



## Chapter 3

# Migrating from Configuration Manager 2007

In the past an upgrade or migration of Systems Management Server (SMS) to Configuration Manager 2007 was not an easy process. You could migrate the SMS 2003 environment side-by-side manually or by using scripts, but at the end of the process you were not able to monitor the migration of your objects. Very often a *greenfield* (new) environment was created next to the old SMS infrastructure, and the objects that were needed in the new Configuration Manager 2007 infrastructure were re-created by hand.

For Configuration Manager 2012, Microsoft invested a lot of time to create a good, solid migration scenario that is easily managed. The new feature, called a *side-by-side migration*, allows you to migrate your objects to the new Configuration Manager 2012 infrastructure.

The migration feature in Configuration Manager 2012 will assist you with the following goals:

- ◆ The migration of Configuration Manager 2007 objects
- ◆ The migration of Configuration Manager 2007 clients
- ◆ Minimizing WAN impact
- ◆ Flattening the Configuration Manager infrastructure by reducing the number of primary sites
- ◆ Maximizing the reusability of x64-bit hardware

Besides the migration feature, you can also wipe and load your Configuration Manager environment when, for instance, still using SMS 2003.

In this chapter you will learn to

- ◆ Determine what you are able to migrate with the migration feature.
- ◆ Discover which migration approach is supported.
- ◆ Ascertain what kind of interoperability is supported during the migration.
- ◆ Migrate packages and programs to the new application model.

## Introducing Migration

The migration feature and the migration concept bring with them some new terminology. In this section you will find out what's covered in the migration feature and where you can find it in Configuration Manager 2012.

**Client Information** Client information includes such items as the client globally unique identifier (GUID), the inventory, and the client status information. Every Configuration Manager 2012 client has an ID that is unique in the Configuration Manager 2012 environment.

**Client Migration** The process of upgrading the Configuration Manager 2007 client to the new Configuration Manager 2012 client is called client migration. This process can be initiated in different ways, but during the migration process the old Configuration Manager 2007 client will be uninstalled and the new Configuration Manager 2012 client will be installed.

**Content** The content consists of the package binaries and files. The source of these packages needs to be accessed via a UNC path. The UNC path must be available for the Configuration Manager 2012 site server.

**Data Gathering** One of the first steps in the migration process is discovering all the objects in the Configuration Manager 2007 environment. To be able to discover the objects, you need to configure a data-gathering service that is part of the migration feature.

This data gathering is an ongoing migration process that discovers all the objects or changes in the old infrastructure. During the migration period, this process is scheduled by default to run every four hours.

**Migration Jobs** Migration jobs are used to migrate specific objects from Configuration Manager 2007 to the new infrastructure. Migration jobs can be scheduled or started instantly.

**Monitoring Migration** While migrating assets from Configuration Manager 2007 to Configuration Manager 2012, it is mandatory to be able to monitor the migration process. Monitoring your migrations can be done from the Configuration Manager 2012 console and can be found on the migration jobs and the migration dashboard. You will be able to see which migrations are completed, which were failed, and which are in progress or need to be done.

**Objects** The objects are packages, software update deployments, driver packages, OS images, configuration items, and the like within Configuration Manager.

**Server Settings** Server settings are the site role settings and site properties in the Configuration Manager hierarchy.

**Shared Distribution Points** Shared distribution points are distribution points that are active in the Configuration Manager 2007 source hierarchy. Enabling shared distribution points enables you to use the Configuration Manager 2007 distribution points in the new Configuration Manager 2012 infrastructure. During the migration process, the Configuration Manager 2012 clients can receive the content from the shared distribution points.

**Source Hierarchy** The source hierarchy is the Configuration Manager 2007 hierarchy from which you want to migrate objects to the Configuration Manager 2012 infrastructure. The source hierarchy is always the topmost site of the Configuration Manager 2007 hierarchy.

**Source Sites** Source sites are the sites in the active source hierarchy that hold Configuration Manager data that you want to migrate to Configuration Manager 2012. You need to configure account settings per source site to be able to connect to each source site.

## Migration Functionality in Configuration Manager 2012

Configuration Manager 2012 comes with a migration feature that allows you to migrate your Configuration Manager 2007 objects to Configuration Manager 2012. Migrating objects is

done via migration jobs, but first you need to designate a source hierarchy to be able to gather information from Configuration Manager 2007 and to create migration jobs.

### Source Hierarchy

When migrating a Configuration Manager 2007 hierarchy to a new Configuration Manager 2012 hierarchy, you need to specify a source hierarchy. You must use the topmost Configuration Manager 2007 primary site server as the source hierarchy, as shown in Figure 3.1.

**FIGURE 3.1**  
Specifying the  
Configuration Manager  
source hierarchy

**Specify Source Hierarchy**

Begin or resume a migration from a Configuration Manager 2007 site to this hierarchy.

Specify the source hierarchy to use for migration. When you change the source hierarchy or migration job settings, this action will cancel pending migration jobs.

Active source hierarchy:

Specify the Configuration Manager 2007 top-level primary site to migrate to this hierarchy.

Top-level Configuration Manager 2007 site server:  
 Example: server.contoso.com

Source site access accounts

Specify the Source Site Account to use to access the SMS Provider for the source site server. This account requires Read permissions to all source site objects:

User Account:

Computer account  
Use the computer account of the central administration site or stand-alone primary site to connect to the Configuration Manager 2007 site server.

Specify the Source Site Database Account to use to access the SQL Server for the source site server. This account requires Read and Execute permissions to the source site database.

Use the same account as the Source Site SMS Provider Account

User Account:

Computer account  
Use the computer account of the central administration site or stand-alone primary site to connect to the source site database.

When you click OK, Configuration Manager will begin to gather data. It can take several hours to gather data and you cannot continue until this process is complete.

During the creation process you need to supply a user account that has access to the SMS provider of the source site. This account needs read permission to all the objects in the source site. For SQL access you can use the same account, you can specify a different user, or you can use the local system account of the Configuration Manager 2012 central administration site or stand-alone site to connect to the Configuration Manager 2007 site database. The user account needs read and execute permissions.

After you specify the source hierarchy, the data-gathering process take several hours depending on the source hierarchy.

Once the data-gathering process has finished discovering the sites in the hierarchy, you will need to supply credentials with the right permissions per site to be able to access the sites in the hierarchy.

### Data-Gathering Process

The initial data-gathering process can take a while depending on your source hierarchy. It will gather all information about the configured site, the object data, and information about

other child sites in the hierarchy. It will also set up the connection between the Configuration Manager 2012 site and Configuration Manager 2007 site. The data-gathering process must be complete before you can proceed with creating migration jobs or configuring credentials for other sites. Depending on the size of the source hierarchy, the data-gathering process can run from a couple of minutes to several hours. The more objects you have in the source hierarchy, the longer the data gathering process will take.

The data-gathering process runs every 4 hours by default, but you can change this interval at the source hierarchy object to 1 hour, 2 hours, 4 hours, 8 hours, 12 hours, 18 hours, or 24 hours. The process runs periodically to keep the data accurate for the migration. The gathered information is stored in the Configuration Manager 2012 database for reporting purposes.

The data-gathering process can be stopped by using the Stop Data Gathering action on the Ribbon of the Configuration Manager 2012 console. While gathering data you can check the `migmctr1.log` located in the Logs folder in the Configuration Manager 2012 installation path.

### Migration Job Types

The migration of Configuration Manager 2007 objects is done by creating migration jobs. Configuration Manager 2012 supports three different kinds of migration jobs, so you can choose how and when you want to migrate your assets. These three kinds of migration jobs are explained in the following sections.

#### COLLECTION MIGRATION

With the Collection Migration option you can migrate all the objects that are related to the collection, including all objects that are related to members of the collection. When you choose this option, you are able to exclude specific kind of objects.

You are not able to migrate all Configuration Manager 2007 objects via the Collection Migration option since not all objects are related to collections.

With Collection Migration, you can migrate the following related objects:

- ◆ Advertisements
- ◆ Software distribution packages
- ◆ Virtual application packages
- ◆ Software update deployments
- ◆ Software update deployment packages
- ◆ Operating system deployment boot images
- ◆ Operating system deployment images
- ◆ Operating system deployment packages
- ◆ Task sequences
- ◆ Configuration baselines
- ◆ Configuration items

**OBJECT MIGRATION**

With the object migration job type you are able to migrate individual objects or object types that you select. This way you can easily migrate your operating system deployment objects, for instance, to test your operating system deployment feature in Configuration Manager 2012.

With object migration, you can migrate the following object types:

- ◆ Boundaries
- ◆ Software distribution packages
- ◆ Virtual application packages
- ◆ Software update deployment packages
- ◆ Software update deployment templates
- ◆ Software update lists
- ◆ Operating system deployment boot images
- ◆ Operating system deployment driver packages
- ◆ Operating system deployment drivers
- ◆ Operating system deployment images
- ◆ Operating system deployment packages
- ◆ Task sequences
- ◆ Configuration baselines
- ◆ Configuration items
- ◆ Asset Intelligence Catalog
- ◆ Asset Intelligence hardware requirements
- ◆ Asset Intelligence software list
- ◆ Software metering rules

**PREVIOUSLY MIGRATED OBJECT MIGRATION**

With the Previously Migrated Object Migration option you can re-migrate objects from Configuration Manager 2007 that have been migrated before and that have changed over time. The wizard shows you only the objects that have been changed.

