag and drop eDirectory objects into new Configuration Management folders, you can migrate the empty folders to create the directory structure that you want in Configuration Management. For migration purposes, this might be faster to do from the ZENworks Migration Utility than in ZCC because of navigational differences.
- ♦ When migrating image objects, the imaging information contained in the objects is migrated as the imaging bundle information in the ZENworks Configuration Management database. However, the actual image files (.zmg) are copied to an imaging directory on the imaging server. You do not have control over this placement.

4.4.10 Migration Modeling

The migration screen is designed so that you can model your migration, then perform the migration after you have refined your model. The modeling data is automatically saved on your workstation so that you can revise it over time. Therefore, you can use the modeling capability of this utility to help you in visually planning your migration.

To use the migration screen to model, just select the objects, contexts, and associations from your eDirectory tree view and drag them into the Configuration Management Zone's view to queue them for migration. These items (objects, contexts, and associations) are represented in the destination panel's listing as Configuration Management objects, folders, and associations. Their icons and texts are dimmed to distinguish them from items in Configuration Management that have already been migrated (teal-colored text). Items in black text were originally created in Configuration Management or migrated from a different workstation, because migration history files are kept on the workstation where you run the utility.

The teal color is persistent so that you can always know what has previously been migrated from the workstation. The listings of both your eDirectory tree and the ZENworks database content maintain the teal color for migrated items. This can be helpful for knowing what has been migrated from the eDirectory perspective.

To migrate, you simply use the migration screen to queue what you want migrated, resolving any issues that the utility might identify as you queue them, then click a button to migrate your eDirectory data to the ZENworks database. Therefore, in addition to planning your migration on paper, you can use this modeling capability of the migration screen to visualize your migration before actually performing it.

The migration screen works by migration task. The tasks described in [Section 4.4.5, "Migration Order," on page 34](#) are each a migration session. A selected task is migrated when you click the *Migrate Now* button. Therefore, at a minimum, you must plan to migrate your eDirectory data in several separate clicks of the *Migrate Now* button. However, you can model an incremental migration consisting of many sessions per migration task.

4.4.11 What's Next?

In addition to planning your migration on paper, you can use the migration screen to model your migration. To get started with using the migration screen, continue with [Chapter 5, "Migrating to ZENworks Configuration Management," on page 39](#).

5 Migrating to ZENworks Configuration Management

Do the following tasks in the order listed to migrate your traditional ZENworks software to Configuration Management:

1. [Section 5.1, “Prerequisites,” on page 39](#)
2. [Section 5.2, “Starting the ZENworks Migration Utility,” on page 41](#)
3. [Section 5.3, “Selecting the Migration Source,” on page 43](#)
4. [Section 5.4, “Selecting the Migration Destination,” on page 44](#)
5. [Section 5.5, “Migrating Applications,” on page 46](#)
6. [Section 5.6, “Migrating Images,” on page 52](#)
7. [Section 5.7, “Migrating Policies,” on page 56](#)
8. [Section 5.8, “Migrating Management Zone Settings,” on page 59](#)
9. [Section 5.9, “Migrating Workstations,” on page 61](#)
10. [Section 5.10, “Migrating Associations,” on page 64](#)
11. [Section 5.12, “Setting Up Migrated Workstations to be Managed,” on page 70](#)
12. [Section 5.13, “Make an Image of the Migrated Workstations,” on page 71](#)
13. [Section 5.14, “Managing Your Traditional ZENworks Installation,” on page 71](#)

5.1 Prerequisites

To fulfill the prerequisites for migrating to Configuration Management:

- 1 Make sure that the version of ZENworks you are migrating from is one of the following:
 - ◆ ZENworks for Desktops 4.0.1
 - ◆ ZENworks Desktop Management 6.5
 - ◆ ZENworks 7.x Desktop Management

IMPORTANT: For your current installation of a traditional ZENworks system, you must have a Novell eDirectory tree with the ZENworks schema installed and have ZENworks eDirectory objects listed in the tree. The ZENworks Migration Utility cannot be used to create new objects or attributes in Configuration Management that do not exist in your traditional version of ZENworks, but you can use the utility to create new folders in Configuration Management.

- 2 Install the Configuration Management software to at least one Primary Server with the ZENworks Configuration Management database in order to establish the Management Zone and to provide the target ZENworks database for migrating the eDirectory data.

For more information, see the [ZENworks 11 SP3 Server Installation Guide](#).

- 3 Use ZENworks Control Center to configure the user source for your users so that the eDirectory items that they are associated with allows for a successful migration. For more information on configuring the user source, see the [ZENworks 11 SP3 User Source and Authentication Reference](#).

If you want to continue using eDirectory as the user source in ZENworks Configuration Management, you must update the version of eDirectory to meet the minimum requirements. For more information on the minimum eDirectory requirements in ZENworks Configuration Management, see LDAP Directory Requirements in the [ZENworks 11 SP3 System Requirements](#).

However, a user source is not required if you do not have any user associations with traditional ZENworks objects in eDirectory.

- 4 If you are running a version of eDirectory that is 8.7 or lower, or you have upgraded from Starter Pack 1.0, you should make sure that the LDAP attributes listed in [Step 4b](#) are properly mapped because LDAP is used to read existing application attributes during migration.

Newer versions of eDirectory automatically map spaces and colons to the newer attribute names. If you have multiple versions of an attribute in your version of eDirectory (one using the colon, and another using a space), it is possible that the automatic mapping functionality will provide the Migration Utility with the version that uses only spaces. However, attributes using colons are the preferred versions for migration.

To configure attribute mapping for migrating applications to Configuration Management:

4a In ConsoleOne, select your LDAP Group object, then click the *Attribute Mapping* tab.

4b Locate the following attributes and map them to the correct name:

Old Attribute Name	New Attribute Name
App:Path	appPath
App:Icon	appIcon
App:Contacts	appContacts
App:Working Directory	appWorkingDirectory
App:Drive Mappings	appDriveMappings
App:Printer Ports	appPrinterPorts
App:Parameters	appParameters
App:Flags	appFlags
App:Startup Script	appStartupScript
App:Shutdown Script	appShutdownScript

4c Save the changes.

- 5 Download and install the ZENworks Migration Utility executable to the Windows device where you will be running the utility. For more information, see [Section 4.2, "Downloading and Installing the ZENworks Migration Utility,"](#) on page 30.
- 6 Plan your migration.
You can use the ZENworks Migration Utility as a modeling tool to help in your planning. For more information, see [Section 4.4, "Planning Your Migration,"](#) on page 32.
- 7 Continue with [Section 5.2, "Starting the ZENworks Migration Utility,"](#) on page 41.

5.2 Starting the ZENworks Migration Utility

The ZENworks Migration Utility can run on the following devices:

- ◆ Windows Server 2003 SP1
- ◆ Windows 2000 SP4 workstation
- ◆ Windows XP SP3
- ◆ Windows Vista
- ◆ Windows Vista SP1
- ◆ Windows Server 2008
- ◆ Windows 7
- ◆ Windows 7 SP1
- ◆ Windows 8

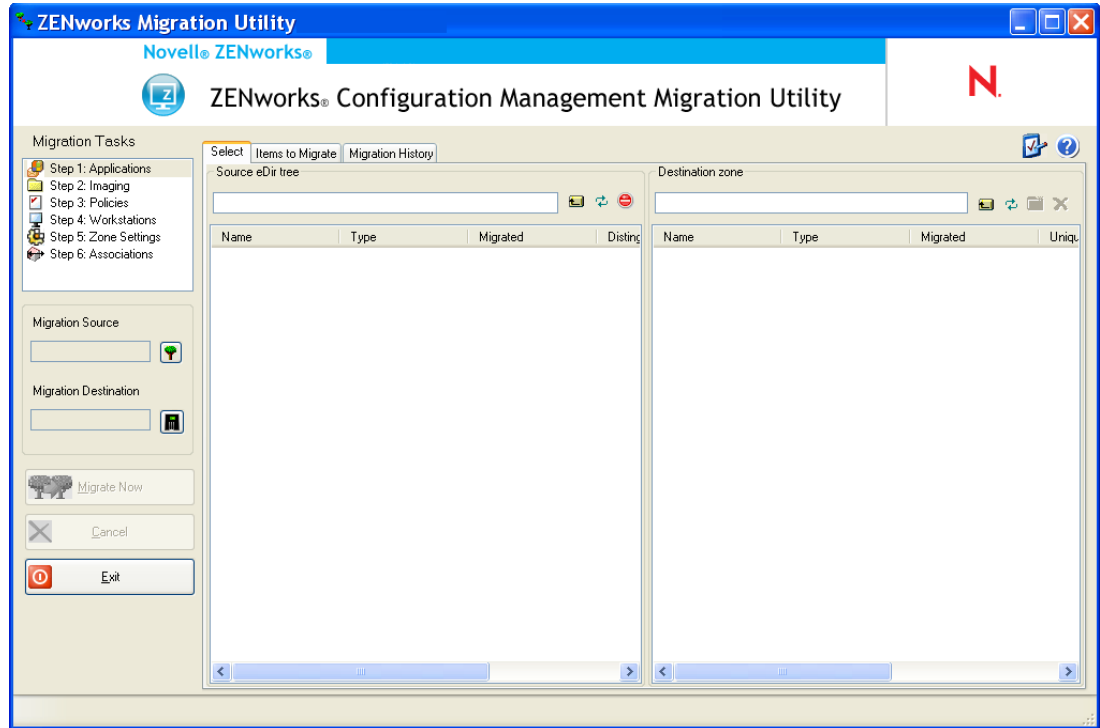
Also, Microsoft.NET 2.0 or later is required.

The ZENworks Migration Utility is not backward compatible. Whenever you upgrade the ZENworks server, copy and install the latest version of the Migration Utility from the ZENworks server. For more information, see [Step 5 on page 40](#).

To start the ZENworks Migration Utility:

- 1 On a supported Windows device, click *Start > Programs > Novell ZENworks > ZENworks Configuration Management Migration Utility > Launch*.
- 2 (Conditional) By default, What's New window appears for the first time. If you do not want the window to appear every time you start the utility, select the *Do not show this message again* option.
- 3 Click *OK*.

Figure 5-1 ZENworks Configuration Management Migration Utility

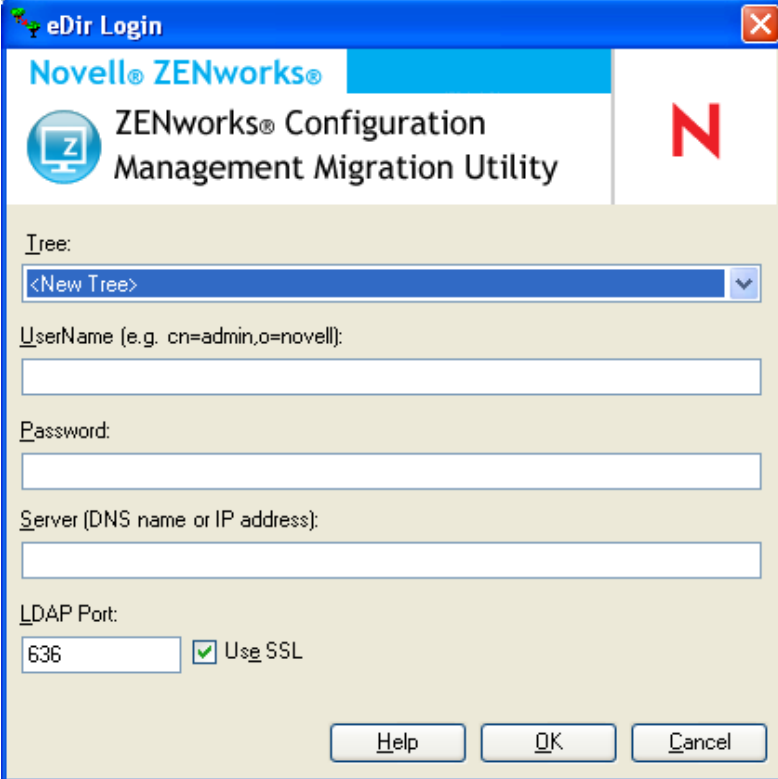


4 Continue with [Section 5.3, "Selecting the Migration Source,"](#) on page 43.

5.3 Selecting the Migration Source

To identify and log into your migration source Novell eDirectory tree:

Figure 5-2 Migration Source



- 1 Fill in the following fields to authenticate to your migration source eDirectory tree:

Tree: This field is not displayed the first time that you access the eDir Login dialog box.

On the second and subsequent logins, any tree that you previously logged into by using this dialog box is available from the drop-down list.

Each time you use this dialog box, the last tree that you logged into is displayed here.

To add an eDirectory tree that is not listed, select the *<New Tree>* default option, fill in the other fields, then click *OK*. Thereafter, the tree is available in the drop-down list.

Username: Specify the LDAP username.

For example, `cn=readonlyuser,ou=container,o=organization`.

If this is the first time you have logged into this tree through the Migration utility, nothing is displayed; otherwise, the last username you used is displayed.

If you select an eDirectory tree in the *Tree* field, this field is automatically populated with the username you last used for that tree.

NOTE

To migrate objects, you must be configured in eDirectory as a Trustee of the container containing those objects with at least Read and Compare rights. For more information on adding Trustees, see the *ConsoleOne User Guide* (<http://www.novell.com/documentation/consol13>).

Password: Specify the password. This must be entered every time to authenticate.

Server: For the server hosting the eDirectory tree, specify either its DNS name or IP address. This field is automatically populated when you select an eDirectory tree in the *Tree* field.

LDAP Port: Specify your LDAP port. The default port of 636 for SSL or 389 for non-SSL is displayed. We recommend SSL for password protection across the wire. This field is automatically populated when you select an eDirectory tree in the *Tree* field.

Use SSL: If you are using SSL, select this check box. This field is automatically set to the previous selection when you select an item in the *Tree* field.

- 2 Click *OK*.

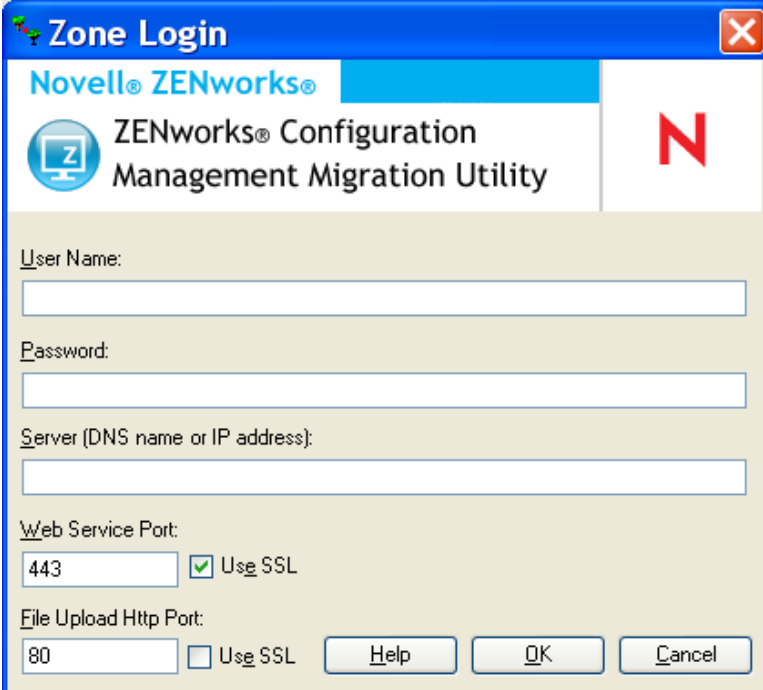
The *Source eDir Tree* section shows all available eDirectory information and initially displays the organizations contained at that level. The *Migration Source* field also displays the tree name.

