Novell ZENworks® 10 Configuration Management

10.0.3

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ZENWORKS MIGRATION GUIDE

June 03

Novell®

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Contents

About This Guide

This *Novell ZENworks 10 Configuration Management ZENworks Migration Guide* contains the information, steps, and processes that you need to move from traditional Novell® ZENworks® to Novell ZENworks 10 Configuration Management, the next generation of ZENworks. The information in this guide is organized as follows:

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, or go to the Novell Documentation Feedback site (http://www.novell.com/documentation/feedback.html) and enter your comments there.

Additional Documentation

ZENworks Configuration Management is supported by other documentation (in both PDF and HTML formats) that you can use to learn about and implement the product. See the ZENworks 10.1 Configuration Management with SP1 (v10.1) documentation Web site (http://www.novell.com/documentation/zcm101/index.html).

Documentation Conventions

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

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

Migration Process

1

Novell® ZENworks® 10 Configuration Management introduces architecture that is different from previous versions of ZENworks. To leverage the power and new features of ZENworks 10, you need to migrate from existing systems rather than perform a typical upgrade.

To migrate to Novell ZENworks 10 Configuration Management, do the following:

1. Review Chapter 2, "Differences between ZENworks 10 Configuration Management 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 "Product Overview" in the *ZENworks 10 Configuration Management Enterprise Edition Getting Started Guide*. (Similar information is contained in the Standard and Advanced editions of the *Getting Started Guide*.)
3. Install ZENworks 10 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 10 Configuration Management Installation Guide*.
4. Migrate your traditional ZENworks installation to Configuration Management by using the instructions in:
   - Chapter 3, "Planning Your Migration to ZENworks Configuration Management," on page 23
   - Chapter 4, "Migrating to ZENworks Configuration Management," on page 33
5. (Optional) Migrate your traditional ZENworks Asset Management installation to Configuration Management by using the instructions in the *ZENworks 10 Configuration Management Asset Management Migration Utility Migration Guide*.
6. (Optional) Install other software included in the various editions of Configuration Management by using the following guides:
   - *AdminStudio 8.0 ZENworks Edition Installation Guide (http://www.novell.com/documentation/zcm10/pdfdoc/adminstudio/AS8ZENworksInstallGuide.pdf)* (all editions; PDF only)

     Allows you to continue to standardize the way that you package, test, distribute, and manage your applications and patches.
   - *Endpoint Security Suite Installation Guide (http://www.novell.com/documentation/zesm35/install/index.html?page=/documentation/zesm35/install/data/bookinfo.html)* (Enterprise Edition only)

     Simplifies endpoint security by combining security policy enforcement for data, devices, and connectivity under a single management console, allowing organizations to manage, control, and enforce security policies for Removable Storage, Wireless Communications including MESH and WiMAX, Application Control, Machine Posture/Integrity, Data Encryption, and Advanced Personal Firewall.
   - *USB/Wireless Security Installation Guide (http://www.novell.com/documentation/zesm35/install/index.html?page=/documentation/zesm35/install/data/bookinfo.html)* (Advanced Edition only)

     Provides administrators control over the use of local optical media (CD-R/W, DVD+/-R/W) and all attached storage devices (USB thumb drives, floppy drives, flash memory

cards, ZIP drives, SCSI PCMCIA cards, and other removable media types), providing policy-based restrictions on device access privileges, protecting the integrity and confidentiality of data on the endpoints, while simultaneously protecting the endpoint from the introduction of malware and any other unauthorized activities.

- *ZENworks Linux Management Installation Guide (http://www.novell.com/documentation/zlm72/lm7install/data/front.html)* (Enterprise Edition only)

  ZENworks Configuration Management directly manages only Windows* devices. Therefore, if you want to manage Linux devices (servers or workstations), you must use Novell ZENworks Linux Management, which is available as part of the ZENworks 10 Configuration Management Enterprise Edition, or you can purchase Linux Management separately if you are installing the Standard or Advanced editions of Configuration Management.

- *ZENworks Handheld Management Installation Guide (http://www.novell.com/documentation/zenworks7/hm7install/data/a20gkue.html)* (Enterprise Edition only)

  Provides comprehensive management of handheld devices.