With Previously Migrated Object Migration, you can migrate the following object types:

- ◆ Boundaries
- ◆ Software distribution packages
- ◆ Software update deployment packages
- ◆ Software update deployment templates

- ◆ Software update lists
- ◆ Operating system deployment boot images
- ◆ Operating system deployment driver packages
- ◆ Operating system deployment drivers
- ◆ Operating system deployment images
- ◆ Operating system deployment packages
- ◆ Task sequences
- ◆ Configuration baselines
- ◆ Configuration items
- ◆ Asset Intelligence Catalog
- ◆ Asset Intelligence hardware requirements
- ◆ Asset Intelligence software list
- ◆ Software metering rules

To be able to re-migrate virtual application packages, you first need to delete any virtual application packages from the Configuration Manager 2012 infrastructure.

### **Objects Supported for Migration**

The migration feature in Configuration Manager 2012 supports the migration of the following objects:

- ◆ Collections
- ◆ Advertisements
- ◆ Boundaries
- ◆ Software distribution packages
- ◆ Virtual application packages
- ◆ Software updates
  - ◆ Deployments
  - ◆ Deployment packages
  - ◆ Templates
  - ◆ Software update lists
- ◆ Operating system deployment
  - ◆ Boot images
  - ◆ Driver packages
  - ◆ Drivers

- ◆ Images
- ◆ Packages
- ◆ Task sequences
- ◆ Settings management
  - ◆ Configuration baselines
  - ◆ Configuration items
- ◆ Asset intelligence customizations
- ◆ Software metering rules

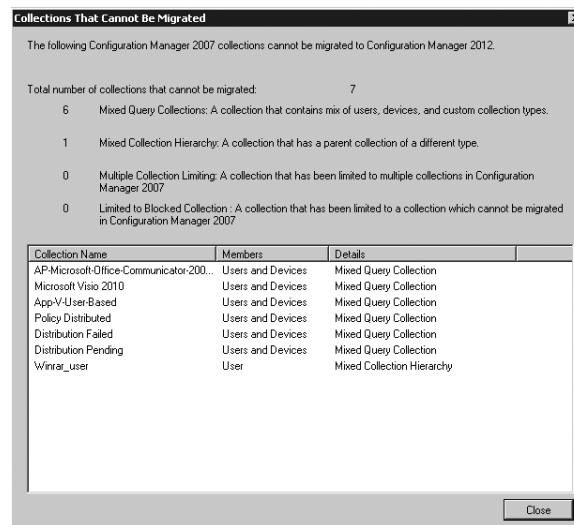
These are all described in detail in the following sections.

### COLLECTIONS

Collections can be migrated, but there are a couple of things that you need to take into account when migrating collections to the new Configuration Manager 2012 infrastructure.

In the new Configuration Manager infrastructure, subcollections and linked collections no longer exist. Also collections with both users and devices are not supported and will not be migrated to Configuration Manager 2012. In Figure 3.2 the Collections That Cannot Be Migrated dialog box shows that mixed query collections, mixed collection hierarchies, or collections limited to multiple other collections in Configuration Manager 2007 cannot be migrated.

**FIGURE 3.2**  
Collections that cannot be migrated are automatically discovered



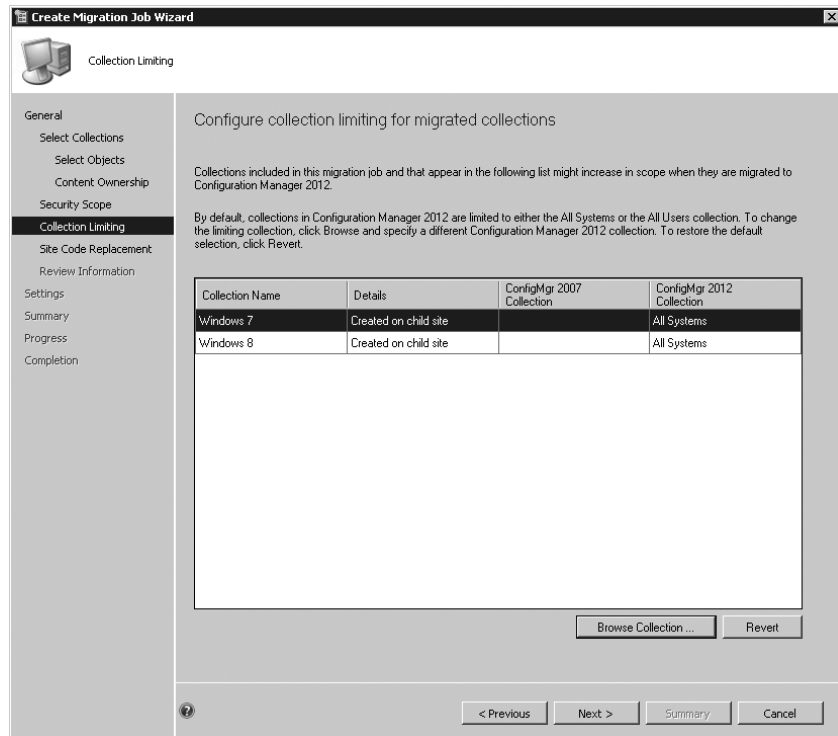
Some rules regarding the migration of collections apply:

- ◆ If you build a hierarchy of collections in Configuration Manager 2007, the related empty collections are migrated to folders. This way your hierarchy is preserved.
- ◆ Empty collections are migrated as folders.

- ◆ Direct membership collections are migrated as is and also when the direct membership is a Configuration Manager 2007 client that has not yet migrated to the new Configuration Manager 2012 site.
- ◆ Underlying collections with a mixed collection in the hierarchy cannot be migrated.
- ◆ By default collections are limited to all users or all systems.
- ◆ Collections that are limited to multiple collections in Configuration Manager 2007 cannot be migrated.
- ◆ Collections that are limited to blocked collections in Configuration Manager cannot be migrated.

In Configuration Manager 2007 the collections were only replicated within the site where the collection was created. This way the collections were limited to the site. In Configuration Manager 2012 the collection definitions are globally replicated. The migration feature in Configuration Manager 2012 will assist you to prevent unintentionally increasing the scope of the migrated collections during the migration process. A dialog box like the one shown in Figure 3.3 will help you to limit the collection scope.

**FIGURE 3.3**  
Limit collections  
for which the scope  
will be possibly  
increased

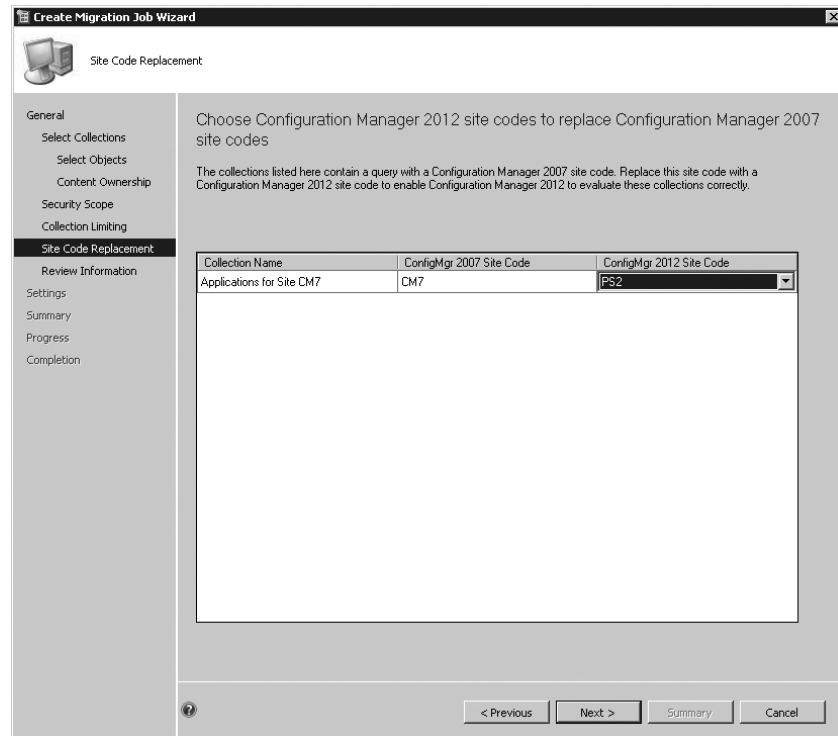


When using site codes in collection query definitions at your source Configuration Manager hierarchy, you will be assisted in replacing the site code during the migration of the collections.



As you know, the Configuration Manager 2012 hierarchy will have new site codes. In Figure 3.4 you can see that site code CM7 is replaced with PS1. With the pull-down option you can choose whatever site code you want to replace.

**FIGURE 3.4**  
Replacing the discovered source site code with the new site code



With the collection migration job type, you will be assisted with the migration of the collections and the migration of the related Configuration Manager 2007 objects. The feature will preserve customer investments in collections and advertisements.

### ADVERTISEMENTS

Advertisements are migrated and converted to deployments. The settings are preserved. During the collection migration job, you can automatically enable the deployment after the migration; by default the deployment is not enabled.

When an advertisement is migrated and converted, the deployment will *not* deploy the software again to computers or users where the software was already deployed in Configuration Manager 2007. The reason for that is that the GUIDs of the software packages and advertisements are preserved in Configuration Manager 2012.

### BOUNDARIES

Boundary groups that are created by the migration process are enabled only for content lookup. This way you will avoid boundary overlap in Active Directory, and it will prevent new

Configuration Manager 2012 clients from getting assigned to the new Configuration Manager 2012 environment.

When Distribution Point Sharing is enabled, boundaries associated with the distribution points in Configuration Manager 2007 are migrated automatically.

### SOFTWARE DISTRIBUTION PACKAGES

Software distribution packages are migrated as is. During the migration, packages are not converted to the new application model. To be able to migrate the classic packages, which of course are still supported in Configuration Manager 2012, to the new application model, you need to use Application Conversion Manager. This tool will help you to migrate the classic packages to the new application model. The Application Conversion Manager is discussed further in this chapter.