- 3 To select the migration destination, continue with [Section 5.4, “Selecting the Migration Destination,”](#) on page 44.

5.4 Selecting the Migration Destination

To identify and log into your migration destination Novell ZENworks Configuration Management Management Zone:

Figure 5-3 Migration Destination



- 1 Fill in the following fields to authenticate to your destination Management Zone:

Zone: This field is not displayed the first time that you access the Zone Login dialog box.

On the second and subsequent logins, any zone that you previously logged into using this dialog box is available from the drop-down list.

Each time you use this dialog box, the last zone that you logged into is displayed here.

To add a Management Zone that is not listed, select the <New Zone> default option, fill in the other fields, then click *OK*. Thereafter, the zone is available in the drop-down list.

Username: Specify the username for the zone. *Administrator* is normally used.

For example, if the administrator is an LDAP user named `admin1@tree1` who has been granted Super Administrator rights through ZENworks Control Center, specify the username based on the following criteria:

- ◆ If there is no other administrator created in ZENworks Control Center with the same name as `admin1`, you can specify the username as `admin1` or `admin1@tree1`.
- ◆ If there are other administrators created in ZENworks Control Center with the same name, such as `admin1@tree2`, `admin1@tree3`, or `admin1`, you must specify the complete username: `admin1@tree1`.

If this is the first time you have logged into this zone through the Migration utility, nothing is displayed; otherwise, the last username you used is displayed.

If you select a Management Zone in the *Zone* field, this field is automatically populated with the username you last used in the migration tool to log into that zone.

Password: Specify the password. This must be entered every time to authenticate.

Server: For the server hosting the Management Zone database, specify either its DNS name or IP address. This field is automatically populated when you select a Management Zone in the *Zone* field.

Web Service Port: Specify the Web service port. The default port of 443 is displayed. This field is automatically populated when you select a Management Zone in the *Zone* field. However, if the port configured on the server is different from the default port, ensure that you specify the port as configured on the server.

Use SSL: Select whether you are using SSL.

File Upload HTTP Port: Specify the HTTP port. The default port of 80 is displayed. This field is automatically populated when you select a Management Zone in the *Zone* field. However, if the port configured on the server is different from the default port, ensure that you specify the port as configured on the server.

Use SSL: Select whether you are using SSL.

2 Click *OK*.

The *Destination Zone* panel uses teal-colored text to show anything that was previously migrated, as does the *Migration History* tab. It also uses black text to show anything originally created in ZENworks Control Center and never migrated. If you previously used the ZENworks Migration Utility on the current workstation to model your migration, items not yet migrated are displayed as dimmed.

3 To select items to migrate, continue with the appropriate sections:


1. [Section 5.5, "Migrating Applications," on page 46](#)
2. [Section 5.6, "Migrating Images," on page 52](#)
3. [Section 5.7, "Migrating Policies," on page 56](#)
4. [Section 5.9, "Migrating Workstations," on page 61](#)
5. [Section 5.10, "Migrating Associations," on page 64](#)

The above list represents the suggested migration order because of possible dependencies. However, you can migrate in any order, including any subsets.

5.5 Migrating Applications

To migrate applications from eDirectory to Configuration Management:

NOTE: On migrating applications, all the registry entries that start with `HKEY_CURRENT_USER` are migrated to Run as User and other entries such as `HKEY_LOCAL_MACHINE` are migrated to Run as System. Consequently, some of the user related macros such as `%CN%` and `%OU%` defined within `HKEY_LOCAL_MACHINE` will not be resolved on the managed device after migration.

- 1 Click  (the [Migration Tool Settings](#) icon), then do the following:
 - 1a To overwrite existing Application objects in the ZENworks database, click *General*, then select the *Overwrite objects that already exist* option.

WARNING: This overwrites any existing Application objects in the database, including those that were previously migrated.

If you choose to remigrate an application to ZENworks Configuration Management with the *Overwrite objects that already exist* option enabled, you must ensure that the version of the application you want to remigrate is higher by one than the version of the existing ZENworks Configuration Management bundle. This is required to avoid inconsistent results on the managed device when the bundle is assigned to it.

The *Skip saving/loading history* option allows you to dramatically improve performance on large migrations by not storing the local history.

The *Migrate applications or policies as sandbox* option enables you to migrate objects (applications or policies) as Sandbox. This option is selected by default.

The *Migrate dependent applications as sandbox* option enables you to migrate the dependent bundles also as Sandbox.

- 1b To access the options available for migrating applications, click *Applications*, then configure the desired settings.

Setting	Description
<i>Migrate failed MSI builds</i>	<p>The <i>Migrate failed MSI builds</i> option forces application migration when the utility fails to migrate one or more attributes to the MSI.</p> <p>An MSI bundle is considered failed when a warning is produced while converting an AOT Application object to an MSI. These MSI builds can often be migrated successfully in spite of the warning. For example, the warning might be produced because a Windows shortcut link contained in the AOT is no longer valid.</p> <p>If you enable this option, the warning messages are not presented. You can review the migration log for information on which attributes were not migrated.</p>
<i>Preserve created MSI and temporary files</i>	<p>The <i>Preserve created MSI and temporary files</i> option means the application is created and migrated, but the directory holding the temporary files and new MSI file is not automatically deleted. This allows you to have access to the newly created MSI before it is incorporated into the content service in Configuration Management.</p>
<i>Upload applications to content server</i>	<p>The <i>Upload applications to content server</i> option lets you upload content to the content server. This option is selected by default.</p> <p>The applications are migrated as Install MSI action to the ZENworks Configuration Management server and also uploaded to the content server if the <i>Upload applications to content server</i> option is selected and the source path of the file is resolved to a local path or UNC path at the time of migration.</p> <p>The applications are migrated as bundles with Install Network MSI action to the ZENworks Configuration Management server and are not uploaded to the content server in the following scenarios:</p> <ul style="list-style-type: none"> ◆ The <i>Upload applications to content server</i> option is deselected. ◆ The <i>Upload applications to content server</i> option is selected but the source path of the file is not resolved to a local path or UNC path at the time of migration, or the file is not found.


Setting	Description
<i>Migrate distribution options as individual actions</i>	<p>The <i>Migrate distribution options as individual actions</i> option lets you migrate the distribution options in applications as individual actions such as Edit INI action, Registry Edit action, or Run Script action that can be edited. By default, it is selected. Deselect the <i>Migrate distribution options as individual actions</i> option to migrate the distribution options in applications as MSI.</p> <p>If the <i>Migrate distribution options as individual actions</i> option is enabled, then the applications are migrated as bundles with specific actions:</p> <ul style="list-style-type: none"> ◆ An application having Registry changes is migrated as a bundle with Registry Edit action. ◆ An application having INI settings is migrated as a bundle with Edit INI File action. ◆ An application having Text file changes is migrated as a bundle with an Edit Text File action. ◆ An application having icons or shortcuts is migrated as a Windows bundle with a Run Script action or File Removal action. ◆ An application having application files changes are migrated as bundles with the following actions: <ul style="list-style-type: none"> ◆ Files as Copy Files or Install Files action. ◆ Directory as a Copy Directory, Install Directory, or Create/Delete Directory action. ◆ Deletion of files as a File Removal action ◆ Deletion of directory as a Create/ Delete Directory action. <p>If the <i>Migrate distribution options as individual actions</i> option is disabled, then the application is migrated as bundle with as Install MSI action. But, the Edit Text File action, Copy Directory, Install Directory, File Removal are not a part of this Install MSI action.</p>
<i>Working Directory</i>	<p>The <i>Working Directory</i> option allows you to place the temporary migration files in a different location than the default users %TEMP% directory. If you migrate an application with a very deep path (greater than 256 characters), this option enables you to make the temporary path short, such as c:\temp.</p>

1c Click *Save Settings* to exit the dialog box.

2 Click *Step 1: Applications* in the *Migration Tasks* field.

NOTE: The migration utility now supports migration of all complex combinations of *Distribution Rules*. The Distribution Rules including the New Group in traditional ZENworks, are migrated as a combination of filters and filter sets in ZENworks Configuration Management.

3 To model the migration, do the following:

- 3a** In the *Source eDir Tree* panel, navigate the eDirectory contexts to locate the Application objects to be queued for migration. To stop listing of the objects in the *Source eDir Tree*, click .

The eDirectory information that is displayed is filtered according to the type of information that you are migrating. Therefore, you only need to browse through the contexts and objects that can be migrated for the selected type.

- 3b** If necessary, right-click anywhere in the *Destination Zone* panel to create a folder for the objects to be queued for migration, then select *New folder*.

You can create as many folders as needed, including nesting them. This structure is created in the ZENworks database and is viewable as folders in ZENworks Control Center; however, the folders are not created until you click the *Migrate Now* button.

You might want to determine the folder structure for your Application objects, and create and migrate those folders before queueing Application objects to them.

You can also migrate existing eDirectory containers and all of their Application objects (including subcontainers). The containers are converted into folders containing all of the Application objects that exist in eDirectory under them. If you select a container in the *Source eDir Tree* panel and drag it to the *Destination Zone* panel, all subcontainers and their Application objects are also placed in the *Destination Zone* panel in their respective folders.

After queueing a container in the *Destination Zone* panel, you can individually delete queued items that you don't want to migrate by selecting the items, right-clicking them, then selecting *Delete selected items*. You are asked to confirm the deletion.

- 3c** In the *Source eDir Tree* panel, select the Application objects or containers to be migrated and drag them into the *Destination Zone* panel.

This queues the items for migration.

You can use the Ctrl and the arrow keys or Shift and the arrow keys to select multiple items.

(Conditional) To migrate an application that has the same application GUID as an already migrated application, see [Section 5.11, "Migrating Applications That Have the Same Application GUID," on page 69](#).

As you drag items from one panel to the other, the items listed in the *Destination Zone* panel are automatically sorted.

If you drag an item multiple times, it is only queued once.

If you drag a site listed application that has a duplicate already queued, you are asked to resolve them during queueing by selecting which one to migrate. You can right-click an item and select *View attributes* for information that might help you in determining which item to migrate.

If you migrate incrementally, you should queue only the objects that you want to migrate at this time because all items that are queued in the *Destination Zone* panel are migrated when you click the *Migrate Now* button.

On the *Items to Migrate* tab, the number of items you are migrating (copied to the *Destination Zone* panel) is represented in parentheses on the tab's label.

The *Migration Status* field on the *Items to Migrate* tab displays information related to the items selected for migration. For example, the ZENworks Migration Utility might adjust the object name in Configuration Management because of characters in the eDirectory name that cannot be used in Configuration Management, such as a colon (:), which is replaced with an underscore (_) character.

- 4 Repeat [Step 3](#) as necessary to locate and queue all of the Application objects that you want to model for migration at this time.


IMPORTANT: Every Application object that you queue in the *Destination Zone* panel is migrated when you click the *Migrate Now* button.

- 5 Review your selections in the *Destination Zone* panel.

You can navigate the folders to view the Application objects that are queued for migration.

In the *Items to Migrate* tab, chained applications are listed individually, but in the *Destination Zone* panel on the *Select* tab they are listed hierarchically under their parent application.

- 6 To delete items from the migration queue before migrating, do one of the following:

- ◆ Select the items and click the  icon.
- ◆ Right-click the selected items and click *Delete selected items*

This can be done from both the *Items to Migrate* tab and the *Destination Zone* panel on the *Select* tab

You can use the Ctrl and the arrow keys or Shift and the arrow keys to select multiple items for deletion. This selection includes the folders and their contents.

Items queued for migration have their icons and texts dimmed. If you select dimmed items for deletion, they are only deleted from the queue.

WARNING: If you select colored items (with teal or black text), they are deleted from the Configuration Management database and are no longer available in ZENworks Control Center.

- 7 To migrate all of the dimmed items displayed in the *Destination Zone* panel, including all dimmed items contained in subfolders, click the *Migrate Now* button.

The following information applies to the Migration Utility during or after the migration process:

- ◆ Focus is immediately moved to the *Items to Migrate* tab, where you can view the sequential progress of the migration.
- ◆ The *Step* column displays a progress bar for each item being migrated. The overall progress bar is located at the bottom of the Migration Utility.
- ◆ If you drag a site listed application that has a duplicate already queued for migration in the destination zone panel, you are prompted to choose which one to migrate. You can right-click an item and select *View attributes* for information that might help you in determining which item to migrate.
- ◆ The *Migration History* tab displays all of the items that were migrated. This list is updated dynamically as the items are migrated. You can click back and forth between the *Items to Migrate* and *Migration History* tabs during the migration process. You can also right-click anywhere in the tab's panel and select *Refresh* to refresh the view with items that might not yet be displayed, but are migrated.
- ◆ The *Select* tab displays all of the migrated objects, with their texts in teal color after being migrated, in both the *Source eDir Tree* and *Destination Zone* panels.
The teal color persists, so the next time you open the Migration Utility and navigate the *Source eDir Tree* contexts and *Destination Zone* folders, you can see what you have previously migrated.
- ◆ Objects that failed migration continue to be displayed with their icons dimmed.
Instructions for handling failed migration items are covered in [Step 8](#).

- ◆ Chained applications are displayed individually on the *Migration History* tab, but the *Migration Log* column displays a GUID rather than a log for them. Only the main Application object to which the others are chained displays a *View Log* button in that column.
- ◆ During migration, a temporary working folder is created on the workstation for each application being migrated. These folders are deleted as each application is successfully migrated.


While migrating INI settings, the distribution options for the INI settings in traditional ZENworks are mapped to the nearest available options in ZENworks Configuration Management. The following table illustrates the mapping:

Distribution Option for the INI Setting in Traditional ZENworks	Mapped Options In ZENworks Configuration Management
<i>Create Always</i>	<i>Add keys</i>
<i>Create If Does Not Exist</i>	<i>Add a key if not found</i>
<i>Create or Add to Existing Section</i>	<i>Add a key even if key exists</i>
<i>Create If Exists</i>	<i>Replace value of a key</i>
<i>Delete</i>	<i>Delete keys</i>
<i>Create or Append to Existing Value</i>	<i>Add or append value</i>
<i>Delete or Remove from Existing Value</i>	<i>Delete or remove value</i>


8 After the migration has completed, do the following as needed:

8a Review the teal-colored items in both of the *Select* panels to determine whether you need to queue any other items for migration or delete any previously migrated items from the *Destination Zone* panel.

You can also use the *Migration History* tab to discover this information.

- ◆ If you discover other items to migrate, repeat [Step 3](#) through [Step 7](#).
- ◆ To delete any items listed in the *Destination Zone* panel, select them and click .