7. Get started in Configuration Management with the *ZENworks 10 Configuration Management Administration Quick Start*, which shows how to perform tasks to get you up and running.

2 Differences between ZENworks 10 Configuration Management and Traditional ZENworks

To migrate to Novell® ZENworks® 10 Configuration Management, 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 10 Configuration Management:

2.1 Architecture

Like previous versions of ZENworks Desktop Management, ZENworks 10 Configuration Management provides comprehensive management of Windows servers and workstations. However, its underlying architecture has changed extensively.

The following sections explain the architectural differences:

For additional information about the new architecture, see “System Architecture” in the *ZENworks 10 Configuration Management Enterprise Edition Getting Started Guide*. 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).

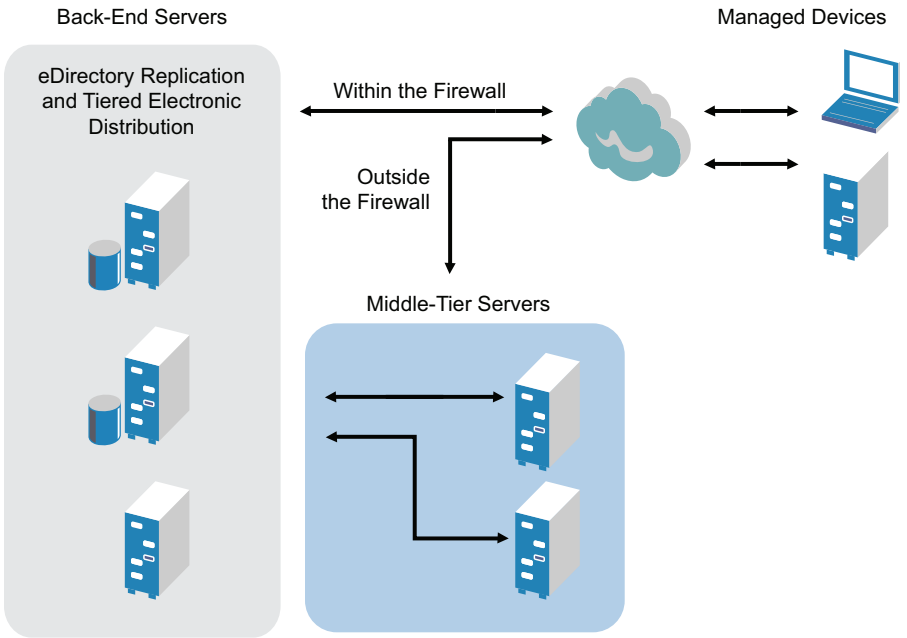
You will want your new infrastructure to be as flexible, simple, and scalable as your existing environment. Thus, it's helpful to have a solid understanding of the architectural differences between existing versions of ZENworks 10 Configuration Management and earlier versions of Novell ZENworks.

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. In the past, every workstation was required to have Novell Client32™ installed 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 in an environment where there is no NetWare infrastructure, or when the Novell Client™ is not installed on the managed devices

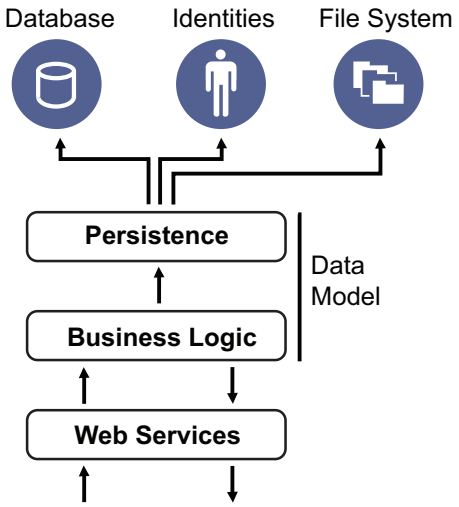
- eDirectory is the key requirement as the object store for all users' workstations and ZENworks objects
- Novell ConsoleOne® is required to manage the ZENworks infrastructure
- All access to the eDirectory environment is via the NetWare Core Protocol™ (NCP™)
- The product is cross-platform and supports services running on Linux, NetWare, and Windows

2.1.2 The Next Generation ZENworks Architecture

Novell ZENworks 10 Configuration Management 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 10 Configuration Management, 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 10 Configuration Management, Novell eDirectory or Microsoft* Active Directory* are supported natively as user sources for user identity information.