The central administration site always needs access to the Configuration Manager UNC package source path. For this reason you will need to replace all the local package source paths in Configuration Manager 2007 with UNC paths.

### VIRTUAL APPLICATION PACKAGES

Virtual application packages are converted to the new application model. After the migration of the packages you will need to create a deployment. In Chapter 6, “Client Installation,” you’ll learn how to create deployments for your virtual applications.

To be able to use virtual applications in Configuration Manager 2012, you need to upgrade the App-V client to version 4.6 SP1.

When Distribution Point Sharing is enabled, the streaming of App-V packages is not supported.

### SOFTWARE UPDATES

Software updates can be migrated with the three different migration jobs in Configuration Manager 2012. You must be sure that all the updates that are available within Configuration Manager 2007 are also available in Configuration Manager 2012 and ensure that the software update point is configured. Making the same software updates available in Configuration Manager 2012 can be done as follows:

**Use Export and Import of Software Updates** Use the tool `wsusutil.exe` to export the software updates from Configuration Manager 2007 and to import the software updates in Configuration Manager 2012. This option is the most common option to use when migrating the software update source to Configuration Manager 2012.

To export and import software updates using `wsusutil.exe`, perform the following steps:

1. Start the command line at the Configuration Manager 2007 Software Update site server, and go to

```
C:\Program Files\Update Services\Tools
```

2. Start the `wsusutil.exe` export:

```
WSUSUTIL.exe export .\cm2k7updates.cab .\import.log
```

3. Check the log file, and copy the exported CAB file to the Configuration Manager 2012 Software Update site server.

4. Start the command line at the Configuration Manager 2012 Software Update site server, and enter

**C:\Program Files\Update Services\Tools**

5. Start the `wsusutil.exe` import:

```
WSUSUTIL.exe import .\cm2k7updates.cab .\import.log
```

After the source is migrated, you may migrate the Configuration Manager 2007 objects to Configuration Manager 2012. For the conversion of the Software Update objects, the following rules apply:

- ◆ Update lists are converted to update groups.
- ◆ Software update deployments are migrated to deployments and update groups.

### OPERATING SYSTEM DEPLOYMENT

The following operating system deployment-related objects in Configuration Manager 2007 are suitable to be migrated to Configuration Manager 2012:

- ◆ Boot images
- ◆ Driver packages
- ◆ Drivers
- ◆ Images
- ◆ Packages
- ◆ Task sequences

Not all operating system deployment-related objects are supported for migration to Configuration Manager 2012:

- ◆ Migration of Microsoft Deployment Toolkit task sequences is not supported.
- ◆ The default Configuration Manager 2007 boot images are not migrated because of the new Windows Automated Installation Kit that is supported in Configuration Manager 2012.

### CUSTOMIZED BOOT IMAGES

Boot images that have been customized cannot be migrated. The migration process will replace the customizations made in the boot image with the default settings from Configuration Manager 2012 boot images. A new boot image ID is assigned to each boot image. The newly created boot image can only be accessed from Configuration Manager 2012 distribution points.

When migrating a boot image that has drivers embedded, be sure that the drivers remain available from the Configuration Manager 2007 source location. Configuration Manager 2012 must also be able to access the driver from its specified source location.

Configuration Manager 2012 removes all the references to operating system client packages from the migrated task sequences. After the migration of the task sequence is finished, you are able to edit them in the Configuration Manager 2012 console to restore references to the client installation packages.

When migrating the operating system deployment functionality, you need to be sure that the dependent Configuration Manager 2012 site roles are installed and configured. The state migration point needs to be configured, and the distribution points must support PXE. You can read more about configuring operating system deployment in Chapter 9, “Operating System Deployment.”

### SETTINGS MANAGEMENT

Configuration baselines and configuration items created by you as an administrator or created by an independent software vendor are supported for migration by the migration feature of Configuration Manager 2012.

When you need to re-migrate configuration items or baselines, any changes to the objects will be added as revisions of the objects.

Existing 2007 configuration packs can also be added to 2012 through the import feature. The Configuration Manager 2012 import feature will automatically convert the 2007 schema to the 2012 schema. Keep in mind the following migration rules when migrating configuration baselines and configuration items:

- ◆ When migrating a configuration baseline, its assignment will not be migrated at the same time. You must migrate the configuration baseline assignment separately by using the collection migration job type.
- ◆ Configuration items in Configuration Manager 2007 might have rules that are not supported by Configuration Manager 2012. When you migrate configuration items that have unsupported rule operators, Configuration Manager 2012 will convert them to equivalent values.
- ◆ If the objects and settings of an imported configuration item are not visible in the Configuration Manager 2007 console, also known as incomplete or uninterpreted configuration items, they are not supported by Configuration Manager 2012. For this reason you are not able to migrate these configuration items.

### ASSET INTELLIGENCE CUSTOMIZATIONS

You can migrate asset intelligence customizations made for classifications, labels, families, and hardware requirements to Configuration Manager 2012. This is done by using the Object Migration option in the migration feature.

When migrating Asset Intelligence customizations, always assign the Configuration Manager 2012 site that is the closest to the Configuration Manager 2007 site that owns the Asset Intelligence content because of WAN traffic that can occur during the migration. Gathered Asset Intelligence data is not migrated to Configuration Manager 2012.

### SOFTWARE METERING RULES

Software metering rules can be migrated with the Object Migration option in the migration feature. All rules that are available in Configuration Manager 2007 can be migrated.

After the migration all software metering rules are disabled by default.

### SEARCH AND ADMINISTRATIVE FOLDERS

Administrator-created folders for administrative duties are migrated if chosen while migrating collections or objects. Be sure to enable the “Transfer the organizational folder structure for objects from Configuration Manager 2007 to the destination site” option when migrating objects from Configuration Manager 2007 to Configuration Manager 2012. You can set this option in the process of creating a migration job and scheduling when the migration job is to run.

### REPORTS

When you want to migrate reports, the only way to do so is to use SQL Reporting Services in Configuration Manager 2007 instead of the default web reporting of Configuration Manager 2007. With SQL Reporting Services you can export your reports (RDL files) from the old SQL Reporting Services and then import them into your new SQL environment in Configuration Manager 2012.

### Objects Not Supported for Migration

Not all objects can be migrated by the migration feature from Configuration Manager 2007 to Configuration Manager 2012. You can create workarounds for some objects, but for others you cannot. Table 3.1 shows whether workarounds are available for non-migratable objects.

**TABLE 3.1:** Workarounds for non-migratable objects

OBJECT	WORKAROUND
Queries	Export the queries in Configuration Manager 2007 to a MOF file and import the MOF file into Configuration Manager 2012.
Security rights for the site and objects	No workaround available.
Configuration Manager 2007 reports from SQL Server Reporting Services	Export your reports from SQL Server Reporting Services and import them into the new SQL Server Reporting Services servicing the Configuration Manager 2012.
Configuration Manager 2007 web reports	No workaround available.
Client inventory and history data	No workaround available.
AMT client provisioning information	No workaround available.
Files in the client cache	No workaround available.

### PRESERVING YOUR CUSTOM SMS\_DEF.MOF INVESTMENTS

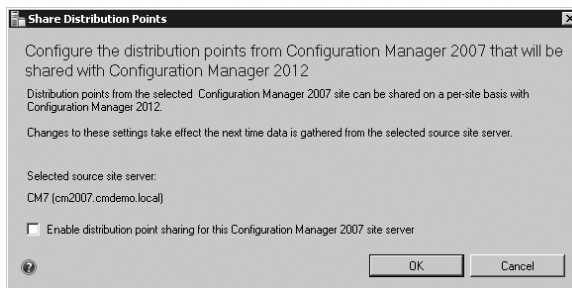
The migration of hardware inventory is not supported, but you can import your custom SMS\_DEF .MOF files into the new Configuration Manager 2012 infrastructure. Analyze and test the custom MOF edits before importing them into the production environment of Configuration Manager 2012, and ensure that there are no conflicting data types in Configuration Manager 2012.

### Distribution Point Sharing

In the process of migrating your Configuration Manager 2007 objects and clients to Configuration Manager 2012, you can use distribution point sharing. This feature allows Configuration Manager clients to retrieve content for migrated packages that are hosted on Configuration Manager 2007 distribution points.

You need to configure distribution point sharing per site; Figure 3.5 shows the dialog box with the check box for enabling or disabling distribution point sharing. Once you enable distribution point sharing, another data-gathering job will be started.

**FIGURE 3.5**  
Enabling  
distribution point  
sharing



After the data-gathering process is finished, you'll see all the distribution points, including branch distribution points and distribution point shares. Boot images and App-V applications are not supported on shared distribution points. You will need to migrate those objects and make them available on a Configuration Manager 2012 distribution point. As mentioned earlier, associated boundaries are migrated when you enable distribution point sharing.

### INTEROPERABILITY WITH CONFIGURATION MANAGER 2007

The migration feature in Configuration Manager 2012 gives you a level of interoperability while migrating your Configuration Manager 2007 infrastructure. Since you have two Configuration Manager hierarchies to maintain, it's a good idea to look at some interoperability possibilities and scenarios.

Once you specify a source hierarchy for the new Configuration Manager 2012 hierarchy, by default every four hours a data-gathering process will run to collect all the information about the source hierarchy. During the migration period the source hierarchy is configured in Configuration Manager 2012, and your two Configuration Manager environments are connected to each other, providing a sort of interoperability.

**Re-migrate Updated Objects** The migration process doesn't move objects to the Configuration Manager 2012 environment but instead copies, and if necessary, converts the objects to Configuration Manager 2012 standards. The original objects remain in Configuration Manager 2007 and can still be used and changed. If a change is made to an original object, the data-gathering process will detect the change, and you can re-migrate the updated object.