WARNING

- ◆ After deleting an application that is migrated to the *Destination Zone* panel, if you immediately try to migrate the application again, migration fails with Internal Server Exception. For more information see, [“ZENworks Migration Tool fails during migration of an object that is deleted in the destination zone and throws Internal Server Exception” on page 93](#).
- ◆ The *Destination Zone* panel displays both previously migrated data with teal-colored text and items with black-colored text that were either created in ZENworks Control Center or migrated from a different workstation. The delete option () can be used on both. Therefore, it is possible to delete previously existing items from Configuration Management that were never migrated. This includes folders in ZENworks Control Center and all data contained under them.

8b On the *Items to Migrate* tab, click the *Failed - View Log* button for each item that failed to migrate, and determine the best course of action. You can either fix the problem and migrate the item, or you can delete it from the *Items to Migrate* tab, which also deletes it from the queue in the *Destination Zone* panel.

To view only those items that failed, right-click anywhere in the panel and select *Delete successful* to filter the listed items. This listing is maintained only for the current task.

- 8c** If you have failed items that you do not want to migrate, you can delete only those that are queued (still dimmed) from the queue in the *Destination Zone* panel. Right-click anywhere on the *Items to Migrate* tab and select *Delete all items*.

This empties the *Items to Migrate* tab listing. It also deletes only the queued items not yet migrated from the *Destination Zone* panel listing.

WARNING: If you select *Delete all items* in the *Destination Zone* panel instead, this deletes all listed items from both the *Destination Zone* panel and the *Migration History* tab, as well as from the ZENworks database, effectively removing them from ZENworks Control Center. To delete only the queued (not yet migrated) items by using *Delete all items*, it is safest to do so from the *Items to Migrate* tab.

While migrating applications, the following system requirements conditions are not migrated:


- ◆ The processor is a Pentium Pro, Pentium 1, Pentium 2, Pentium 3, or Pentium 4.
- ◆ The processor rule in traditional ZENworks is set to <, >, <=, or >=.
- ◆ The operating system is not Windows XP or Windows 2000.
- ◆ The operating system version is set to less than 5.
- ◆ Remote Access
- ◆ Terminal Server

NOTE: After a Windows bundle is migrated to ZENworks Configuration Management, if you assign the bundle to a managed device, the bundle is reinstalled on the managed device.

- 9** When you are satisfied with the migration results, continue with one of the following:
- ◆ To migrate other applications, continue with [Step 3 on page 49](#).
 - ◆ To migrate images, click [Step 2: Imaging](#) in the *Migration Tasks* field.
 - ◆ To migrate policies, click [Step 3: Policies](#) in the *Migration Tasks* field.
 - ◆ To migrate zone settings, click [Step 4: Zone Settings](#) in the *Migration Tasks* field.
 - ◆ To migrate workstations, click [Step 5: Workstations](#) in the *Migration Tasks* field.
 - ◆ To migrate associations, click [Step 6: Associations](#) in the *Migration Tasks* field.
 - ◆ If you have completed all eDirectory object and association migrations, clean up your traditional ZENworks installation by continuing with [Section 5.14, "Managing Your Traditional ZENworks Installation,"](#) on page 71.

5.6 Migrating Images

If you plan to re-image your migrated workstations after installing the ZENworks Adaptive Agent (which replaces the traditional ZENworks agent), you do not need to migrate images. If you want to use previous images, you need to migrate them.

- 1** Click  (the [Migration Tool Settings](#) icon), then do the following:
- 1a** To overwrite existing Image objects in the ZENworks database, click *General*, then select the *Overwrite objects that already exist* option.


WARNING: This overwrites any existing Image objects in the database, including those that were previously migrated.

The *Skip saving/loading history* option allows you to dramatically improve performance on large migrations by not storing the local history.

- 1b To overwrite the existing image file on the content server, click *Imaging*, then select the *Overwrite the existing image file on the content server* option.

When you are migrating an image object whose image file already exists in the content server, select the *Overwrite the existing image file on the content server* option to overwrite the image file. This option is disabled by default.

- 1c Click *Save Settings* to exit the dialog box.
- 2 Click *Step 2: Imaging* in the *Migration Tasks* field.
- 3 To model the migration, do the following:

- 3a In the *Source eDir Tree* panel, navigate the eDirectory contexts to locate the imaging objects to be migrated. To stop listing of the objects in the *Source eDir Tree*, click .

Only the contexts containing valid imaging objects are displayed for browsing. Valid images are for standard, scripted, and multicast session images. Add-on images are not migrated.

- 3b If necessary, right-click anywhere in the *Destination Zone* panel to create a folder for the objects to be queued for migration, then select *New folder*.

The actual `.zmg` image files are copied to an imaging directory on the imaging server (the current Primary Server) when you migrate the eDirectory imaging information. The folders you create here are for the eDirectory information that is used to create the imaging bundles in Configuration Management.

IMPORTANT: The administrator performing the migration of images must have sufficient file rights to read the imaging files.

You can create as many folders as needed, including nesting them. This structure is created in the ZENworks database and is viewable as folders in ZENworks Control Center; however, the folders are not created until you click the *Migrate Now* button.

You might want to determine the folder structure for your imaging objects, and create and migrate those folders before queueing imaging objects to them.

You can also migrate existing eDirectory containers and all of their imaging objects (including subcontainers). The containers are converted into folders holding all of the imaging objects that exist in eDirectory under them. If you select a container in the *Source eDir Tree* panel and drag it to the *Destination Zone* panel, all subcontainers and their imaging objects are also placed in the *Destination Zone* panel in their respective folders.

After queueing a container in the *Destination Zone* panel, you can individually delete queued items that you don't want to migrate by selecting the items, right-clicking them, then selecting *Delete selected items*. You are asked to confirm the deletion.

- 3c In the *Source eDir Tree* panel, select the imaging objects or containers to be migrated and drag them into the *Destination Zone* panel.

This queues the items for migration.

You can use the Ctrl and the arrow keys or Shift and the arrow keys to select multiple items.

As you drag items from one panel to the other, the items listed in the *Destination Zone* panel are automatically sorted.

If you drag an item multiple times, it is only queued once.

If you migrate incrementally, you should queue only the objects that you want to migrate at this time because all items that are queued in the *Destination Zone* panel are migrated when you click the *Migrate Now* button.

On the *Items to Migrate* tab, the number of items you are migrating (copied to the *Destination Zone* panel) is represented in parentheses on the tab's label.


The *Migration Status* field on the *Items to Migrate* tab displays information related to the items selected for migration. For example, the ZENworks Migration Utility might adjust the object name in Configuration Management because of characters in the eDirectory name that cannot be used in Configuration Management, such as a colon (:), which is replaced with an underscore (_) character.

- 4 Repeat [Step 3](#) as necessary to locate and queue all of the imaging objects that you want to migrate at this time.

IMPORTANT: Every imaging object that you queue in the *Destination Zone* panel is migrated when you click the *Migrate Now* button.

- 5 Review your selections in the *Destination Zone* panel.

You can navigate the folders to view the imaging objects that are queued for migration.

- 6 To delete items from the migration queue, select the items and click the  icon.

You can use the Ctrl and the arrow keys or Shift and the arrow keys to select multiple items for deletion. This includes folders and their contents.

Items queued for migration have their icons and texts dimmed. If you select dimmed items for deletion, they are only deleted from the queue.

WARNING: If you select colored items (with teal or black text), they are deleted from the ZENworks database and are no longer available in ZENworks Control Center.

- 7 To migrate all of the dimmed items displayed in the *Destination Zone* panel, including all dimmed items contained in subfolders, click the *Migrate Now* button.

The following information applies to the Migration Utility during or after the migration process:

- ◆ Focus is immediately moved to the *Items to Migrate* tab, where you can view the sequential progress of the migration.
- ◆ The *Step* column displays a progress bar for each item being migrated. The overall progress bar is at the bottom of the screen.
- ◆ The *Migration History* tab displays all of the items that were migrated. This list is updated dynamically as the items are migrated. You can click back and forth between the *Items to Migrate* and *Migration History* tabs during the migration process. You can also right-click anywhere in the tab's panel and select *Refresh* to refresh the view with items that might not yet be displayed, but are migrated.
- ◆ The *Select* tab displays all of the migrated objects, with their texts in teal color after being migrated, in both the *Source eDir Tree* and *Destination Zone* panels.
The teal color persists, so the next time you open the Migration Utility and navigate the *Source eDir Tree* contexts and *Destination Zone* folders, you can see what you have previously migrated.
- ◆ Objects that failed migration continue to be displayed with their icons dimmed.
Instructions for handling failed migration items are covered in [Step 8](#).
- ◆ During migration, a temporary working folder is created on the workstation for each image being migrated. These folders are deleted as each image is successfully migrated.

- 8 After the migration has completed, do the following as needed:

- 8a Review the teal-colored items in both of the *Select* panels to determine whether you need to queue any other items for migration or delete any previously migrated items from the *Destination Zone* panel.

You can also use the *Migration History* tab to discover this information.

- ◆ If you discover other items to migrate, repeat [Step 3](#) through [Step 7](#).
- ◆ To delete any items listed in the *Destination Zone* panel, select them and click **X**.

WARNING: The *Destination Zone* panel displays both previously migrated data with teal-colored text and items with black-colored text that were either created in ZENworks Control Center or migrated from a different workstation. The delete option (**X**) can be used on both. Therefore, it is possible to delete previously existing items from Configuration Management that were never migrated. This includes folders in ZENworks Control Center and all data contained under them.

- 8b** On the *Items to Migrate* tab, click the *Failed - View Log* button for each item that failed to migrate, and determine the best course of action. You can either fix the problem and migrate the item, or you can delete it from the *Items to Migrate* tab, which also deletes it from the queue in the *Destination Zone* panel.

To view only those items that failed, right-click anywhere in the panel and select *Delete successful* to filter the listed items. This listing is maintained only for the current task.

- 8c** If you have failed items that you do not want to migrate, you can delete only those that are queued (still dimmed) from the queue in the *Destination Zone* panel. Right-click anywhere on the *Items to Migrate* tab and select *Delete all items*.

This empties the *Items to Migrate* tab listing. It also deletes only the queued items not yet migrated from the *Destination Zone* panel listing.

WARNING: If you select *Delete all items* in the *Destination Zone* panel instead, this deletes all listed items from both the *Destination Zone* panel and the *Migration History* tab, as well as from the ZENworks database, effectively removing them from ZENworks Control Center. To delete only the queued (not yet migrated) items by using *Delete all items*, it is safest to do so from the *Items to Migrate* tab.

- 9** When you are satisfied with the migration results, continue with one of the following:

- ◆ To migrate other images, continue with [Step 3 on page 53](#).
- ◆ To migrate policies, click [Step 3: Policies](#) in the *Migration Tasks* field.
- ◆ To migrate zone settings, click [Step 4: Zone Settings](#) in the *Migration Tasks* field.
- ◆ To migrate workstations, click [Step 5: Workstations](#) in the *Migration Tasks* field.
- ◆ To migrate associations, click [Step 6: Associations](#) in the *Migration Tasks* field.
- ◆ If you have completed all eDirectory object and association migrations, clean up your traditional ZENworks installation by continuing with [Section 5.14, "Managing Your Traditional ZENworks Installation," on page 71](#).

NOTE

After migrating to ZENworks 11 Configuration Management SP3, you must use the novell-proxydhcp service to perform Imaging operations in the PXE mode. If you use the BOOTP ports, 66 and 67, to perform Imaging operations, the operation fails with an error. For more information, see ["Unable to connect to Preboot Server. The Product license might have expired"](#) in the *ZENworks 11 SP3 Preboot Services and Imaging Reference*.

5.7 Migrating Policies

Before migrating Windows Group policy, ensure that the folder specified in the *Network location of existing/new Group Policies* does not contain any file other than the group policy files.

To migrate policies from eDirectory to Configuration Management:

1 Click  (the [Migration Tool Settings](#) icon), then do the following:

1a To overwrite existing Policy objects in the ZENworks database, select the *General* option, then select the *Overwrite objects that already exists* option.

WARNING: This overwrites any existing Policy objects in the database, including those that were previously migrated.

The *Skip saving/loading history* option allows you to dramatically improve performance on large migrations by not storing the local history.

The *Migrate applications or policies as sandbox* option enables you to migrate objects (applications or policies) as Sandbox. This option is selected by default.


1b To skip assignment creation for the Launcher Configuration policy, select the *Policies* option, then select the check box to enable the option.

When you migrate Launcher Configuration settings from eDirectory, these settings are converted into a Launcher Configuration policy in Configuration Management. During migration, an assignment from the identity object to the new Launcher Configuration policy is automatically created unless you turn off this function in the [Options dialog box](#) by selecting to skip the assignment.

1c Click *Save Settings* to exit the dialog box.

2 Click *Step 3: Policies* in the *Migration Tasks* field.

3 To model the migration, do the following:

3a In the *Source eDir Tree* panel, navigate the eDirectory contexts to locate the Policy objects to be migrated. To stop listing of the objects in the *Source eDir Tree*, click .

The eDirectory information that is displayed is filtered according to the type of information that you are migrating. Therefore, you only need to browse through the contexts and objects that can be migrated for the selected type.

3b If necessary, right-click anywhere in the *Destination Zone* panel to create a folder for the objects to be queued for migration, then select *New folder*.

You can create as many folders as needed, including nesting them. This structure is created in the ZENworks database and is viewable as folders in ZENworks Control Center; however, the folders are not created until you click the *Migrate Now* button.

You might want to determine the folder structure for your Policy objects, and create and migrate those folders before queueing Policy objects to them.

You can also migrate existing eDirectory containers and all of their Policy objects (including subcontainers). The containers are converted into folders containing all of the Policy objects that exist in eDirectory under those contexts. If you select a container in the *Source eDir Tree* panel and drag it to the *Destination Zone* panel, all subcontainers and their Policy objects are also placed in the *Destination Zone* panel in their respective folders.

After queueing a container in the *Destination Zone* panel, you can individually delete queued items that you don't want to migrate by selecting the items, right-clicking them, then selecting *Delete selected items*. You are asked to confirm the deletion.

- 3c In the *Source eDir Tree* panel, select the Policy objects, packages, or containers to be migrated and drag them into the *Destination Zone* panel.

This queues the items for migration.

You can use the Ctrl and the arrow keys or Shift and the arrow keys to select multiple items.

As you drag items from one panel to the other, the items listed in the *Destination Zone* panel are automatically sorted.

If you drag an item multiple times, it is only queued once.

If you migrate incrementally, you should queue only the objects that you want to migrate at this time because all items that are queued in the *Destination Zone* panel are migrated when you click the *Migrate Now* button.

On the *Items to Migrate* tab, the number of items you are migrating (copied to the *Destination Zone* panel) is represented in parentheses on the tab's label.

The *Migration Status* field on the *Items to Migrate* tab displays information related to the items selected for migration. For example, the ZENworks Migration Utility might adjust the object name in Configuration Management because of characters in the eDirectory name that cannot be used in Configuration Management, such as a colon (:), which is replaced with an underscore (_) character.

When you drag a policy package into the queue, only its policies are queued in the *Destination Zone* panel. Policy packages are not used in Configuration Management. Instead, policies are grouped by type.

When migrating Launcher Configuration settings from eDirectory, these settings are converted into a Launcher Configuration policy in Configuration Management. During migration, an assignment from the identity object to the new Launcher Configuration policy is automatically created unless you turn off this function in the [Options dialog box](#) by selecting to skip the assignment (see [Step 1b](#)).