Figure 2-2 *ZENworks 10 Three-Tier Architecture*

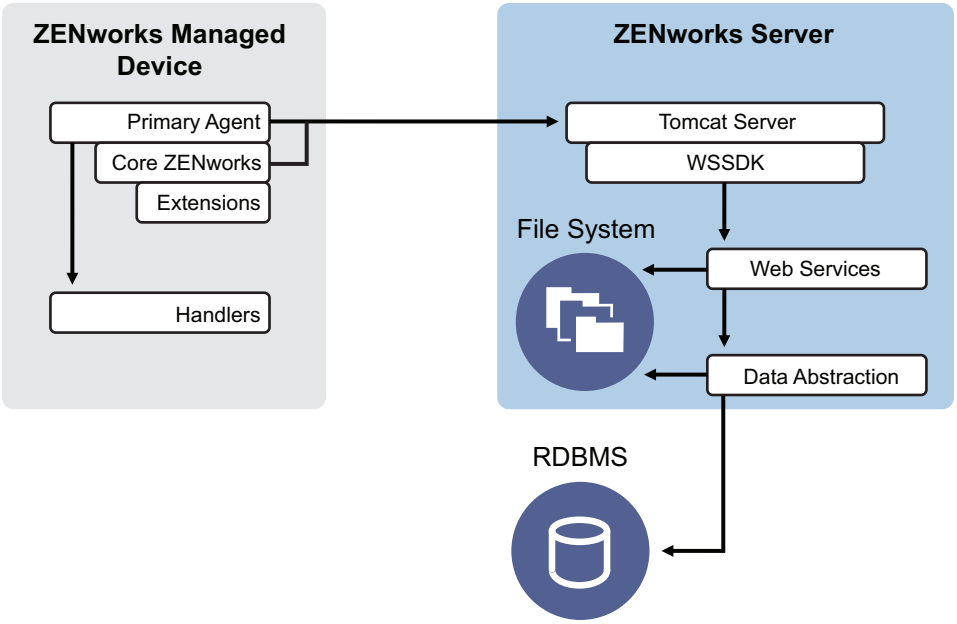


In the new architecture, Novell ZENworks 10 Configuration Management has been decoupled from eDirectory, which is no longer a key requirement for the product to function. You no longer need to manage a directory in order to provide systems management services. This does not mean that you cannot benefit from integrating ZENworks 10 Configuration Management 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 3, the client initiates communications with the server side (the Web server on the ZENworks 10 Configuration Management 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.

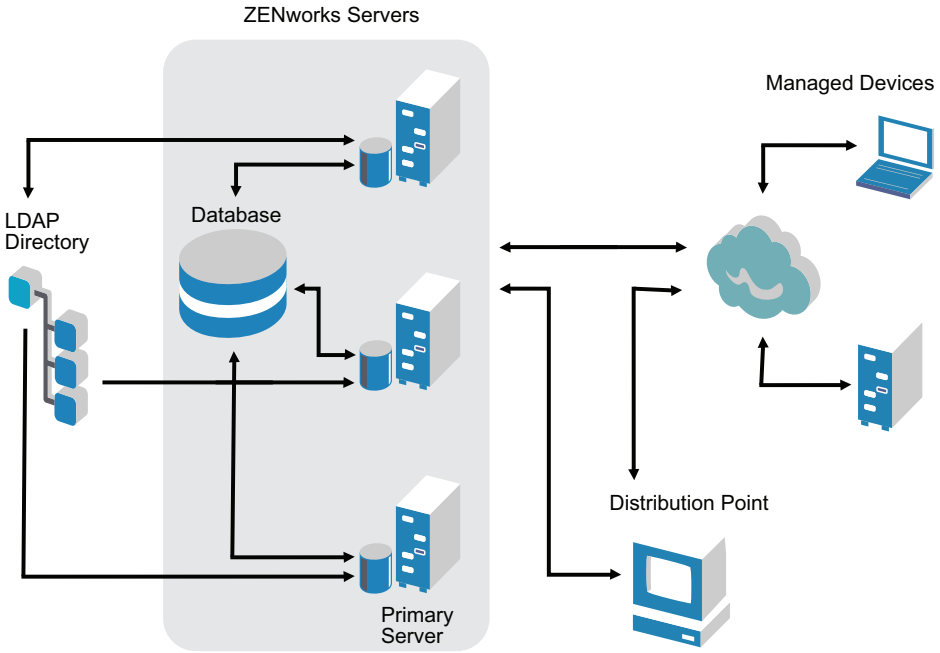
Figure 2-3 *ZENworks 10 Client-Server Architecture*