**Distribution Point Sharing** Enabling distribution point sharing allows you to share a distribution point that's available in a Configuration Manager 2007 site with Configuration Manager 2012. The migrated or new Configuration Manager 2012 clients are able to retrieve content from a shared distribution point.

**Content** As mentioned earlier, the content is not migrated during the migration process. The source content also stays at the same location if this is a Configuration Manager 2007 site server. Be aware that you may need to migrate the source content also.

## Planning a Migration

This section describes the steps required to prepare the migration from Configuration Manager 2007 to Configuration Manager 2012. The newly designed Configuration Manager 2012 infrastructure must be in place. Consult Chapter 4, "Installation and Site Role Configuration," for information on how to install and configure the Configuration Manager 2012 environment that you designed in Chapter 2, "Planning a Configuration Manager Infrastructure."

As you define your project phases and the steps you need to take to migrate your Configuration Manager 2007 infrastructure to the new Configuration Manager 2012 infrastructure, you need to plan your migration.

### Preparing Your Migration

Regardless of when you want to migrate to Configuration Manager 2012, you should prepare your Configuration Manager 2007 environment in advance to allow a smooth migration, as follows:

- ◆ Be sure that your new Configuration Manager 2012 infrastructure is in place.
- ◆ Be sure that your Configuration Manager 2007 infrastructure is at least using Service Pack 2.
- ◆ Use UNC paths for the package source path. Avoid using local paths; always use UNC paths to a file share.
- ◆ Avoid mixing users and devices in collection definitions; mixing users and devices is no longer supported.
- ◆ Avoid using collections with multiple query rules that limit different collections.
- ◆ Use different site codes in Configuration Manager 2012 than in Configuration Manager 2007; they must be unique.

## Planning Your Migration Strategy

When you want to migrate a Configuration Manager 2007 infrastructure to a new Configuration Manager 2012 infrastructure, you will need to walk through a migration process that can take a long time depending on your source Configuration Manager 2007 infrastructure.

As we said in the introduction of this chapter, Configuration Manager 2012 supports side-by-side migration. This means that you need to build a new Configuration Manager 2012 infrastructure next to your current production Configuration Manager 2007 infrastructure. The best way is to define a project for your migration to the new infrastructure.

As noted in Chapter 1, “Overview of Operations Management,” any well-planned migration leverages a well-thought-out project plan. This should be based on a solid foundation or methodology such as the Microsoft Operations Framework (MOF).

The initial steps in any project are a typical gap analysis. They fall into three basic categories; you must ask yourself the following:

- ◆ Where are we?
- ◆ Where do we want to be?
- ◆ How do we get there?

A thorough project plan should include some or all of the following phases as well as work tasks for each phase:

### Phase 1: Define and capture phase

- ◆ Create a project plan.
- ◆ Document the current environment.
- ◆ Conduct an initial risk review.
- ◆ Create business test cases.
- ◆ Finalize the business proposal.

### Phase 2: Build phase

- ◆ Conduct a planning workshop.
- ◆ Install a proof-of-concept lab.
- ◆ Conduct server and workstation testing.
- ◆ Procure hardware.

### Phase 3: Test phase (pilot)

- ◆ Draft a communication plan for the following groups.
  - ◆ Executive/management
  - ◆ Project team
  - ◆ Site (users)



- ◆ Build and deploy hardware and software.
- ◆ Implement change control for the pilot phase.
- ◆ Perform a pilot with the new environment.

#### Phase 4: Production deployment phase

- ◆ Implement change control for the production development phase.
- ◆ Deploy your new environment.

#### Phase 5: Review phase

- ◆ Conduct a lessons learned workshop.
- ◆ Conduct a project reflection session (party).

One fundamental part of a project plan that is commonly overlooked is the communication plan. This is generally used in two different ways: first, to inform users of what is changing on their desktops, but more important, as a communication vehicle to show the value that you bring to the business! Use this project to highlight the capabilities of Configuration Manager 2012 as well as the business value and insights of reporting, software updates, and software distribution. Don't be afraid to highlight the hard work of the migration team and the value that a project of this magnitude brings to the business.

## Performing the Migration

Two main upgrade strategies are available to deploy Configuration Manager 2012 to an existing infrastructure:

**Side-by-Side Migration** A side-by-side migration creates a new Configuration Manager 2012 infrastructure that runs alongside the Configuration Manager 2007 infrastructure. This migration allows clients to be managed 100 percent of the time while the migration is being conducted. The migration feature in Configuration Manager 2012 assists you with the migration of Configuration Manager 2007 objects.

**Wipe and Load** The wipe-and-load approach is useful if the goal is to start over with change and configuration management. Thus, there will be zero data saved or migrated.

In this section, you'll learn both types.

### Using the Side-by-Side Migration Strategy

In a side-by-side migration, an existing Configuration Manager 2007 implementation can function while client systems are moved from Configuration Manager 2007 to Configuration Manager 2012. This enables you to do the following:

- ◆ Use new hardware.
- ◆ Modify your existing hierarchy.
- ◆ Retain historical client data.

- ◆ Redesign the Configuration Manager hierarchy.
- ◆ Retain custom objects within Configuration Manager 2007.

Migrating Configuration Manager 2007 to Configuration Manager 2012 can take a while, depending on the source and target Configuration Manager hierarchies. In this section the migration process is explained.

### UNDERSTANDING THE MIGRATION PROCESS

After preparing the Configuration Manager 2007 infrastructure, as described in the “Planning a Migration” section of this chapter, you can proceed with the migration process. The migration process has several steps, depending on your source infrastructure. The following steps are part of the migration process:

**Configure the Migration Feature** You configure the migration feature by creating a source hierarchy in the Configuration Manager 2012 hierarchy. You need to connect the Configuration Manager 2012 infrastructure to the topmost site of the Configuration Manager 2007 SP2 infrastructure.

You must also configure the gathering process. You need to configure the schedule and supply administrative access for the gathering process.

Once the gathering process is complete and other source sites have been discovered, you must configure credentials for each of the additional source sites.

**Share Distribution Points** Sharing distribution points allows you to postpone their migration. It also reduces network traffic when you enable this feature on remote locations.

**Create Migration Jobs** Migration jobs are used to migrate objects from Configuration Manager 2007 to Configuration Manager 2012. You can create one or more jobs, depending on your source Configuration Manager 2007 infrastructure.

When creating a migration job you can choose to exclude objects, assign content ownership, set the security scope, limit the collections, and change site codes in your query definitions.

The migration job does not migrate the content of your Configuration Manager objects. Configuration Manager 2012 will retrieve the content from the original source file location.

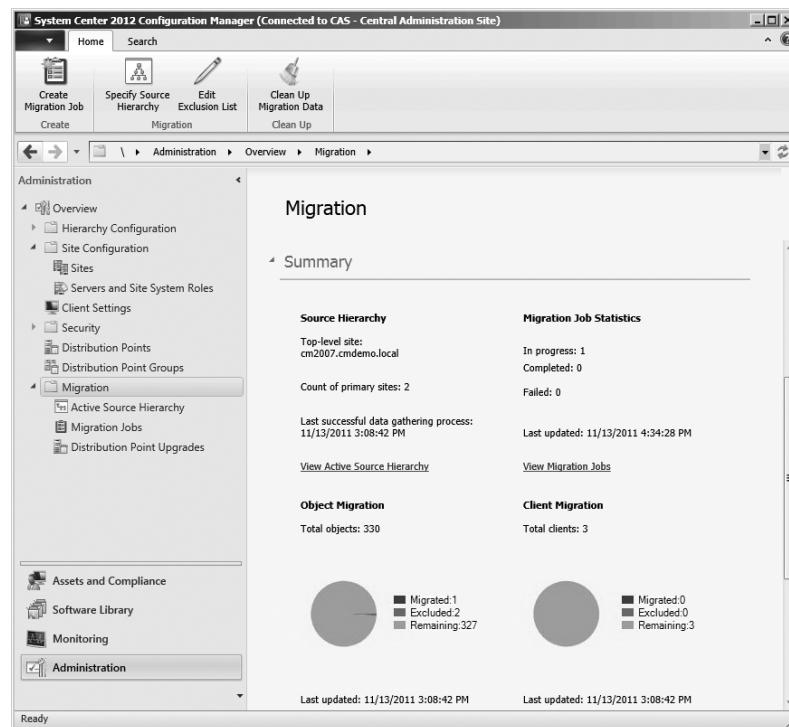
Migrating content can be started instantly but can also be scheduled to start later.

**Monitor Migration Jobs** In the process of migrating your Configuration Manager 2007 objects to the Configuration Manager 2012 environment, you must monitor the migration. When you select the migration job, you can monitor the migration by selecting objects in the job. Besides the in-console monitoring, Configuration Manager records migration actions in the `migmctr1.log` file located in the `Logs` folder in the Configuration Manager 2012 installation path.

If a migration job fails and other jobs are still running, you should review the details in the `migmctr1.log` file as soon as possible. Migration actions are continually added to the file and overwrite the old details.

In the Configuration Manager Console, you are able to monitor the migration by looking at the migration dashboard, shown in Figure 3.6.

**FIGURE 3.6**  
The Migration  
Dashboard



**Reporting Migration results** With the reporting feature within Configuration Manager 2012 you are able to report information about the Migration of the Configuration Manager 2007 objects to Configuration Manager 2012. The following reports are available in the Migration Category:

- ◆ Clients in exclusion list
- ◆ Dependency on a Configuration Manager 2007 collection
- ◆ Migration Job Properties
- ◆ Migration Jobs
- ◆ Objects that failed to migrate

You are able to find more information about reporting in Chapter 12, "Reporting."