- 4 Repeat [Step 3](#) as necessary to locate and queue all of the Policy objects that you want to migrate at this time.

IMPORTANT: Every Policy object that you queue in the *Destination Zone* panel is migrated when you click the *Migrate Now* button.

- 5 Review your selections in the *Destination Zone* panel.

You can navigate the folders to view the Policy objects that are queued for migration.

- 6 To delete items from the migration queue, select the items and click the  icon.

You can use the Ctrl and the arrow keys or Shift and the arrow keys to select multiple items for deletion. This includes folders and their contents.

Items queued for migration have their icons and texts dimmed. If you select dimmed items for deletion, they are only deleted from the queue.

WARNING: If you select colored items (with teal or black text), they are deleted from the ZENworks database and are no longer available in ZENworks Control Center.

- 7 To migrate all of the dimmed items displayed in the *Destination Zone* panel, including all dimmed items contained in subfolders, click the *Migrate Now* button.

The following information applies to the Migration Utility during or after the migration process:

- ◆ Focus is immediately moved to the *Items to Migrate* tab, where you can view the sequential progress of the migration.
- ◆ Policies that were part of a policy package in eDirectory are queued and migrated separately into their respective Configuration Management types.

- ♦ The *Step* column displays a progress bar for each item being migrated. The overall progress bar is at the bottom of the screen.
- ♦ The *Migration History* tab displays all of the items that were migrated. This list is updated dynamically as the items are migrated. You can click back and forth between the *Items to Migrate* and *Migration History* tabs during the migration process. You can also right-click anywhere in the tab's panel and select *Refresh* to refresh the view with items that might not yet be displayed, but are migrated.
- ♦ The *Select* tab displays all of the migrated objects, with their texts in teal color after being migrated, in both the *Source eDir Tree* and *Destination Zone* panels.
The teal color persists, so the next time you open the Migration Utility and navigate the *Source eDir Tree* contexts and *Destination Zone* folders, you can see what you have previously migrated.
- ♦ Objects that failed migration continue to be displayed with their icons dimmed.
Instructions for handling failed migration items are covered in [Step 8](#).
- ♦ During migration, a temporary working folder is created on the workstation for each policy being migrated. These folders are deleted as each policy is successfully migrated.

8 After the migration has completed, do the following as needed:

- 8a Review the teal-colored items in both of the *Select* panels to determine whether you need to queue any other items for migration or delete any previously migrated items from the *Destination Zone* panel.

You can also use the *Migration History* tab to discover this information.

- ♦ If you discover other items to migrate, repeat [Step 3](#) through [Step 7](#).
- ♦ To delete any items listed in the *Destination Zone* panel, select them and click **x**.

WARNING: The *Destination Zone* panel displays both previously migrated data with teal-colored text and items with black-colored text that were either created in ZENworks Control Center or migrated from a different workstation. The delete option (**x**) can be used on both. Therefore, it is possible to delete previously existing items from Configuration Management that were never migrated. This includes folders in ZENworks Control Center and all data contained under them.

- 8b On the *Items to Migrate* tab, click the *Failed - View Log* button for each item that failed to migrate, and determine the best course of action. You can either fix the problem and migrate the item, or you can delete it from the *Items to Migrate* tab, which also deletes it from the queue in the *Destination Zone* panel.

To view only those items that failed, right-click anywhere in the panel and select *Delete successful* to filter the listed items. This listing is maintained only for the current task.

- 8c If you have failed items that you do not want to migrate, you can delete only those that are queued (still dimmed) from the queue in the *Destination Zone* panel. Right-click anywhere on the *Items to Migrate* tab and select *Delete all items*.

This empties the *Items to Migrate* tab listing. It also deletes only the queued items not yet migrated from the *Destination Zone* panel listing.


WARNING: If you select *Delete all items* in the *Destination Zone* panel instead, this deletes all listed items from both the *Destination Zone* panel and the *Migration History* tab, as well as from the ZENworks database, effectively removing them from ZENworks Control Center. To delete only the queued (not yet migrated) items by using *Delete all items*, it is safest to do so from the *Items to Migrate* tab.

- 9 When you are satisfied with the migration results, continue with one of the following:
 - ◆ To migrate other policies, continue with [Step 3 on page 56](#).
 - ◆ To migrate zone settings, click [Step 4: Zone Settings](#) in the *Migration Tasks* field.
 - ◆ To migrate workstations, click [Step 5: Workstations](#) in the *Migration Tasks* field.
 - ◆ To migrate associations, click [Step 6: Associations](#) in the *Migration Tasks* field.
 - ◆ If you have completed all eDirectory object and association migrations, clean up your traditional ZENworks installation by continuing with [Section 5.14, "Managing Your Traditional ZENworks Installation," on page 71](#).

5.8 Migrating Management Zone Settings

When settings are migrated to management zone settings in ZENworks Configuration Management, all of the zone settings except the name servers of the DNS settings are overwritten. The name servers migrated from traditional ZENworks are appended to the existing entries in the *Name Servers* list of ZENworks Configuration Management.


To migrate data from eDirectory to the Management Zone settings in Configuration Management:

- 1 To overwrite existing Management Zone settings in the ZENworks database, click  (the [Migration Tool Settings](#) icon), select the *General* option, select the *Overwrite objects that already exists* option, then click *Save Settings* to exit the dialog box.

WARNING: This overwrites any existing Management Zone settings in the database, including those that were previously migrated.

The *Skip saving/loading history* option allows you to dramatically improve performance on large migrations by not storing the local history.


There are currently no global migration options specific to Management Zone settings.

- 2 Click [Step 4: Zone Settings](#) in the *Migration Tasks* field.
- 3 To model the migration, go to the *Source eDir Tree* panel, then navigate the eDirectory contexts to locate the information to be migrated. To stop listing of the objects in the *Source eDir Tree*, click .

IMPORTANT: The individual components of the Novell Application Launcher settings or Imaging policies are displayed so that you can selectively migrate them, instead of migrating all of the settings or policy information.

- 4 Repeat [Step 3](#) as necessary to locate and queue all of the information to zone settings that you want to migrate at this time.

IMPORTANT: Every item that you queue in the *Destination Zone* panel is migrated when you click the *Migrate Now* button.

- 5 Review your selections in the *Destination Zone* panel.
- 6 To delete items from the migration queue, select the items and click the  icon.
You can use the Ctrl and the arrow keys or Shift and the arrow keys to select multiple items for deletion.

Items queued for migration have their icons and texts dimmed. If you select dimmed items for deletion, they are only deleted from the queue.

WARNING: If you select colored items (with teal or black text), they are deleted from the ZENworks database and are no longer available in ZENworks Control Center.

- 7 To migrate all of the dimmed items displayed in the *Destination Zone* panel, click the *Migrate Now* button.

The following information applies to the Migration Utility during or after the migration process:

- ◆ Focus is immediately moved to the *Items to Migrate* tab, where you can view the sequential progress of the migration.
- ◆ The *Step* column displays a progress bar for each item being migrated. The overall progress bar is at the bottom of the screen.
- ◆ The *Migration History* tab displays all of the items that were migrated. This list is updated dynamically as the items are migrated. You can click back and forth between the *Items to Migrate* and *Migration History* tabs during the migration process. You can also right-click anywhere in the tab's panel and select *Refresh* to refresh the view with items that might not yet be displayed, but are migrated.
- ◆ The *Select* tab displays all of the migrated objects, with their texts in teal color after being migrated, in both the *Source eDir Tree* and *Destination Zone* panels.

The teal color persists, so the next time you open the Migration Utility and navigate the *Source eDir Tree* contexts and *Destination Zone* folders, you can see what you have previously migrated.

- ◆ Objects that failed migration continue to be displayed with their icons dimmed.

Instructions for handling failed migration items are covered in [Step 8](#).

- 8 After the migration has completed, do the following as needed:

- 8a Review the teal-colored items in both of the *Select* panels to determine whether you need to queue any other items for migration or delete any previously migrated items from the *Destination Zone* panel.

You can also use the *Migration History* tab to discover this information.

- ◆ If you discover other items to migrate, repeat [Step 3](#) through [Step 7](#).
- ◆ To delete any items listed in the *Destination Zone* panel, select them and click **x**.

WARNING: The *Destination Zone* panel displays both previously migrated data with teal-colored text and items with black-colored text that were either created in ZENworks Control Center or migrated from a different eDirectory object. The delete option (**x**) can be used on both. Therefore, it is possible to delete previously existing items from Configuration Management that were never migrated.

- 8b On the *Items to Migrate* tab, click the *Failed - View Log* button for each item that failed to migrate, and determine the best course of action. You can either fix the problem and migrate the item, or you can delete it from the *Items to Migrate* tab, which also deletes it from the queue in the *Destination Zone* panel.

To view only those items that failed, right-click anywhere in the panel and select *Delete successful* to filter the listed items. This listing is maintained only for the current task.

- 8c If you have failed items that you do not want to migrate, you can delete only those that are queued (still dimmed) from the queue in the *Destination Zone* panel. Right-click anywhere on the *Items to Migrate* tab and select *Delete all items*.

This empties the *Items to Migrate* tab listing. It also deletes only the queued items not yet migrated from the *Destination Zone* panel listing.

WARNING: If you select *Delete all items* in the *Destination Zone* panel instead, this deletes all listed items from both the *Destination Zone* panel and the *Migration History* tab, as well as from the ZENworks database, effectively removing them from ZENworks Control Center. To delete only the queued (not yet migrated) items by using *Delete all items*, it is safest to do so from the *Items to Migrate* tab.


- 9 When you are satisfied with the migration results, continue with one of the following:
 - ◆ To migrate other information to Management Zone settings, continue with [Step 3 on page 61](#).
 - ◆ To migrate associations, click [Step 6: Associations](#) in the *Migration Tasks* field.
 - ◆ If you have completed all eDirectory object and association migrations, clean up your traditional ZENworks installation by continuing with [Section 5.14, “Managing Your Traditional ZENworks Installation,”](#) on page 71.

5.9 Migrating Workstations

If you do not have associations to workstations or workstation GUIDs to preserve from Novell eDirectory, and you want to set up your workstations as managed devices in the ZENworks Management Zone by using ZENworks Control Center to discover them and deploy the Adaptive Agent to them, then skip the migration of workstations.

If you migrate workstations to preserve associations to workstations or workstation GUIDs and if you previously created images of those workstations, re-image them after installing the Adaptive Agent to them. For more information, see [Section 5.13, “Make an Image of the Migrated Workstations,”](#) on page 71.


To migrate workstations from eDirectory to Configuration Management:

- 1 To overwrite existing Workstation objects in the ZENworks database, click  (the [Migration Tool Settings](#) icon), select the *General* option, select the *Overwrite objects that already exists* option, then click *Save Settings* to exit the dialog box.

WARNING: This overwrites any existing Workstation objects in the database, including those that were previously migrated.

The *Skip saving/loading history* option allows you to dramatically improve performance on large migrations by not storing the local history.

There are currently no global migration options specific to workstations.

- 2 Click [Step 5: Workstations](#) in the *Migration Tasks* field.
- 3 To model the migration, do the following:
 - 3a In the *Source eDir Tree* panel, navigate the eDirectory contexts to locate the Workstation objects to be migrated. To stop listing of the objects in the *Source eDir Tree*, click .

The eDirectory information that is displayed is filtered according to the type of information that you are migrating. Therefore, you only need to browse through the contexts and objects that can be migrated for the selected type.
- 3b If necessary, right-click anywhere in the *Destination Zone* panel to create a folder for the objects to be queued for migration, then select *New folder*.

You can create as many folders as needed, including nesting them. This structure is created in the ZENworks database and is viewable as folders in ZENworks Control Center; however, the folders are not created until you click the *Migrate Now* button.

You might want to determine the folder structure for your Workstation objects, and create and migrate those folders before queueing Workstation objects to them.

IMPORTANT: We recommend that you migrate existing eDirectory containers and all of their Workstation objects (including subcontainers). This allows you to maintain GUIDs for device associations.

eDirectory containers that you queue are converted into folders containing all of the Workstation objects that exist in eDirectory under those contexts. If you select a container in the *Source eDir Tree* panel and drag it to the *Destination Zone* panel, all subcontainers and their Workstation objects are also placed in the *Destination Zone* panel in their respective folders.

After queueing a container in the *Destination Zone* panel, you can individually delete queued items that you don't want to migrate by selecting the items, right-clicking them, then selecting *Delete selected items*. You are asked to confirm the deletion.

- 3c In the *Source eDir Tree* panel, select the Workstation objects or containers to be migrated and drag them into the *Destination Zone* panel.

This queues the items for migration.

You can use the Ctrl and the arrow keys or Shift and the arrow keys to select multiple items.

As you drag items from one panel to the other, the items listed in the *Destination Zone* panel are automatically sorted.

If you drag an item multiple times, it is only queued once.

If you migrate incrementally, you should queue only the objects that you want to migrate at this time because all items that are queued in the *Destination Zone* panel are migrated when you click the *Migrate Now* button.

On the *Items to Migrate* tab, the number of items you are migrating (copied to the *Destination Zone* panel) is represented in parentheses on the tab's label.


The *Migration Status* field on the *Items to Migrate* tab displays information related to the items selected for migration. For example, the ZENworks Migration Utility might adjust the object name in Configuration Management because of characters in the eDirectory name that cannot be used in Configuration Management, such as a colon (:), which is replaced with an underscore (_) character.

- 4 Repeat [Step 3](#) as necessary to locate and queue all of the Workstation objects that you want to migrate at this time.

IMPORTANT: Every Workstation object that you queue in the *Destination Zone* panel is migrated when you click the *Migrate Now* button.

- 5 Review your selections in the *Destination Zone* panel.

You can navigate the folders to view the Workstation objects that are queued for migration.

- 6 To delete items from the migration queue, select the items and click the  icon.

You can use the Ctrl and the arrow keys or Shift and the arrow keys to select multiple items for deletion. This includes folders and their contents.

Items queued for migration have their icons and texts dimmed. If you select dimmed items for deletion, they are only deleted from the queue.

WARNING: If you select colored items (with teal or black text), they are deleted from the ZENworks database and are no longer available in ZENworks Control Center.

- 7 To migrate all of the dimmed items displayed in the *Destination Zone* panel, including all dimmed items contained in subfolders, click the *Migrate Now* button.

The following information applies to the Migration Utility during or after the migration process:

- ◆ Focus is immediately moved to the *Items to Migrate* tab, where you can view the sequential progress of the migration.
- ◆ The *Step* column displays a progress bar for each item being migrated. The overall progress bar is at the bottom of the screen.
- ◆ The *Migration History* tab displays all of the items that were migrated. This list is updated dynamically as the items are migrated. You can click back and forth between the *Items to Migrate* and *Migration History* tabs during the migration process. You can also right-click anywhere in the tab's panel and select *Refresh* to refresh the view with items that might not yet be displayed, but are migrated.
- ◆ The *Select* tab displays all of the migrated objects, with their texts in teal color after being migrated, in both the *Source eDir Tree* and *Destination Zone* panels.

The teal color persists, so the next time you open the Migration Utility and navigate the *Source eDir Tree* contexts and *Destination Zone* folders, you can see what you have previously migrated.