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 10 Architecture*



The new Novell ZENworks 10 Configuration Management 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 (in a NetWare environment), or the server (if you are running the server services on a Windows 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 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

Management Console

ZENworks Control Center is a Web-based management console that replaces ConsoleOne as the graphical management interface for Configuration Management:

- **Administrator Roles:** ZENworks Control Center provides robust administrator roles unique to its new architectural design. For more information, see "Administrators" in the *ZENworks 10 Configuration Management System Administration 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 10 Configuration Management 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 10 Configuration Management System Administration 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 10 Configuration Management System Administration Reference*.

In Configuration Management, content replication and closest server rules replace the traditional load balancing techniques for fault tolerance. For more information, see both "Content Replication" and "Setting Up Closest Server Rules" in the *ZENworks 10 Configuration Management System Administration 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 10 Configuration Management Installation Guide*. For more information on maintaining your selected database, see "Database Maintenance" in the *ZENworks 10 Configuration Management System Administration Reference*.

- **No Schema Extensions:** Because all information is stored in the ZENworks database, Configuration Management 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 existing LDAP directories, such as 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 Section , "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 describe 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 10 Configuration Management 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 10 Configuration Management 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 4.10, "Migrating Associations," on page 53.

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 "User Sources" in the *ZENworks 10 Configuration Management System Administration Reference*.

The traditional Dynamic Local User feature has been included with Configuration Management as a policy. For more information, see "Dynamic Local User Policy" in the *ZENworks 10 Configuration Management Policy Management 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.
- **Integrated Interface:** The separate client programs (Application Launcher, Workstation Manager, 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 Windows 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 10 Configuration Management Installation Guide*), 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 10 Configuration Management Discovery and Deployment Reference.*

For more information, see "ZENworks Adaptive Agent Deployment" in the *ZENworks 10 Configuration Management Discovery and Deployment 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 "ZENworks Control Center" in the *ZENworks 10 Configuration Management System Administration Reference*.

- **Command Line Utilities:** You can administer Configuration Management by using the zman and zac command line utilities. For more information, see the *ZENworks 10 Configuration Management 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 the *ZENworks 10 Configuration Management Message Logging Reference* and "Viewing System Messages" in the *ZENworks 10 Configuration Management Administration Quick Start*.
- **Software Updating:** The process of updating the ZENworks software with interim releases is now automated in Configuration Management with the System Updates feature. For more information, see "ZENworks System Updates" in the *ZENworks 10 Configuration Management System Administration Reference*.
- **Reporting:** Configuration Management has totally new reporting capabilities:
  - ZENworks infrastructure reporting is performed by using BusinessObjects* Enterprise XI. For more information, see *ZENworks 10 Configuration Management System Reporting Reference*.
  - Reporting on your inventoried assets is performed using Asset Inventory's reporting capabilities. For more information, see *ZENworks 10 Configuration Management Asset Inventory Reference*.

2.3 Workstations

Traditional workstation management using policies and importing into eDirectory is replaced by managed devices in Configuration Management. This is done in the following ways:

- Devices in Configuration Management include both Primary Servers, managed devices (Primary Servers and workstations), and inventoried-only devices. For Configuration Management, only Windows devices can be managed. Linux devices can be only Primary Servers and inventoried-only devices. For more information, see "Minimum Requirements" in the *ZENworks 10 Configuration Management Installation Guide*.
- 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 "Discovering Network Devices" in the *ZENworks 10 Configuration Management Administration Quick Start*, and also see the *ZENworks 10 Configuration Management Discovery and Deployment Reference 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 10 Configuration Management Discovery and Deployment Reference 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 10 Configuration Management Installation Guide*.
- Registration rules and keys replace workstation importing and policies. For more information, see "Registering Devices" in the *ZENworks 10 Configuration Management Administration Quick Start*.
- You can determine a device's status in ZENworks Control Center. For more information, see "ZENworks Icon" in the *ZENworks 10 Configuration Management Software Distribution Reference*.