**Upgrade Distribution Points** When upgrading distribution points you want to avoid having a large amount of data flowing through the WAN. For this reason, you can migrate distribution points in two ways: automatic and manual. Configuration Manager 2012 supports upgrading the following distribution points:

- ◆ Branch Distribution Point
- ◆ Server Share Distribution Point
- ◆ Standard Distribution Point

When you choose automatic migration, you need to enable distribution point sharing and upgrade the distribution point from the Configuration Manager 2012 console. During the migration process, the distribution point is removed from the Configuration Manager 2007 database and the new Configuration Manager 2012 distribution point is installed on the server. After the installation, the content of the distribution point is copied to the new content library of Configuration Manager 2012. Be sure to have enough disk space available.

If there is a Secondary Site available, the Secondary Site will automatically be uninstalled before installing the Configuration Manager 2012 Distribution Point. The upgrade job will pause until the next data gathering job to check if the Secondary Site is completely uninstalled.

One distribution point upgrade migration job is performed at the time and each other subsequent job is queued.

After upgrading the Configuration Manager 2007 distribution point, you need to manually delete the old content; be sure to test your deployments first.

#### START PREPARING NOW

You can prepare distribution point upgrades by preparing your environment by upgrading your Branch Distribution Points to Windows 7. Windows XP is not supported. Use the “Branch Distribution Point management task” to migrate it from Windows XP to Windows 7 without having to redistribute the content. Find more information about the Branch Distribution Point management task, see the online documentation of Configuration Manager 2007.

**Upgrade Secondary Sites** Upgrading secondary sites is only possible by uninstalling the Configuration Manager 2007 secondary site and then installing the new secondary site from the Configuration Manager 2012 console.

**Migrate Clients** The migration of the clients is done using the same methods as for deploying a new Configuration Manager 2012 client. The first step in the migration is to uninstall the Configuration Manager 2007 client and install the Configuration Manager 2012 client. During this process the Configuration Manager data, for instance, advertisement history and the GUID of the client, are preserved.

**Upgrade the Administrative Console** The administrative console can be installed on several servers and workplaces. To be able to manage the new Configuration Manager 2012 infrastructure, you also need to upgrade the administrative console to the Configuration Manager 2012 console.

**Perform Post-Migration Tasks** After migrating all the old Configuration Manager 2007 content, you must perform post-migration tasks. The first task is to stop the data-gathering process, clean up the migration data, and remove the source hierarchy. Then you need to remove the old Configuration Manager 2007 infrastructure from your environment.

The step-by-step details of these procedures are provided in the following sections.

### CONFIGURING THE MIGRATION FEATURE

Configuring the migration feature can be done with the following steps. First, you will need to specify the source hierarchy:

1. In the Configuration Manager console choose the Administration workspace.
2. Expand Overview ► Migration in the Administration workspace, and choose Active Source Hierarchy.
3. After selecting the Active Source Hierarchy, choose the Home tab of the Ribbon and choose Specify Source Hierarchy.
4. In the Specify Migration Source screen, select New Source Hierarchy at the Active Source Hierarchy.
5. Specify the top-level Configuration Manager 2007 site server of your source Configuration Manager 2007 hierarchy by filling in the full qualified domain name of the server.
6. Specify the site access account for the SMS provider of the source site server. Verify the connection of an existing or new account before submitting.

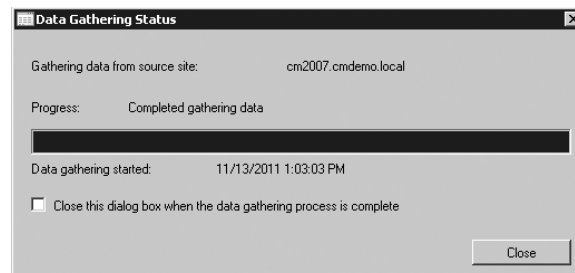
The account needs read permissions to all source site objects.

7. Specify the site access account for the SQL server of the source site server.

The account needs read and execute permissions to the site database. This can be the same account as the account that has access to the SMS provider.

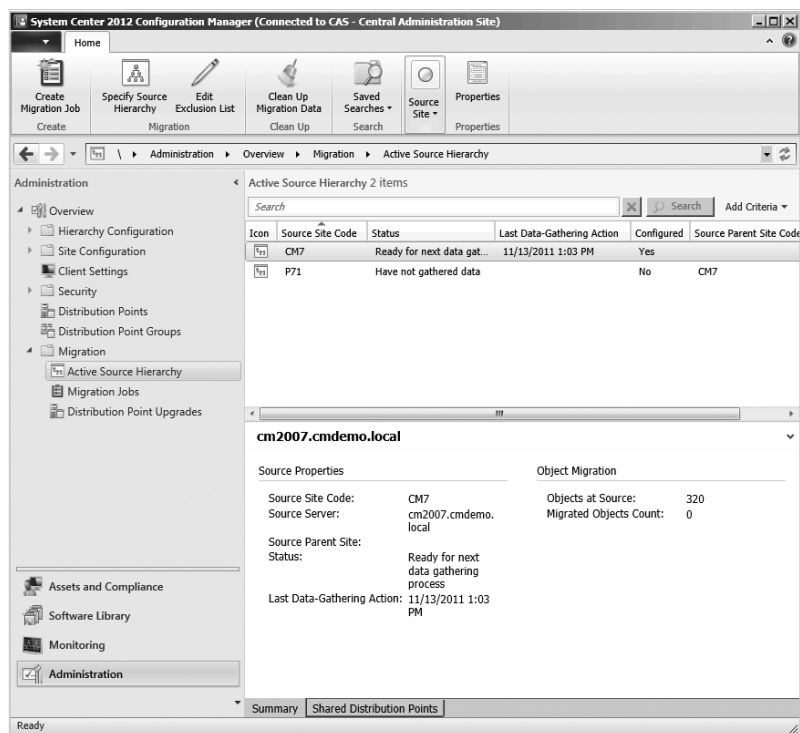
8. Click OK to save the configuration and to start the data-gathering process. You'll see the Data Gathering Status dialog box, as shown in Figure 3.7.

**FIGURE 3.7**  
The first data-gathering process is complete



After the first data-gathering process has finished, all other primary sites in the hierarchy are discovered. In Figure 3.8 you see a primary site that has been discovered but the data-gathering process has not run yet. The next step is to configure the credentials for the Configuration Manager 2007 source site to be able to gather the data.

**FIGURE 3.8**  
Additional sources  
site discovered  
during the data-  
gathering process



1. In the Configuration Manager console choose the Administration workspace.
2. Expand Overview ► Migration in the Administration workspace, and choose Active Source Hierarchy.
3. Select the site with the status Have Not Gathered Data.
4. On the Home tab of the Ribbon, select Configure Credentials in the Source Site section.
5. Specify the site access account for the SMS provider of the source site server.  
The account needs read permissions to all source site objects.
6. Specify the site access account for the SQL Server of the source site server.  
The account needs read and execute permissions to the site database. This can be the same account as the account that has access to the SMS provider.
7. Click OK to save the configuration and to start the data-gathering process.

After configuring the credentials for the additional sites, the gathering process will start to gather all the objects in the Configuration Manager 2007 source site.

### ENABLING DISTRIBUTION POINT SHARING

The distribution points from a selected Configuration Manager 2012 site can be shared on a per-site basis in the Configuration Manager 2012 console:

1. In the Configuration Manager console open the Administration workspace.
2. Expand Overview ► Migration in the Administration workspace, and select Active Source Hierarchy.
3. Select the site for which you want to enable distribution point sharing.
4. Go to the Home tab of the Ribbon tab, and choose Share Distribution Points.
5. In the Share Distribution Points dialog box choose the Enable Distribution Point Sharing For This Configuration Manager 2007 Site Server option.
6. Click OK.

After enabling distribution point sharing, the gathering process will start to gather all the objects and distribution point data in the Configuration Manager 2007 source site. Once the site servers are protected, the boundaries related to the site servers of the distribution points are migrated also.

### CREATING MIGRATION JOBS

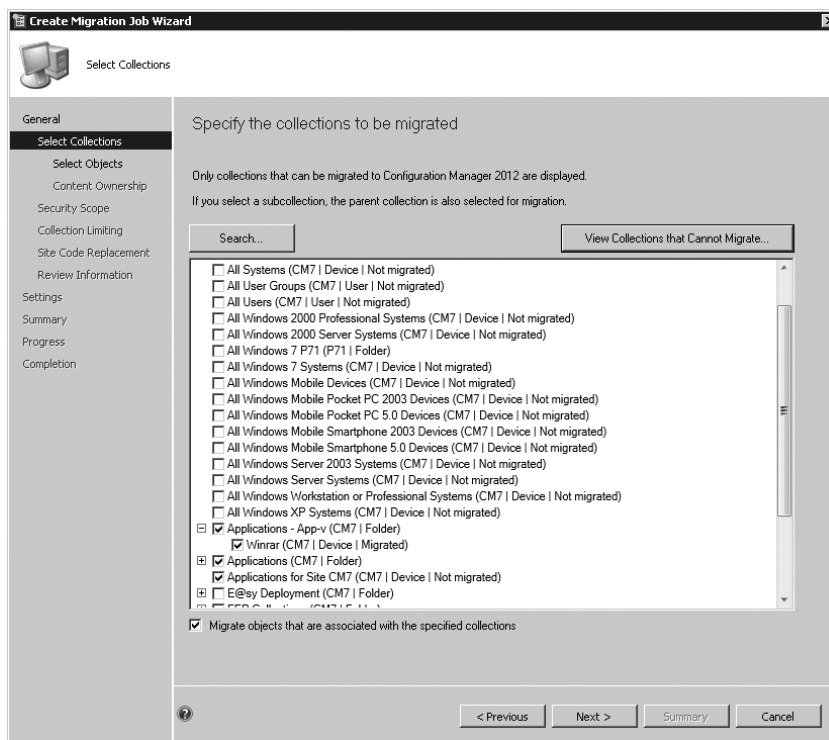
As mentioned earlier, you can create three different migration jobs. Depending on your purpose, you need to follow one of the following three procedures. The purposes of the three different migration jobs are to provide support for migrating collections with all the related objects and to provide support for migrating one or more objects or objects that are changed after being migrated.