- ◆ Objects that failed migration continue to be displayed with their icons dimmed. Instructions for handling failed migration items are covered in [Step 8](#).
- ◆ During migration, a temporary working folder is created on the workstation for each workstation being migrated. These folders are deleted as each workstation is successfully migrated.


IMPORTANT: The migrated workstations do not immediately display in the *Workstations* section on the *Devices* tab in ZENworks Control Center. They are listed in the Deployable Devices panel in ZENworks Control Center and must have the adaptive agent deployed to them in order to be displayed on the *Devices* tab. For more information on deploying the adaptive agent to the migrated workstations, see [Section 5.12, "Setting Up Migrated Workstations to be Managed," on page 70](#).

- 8 After the migration has completed, do the following as needed:

- 8a Review the teal-colored items in both of the *Select* panels to determine whether you need to queue any other items for migration or delete any previously migrated items from the *Destination Zone* panel.

You can also use the *Migration History* tab to discover this information.

- ◆ If you discover other items to migrate, repeat [Step 3](#) through [Step 7](#).
- ◆ To delete any items listed in the *Destination Zone* panel, select them and click .

WARNING: The *Destination Zone* panel displays both previously migrated data with teal-colored text and items with black-colored text that were either created in ZENworks Control Center or migrated from a different workstation. The delete option () can be used on both. Therefore, it is possible to delete previously existing items from Configuration Management that were never migrated. This includes folders in ZENworks Control Center and all data contained under them.

- 8b On the *Items to Migrate* tab, click the *Failed - View Log* button for each item that failed to migrate, and determine the best course of action. You can either fix the problem and migrate the item, or you can delete it from the *Items to Migrate* tab, which also deletes it from the queue in the *Destination Zone* panel.

To view only those items that failed, right-click anywhere in the panel and select *Delete successful* to filter the listed items. This listing is maintained only for the current task.

- 8c** If you have failed items that you do not want to migrate, you can delete only those that are queued (still dimmed) from the queue in the *Destination Zone* panel. Right-click anywhere on the *Items to Migrate* tab and select *Delete all items*.


This empties the *Items to Migrate* tab listing. It also deletes only the queued items not yet migrated from the *Destination Zone* panel listing.

WARNING: If you select *Delete all items* in the *Destination Zone* panel instead, this deletes all listed items from both the *Destination Zone* panel and the *Migration History* tab, as well as from the ZENworks database, effectively removing them from ZENworks Control Center. To delete only the queued (not yet migrated) items by using *Delete all items*, it is safest to do so from the *Items to Migrate* tab.

- 9** When you are satisfied with the migration results, continue with one of the following:
- ◆ To migrate other workstations, continue with [Step 3 on page 61](#).
 - ◆ To migrate associations, click [Step 6: Associations](#) in the *Migration Tasks* field.
 - ◆ If you have completed all eDirectory object and association migrations, clean up your traditional ZENworks installation by continuing with [Section 5.14, "Managing Your Traditional ZENworks Installation," on page 71](#).

5.10 Migrating Associations

You can migrate user associations and workstation associations for bundles, user associations and workstation associations for policies, and workstation associations for images.

- 1** Click  (the [Migration Tool Settings](#) icon), then do the following:
- 1a** To overwrite existing associations in the ZENworks database, select the *General* option, then select the *Overwrite objects that already exists* option.

WARNING: This overwrites any existing associations in the database, including those that were previously migrated.

The *Skip saving/loading history* option allows you to dramatically improve performance on large migrations by not storing the local history.


- 1b** To access the options available for migrating associations, click *Associations*, then configure the desired settings.

Setting	Description
<i>If an associated object does not exist, stop the migration and prompt for redirection to the appropriate migration task to create the object</i>	<p>Stops the migration when an object to be associated does not exist in the ZENworks database and prompts you to be redirected to the appropriate <i>Migration Tasks</i> step to migrate the object.</p> <p>After migrating the needed object, you can return to <i>Step 6: Associations</i> and click <i>Migrate Now</i> to resume migrating the associations.</p> <p>This option is useful for when you are migrating just a few items and want to deal with association failures on the spot.</p> <p>If you want to perform an unattended migration, do not select this option.</p>
<i>Specify the context in the destination user source to search for the matching entities</i>	<p>Lets you specify the context to search for the matching entities in the destination user source during the migration of the groups and container associations.</p> <p>For example, if the destination user source is <code>migration.orgunit.org.com</code> and you specify the context as <code>OU1/OU2/users</code>, then the utility looks for matching entities in <code>migration.orgunit.org.com/OU1/OU2/users</code>.</p> <p>If you do not specify the context, then the search is performed in the entire destination user source, that is <code>migration.orgunit.org.com</code>.</p>

- 1c Click *Save Settings* to exit the dialog box.
- 2 Click *Step 6: Associations* in the *Migration Tasks* field.
- 3 To model the migration, do the following:
 - 3a Select the desired options in the *Display objects that are* and the *and also are* drop-down lists.

This option combination determines which associations are displayed for dragging to the *Destination Zone* panel and whether you want a warning displayed for ineligible associations. Warnings are displayed in a column on the *Items to Migrate* tab and the *Migration History* tab.

Associations that can be migrated depend on whether their related eDirectory objects were migrated previously. You can display only those that are eligible for migration, as well as those that are both eligible or ineligible, with or without a warning about the ineligible associations.

Display Objects That Are: These options allow you to choose which associations you want to search for at this time in the *Source eDir Tree* panel. You can continue to add associations to the *Destination Zone* panel as you change from one *Display objects that are* option to another, or you can migrate different groups of associations at a time. To stop listing of the objects in the *Source eDir Tree*, click 

The following options determine what associations are displayed:

Option	Purpose
<i>Bundles <--> users</i>	<p>Displays only the associations existing in eDirectory for bundles and users or user groups.</p> <p>A user source must be configured in ZENworks Control Center before you migrate these associations.</p>
<i>Bundles <--> workstations</i>	<p>Displays only the associations existing in eDirectory for bundles, workstations, workstation groups, images, and workstations.</p>
<i>Policies <--> users</i>	<p>Displays only the associations existing in eDirectory for policies and users or user groups.</p> <p>A user source must be configured in ZENworks Control Center before you migrate these associations.</p>
<i>Policies <--> workstations</i>	<p>Displays only the associations existing in eDirectory for policies, workstations, and workstation groups.</p>
<i>Policies, bundles, users, <--> workstations</i>	<p>Displays all existing eDirectory associations for policies, bundles, users, user groups, workstations, workstation groups, and images.</p> <p>A user source must be configured in ZENworks Control Center before you migrate any user-related associations.</p>

And Also Are: These options do the following with respect to the combination that you select in the *Display objects that are* field:

Option	Purpose
Either eligible or ineligible for migration (No Warning)	<p>For associations between the selected objects, this combination displays both the eligible and ineligible associations without any warning.</p> <p>This is the fastest method because no checking is required and it provides an unattended migration process.</p>
Eligible for migration	<p>Displays only the associations between the selected objects that are eligible for migration.</p> <p>If the migration source and user source are the same, then this is the slowest method because the utility must validate each item as it is queued. We recommend that you simply review the logs of the failed items to resolve why they did not migrate.</p>
Either eligible or ineligible for migration (Show Warning)	<p>For associations between the selected objects, this combination displays both the eligible and ineligible associations with a warning.</p> <p>If the migration source and user source are the same, then this is a slower method because checking is required for each item queued and you need to monitor the migration to respond to the warnings.</p>

Destination User Source: Lists the user sources available in ZENworks Configuration Management. By default, the user source that is listed as the migration source is selected.

- 3b In the *Source eDir Tree* panel, navigate the eDirectory contexts to locate the objects to be associated and drag them into the *Destination Zone* panel.

Specify the range of associations to be listed in the Listing Range option. The range is specified as *1-100* by default.

This queues the items for migration.

You can use the Ctrl and the arrow keys or Shift and the arrow keys to select multiple items.

As you drag items from one panel to the other, the items listed in the *Destination Zone* panel are automatically sorted.

If you drag an item multiple times, it is only queued once.

If you migrate incrementally, you should queue only the objects that you want to migrate at this time because all items that are queued in the *Destination Zone* panel are migrated when you click the *Migrate Now* button.

On the *Items to Migrate* tab, the number of items you are migrating (copied to the *Destination Zone* panel) is represented in parentheses on the tab's label.

The *Migration Status* field on the *Items to Migrate* tab displays information related to the items selected for migration. For example, the ZENworks Migration Utility might adjust the object name in Configuration Management because of characters in the eDirectory name that cannot be used in Configuration Management, such as a colon (:), which is replaced with an underscore (_) character.

- 4 Repeat [Step 3](#) as necessary to locate and queue all of the associations that you want to migrate at this time.

IMPORTANT: Every association that you queue in the *Destination Zone* panel is migrated when you click the *Migrate Now* button.

- 5 Review your selections in the *Destination Zone* panel.

Specify the range of associations to be listed in the Listing Range option. The range is specified as *1-10* by default.

In the *Name* column, the associations are represented with the association name that you queued, the <--> characters to represent an association, then the name of the object it's associated with in eDirectory. This information is repeated in the *Unique Identifier* column with the fully distinguished object names.

If the objects for the association (as determined by your selections in the *Display objects that are* and the *and also are* fields; see [Step 3](#)) do not each exist in the ZENworks database, the association cannot be migrated. If you selected in [Step 1b](#) to be prompted to resolve this during migration, you can take care of those instances now; otherwise the migration continues and you can discover them on the *Items to Migrate* tab.

- 6 To delete items from being associated, select the items and click the  icon.

You can use the Ctrl and the arrow keys or Shift and the arrow keys to select multiple items for deletion. This includes folders and their contents.

Items queued for migration have their icons and texts dimmed. If you select dimmed items for deletion, they are only deleted from the queue.

WARNING: If you select colored items (with teal or black text), they are deleted from the ZENworks database and are no longer available in ZENworks Control Center.

- 7 To migrate all of the dimmed items displayed in the *Destination Zone* panel, including all dimmed items contained in subfolders, click the *Migrate Now* button.

The following information applies to the Migration Utility during or after the migration process:

- ◆ Focus is immediately moved to the *Items to Migrate* tab, where you can view the sequential progress of the migration.
- ◆ The *Step* column displays a progress bar for each item being migrated. The overall progress bar is at the bottom of the screen.
- ◆ The *Migration History* tab displays all of the items that were migrated. This list is updated dynamically as the items are migrated. You can safely click back and forth between the *Items to Migrate* and *Migration History* tabs during the migration process. You can also right-click anywhere in the tab's panel and select *Refresh* to refresh the view with items that might not yet be displayed, but are migrated.
- ◆ The *Select* tab displays all of the migrated associations, with their texts in teal color after being migrated, in both the *Source eDir Tree* and *Destination Zone* panels.

The teal color persists, so the next time you open the Migration Utility and navigate the *Source eDir Tree* contexts and *Destination Zone* folders, you can see what you have previously migrated.

- ◆ Associations that failed migration because their associated objects are not present in Configuration Management continue to be displayed with their icons dimmed.

Instructions for handling failed migration items are covered in [Step 8](#).

- ◆ During migration, a temporary working folder is created on the workstation for each association being migrated. These folders are deleted as each association is successfully migrated.
- ◆ During migration of groups and container associations, if there are more than one matching entity for the groups and containers in the destination user source, then you are prompted to select the entity to which you want to migrate the association.

- 8 After the migration has completed, do the following as needed:

- 8a Review the teal-colored items in both of the *Select* panels to determine whether you need to queue any other items for migration or delete any previously migrated items from the *Destination Zone* panel.

You can also use the *Migration History* tab to discover this information.

- ◆ If you discover other items to migrate, repeat [Step 3](#) through [Step 7](#).
- ◆ To delete any items listed in the *Destination Zone* panel, select them and click **x**.

WARNING: The *Destination Zone* panel displays both previously migrated data with teal-colored text and items with black-colored text that were either created in ZENworks Control Center or migrated from a different workstation. The delete option (**x**) can be used on both. Therefore, it is possible to delete previously existing items from Configuration Management that were never migrated. This includes folders in ZENworks Control Center and all data contained under them.

- 8b On the *Items to Migrate* tab, click the *Failed - View Log* button for each item that failed to migrate, and determine the best course of action. You can either fix the problem and migrate the item, or you can delete it from the *Items to Migrate* tab, which also deletes it from the queue in the *Destination Zone* panel.

To view only those items that failed, right-click anywhere in the panel and select *Delete successful* to filter the listed items. This listing is maintained only for the current task.

- 8c If you have failed items that you do not want to migrate, you can delete only those that are queued (still dimmed) from the queue in the *Destination Zone* panel. Right-click anywhere on the *Items to Migrate* tab and select *Delete all items*.

This empties the *Items to Migrate* tab listing. It also deletes only the queued items not yet migrated from the *Destination Zone* panel listing.

WARNING: If you select *Delete all items* in the *Destination Zone* panel instead, this deletes all listed items from both the *Destination Zone* panel and the *Migration History* tab, as well as from the ZENworks database, effectively removing them from ZENworks Control Center. To delete only the queued (not yet migrated) items by using *Delete all items*, it is safest to do so from the *Items to Migrate* tab.

- 9 If you have completed all eDirectory object and association migrations, clean up your traditional ZENworks installation by continuing with [Section 5.14, “Managing Your Traditional ZENworks Installation,”](#) on page 71.

5.11 Migrating Applications That Have the Same Application GUID

Before migrating applications that have the same application GUID, you must do the following:

- 1 Identify the base application, which is the application required by all the other applications to run.
- 2 Migrate the base application.
- 3 Migrate other applications.

For example, assume that you have three applications (A, B, and C) that have the same application GUID. Application A installs Microsoft Office, application B launches Microsoft Word, and application C launches Microsoft Excel. If you want to migrate these applications, you must first migrate A, which is the base application, before applications B and C are migrated.

On migrating an application that has the same application GUID as an application that was already migrated, you are prompted to select the following options:

- ♦ **Set the base application as the system requirement of the migrating application (Option 1):** Lets you set the base application as the system requirement of the migrating application.
- ♦ **Apply the setting to all the applications that have the same GUID and are in the migration queue (Option 2):** Lets you apply the setting that you selected in option 1 to all the applications in the migration queue that have the same application GUID.

The following table provides more information on what happens when you select or deselect the options:

Option 1	Option 2	Description
✓	✓	<p>Adds the base application (application A) as a system requirement of the migrating application (application B or C, whichever is being migrated).</p> <p>Because option 2 is selected, the base application (application A) is also added as a system requirement for all the other applications in the migration queue that have the same application GUID.</p>

Option 1	Option 2	Description
✓		<p>Adds the base application (application A) as a system requirement of the migrating application (application B or C, whichever is being migrated).</p> <p>Because option 2 is not selected, the setting you chose in option 1 is not applied to the other applications that are in the migration queue and have the same application GUID. Consequently, when such an application is migrated, you are prompted with this dialog box again.</p>
	✓	<p>Because option 1 is not selected, the base application (application A) is not added as a system requirement for the migrating application.</p> <p>Because option 2 is selected, the setting you chose in option 1 is applicable for the other applications. So, the base application (application A) is not added as a system requirement for all the applications in the migration queue that have the same application GUID.</p>
		<p>Because option 1 is not selected, the base application (application A) is not added as a system requirement for the migrating application.</p> <p>Because option 2 is not selected, the setting you chose in option 1 is not applied to the other applications in the migration queue that have the same application GUID. Consequently, when such an application is migrated, you are prompted with this dialog box again.</p>

All the applications that have the same application GUID belong to one application set. If you choose to migrate more than one application set, you must migrate the base application for each application set before migrating other applications within the sets.