- Asset Management has been configured to work with ZENworks 10. For more information, see the *ZENworks 10 Configuration Management Asset Management Services 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. Also, policies are now created and applied using bundles. For more information, see the *ZENworks 10 Configuration Management Policy Management 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 10 Configuration Management 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 10 Configuration Management System Administration 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 10 Configuration Management 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 10 Configuration Management Remote Management Reference*.

2.7 Application Management

In ZENworks 10 Configuration Management, 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: Windows, Directive, File, and Imaging. For more information, see the *ZENworks 10 Configuration Management 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 10 Configuration Management 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 10 Configuration Management System Administration 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 immediately or when the device refreshes. For more information, see "Launching a Bundle" in the *ZENworks 10 Configuration Management 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 "Managing Content Distribution Points" in the *ZENworks 10 Configuration Management System Administration 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 10 Configuration Management 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 "Setting Up Closest Server Rules" in the *ZENworks 10 Configuration Management System Administration 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:

- **Additional Security:** New for ZENworks 10.
  - Endpoint Security (Enterprise Edition). For more information on Endpoint Security, see the *Endpoint Security Suite User Guide (http://www.novell.com/documentation/zesm35/userguide/index.html?page=/documentation/zesm35/userguide/data/bookinfo.html)*.

- USB/Wireless Security (Advanced Edition). For more information on USB/Wireless Security, see the *USB/Wireless Security Reference (http://www.novell.com/documentation/zesm35/admin/index.html?page=/documentation/zesm35/admin/data/bookinfo.html)*.

- **Patch Management:** You can continue to automate patch application to minimize vulnerabilities and compliance issues. For more information, see the *Novell ZENworks 10 Patch Management Reference*.

  For a synopsis, see "Patching Software " in the *ZENworks 10 Configuration Management Administration Quick Start*.

  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 10 Configuration Management Asset Management Services Reference*. Also see "Monitoring License Compliance" in the *ZENworks 10 Configuration Management Administration Quick Start*.

  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 8.0 ZENworks Edition Installation Guide (http://www.novell.com/documentation/zcm10/pdfdoc/adminstudio/AS8ZENworksInstallGuide.pdf)* (PDF only).

- **Personality Migration:** This has been updated to work with Configuration Management. For more information, see the *ZENworks 10 Personality Migration Reference*.

- **ZENworks Linux Management:** (Enterprise Edition only) You can continue to manage Linux workstations by using ZENworks Linux Management. For more information, see the *ZENworks 7.2 Linux Management Installation Guide (http://www.novell.com/documentation/zlm72/lm7install/data/front.html)* and the *ZENworks 7.2 Linux Management Administration Guide (http://www.novell.com/documentation/zlm72/lm7admin/data/front.html)*.

- **ZENworks Handheld Management:** (Enterprise Edition only) You can continue to manage handheld devices by using ZENworks Handheld Management. For more information, see the *ZENworks 7 Handheld Management Installation Guide (http://www.novell.com/documentation/zenworks7/hm7install/data/a20gkue.html)* and the *ZENworks 7 Handheld Management Administration Guide (http://www.novell.com/documentation/zenworks7/hm7admin/data/a20gkue.html)*.

Planning Your Migration to ZENworks Configuration Management

3

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 previous 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.

The following sections provide concepts on migrating to Configuration Management:

3.1 Migration Candidates

The following ZENworks product can be migrated to ZENworks 10 Configuration Management:

- 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.

3.2 Installing the ZENworks Migration Utility

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. In your Web browser, access the following URL:

   http://*zenworks_primary_server_id*/zenworks-setup/?pageId=tools

   and download `ZENmigration.exe` to a temporary location.