#### *Creating a Collection Migration Job*

Collection migration jobs can be used to migrate the collections with objects that are associated with the specific collections. To create a collection migration job, follow these steps:

1. In the Configuration Manager console select the Administration workspace.
2. Expand Overview ► Migration in the Administration workspace, and chose Migration Jobs.
3. Select the Home tab of the Ribbon, and choose Create Migration Job.
4. Give the migration job a name and description.
5. Select Collection Migration as the job type, and click Next.
6. Select the collections that you want to migrate, as shown in Figure 3.9, and select Migrate Objects That Are Associated With The Specified Collections.

**FIGURE 3.9**  
Selecting the  
collections that need  
to be migrated



Another option instead of pick and choose is to search for the collection(s) that you want to migrate. This is done by selecting the Search button and searching for the collection based on the collection name, Site Code, Collection ID, or Status.

7. After searching or selecting the collections click Next.
8. Review the objects that will be migrated, and click Next.
9. Select the destination site that will be the owner of the objects, and click Next.
10. Configure the security scope, and click Next.
11. Limit the collection if needed, and click Next.
12. Replace the site code, and click Next.
13. Review the migration job information, save it optionally to a file, and click Next.
14. Select the schedule, configure the conflict handling and additional settings for the migration job, and click Next.
15. Confirm the settings in the summary, and click Next.
16. Click Close to see the migration.

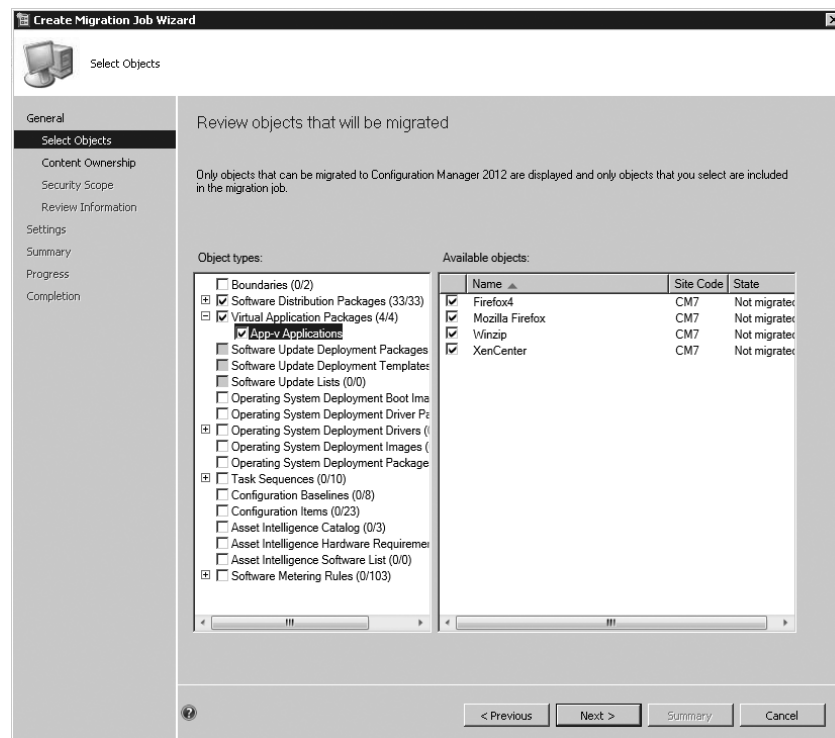


### Creating an Object Migration Job

Object migration jobs are used for migrating one or more Configuration Manager 2007 objects to Configuration Manager 2012. To create an object migration job, perform the following steps:

1. In the Configuration Manager console select the Administration workspace.
2. Expand Overview > Migration in the Administration workspace, and choose Migration Jobs.
3. Select the Home tab of the Ribbon, and choose Create Migration Job.
4. Give the migration job a name and description.
5. Select Object Migration as the job type, and click Next.
6. Select the objects that you want to migrate, as shown in Figure 3.10.

**FIGURE 3.10**  
Select the objects  
that need to be  
migrated



7. Click Next.
8. Select the destination site that is going to be the owner of the objects, and click Next.
9. Configure the security scope, and click Next.
10. Review the migration job information, save it optionally to a file, and click Next.
11. Select the schedule, configure the conflict handling and additional settings for the migration job, and click Next.

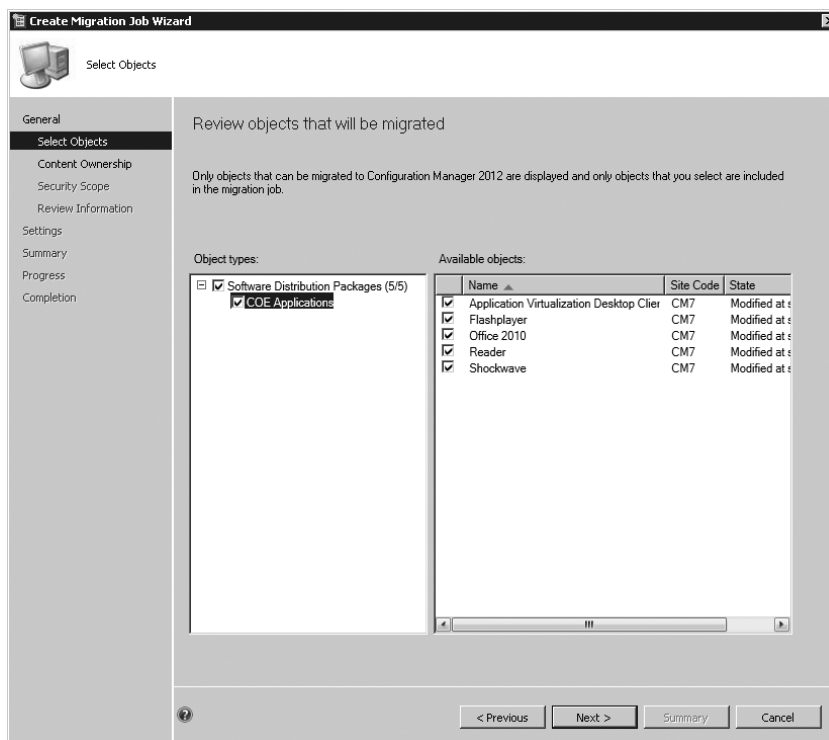
12. Confirm the settings in the summary, and click Next.
13. Click Close to see the migration.

### **Creating an Objects Modified After Migration Job**

During a lengthy migration process, objects in the Configuration Manager 2007 infrastructure will change. With the objects modified after migration job, you can re-migrate the changed objects. Follow these steps to create an objects modified after migration job:

1. In the Configuration Manager console open the Administration workspace.
2. Expand Overview > Migration in the Administration workspace and choose Migration Jobs.
3. Select the Home tab of the Ribbon, and choose Create Migration Job.
4. Give the migration job a name and description.
5. Select Object Modified After Migration as the job type, and click Next.
6. Select the objects that you want to re-migrate, as shown in Figure 3.11, and click Next.

**FIGURE 3.11**  
Select the changed objects that need to be re-migrated



7. Select the destination site that is going to be the owner of the objects, and click Next.
8. Configure the security scope, and click Next.

9. Review the migration job information, save it optionally to a file, and click Next.
10. Select the schedule, and click Next.
11. Confirm the settings in the summary, and click Next.
12. Click Close to see the migration.

### UPGRADING DISTRIBUTION POINTS

Migrating distribution points can be done in two ways:

- ◆ Automatically
- ◆ Manually

The procedures for both options are described in the following sections.

#### ***Migrating Distribution Points Automatically***

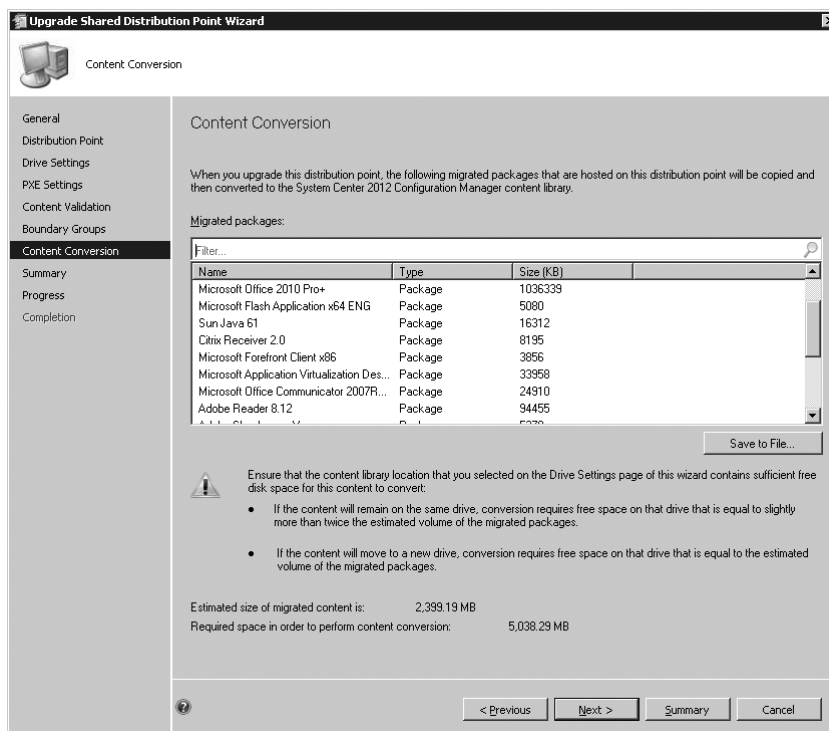
Migrating a distribution point can be done automatically by removing the distribution point from the source database and adding it to the target database. It is supported only when no other site roles other than a Management Point of a Secondary Site are active. So you must remove the other roles like software update points, PXE service points, or state migration points before proceeding. To be able to migrate the distribution point, you need to enable the site for distribution point sharing.