For example, assume that you have two applications, X and Y, that have the same application GUID. Application X installs OpenOffice and application Y installs OpenOffice Writer. Applications A, B, and C belong to one application set; and applications X and Y belong to another application set.

If you want to migrate both application sets, you must do the following:

- 1 Migrate A, which is the base application of the first application set.
- 2 Migrate X, which is the base application of the second application set.
- 3 Migrate the remaining applications from both application sets.

5.12 Setting Up Migrated Workstations to be Managed

If you migrated workstation objects in order to manage them in ZENworks Configuration Management, you must install the ZENworks Adaptive Agent on them.

For information on installing the Adaptive Agent on migrated workstations, see [“Agent Deployment”](#) in the *ZENworks 11 SP3 Administration Quick Start*.

To re-image the workstations where you updated the agent to the ZENworks Adaptive Agent, see [Section 5.13, “Make an Image of the Migrated Workstations,”](#) on page 71.

If you have completed all eDirectory object and association migrations, clean up your traditional ZENworks installation by continuing with [Section 5.14, “Managing Your Traditional ZENworks Installation,”](#) on page 71.

5.13 Make an Image of the Migrated Workstations

If you migrate workstations that contain the traditional ZENworks agent, you should take a image of these workstations after installing the Adaptive Agent

For information on imaging the updated workstations, see “[Imaging Devices](#)” in the *ZENworks 11 SP3 Preboot Services and Imaging Reference*.

If you have completed all eDirectory object and association migrations, clean up your traditional ZENworks installation by continuing with [Section 5.14, “Managing Your Traditional ZENworks Installation,”](#) on page 71.

5.14 Managing Your Traditional ZENworks Installation

After completing your migration, you can remove your traditional ZENworks software as you see fit. Consult your traditional ZENworks documentation for information on uninstalling those versions of ZENworks.

However, if you need users for Configuration Management because you migrated associations to them, or you need users for the Novell Client, you need to retain a working installation of eDirectory with your user objects.

ZENworks Configuration Management does not provide eDirectory cleanup.

A Migration Data

The following sections provide details on what is or is not migrated for each migration type:

- ♦ [Section A.1, “Applications,” on page 73](#)
- ♦ [Section A.2, “Images,” on page 76](#)
- ♦ [Section A.3, “Policies,” on page 76](#)
- ♦ [Section A.4, “Management Zone Settings,” on page 78](#)
- ♦ [Section A.5, “Workstations,” on page 80](#)
- ♦ [Section A.6, “Associations,” on page 80](#)

A.1 Applications

Applications are migrated to ZENworks Configuration Management as bundles with specific actions. For example, an application having Registry changes is migrated as a bundle with Registry Edit action.

Some features are migrated, some are not, and some are replaced by new features. [Table A-1 on page 73](#) lists the features that are not migrated. The Comment column explains why not and whether an alternative to the traditional feature exists in Configuration Management.

For Novell Application Launcher Configuration settings that are not migrated, see [Section A.3, “Policies,” on page 76](#).

Table A-1 Application Features Not Migrated to Configuration Management

Feature	Comment
ACL	Configuration Management uses a new security model for access control.
Auto Start feature	This feature caused Novell Application Launcher to add itself to the start menu so that it could automatically start when the user logged in. This is now handled by the ZENworks Adaptive Agent.
Availability schedule	This is migrated when associations are migrated. In other words, for every schedule on an application, there is now a specific schedule for every direct association to that application.
BITS support	BITS is not supported in Configuration Management. Administrators can manually turn on throttling.
Capturing printer ports	This can be done in a launch script. You can uncapture the port in a termination script.
Copy directory	You must manually create this action in ZENworks Control Center by using the Copy Directory category in a File bundle.
Deframe Settings	Configuration Management supports only simple RDP and ICA sessions.

Feature	Comment
Disconnectable	This feature allowed the administrator to not show the application on the desktop if the workstation was disconnected. Use the equivalent system requirement in Configuration Management.
Display folder list	This feature allowed the administrator to put the shortcut for the application in multiple display folders. Configuration Management only allows the placement of the shortcut in one folder. Therefore, Configuration Management migrates only the first folder.
Drive mappings	This can now be done in a launch script. You can unmap the drive in a termination script.
Fault tolerance	The new content system does this automatically on a whole zone basis.
Force run as user when workstation associated	Not supported in Configuration Management.
Force run wait	This feature is replaced by application chaining.
Granular install file control	This feature allowed the administrator to control which files were copied during an installation, based on how they were marked in ConsoleOne. For example, you could tell Novell Application Launcher to only copy files marked "Request Confirm.". Because MSI does not allow a granular (file-by-file) setting, this feature cannot be migrated if the application is migrated as a bundle with Install MSI action.
Granular uninstall file control	This feature allowed the administrator to control which files were removed during an uninstallation, based on how they were marked in ConsoleOne. For example, you could tell Novell Application Launcher to only uninstall files marked "Request Confirm." Because MSIs do not allow a granular (file-by-file) setting, this feature cannot be migrated.
Granular install registry control	This feature allowed the administrator to control which registry settings were created during an installation, based on how they were marked in ConsoleOne. For example, you could tell Novell Application Launcher to only create registry settings marked "Registry Append." Because MSIs do not allow a granular (registry-setting-by-registry-setting) control, this feature cannot be migrated.
Granular uninstall registry control	This feature allowed the administrator to control which registry settings were removed during an uninstallation, based on how they were marked in ConsoleOne. For example, you could tell Novell Application Launcher to only uninstall registry settings marked "Registry Append." Because MSIs do not allow a granular (registry-setting-by-registry-setting) control, this feature cannot be migrated.
Granular install.INI control	This feature allowed the administrator to control which INI file entries were created during an installation, based on how they were marked in ConsoleOne. For example, you could tell Novell Application Launcher to create INI entries marked "create add to section." Because MSIs do not allow a granular (INI-entry-by-INI-entry) control, this feature cannot be migrated.
Granular uninstall.INI control	This feature allowed the administrator to control which INI file entries were removed during an uninstallation, based on how they were marked in ConsoleOne. For example, you could tell Novell Application Launcher to only uninstall INI entries marked "create add to section." Because MSIs do not allow a granular (INI-entry-by-INI-entry) control, this feature cannot be migrated.

Feature	Comment
Icon order	Configuration Management does not control the order in which icons are displayed. Use application chaining to control the order of application installation.
Load balancing	The new content system does this automatically on a whole zone basis. By default, all the Primary Servers in the Management Zone replicate their content among each other.
MSI admin path	Because MSI package information is no longer stored in the metadata, you longer need access to the actual MSI file in ZENworks Control Center. Also, most MSIs are uploaded into the content system.
MSI option install paths random	Replaced by the new content system that does load balancing automatically.
MSI package description	MSI Package information is no longer stored in the metadata. This makes it easier to update MSI packages without touching the MSI bundle itself.
MSI package identifier	MSI package information is no longer stored in the metadata. This makes it easier to update MSI packages without touching the MSI bundle itself.
MSI package size	MSI package information is no longer stored in the metadata. This makes it easier to update MSI packages without touching the MSI bundle itself.
Novell Licensing Service (NLS)	Configuration Management does not supports NLS.
On Demand	Configuration Management supports only simple RDP and ICA sessions.
RDP color depth	Color depth must be 256, 32768, 65536, or 16777216.
Remote alternate application	The ZENworks Adaptive Agent runs the same inside or outside the firewall. It doesn't make a distinction, so this feature is no longer supported.
Reporting	Configuration Management has a global reporting system, so reporting is no longer configured on an application-by-application basis.
Run 16-bit applications in a separate session	Configuration Management does not support 16-bit operating systems.
Site List	This feature allowed users to use the closest matching applications source path to install the application to their workstation. The new content system does this automatically.
Thin client settings	Configuration Management only supports a subset of the features Novell Application Launcher used to support. The following attributes have been dropped: <ul style="list-style-type: none"> ◆ Thin client user name (no credentials are passed to the terminal server) ◆ Thin client password (no credentials are passed to the terminal server) ◆ Thin client protocol ◆ Thin client compress ◆ Thin client seamless
Uninstall prompt for reboot	This feature is no longer supported. <code>Msiexec.exe</code> now handles rebooting for each uninstallation. Most of this functionality is handled by adding parameters to the MSIExec command line.
Volume file system rights	Configuration Management does not automatically assign rights to any file system.

A.2 Images

The administrator performing image file migration must have sufficient file rights to read the image files (.zmg).

The following can be migrated:

- ◆ Standard image
- ◆ Scripted image
- ◆ Multicast session image

Migrated imaging files are not modified because ZENworks Configuration Management imaging is backward compatible with traditional ZENworks imaging file format.

The following are not migrated:

- ◆ Add-on images

Because of significant changes in the local workstation cache, add-on images cannot be migrated. You can re-create them in ZENworks Control Center on a bundle's Summary page.

- ◆ Imaging Server and Workstation policies

These policies are instead migrated to Management Zone settings through the *Step 4: Zone Settings* migration task because there are no equivalent policies in Configuration Management.

A.3 Policies

Policies that cannot be migrated are filtered so that they are not displayed for migration. The following policies are migrated:

- ◆ Dynamic Local User (DLU)
- ◆ Group
- ◆ Imaging Server
- ◆ Imaging Workstation
- ◆ iPrint
- ◆ Remote Control
- ◆ Roaming Profile
- ◆ SNMP Trap Target

The following are not migrated:

Table A-2 Policy Features Not Migrated to Configuration Management

Feature	Comment
Computer Extensible Policies	Extensible policies do not exist in Configuration Management.

Feature	Comment
Group Policy	<p>The following settings are not migrated:</p> <ul style="list-style-type: none"> ◆ Cache User Configuration: Does not exist in Configuration Management. ◆ Group Policies Remain in Effect on User Logout: Does not exist in Configuration Management. ◆ Group Policy Loopback Support: This is a policy infrastructure option that is now defined for any Group policy when it is assigned to a device. ◆ Persist Workstation Settings: Does not exist in Configuration Management.
Scheduled Action Policy	These policies contain scheduled launches of an executable. This functionality is duplicated by using simple applications to perform the same functionality. Therefore, no equivalent policy is created in Configuration Management. Instead, you can create a Directive bundle in ZENworks Control Center to duplicate this functionality.
User Extensible Policies	Extensible policies do not exist in Configuration Management.
Workstation Inventory	All ZENworks Asset Management inventory data migration is handled by the ZENworks Asset Management migration tool. The traditional pre-ZENworks Asset Management Workstation Inventory data is not migrated because of major differences in database schema.
zendmSearchPolicy	Similar to applications, policies are now assigned to folders, users, and devices, thus eliminating the need for a Search policy.
zenimgWorkstationPolicy	A per-workstation Management Zone setting is not available in Configuration Management for this policy.
zeninvDictionaryUpdatePolicy	The new ZENworks Asset Management inventory system has no equivalent policy in Configuration Management.
zeninvRollUpPolicy	The new ZENworks Asset Management inventory system has no equivalent policy in Configuration Management. Roll-up is configurable in ZENworks Control Center for the Management Zone's Primary Servers.
zenlocDatabaseLocationPolicy	This policy deals with locating the database for reporting and inventory to write to it. Configuration Management uses a different database for both reporting and inventory, so this policy is not migrated.
zenlocSMTPHostPolicy	Configuration Management has no equivalent policy.
zenlocXMLTargetPolicy	This policy dealt with reporting in ZENworks 6.5 and ZENworks 7.x. There is no equivalent policy or setting in Configuration Management because reporting is not sent through XML.
zenwmWorkstationImport	Although it is technically possible to migrate a workstation import policy to a Management Zone setting, it is simply easier to set the few global zone settings manually in ZENworks Control Center to migrate them. In Configuration Management, you can set a registration rule on any folder level hierarchically, but in ZENworks 7.x you had to set a Workstation Import policy on a Server Package that was associated to one or more servers. There is not a simple one-to-one mapping for these relationships. It is easier for the administrator to define these rules manually.
zenwmWorkstationRemoval	There is no policy for workstation removal in Configuration Management.

Feature	Comment
zenwmZENConfigPolicy	This policy applies to the previous ZENworks agent. The new ZENworks Adaptive Agent is controlled by new Management Zone settings and behave differently.
Dynamic Local User Policy	<p>The Volatile User Cache setting is not migrated. You can edit the migrated policy in ZENworks Control Center to do the following:</p> <ol style="list-style-type: none"> 1. Select the <i>Enable Volatile User Cache</i> option. 2. In the <i>Cache Volatile User for Time Period</i> option, specify the number of days to cache the volatile user account on the device. <p>For more information on editing the policy, see “Editing Policies” in the ZENworks 11 SP3 Configuration Policies Reference.</p>

A.4 Management Zone Settings

The following two eDirectory objects contain attributes that can be migrated as Management Zone settings:

- ◆ Imaging Server policy settings
- ◆ Workstation Launcher Configuration settings

When one of these eDirectory objects is displayed in the view on the left, each attribute that can be migrated is listed below it, so that you can select individual attributes for migration. The view on the right shows the subset of Management Zone settings that can be migrated. An attribute migrated from eDirectory overwrites the existing target setting in the zone.

Traditional ZENworks stored its launcher configuration settings directly on the User, Device, or Container object. Configuration Management stores these settings in a new policy called the ZENworks Explorer Configuration policy.

The migration tool only migrates a small subset of the previous system’s settings to a new ZENworks Explorer Configuration policy. For various reasons, most of the launcher configuration settings are not used in the new ZENworks Explorer Configuration policy in Configuration Management. Many have become global Management Zone settings where there is only one setting for the whole zone.

Launcher configuration settings for workstations are migrated to Management Zone settings, and launcher configuration settings for users are migrated to the ZENworks Explorer Configuration policy.

Because there are multiple launcher configuration settings in any given tree, it is easier for the administrator to manually set the one set of Management Zone settings in ZENworks Control Center.