   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.

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

4 Configure the following credentials in the ZENworks Server Login window.

NOTE: The ZENworks Server Login window might be hidden. To access the window, click the ZENworks Server Login taskbar button.

Server URL: Specify the server url in the format: `https://servername`.

User Name: Specify the username.

Password: Specify the password.

Save my login information: Enable the *Save my login information* option to save the information for the licensing of Admin Studio.

3.3 What the ZENworks Migration Utility Does

The ZENworks Migration Utility is provided with Configuration Management (see Step 5 on page 34 in Section 4.1, "Prerequisites," on page 33). 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:

3.3.1 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 Macrovision* AdminStudio* Repackager, which is included with the ZENworks Migration Utility.

3.3.2 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 3.3.3, "Other Software," on page 25.

For details on what is not migrated and what is changed during migration, see Appendix A, "Migration Data," on page 59.

3.3.3 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* > *ZENworks Configuration Management* > *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:** Macrovision 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.

3.4 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:

3.4.1 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 Management Zone. This server cannot be running other 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.

3.4.2 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.

3.4.3 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 10 Configuration Management Installation Guide*.
2. Configure a server referral list in your Configuration Management system.
3. Disable the Proxy DHCP service in your Linux Management system.

3.4.4 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.

3.4.5 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.

3.4.6 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 3-1 *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

Only the launcher configuration settings that are listed above, or those that are for the new ZENworks Explorer Configuration policy for users, are migrated to ZENworks Configuration Management. For more information, see Section A.4, “Management Zone Settings,” on page 64.

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

3.4.7 Migrating Workstations

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

- Use this 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.

3.4.8 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.

We recommend that you 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 users 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. Any associations to Active Directory users must be done in Configuration Management by using ZENworks Control Center..

3.4.9 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.

3.4.10 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 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 3.4.5, "Migration Order," on page 28 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.

3.4.11 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 4, "Migrating to ZENworks Configuration Management," on page 33.

Migrating to ZENworks Configuration Management

4

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

4.1 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.

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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 10 Configuration Management 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 will allow for a successful migration.

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

5a (Conditional) If an earlier version of the utility is already installed on the device, then uninstall it before installing the latest version.

5b In your Web browser, access the following URL:

http://*zenworks_primary_server_id*/zenworks-setup/?pageId=tools

and download `ZENmigration.exe` to a temporary location.

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.

5c Run `ZENmigration.exe` to install it on your workstation.

5d For instructions on how to start the utility, see Section 4.2, "Starting the ZENworks Migration Utility," on page 35.

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 3.4, "Planning Your Migration," on page 25.

7 Continue with Section 4.2, "Starting the ZENworks Migration Utility," on page 35.

4.2 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 SP2
- Windows Server 2008

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 34.

To start the ZENworks Migration Utility:

1 On a supported Windows device, click *Start* > *All Programs* > *ZENworks Configuration Management* > *ZENworks Migration Utility*.

2 Continue with Section 4.3, "Selecting the Migration Source," on page 35.

4.3 Selecting the Migration Source

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

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 the eDirectory as a Trustee of the container containing those objects. For more information on Adding Trustees see, 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 4.4, “Selecting the Migration Destination,” on page 36.

4.4 Selecting the Migration Destination

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

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.

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 for that zone.

NOTE: To migrate objects, you must be configured in the eDirectory as a Trustee of the container containing those objects. For more information on Adding Trustees see, 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 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 your 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.

Use SSL: Select whether you are using SSL.

File Upload HTTP Port: Specify your HTTP port. The default port of 80 is displayed. This field is automatically populated when you select a Management Zone in the *Zone* field.

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 4.5, “Migrating Applications,” on page 37
2. Section 4.6, “Migrating Images,” on page 41
3. Section 4.7, “Migrating Policies,” on page 44
4. Section 4.9, “Migrating Workstations,” on page 49
5. Section 4.10, “Migrating Associations,” on page 53

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

4.5 Migrating Applications

To migrate applications from eDirectory to Configuration Management:

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

1a To overwrite existing Application objects in the ZENworks database, select the *General* option, then select the check box to enable the option.