You can upgrade the distribution point by following this procedure:

1. In the Configuration Manager console, choose the Administration workspace.
2. Expand Overview > Migration in the Administration workspace, and choose Active Source Hierarchy.
3. Select the source site and choose Distribution Points.
4. Select the Configuration Manager 2007 distribution point that you want to migrate.
5. Select the Distribution Point tab of the Ribbon, check if the Distribution Point is eligible for upgrade, and choose Upgrade. If the Distribution Point is not eligible for upgrade, other site roles than described earlier are active on the selected Distribution Point.
6. Choose in the Upgrade Shared Distribution Point wizard the site code where the distribution point must connect to after upgrading. At this point also configure if the distribution point must be available from the Internet by filling in the fully qualified domain name (FQDN) for the site system for use on the Internet. Click on Next.
7. Configure the distribution point settings by choosing if the setup must install and configure IIS, if the distribution point is available via HTTP or HTTPS, and configure if the distribution point can handle prestaged content. Click on Next.
8. Configure the drive settings for the distribution that is going to be upgraded and click on Next.

9. Configure PXE support if needed and click on Next to configure content validation for this distribution point. Click on Next to proceed.
10. Configure Boundary group membership for the new Configuration Manager 2012 distribution point and click on Next.
11. Be sure to have enough free space to proceed with the upgrade. Check if the required space, as shown in Figure 3.12, meets the available space on your configured drives. When migrating a Distribution Point the content located at the Distribution Point is copied and converted to the new content library. Click on Next when you are sure that there is enough space available.

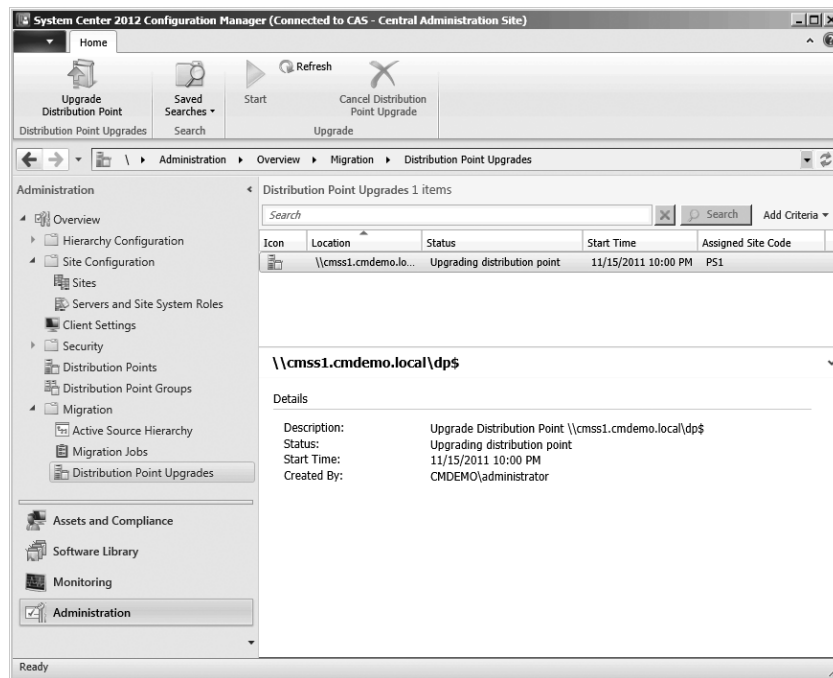
**FIGURE 3.12**  
Be sure you have enough disk space for converting packages to the new content library



12. Review the summary and click on Next to process the upgrade.

You can monitor the migration process in the `migmctrl.log` file in the Logs folder in the Configuration Manager installation folder and in the Application log in the event viewer on the target server. Also on the target server there is a folder called `SMS_DP$\SMS\Log`s and a file called `SMSDPPROV.LOG` where you can find possible errors in the installation of the distribution point. You can also view the status in the Distribution Point Upgrades node, as shown in Figure 3.13. Refreshing the screen will update the status of the upgrade.

**FIGURE 3.13**  
Monitor the upgrade status



The content is copied and converted to the new content library with the single-instance storage. Be sure to delete the old content from the old Distribution Point since the old content is not removed automatically.

Please go to Chapter 4 for more in-depth information about installing and configuring Distribution Points.

### ***Migrating Distribution Points Manually***

The manual migration of a distribution point is done in two general steps:

1. Uninstalling the current distribution point from the Configuration Manager 2007 environment
2. Installing the distribution point with prestaged content in the new Configuration Manager 2012 environment

This scenario can be used for all distribution points, including branch distribution points, distribution point shares, and normal distribution points. For in-depth distribution point installation and configuration instructions, please consult Chapter 4.

To uninstall a distribution point from Configuration Manager 2007, follow these steps:

1. In the Configuration Manager 2007 console, open the site under Site Management, and select the site system with the distribution point.
2. Select the distribution point or distribution point share, and click Delete in the Actions area of the console.

To install a distribution point with prestaged content in Configuration Manager 2012, perform the following procedure:

1. In the Configuration Manager console open the Administration workspace.
2. Expand Overview > Site Configuration in the Administration workspace, and choose Servers and Site System Roles.
3. Select the Home tab of the Ribbon, and choose Create Site System Server.
4. Click Browse, and search for the server on which you want to install the distribution point.
5. Supply the FQDN for use on your intranet.
6. Supply, if needed, the FQDN for use on the Internet.
7. If the server is in a different Active Directory forest, select “Require the site server to initiate connections to this system.”
8. Supply the site system installation account, and click Next.
9. Select the Distribution Point option, and click Next.
10. Select “Install and configure IIS if required by Configuration Manager,” and configure how the client computers are allowed to communicate with the distribution point.
11. Configure, if necessary, the certificate, or choose the option Create Self-Signed Certificate.
12. Enable the option “Enable this distribution point for prestaged content,” and click Next.
13. Configure the drive settings, and click Next.
14. Configure PXE, and click Next.
15. Configure multicast, and click Next.
16. Configure content validation, and click Next.
17. Configure boundary groups, and click Next.
18. Review the summary, and click Next.
19. Click Close.

Since the distribution point is enabled for prestaged content, you can now create prestaged content packages that you need to deploy on the new distribution point. Content that can be prestaged includes the following:

- ◆ Applications
- ◆ Packages
- ◆ Software deployment packages
- ◆ Driver packages
- ◆ Operating system images

- ◆ Operating system installers
- ◆ Boot images

Creating prestaged content packages can be done up front as follows:

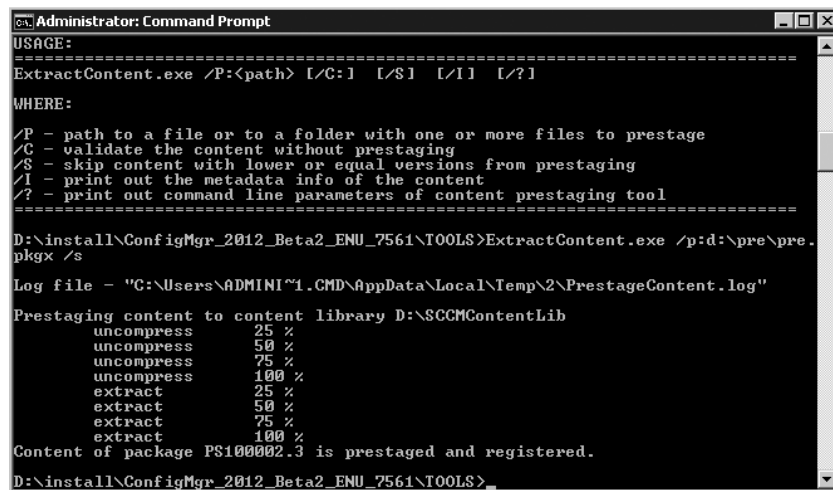
1. In the Configuration Manager console choose the Software Library workspace.
2. Select a content package that needs to be prestaged, and save the PKGX files to an external disk.

The next step is to extract the created PKGX files to the remote distribution point:

1. Open a command prompt in administrative mode on the server that serves as the new distribution point.
2. Copy the `ExtractContent.exe` command-line utility from `<Configuration Manager Source Folder>\Tools` to a location on the server of the distribution point.
3. Navigate to the location where you saved the file `ExtractContent.exe`.
4. Execute the following command, and you will receive results like those shown in Figure 3.14:

```
ExtractContent.exe /p:<location of the prestaged file>\<prestagedfile>.pkgx /c
```

**FIGURE 3.14**  
Extracting the  
prestaged package  
file to the new  
distribution point



```
Administrator: Command Prompt
USAGE:
-----
ExtractContent.exe /P:<path> [/C:] [/S] [/I] [/?]
WHERE:
/P - path to a file or to a folder with one or more files to prestage
/C - validate the content without prestaging
/S - skip content with lower or equal versions from prestaging
/I - print out the metadata info of the content
/? - print out command line parameters of content prestaging tool
-----
D:\install\ConfigMgr_2012_Beta2_ENU_7561\TOOLS>ExtractContent.exe /p:d:\pre\pre.
pkgx /s
Log file - "C:\Users\ADMINI~1\CMD\AppData\Local\Temp\2\PrestageContent.log"
Prestaging content to content library D:\SCCMContentLib
  uncompress    25 %
  uncompress    50 %
  uncompress    75 %
  uncompress   100 %
  extract       25 %
  extract       50 %
  extract       75 %
  extract      100 %
Content of package PS100002.3 is prestaged and registered.
D:\install\ConfigMgr_2012_Beta2_ENU_7561\TOOLS>
```

The extraction to the distribution point will be processed in the background. For troubleshooting purposes or to follow the process, you can monitor the `PrestageContent.log` file, which you can find in the `temp` folder of your user account.