The following launcher configuration settings can be migrated to the new ZENworks Explorer Configuration policy:

- ◆ Display icon on the Desktop (becomes the root folder name)
- ◆ Enable folder view
- ◆ Enable manual refresh
- ◆ Expand folder view on startup
- ◆ Name icon on the Desktop

The following launcher configuration settings can be migrated to Management Zone settings:

- ◆ Enable timed refresh (workstation)

- ◆ Set refresh frequency (workstation)
- ◆ Set the random refresh spread
- ◆ Unassociated days to uninstall (workstation)

The following launcher configuration settings cannot be migrated:

- ◆ Allow user to override BITS transfer
- ◆ Allow users to exit
- ◆ Always evaluate referrals
- ◆ Attempt to go online during refresh (User)
- ◆ Attempt to go online during refresh (Workstation)
- ◆ Auto-start Application Launcher
- ◆ Bring all popup windows to the front
- ◆ Close Application Launcher on browser exit
- ◆ Configure remote access detection method
- ◆ Display system tray icon
- ◆ Enable automatic icon cleanup
- ◆ Enable BITS (User)
- ◆ Enable BITS (Workstation)
- ◆ Enable [All] folder
- ◆ Enable helper (Workstation)
- ◆ Enable Middle Tier login
- ◆ Enable login
- ◆ Enable personal folders
- ◆ Enable reading from removable cache (User)
- ◆ Enable reading from removable cache (Workstation)
- ◆ Enable the Checkpoint Restart Postpone button
- ◆ Enable timed refresh (User)
- ◆ Enable writing to the cache (user)
- ◆ Enable writing to the cache (workstation)
- ◆ Read groups for applications (User)
- ◆ Read groups for applications (Workstation)
- ◆ Save window size and position
- ◆ Set application inheritance level (user)
- ◆ Set application inheritance level (workstation)
- ◆ Set refresh frequency (User)
- ◆ Specify E-mail attribute
- ◆ Top object
- ◆ Unassociated days to uninstall (User)
- ◆ Watermark display property
- ◆ Watermark source path

A.5 Workstations

Configuration Management currently supports only the migration of Windows 2000 Support Pack 4, Windows XP SP2 workstations, and Windows XP SP3 workstations. Workstation Groups can also be migrated. The following workstation object attributes are migrated:

Table A-3 Workstation Features Migrated to Configuration Management

Feature	Comment
wmnamecomputer	The workstation's name.
wmnamedns	The Domain Name Service (DNS) name of the workstation.
wmnameos	The operating system of the workstation.
wmnameuser	The owner of the workstation. This is migrated only if an authoritative user source has been defined that points to the same tree that the workstation is being migrated from.
wmnetworkaddress	Usually the IP address of the workstation.
zenwmid	The unique ID of the workstation.
zenwmmacaddress	The network card MAC Address.
zenwmsubnetmask	Subnet mask that is a matching pair to the IP address.

Launcher Configuration settings are migrated with policies. Application associations are migrated with associations. Group Memberships are migrated with workstation groups. All other workstation attributes are not migrated because there are no similar attributes in Configuration Management.

If you plan to migrate associations to containers that contain Workstation objects, you should migrate the container in the Workstation task. This is the only migration task that preserves the Unique ID of the container so that the associations to the container are preserved. For user associations, this is not an issue because the Unique ID is always the same as in the old ZENworks system because Configuration Management relies on User Sources to point to the same User object.

A.6 Associations

The Migration tool displays and migrates only direct associations. Configuration Management has the same concept of indirect associations that previous ZENworks products have. An indirect association is created when you associate an object to a container and everything inside that container becomes associated to the object by virtue of its existence inside that container. If all of the direct associations are migrated and the migrated objects are placed in the same folder structure, then all of the indirect associations should be automatically migrated.

The association task is purposely listed as the last step on the migration screen. This is because the inherent nature of an association (an assignment in Configuration Management) is to simply establish a one-to-one relationship between two objects, such as "App A is assigned to User 1."

There is no view of direct associations in ConsoleOne, which can cause some ZENworks environments to become rather complex. The Migration Utility attempts to break down this complexity by relying on display filters to show a subset of the existing associations in eDirectory. Each object is presented based on the selected container and the selected filter. Below each object you should see all of that object's associations. Each association has a two-way arrow <--> overlay icon on its object

type icon. Multiple associations can be selected and dragged to the right side, or the whole object can be dragged, causing all of its associations to be put in the Items to Migrate queue. The view on the right simply displays all of the existing associations based on the selected filter.

The Migration Utility adds two extra filters to this view to help speed up the display of associations. The first filter forces the display to only show various combinations that you can select for bundles, users, workstations, containers, and policies. Or you can simply select the last option to show all object types. The second filter shows all objects, either ineligible or eligible, or shows you only the eligible associations. Eligible associations are eligible because both of the objects that the association points to exist in Configuration Management. Calculating which associations are eligible can take several minutes, so this option is not the default. The filter is called *Show both ineligible and eligible (show warning)*, and it causes the utility to determine which associations are ineligible and display a reason in the last display column. All eligible associations are also shown.

The actual migration of an association is simple. Configuration Management creates a new Assignment object that points to both objects. For applications, Configuration Management also migrates its Location Mask and Availability Schedule during the migration process.

B Migration Options

Before migrating objects to ZENworks Configuration Management you can choose to configure various settings. The following sections provide more information on configuring the migration options:

- ◆ [Section B.1, “Using the Migration Utility to Configure Migration Options,” on page 83](#)
- ◆ [Section B.2, “Using the Registry Editor to Configure Additional Options for Migrating MSI Applications,” on page 87](#)

B.1 Using the Migration Utility to Configure Migration Options


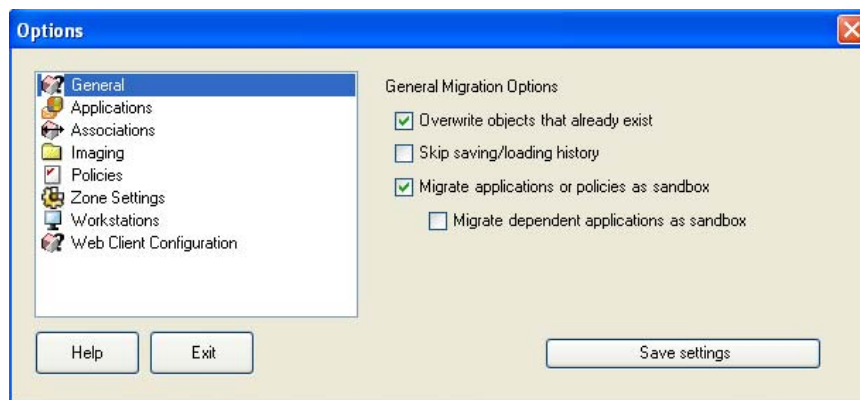
You can use the Options windows of the Migration utility to configure certain options before migrating objects to ZENworks Configuration Management To launch the Options window, click  on the top right corner of the utility.

Figure B-1 Global Migration Options



Review the following sections for more information on the configuring the migration options by using the Migration Utility:

- ◆ [Section B.1.1, “General,” on page 84](#)
- ◆ [Section B.1.2, “Applications,” on page 85](#)
- ◆ [Section B.1.3, “Associations,” on page 86](#)
- ◆ [Section B.1.4, “Imaging,” on page 86](#)
- ◆ [Section B.1.5, “Policies,” on page 87](#)
- ◆ [Section B.1.6, “Zone Settings,” on page 87](#)
- ◆ [Section B.1.7, “Workstations,” on page 87](#)
- ◆ [Section B.1.8, “Web Client Configuration,” on page 87](#)

B.1.1 General

When you are migrating an object that already exists in ZENworks Configuration Management, you can use the *Overwrite objects that already exist* option to cause the latest object being migrated to be used instead. The existing object is overwritten with the new migration object in the ZENworks Configuration Management database.

NOTE: If you choose to remigrate an application to ZENworks Configuration Management with the *Overwrite objects that already exist* option enabled, you must ensure that the version of the application you want to remigrate is higher by one than the version of the existing ZENworks Configuration Management bundle. This is required to avoid inconsistent results on the managed device when the bundle is assigned to it.

The *Skip saving/loading history* option allows you to dramatically improve performance on large migrations by not storing the local history.

The *Migrate applications or policies as sandbox* option enables you to migrate applications or policies as Sandbox. This option is selected by default. If you want the migrated applications or policies to be available to the assigned users or workstations, you must publish the Sandbox.

The *Migrate dependent applications as sandbox* option enables you to migrate the dependent applications also as Sandbox.

Task	<i>Migrate applications or policies as sandbox</i> option is deselected	<i>Migrate applications or policies as sandbox</i> options is selected
Migrating applications or policies that have not yet been migrated to the destination zone.	The applications or policies are migrated with the same version to the destination zone.	The applications or policies are migrated as Sandbox versions. If you choose to publish the Sandbox in the destination zone, the published object (application or policy) has the same version that it had at the time of migration. Select the <i>Migrate dependent applications as sandbox</i> option to also enable the dependent applications of the migrating application, to be migrated as Sandbox.
Migrating applications or policies that have already been migrated to the destination zone and a published version of the objects (applications or policies) exist in the destination zone.	The objects (applications or policies) are migrated as new versions of the objects with a version number incremented by one from the latest published version of the object in the destination zone.	Sandbox versions of the objects are created from the latest published version of the objects (applications or policies) in the destination zone. Select the <i>Migrate dependent applications as sandbox</i> option to also enable the dependent applications of the migrating application, to be migrated as Sandbox.

Task	<i>Migrate applications or policies as sandbox option is deselected</i>	<i>Migrate applications or policies as sandbox options is selected</i>
Migrating applications or policies that have already been migrated to the destination zone and a Sandbox version of the objects (applications or policies) exist in the destination zone.	The migrated objects (applications or policies) overwrite the existing Sandbox versions in the destination zone and publish them as new versions of the objects with a version number incremented by one from the latest published version of the object in the destination zone.	The migrated objects (applications or policies) overwrites the existing Sandbox versions of the objects. You can choose to publish the Sandbox versions. Select the <i>Migrate dependent applications as sandbox</i> option to also enable the dependent applications of the migrating application, to be migrated as Sandbox.

B.1.2 Applications

The *Migrate failed MSI builds* option forces application migration when the utility fails to migrate one or more attributes to the MSI.

An MSI bundle is considered to be failed when a warning is produced while converting an AOT Application object to an MSI. These bundles can often be migrated successfully in spite of the warning. For example, the warning might be produced because a Windows shortcut link contained in the AOT is no longer valid.

If you enable this option, the warning messages are not presented. You can review the migration log for information on what attributes were not migrated.

The *Preserve Created MSI and Temporary Files* option means the application is created and migrated, but the directory holding the temporary files and new MSI file is not automatically deleted. This allows you to have access to the newly created MSI before it is incorporated into the content service in Configuration Management.

The *Upload applications to content server* option lets you upload content to the content server. This option is selected by default.

The applications are migrated as Install MSI action to the ZENworks Configuration Management server and also uploaded to the content server if the *Upload applications to content server* option is selected and the source path of the file is resolved to a local path or UNC path at the time of migration.

The applications are migrated as Install Network MSI action to the ZENworks Configuration Management server and are not uploaded to the content server in the following scenarios:

- ◆ The *Upload applications to content server* option is deselected.
- ◆ The *Upload applications to content server* option is selected but the source path of the file is not resolved to a local path or UNC path at the time of migration, or the file is not found.

The *Migrate distribution options as individual actions* option lets you migrate the distribution options in applications as individual actions such as Edit INI action, Registry Edit action, or Run Script action that can be edited. By default, it is selected. Deselect the *Migrate distribution options as individual actions* option to migrate the distribution options in applications as MSI.

If the *Migrate distribution options as individual actions* option is enabled, then the applications are migrated as specific actions:

- ◆ An application having registry changes is migrated as a bundle with Registry Edit action.

- ◆ An application having INI settings is migrated as a bundle with an Edit INI File action.
- ◆ An application having text file changes is migrated as a bundle with an Edit Text File action.
- ◆ An application having icons or shortcuts is migrated as a Windows bundle with a Run Script action or File Removal action.
- ◆ An application having application files changes is migrated as follows:
 - ◆ Files as Copy Files or Install Files action.
 - ◆ Directory as a Copy Directory, Install Directory, or Create/Delete Directory action.
 - ◆ Deletion of files as a File Removal action
 - ◆ Deletion of directory as a Create/ Delete Directory action.

If the *Migrate distribution options as individual actions* option is disabled, then the application is migrated as an Install MSI action. But, the Edit Text File action, Copy Directory, Install Directory, File Removal are not a part of this Install MSI action.

The *Working Directory* option allows you to place the temporary migration files in a different location than the default users %TEMP% directory. If you migrate an application with a very long path (longer than 256 characters), this option enables you to make the temporary path short, such as `c:\temp`.

B.1.3 Associations

The *If an associated object does not exist, stop the migration and prompt for redirection to the appropriate migration task to create the object* option prompts for redirection to the appropriate migration task when you migrate the associations for an object that is not yet migrated. After migrating the object, you can return to *Associations* and click *Migrate Now* to resume migrating the associations. This option is useful if you are migrating just a few items and want to deal with association failures on the spot. If you want to perform an unattended migration, do not select this option.

The *Specify the context in the destination user source to search for the matching entities* option enables you to specify the context to search for the matching entities in the destination user source during migration of the groups and container associations. If you do not specify the context, then the search is performed in the entire destination user source.

For example, if the destination user source is `migration.orgunit.org.com` and you specify the context as `OU1/OU2/users`, the utility looks for matching entities in `migration.orgunit.org.com/OU1/OU2/users`.

If you do not specify the context, the search is performed in the entire destination user source, which is `migration.orgunit.org.com`.

B.1.4 Imaging

When you are migrating an image object whose image file already exists in the content server, you can use the *Overwrite the existing image files on the content servers* option to overwrite the image file. This option is disabled by default.

B.1.5 Policies

When you are migrating Launcher Configuration settings from Novell eDirectory, select the *Skip assignment creation for launcher configuration policies* option to convert the settings into a Launcher Configuration policy in Configuration Management. During migration, an assignment from the identity object to the new Launcher Configuration policy is automatically created unless you turn off this function in the [Options dialog box](#) by selecting to skip the assignment.

B.1.6 Zone Settings

No global migration options are currently defined for Management Zone settings.

B.1.7 Workstations

No global migration options are currently defined for workstations.

B.1.8 Web Client Configuration

Web Client Configuration allows you to configure the settings for uploading files to the content server.

The *Send data in chunks* option uploads data in chunks. This option is selected by default. Migration might fail when a proxy is enabled on the device hosting the migration utility. To perform the migration, disable the *Send data in chunks* option.

The *Keep connection alive* option establishes a persistent connection with the ZENworks Configuration Management Server.

The *Read/Write timeout* option allows you specify the timeout period for the read or write operation. By default, this option is set to *None*.

The *Get response timeout* option allows you specify the timeout period to receive the response from the ZENworks Configuration Management Server. By default, this option is set to *None*.

To restore the default settings, click *Restore Defaults*.

B.2 Using the Registry Editor to Configure Additional Options for Migrating MSI Applications

When you install the Migration utility on a device, registry keys with the values specified in the following table are created under `HKLM\Software\Novell\ZCM\Migration\MSIOptions\`. The values determine how much of the user interface to display during the installation of the migrated MSI application.

Table B-1 Additional Options For Migrating MSI Applications

Key	Value	Description
Default	/qb-	Displays an appropriate user interface level (as chosen by the Windows Installer)
Silent	/qn	Displays no user interface
Progress	/qb!	Displays simple progress information and error messages/prompts

Key	Value	Description
Reduced	/qr	Displays a full user interface with wizard dialog boxes suppressed
Full	/qf	Displays a full user interface (Wizard dialog boxes, progress information, error messages and prompts, and so forth)
MigrateWithParentOptions	0	MSPs are migrated in Silent mode

You can choose to edit the value of the keys to specify how much amount of the user interface to display on the device during the installation of the migrated MSI application.