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

1b To migrate failed MSI bundles, select the *Applications* option, then select the check box to enable the option.

An MSI bundle is considered failed when a warning is produced while converting an AOT Application object to an MSI (which is done at the time you queue the Application object). These applications 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.

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

2 Click *Step 1: Applications* 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 Application objects to be queued for migration.

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 in 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 or Shift 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 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, select the items and click the ✕ icon.

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

To prevent an item from being migrated, right-click it and select *Delete selected items*. This can be done from both the *Items to Migrate* tab and the *Destination Zone* panel on the *Select* tab.

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, 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.

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.

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.

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 38.
- 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 4.13, "Managing Your Traditional ZENworks Installation," on page 57.

4.6 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 To overwrite existing imaging objects in the ZENworks database, click  (the Migration Tool Settings icon), select the *General* option, select the check box to enable the option, then click *Save Settings* to exit the dialog box.

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

There are currently no global migration options specific to imaging.

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.

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 in them.

You can also migrate existing eDirectory containers and all of their imaging objects (including subcontainers). The containers are converted into folders containing 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 or Shift 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 or Shift 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 ✕.

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.

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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 41.
- 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 4.13, "Managing Your Traditional ZENworks Installation," on page 57.

4.7 Migrating Policies

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 check box to enable the option.

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

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.

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 in 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 or Shift 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 or Shift 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 ✕.

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 policies, continue with Step 3 on page 44.
- 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 4.13, “Managing Your Traditional ZENworks Installation,” on page 57.

4.8 Migrating Management Zone Settings

To migrate data from eDirectory to 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 check box to enable the 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.

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.

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.

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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.

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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 or Shift 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 ✕.

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 (✕) 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 50.
- 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 4.13, “Managing Your Traditional ZENworks Installation,” on page 57.

4.9 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 4.12, “Re-imaging Migrated Workstations,” on page 57.

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 check box to enable the 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.

   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.

   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 in 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 or Shift 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 or Shift 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 be deployed in order to be displayed on the *Devices* tab. For more information on deploying the migrated workstations, see Section 4.11, "Setting Up Migrated Workstations to be Managed," on page 57.

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 50.
- 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 4.13, "Managing Your Traditional ZENworks Installation," on page 57.

4.10 Migrating Associations

You can migrate user associations and workstation associations for bundles, user associations and workstation associations for policies. To migrate associations from eDirectory to Configuration Management:

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 check box to enable the option.

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

1b To stop the migration when an object to be associated does not exist in the ZENworks database, and be directed to the appropriate *Migration Tasks* step to queue the object and migrate it, select the *Associations* option, then select the check box to enable this option.

After migrating the needed object, you can return to *Step 6: Associations* and click *Migrate Now* to resume migrating the associations.

This option is useful for when you are migrating just a few items and want to deal with association failures immediately.

If you want to perform an unattended migration, do not select this option.

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 *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 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.

The following options determine what associations are displayed:

Option	Purpose
Bundles <--> users	Displays only the associations existing in eDirectory for bundles and users. A user source must be configured in ZENworks Control Center before you migrate these associations.
Bundles <--> workstations	Displays only the associations existing in eDirectory for bundles and workstations.

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

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)	For associations between the selected objects, this combination displays both the eligible and ineligible associations without any warning. This is the fastest method because no checking is required and it provides an unattended migration process.
Eligible for migration	Displays only the associations between the selected objects that are eligible for migration. 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.
Either eligible or ineligible for migration (Show Warning)	For associations between the selected objects, this combination displays both the eligible and ineligible associations with a warning. 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.

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.

This queues the items for migration.

You can use the Ctrl or Shift 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.

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 *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 or Shift 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.

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.

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9 If you have completed all eDirectory object and association migrations, clean up your traditional ZENworks installation by continuing with Section 4.13, “Managing Your Traditional ZENworks Installation,” on page 57.

4.11 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 to them.

For information on installing the Adaptive Agent to migrated workstations, see "ZENworks Adaptive Agent Deployment" in the *ZENworks 10 Configuration Management Administration Quick Start*.

To re-image the workstations where you updated the agent to the ZENworks Adaptive Agent, see Section 4.12, "Re-imaging Migrated Workstations," on page 57.