For example:

Assume that you have an MSI application with the *User Interface Level* set as *Silent*. To display simple progress information and error messages or prompts during the installation of this application on a device, perform the following steps before you migrate the application:

- 1 Open the Registry Editor.
- 2 Go to `HKLM\Software\Novell\ZCM\Migration\MSIOptions\`.
- 3 Right-click *Silent* and click *Modify*.
- 4 In the Edit String dialog box, specify `/qb!` in the *Value data* option.
- 5 Click *OK*.

By default, the MSPs are migrated in Silent mode. To migrate the MSPs with the same parameter as that of the parent MSI:

- 1 Open the Registry Editor.
- 2 Go to `HKLM\Software\Novell\ZCM\Migration\MSIOptions`.
- 3 Set the value of `MigrateWithParentOptions` to 1.

C Troubleshooting

The following sections explain the scenarios that you might encounter while migrating your traditional ZENworks software to Novell ZENworks 11 Configuration Management SP3.

- ♦ “The schedule of an application is not correctly migrated” on page 89
- ♦ “Application icons might not be available after migration” on page 89
- ♦ “Migration Utility hangs during migration” on page 90
- ♦ “Unable to migrate the iPrint policy” on page 90
- ♦ “Unable to migrate a Group policy” on page 90
- ♦ “A registry action migrated with certain options fails on the managed device” on page 90
- ♦ “Unable to migrate objects that should be uploaded to the content server” on page 91
- ♦ “Unable to install the migrated Adobe MSI” on page 91
- ♦ “A manually created user is unable to perform migration” on page 91
- ♦ “Unable to view the user associations in the Migration Utility” on page 92
- ♦ “How do I enable debug logs” on page 92
- ♦ “Unable to use the migrated add-on images” on page 92
- ♦ “Migration of applications is slow on a Windows Vista device” on page 92
- ♦ “Migration of the PXE Menu settings configured in the traditional ZENworks Imaging Server Policy fails” on page 92
- ♦ “Unable to migrate an AOT application” on page 92
- ♦ “Unable to migrate iPrint policy that does not have the policy setup file associated with it” on page 93
- ♦ “ZENworks Migration Tool fails during migration of an object that is deleted in the destination zone and throws Internal Server Exception” on page 93

The schedule of an application is not correctly migrated

Explanation: If an application with an availability schedule configured during daylight saving time is migrated, the schedule is not migrated correctly. For example, if you specify the *Start Date* as 2/11/08 and the *End Date* as 10/11/08, the application is migrated with the *Start Date* as 1/11/08 and the *End Date* as 9/11/08.

Action: After the migration is completed, use ZENworks Control Center to manually edit the schedule.

Application icons might not be available after migration

Explanation: If an application object is migrated as an MSI bundle to ZENworks Configuration Management, some of the application icons might not be available and the following error is displayed in the logs:

```
ISDEV: error -1024: message string.
```

This error does not impact the functionality of the bundle in the managed device and the migration is still successful.

Action: Ignore the error.

Migration Utility hangs during migration

Explanation: While migrating AOT applications with more than 500 INI sections to ZENworks Configuration Management, the Migration Utility tool hangs.

Action: None.

Unable to migrate the iPrint policy

Explanation: The iPrint policy configured with the `nipp.exe` client installer is not migrated to ZENworks Configuration Management because `nipp.exe` does not support silent installation.

Action: In traditional ZENworks, configure the iPrint policy to use the `nipp-s.exe` or `nipp.zip` client installer and then migrate.

Unable to migrate a Group policy

Explanation: If you configure a Group policy in traditional ZENworks by providing the UNC path of the shared folder that requires authentication, then migrate the policy to ZENworks Configuration Management by using the Migration Utility installed on a Windows Vista SP1 device, the migration fails because the Vista device is unable to access the network folder.

Action: Do the following:

1. Click *Start > Run*. Specify `system32`, then click *OK*.
2. Right-click `cmd.exe`, then select *Run as administrator*.
3. Enter `explorer` at the command prompt to launch the Explorer window.
4. In the Explorer window, click *Tools > Map Network Drive* to map the network location.
5. Provide the user credentials, then migrate the policy or application configured with that path.

A registry action migrated with certain options fails on the managed device

Explanation: If an application with only registry and INI changes and with options such as *Create if exists*, *Delete*, *Append if existing otherwise create*, or *Prepend if existing otherwise create* configured under the *distribution* options is migrated as an MSI, the options fail on the managed device.

Action: Perform the following steps to migrate the application as an individual action instead of an MSI:

1. Launch the Migration Utility.
2. Click the *Migration Tool Settings* icon, then click *Application*.

3. Select the *Migrate distributions options as individual actions* option.
4. Migrate the application that has the registry changes to the destination zone. The application is migrated as a Windows Bundle with a Regedit action.

Unable to migrate objects that should be uploaded to the content server

Explanation: While migrating objects that should be uploaded to the content server, the Migration Utility might encounter an error resulting in the failure of migration.

Possible Cause: The Proxy enabled on the device that is hosting the Migration Utility might not be configured to send data in chunks or establish a persistent connection with the server while uploading files to the content server.

Action: Use the *Web Client Configuration* option to configure the settings for uploading files to the content server and try migrating again. For more information, see the [Section B.1.8, "Web Client Configuration," on page 87](#).

Possible Cause: The connection to the remote server might have failed.

Action: Ensure that the *File Upload Http Port* specified while logging in to the migration destination zone is the same as the port configured on the ZENworks Configuration Management server.

Unable to install the migrated Adobe MSI

Possible Cause: The Adobe Flash Player plug-in is installed on the device.

Action: Perform the following steps on the managed device before deploying the bundle to the device:

- 1 Open the command prompt.
- 2 Navigate to the Flash Player plug-in installation directory. The default installation directory is `C:\WINDOWS\system32\Macromed\Flash`.
- 3 Do the following to unlock the registry entries of the existing Flash files:
 - ◆ If the `uninstfl.exe` file is available, execute the following command:

```
uninstfl.exe -u
```
 - ◆ If a file with a name matching `*FlashUtil.exe`, such as `NPFSW32_FlashUtil.exe`, is available, execute the following command:

```
*FlashUtil.exe -uninstallUnlock -u
```
- 4 Deploy the bundle on the managed device.

A manually created user is unable to perform migration

Possible Cause: The user is not configured in eDirectory as a Trustee of the container containing the migration objects.

Action: In addition to providing administrator rights, the user must also be configured as a Trustee of the container containing the objects to migrate. For more information on adding trustees, see the [ConsoleOne User Guide \(http://www.novell.com/documentation/consol13/\)](http://www.novell.com/documentation/consol13/).

Unable to view the user associations in the Migration Utility

Explanation: If an application is associated to a user container, the Migration Utility lists the the association at the container level. However, the association applies to the individual users within the container. If you migrate the association, the association for all the individual users within the container is migrated.

Action: None.

How do I enable debug logs

Action: To enable the logs, see TID 3418069 in the [Novell Support Knowledgebase](http://support.novell.com/search/kb_index.jsp). (http://support.novell.com/search/kb_index.jsp).

Unable to use the migrated add-on images

Explanation: Add-on images that are created by exporting applications in traditional ZENworks are not valid in ZENworks Configuration Management. If these add-on images are migrated in combination with a base image or otherwise, they should be deleted.

Action: Manually delete the add-on image from ZENworks Configuration Management.

Migration of applications is slow on a Windows Vista device

Explanation: Migration of AOT or AXT applications to MSI applications is comparatively slower on a Windows Vista device.

Action: None.

Migration of the PXE Menu settings configured in the traditional ZENworks Imaging Server Policy fails

Action: After migrating the traditional ZENworks Imaging Server policy to ZENworks 10 Configuration Management, manually configure the PXE Menu settings:

- 1 In ZENworks Control Center, click the *Configuration* tab.
- 2 In the Management Zone Settings panel, click *Device Management > Preboot Services*.
- 3 Configure the desired PXE options.
- 4 Click *OK*.

Unable to migrate an AOT application

Explanation: If the Migration Utility is installed on a device that already has AdminStudio installed, the migration of an AOT application fails with the following error:

```
Could not locate Admin Studio's AOT/AXT Converter. The converter is required to covert an AOT/AXT file to an MSI package.
```

Action: You must install the Migration Utility on a device that does not have AdminStudio previously installed.

Unable to migrate iPrint policy that does not have the policy setup file associated with it

Explanation: If you choose to migrate an iPrint policy without its setup file, the migration fails with the following error:

```
No iPrint setup file was found cannot continue.
```

Action: Perform the following steps on the device from which you want to migrate the iPrint policy without its setup file:

- 1 Open the Registry Editor.
- 2 Go to `HKLM\Software\Novell\ZCM\Migration`.
- 3 (Conditional) If a String called `SkipIPrintClientValidation` already exists, ensure that the value of this string is set to false.

or

Create a String called `SkipIPrintClientValidation` and set its value to false.

ZENworks Migration Tool fails during migration of an object that is deleted in the destination zone and throws Internal Server Exception

Explanation: If you migrate an Application, Policy or Device using the ZENworks Migration Utility and delete it, and immediately try to migrate it again, ZENworks Migration tool fails and throws Internal Server Exception.

Possible Cause: Previously deleted object cleanup is still pending on the server.

Action: Try after sometime.

D Best Practices

The following sections contain information on the best practices to follow while migrating your traditional ZENworks software to Novell ZENworks 11 Configuration Management SP3:

- ◆ [Section D.1, “Running the Migration Utility on a Windows Vista Device,” on page 95](#)
- ◆ [Section D.2, “Selecting a Migration Option,” on page 95](#)
- ◆ [Section D.3, “Uploading Objects to the Content Server,” on page 95](#)
- ◆ [Section D.4, “Migrating Applications as Actions or MSI,” on page 96](#)
- ◆ [Section D.5, “Using Network Files,” on page 96](#)
- ◆ [Section D.6, “Listing the Associations in the Migration Utility,” on page 96](#)
- ◆ [Section D.7, “Listing Application Objects with the AppFsRights Attribute in the Migration Utility,” on page 97](#)
- ◆ [Section D.8, “Specifying the File Upload HTTP Port and Web Service Port to Log In to the Migration Destination Management Zone,” on page 97](#)
- ◆ [Section D.9, “Migrating Group Policies,” on page 97](#)
- ◆ [Section D.10, “Migrating Applications with a Large Number of INI or Registry Operations as Individual Actions,” on page 97](#)

D.1 Running the Migration Utility on a Windows Vista Device

If you migrate traditional ZENworks application objects as MSI files through the Migration Utility running on a Windows Vista device, the performance might degrade. For improved performance, run the Migration Utility on Windows XP SP2 or Windows XP SP3 device.

D.2 Selecting a Migration Option

Migration is based on the migration options configured through the Migration Utility. Before migrating objects, scan through all the available migration options in order to select the most suitable option for migration. For more information on the various migration options, see [Appendix B, “Migration Options,” on page 83](#).

D.3 Uploading Objects to the Content Server

- ◆ While migrating applications that require the content to be uploaded to the content server, the migration might fail. Ensure that the port specified in the *File Upload Http Port* option while logging in to the migration destination zone matches the port configured while installing the ZENworks Configuration Management server. For information on configuring the port while installing the ZENworks Configuration Management server, see [“Installing the Primary Server Software”](#).

- ◆ While migrating large applications that should be uploaded to the content server, the connection to the server might be lost, resulting in failure of the migration. Ensure that *Get response timeout* in the Web Client Configuration is set to *None* in order to establish a persistent connection with the server. For more information, see [Section B.1.8, “Web Client Configuration,” on page 87](#).
- ◆ While migrating applications, deselect the *Upload to content server* option if you do not want to upload the applications to the content server. Deselecting the option migrates the MSI applications as bundles with an Install Network MSI action, which installs the MSI from a network path. By default, the *Upload to content server* option is enabled. For more information on the option, see [Section B.1.2, “Applications,” on page 85](#)

D.4 Migrating Applications as Actions or MSI

- ◆ If you use tools such as Snapshot Manager in traditional ZENworks to create complex application objects with multiple changes such as Registry, INI, and File Copy, you should migrate the applications as MSI by disabling the *Migrate distribution options as individual actions* option. For more information on the migration options, see [Section B.1.2, “Applications,” on page 85](#).
- ◆ If you use tools such as Snapshot Manager in traditional ZENworks to create application objects with single changes such as Registry, INI, or File Copy, or if the application object must be edited at a later point of time, then you should migrate the application as actions by enabling the *Migrate distribution options as individual actions* option.
- ◆ If an application is dependent on other applications, review the applications on which the dependency exists and migrate them as MSI or actions based on the requirement, then migrate the dependent applications.
- ◆ If you choose to migrate applications that has actions involving large registry keys and file operations, we recommend that you migrate the applications as MSI. If the applications are migrated as actions, then the applications might fail in the destination zone even though they are successfully migrated to the destination zone.

D.5 Using Network Files

- ◆ If the traditional ZENworks application objects use files that are hosted on the network share, you should map the network share on the device hosting the migration tool.
- ◆ By default, the applications are uploaded to the content server during the migration. If the application files are located on a shared network and you want to continue using the network files, deselect the *Upload to content server* option. For more information on the option, see [Section B.1.2, “Applications,” on page 85](#).

D.6 Listing the Associations in the Migration Utility

If there are too many associations to be listed in the Migration Utility, select the *Either eligible or ineligible for migration (No warning)* option to reduce the time taken by the utility in listing the associations.

D.7 Listing Application Objects with the AppFsRights Attribute in the Migration Utility

Application objects that have the AppFsRights attribute set in eDirectory are not listed in the Migration Utility. To list such applications for the migration, remove the AppFsRights attribute. For more information on removing attributes, search for LDAP Attribute Remover article at [Novell Cool Solutions Community \(http://www.novell.com/communities/coolsolutions\)](http://www.novell.com/communities/coolsolutions).

D.8 Specifying the File Upload HTTP Port and Web Service Port to Log In to the Migration Destination Management Zone

To log in to the migration destination Management Zone, ensure that you specify the File Upload HTTP Port and the Web Service Port as configured on the server. By default, the File Upload HTTP port is 80 and Web Service Port is 443.

In the Zone Login dialog box, the *File Upload HTTP Port* and *Web Service Port* fields are automatically populated with the default ports when you select a Management Zone in the *Zone* field. However, if the ports configured on the server are different from the default ports, ensure that you specify the ports as configured on the server.

For more information on logging in to the migration destination Management Zone, see [Section 5.4, "Selecting the Migration Destination,"](#) on page 44.

D.9 Migrating Group Policies

Before migrating Windows Group policy, ensure that the folder specified in the *Network location of existing/new Group Policies* does not contain any file other than the group policy files.

D.10 Migrating Applications with a Large Number of INI or Registry Operations as Individual Actions

If you choose to migrate applications that have a large number of INI or registry operations with the *Migrate distribution options as individual actions* option selected, then the application is migrated as multiple actions, depending on the value of the `HKCU\Software\Novell\ZCM\Migration\MaxOperationsPerAction` registry key. The default value of this key is 100.

For example, if you choose to migrate an application that has multiple INI or registry operations, then the application is migrated as multiple actions with 100 operations in each action.

We recommend that you do not change the value of this key because specifying a large value might cause high CPU utilization and result in an Out of Memory exception.