If you have completed all eDirectory object and association migrations, clean up your traditional ZENworks installation by continuing with Section 4.13, "Managing Your Traditional ZENworks Installation," on page 57.

4.12 Re-imaging Migrated Workstations

If you have existing images of migrated workstations that contain the traditional ZENworks agent, you should re-image these workstations after installing the Adaptive Agent.

For information on imaging the updated workstations, see "Imaging Devices" in the *ZENworks 10 Configuration Management 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 4.13, "Managing Your Traditional ZENworks Installation," on page 57.

4.13 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.

Migration Data

A

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

A.1 Applications

Applications are migrated by converting them from the AOT format to the AXT format. Some features are migrated, some are not, and some are replaced by new features. Table A-1 on page 59 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 62.

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.
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.

Feature	Comment
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. All files are converted to an MSI during migration.
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. All files are converted to an MSI during migration.
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. All registry entries are converted to an MSI during migration.
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. All files are converted to an MSI during migration.
Granular install .INI control	This feature allowed the administrator to control which INI file entries were crated 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. All INI entries are converted to an MSI during migration.
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. All INI entries are converted to an MSI during migration.

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. All 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: ◆ 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. `Msiexec.exe` now handles rebooting for each uninstallation. Most of this functionality is handled by adding parameters to the MSIExec command line.

Feature	Comment
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:

- Dynamicy 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.
Group Policy	The following settings are not migrated: ◆ **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 Suport:** 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.

Feature	Comment
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 Workstion 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.
zenwmZENConfigPolicy	This policy applies to the previous ZENworks agent. The new ZENworks Adaptive Agent is controlled by new Management Zone settings and behave differently.

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 to. 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 and Windows XP SP2 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.

Global Migration Options

B

The global migration options enables you to configure the various settings before migrating objects to ZENworks Configuration Management.

To launch the Options window, click  on the top right-hand corner of the utility.

Review the following sections for more information on the global migration options:

B.1 General

When you are migrating an object that already exists in Configuration Management, you can use the *Overwrite ObjectsThat 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.

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

B.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 (which is done at the time you queue the Application object). 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 *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.3 Associations

The *If an Associated Object* option stops the migration when an object to be associated does not exist in the ZENworks database, so that you can be directed to the appropriate *Migration Tasks* step to queue the object and migrate it. To enable this option, select the *Associations* option, then select its check box.

After migrating the object, you can return to *Step 5: 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 immediately.

If you want to perform an unattended migration, do not select this option.

B.4 Imaging

No global migration options are currently defined for Imaging.

B.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.6 Zone Settings

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

B.7 Workstations

No global migration options are currently defined for workstations.

Understanding the Migration Utility

C

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

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

C.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.

C.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  icons to display the eDir Login or Zone Login dialog boxes, then authenticate to those entities.

C.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 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.

C.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.

C.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.

C.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 C.6.1, “Source eDir Tree,” on page 72
- Section C.6.2, “Destination Zone,” on page 73

C.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 or Shift 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. Although it is not necessary, you can perform the migration as a read-only user that has sufficient rights.

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 C-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 *Refresh* to capture them in the Migration Utility for migration.

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 the *Destination Zone* panel.

Because these options can apply to selected items or to the panel as a whole, right-click the item for an option 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 hasn't been migrated yet, no action takes place because the item is already there.

C.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 C-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 *Refresh* to update them in the Migration Utility.

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 `Files`) under `/~bundles~`, that `File` folder is displayed under *Bundles* in ZENworks Control Center, which contains all bundles that are created for the eDirectory objects that you copied there.

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 *Migrate Now*. This is useful for setting up your folder structures before migrating the objects.

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 *Delete Selected Object* icon, it deletes the item from the ZENworks database and it is no longer viewable in ZENworks Control Center.

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.

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

- **Delete Selected Items:** Deletes the selected item from the list, both in this view and on the *Items to Migrate* tab (if the item hasn't been migrated yet).
- **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 an option 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.

C.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 an option applicable only to specific items. Right-click anywhere in the panel for an option applicable to all items.

C.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:

- **Deleted 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.

C.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.

C.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.