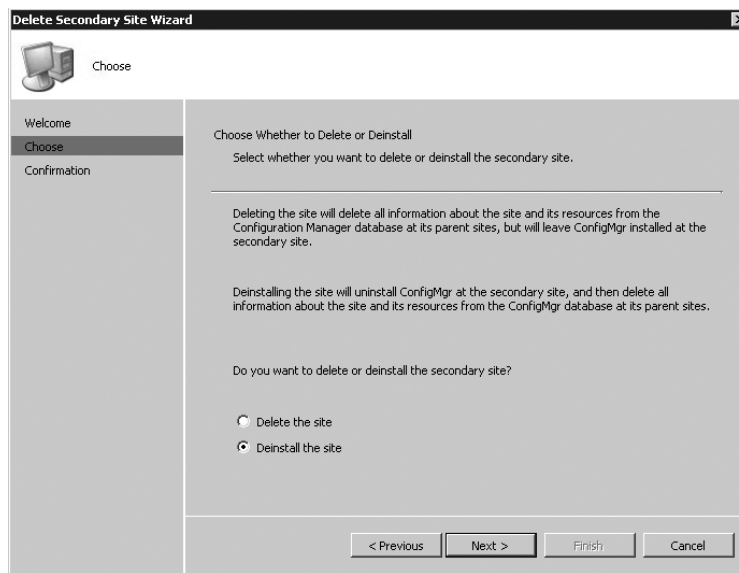
### UPGRADING SECONDARY SITES

Secondary sites need to be manually uninstalled from the Configuration Manager 2007 environment; there is no upgrade path for the scenario. Consider while planning your Configuration Manager 2012 hierarchy the replacement of a secondary site with just a

distribution point. Chapter 2 describes when you can consider replacing a secondary site with a distribution point.

1. Right-click the secondary site and click Delete.
2. Click Next.
3. Select Deinstall the Site, and click Next.
4. Review the information about the secondary site to be deinstalled (Figure 3.15), and click Finish.

**FIGURE 3.15**  
Deinstalling the  
secondary site from  
Configuration Manager  
2007 SP2



After the deletion process is finished, you can install the Configuration Manager 2012 secondary site server role.

### MIGRATING CLIENTS

The Configuration Manager 2007 clients need to be migrated also; the process of client migration consists of uninstalling the Configuration Manager 2007 client and installing the new Configuration Manager 2012 client.

You can migrate the clients via the following methods:

- ◆ Client push installation
- ◆ Software distribution
- ◆ Group Policy
- ◆ Windows Software Update Services (WSUS)



- ◆ Manual installation
- ◆ Integrated with operating system deployment

Chapter 6 offers more information about client installation. The installation of the Configuration Manager 2012 client will automatically uninstall the Configuration Manager 2007 client and install the Configuration Manager 2012 client.

Remember that only the following clients are supported:

- ◆ Windows XP SP2 (64-bit)
- ◆ Windows XP SP3 (32-bit)
- ◆ Windows Server 2003 SP2
- ◆ Windows Vista SP2
- ◆ Windows 7 RTM and SP1
- ◆ Windows Server 2008 SP2
- ◆ Windows Server 2008 R2 RTM and SP1 (64-bit)

A requirement of all clients is that .NET Framework 4.0 needs to be present. You must deploy this version before migrating to the new Configuration Manager 2012 client.

### Using the Wipe-and-Load Strategy

The wipe-and-load strategy is the most basic and straightforward of any of the approaches. Generally speaking, this strategy is intended for environments in which the following apply:

- ◆ You still use SMS 2003 or Configuration Manager 2007 as a single-server solution.
- ◆ None of the existing data (i.e., collections, inventories, packages, and so on) needs to be retained.

Although this approach may seem like the path of least resistance, there are a few pitfalls that you need to stay aware of:

**Client Manageability** If you take the wipe-and-load approach, the quickest way to accomplish it is to perform a software distribution to run the `ccmclean.exe` Microsoft Resource Kit utility for SMS 2003 or Configuration Manager 2007 on all SMS 2003 or Configuration Manager 2007 clients. This poses the potential problem that the clients will remain unmanaged until the server (current or new future hardware) is rebuilt and Configuration Manager 2012 is installed and configured properly. Depending on the environment, this might be a non-issue. A risk assessment would need to be performed to see if mission-critical application updates or zero-day exploit patches need to be deployed and to assess the potential impact to your enterprise. If the risk can be minimized or negated, then a wipe-and-load operation might be possible.

**Implementation Timeframe** Rebuilding a server and installing or configuring all the components that are required to support a Configuration Manager 2012 installation is no small task. Not to mention that if you have a strict change control process, this might hinder your forward momentum significantly. All these factors equate to dollars—money spent rebuilding, installing, configuring, and testing a server that was already up and running in production.

The bottom line is, just because the wipe-and-load option appears to be the path of least resistance, don't be tempted. Weigh your options before coming to a decision that you might regret later.

### Upgrading the Configuration Manager Console

As with the Configuration Manager 2012 site server itself, you must consider the upgrade of all the Configuration Manager 2007 Administrator consoles to Configuration Manager 2012 Administrator consoles. This potentially is an area for automation or an unattended installation routine.

Any of the setup functions (Primary Site, Secondary Site, or Administrator Console) can be scripted with an initialization file to answer key questions of a setup routine. In this scenario, we want to automate the Administrator console setup for Configuration Manager 2012.

The following steps will enable you to perform an unattended installation of the Configuration Manager 2012 Administrator Console:

1. Ensure that administrator workstations meet the minimum requirements for the Configuration Manager 2012 Administrator Console. In order to run the Installation Prerequisite Checker to verify the workstation, you can run `prereqchk.exe /ADMINUI` from the command line. You can find this file in the installation source on the DVD (`SMSSetup\Bin\x64`).
2. Advertise the setup of Configuration Manager 2012 with the following command line, substituting the `<msiexec /I \SMSSETUP\BIN\i386\AdminConsole.msi /qn>` text with the name and location of the file from above:

```
msiexec /I \SMSSETUP\BIN\i386\AdminConsole.msi /qn
```

The unattended installation will not remove the old Configuration Manager 2007 console. You can remove the console by uninstalling it via the Programs And Features option in Control Panel.

The following steps enable you to perform a GUI installation of the Configuration Manager 2012 Administrator Console:

1. Ensure that administrator workstations meet the minimum requirements for the Configuration Manager 2012 Administrator Console. In order to run the Installation Prerequisite Checker to verify the workstation, you can run `prereqchk.exe /ADMINUI` from the command line.
2. Insert the System Center 2012 Configuration Manager DVD, browse to the `\SMSSETUP\BIN\i386\` folder, and double-click `AdminConsole.msi`.

The Welcome to the Microsoft System Center 2012 Configuration Manager Console Setup Wizard appears.

3. Click Next.
4. Supply the site server name, and click Next.
5. Browse to the installation location, and click Next.
6. Click Install.

7. Review any fatal errors, errors, or warnings that are presented (although part of your homework was to run the Installation Prerequisite Checker and address all errors), or review the `ConfigMgrAdminUISetup.log` and the `ConfigMgrPrereq.log` on the root of the system drive to see which errors need to be addressed.
8. Click Finish to start the newly installed Configuration Manager 2012 Administrator Console.

### Post-Migration or Installation Considerations

Once you have performed the selected installation, it is imperative to maintain its health moving forward. The obvious choice for performance and availability monitoring is Microsoft System Center 2012 Operations Manager; for this you need to install the Configuration Manager 2012 Management Pack in Operations Manager 2012. More information about support for Operations Manager 2012 can be found in Chapter 1.

1. First, review the site status from within the System Status node in the Monitoring workspace in the Configuration Manager 2012 console.
2. Review all of the site system roles to ensure that they are identified properly as well as the component status.
3. If there are any critical or red components, right-click the targeted component and select Show Messages > Errors.

This produces all of the error status messages, which highlight the problems within the site.

You'll find more detailed troubleshooting coverage in Chapter 15, "Troubleshooting."

Another area of concentration should be within the site settings. With the new functionality and roles within Configuration Manager, a plethora of settings need to be set up and configured. A more detailed and in-depth view of site settings is covered in Chapter 4.

After you review the new environment, you need to clean up Configuration Manager 2012 by doing the following:

- ◆ Stop the data-gathering process.
- ◆ Clean up the migration data.

### STOPPING THE DATA-GATHERING PROCESS

You stop the data-gathering process by following the next procedure. You need to first stop the data-gathering processes in all of the child sites in the source hierarchy.

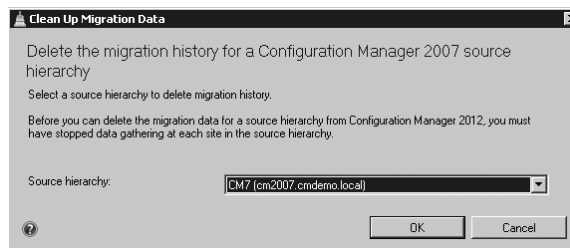
1. In the Configuration Manager console open the Administration workspace.
2. Expand Overview > Migration in the Administration workspace, and choose Active Source Hierarchy.
3. Select the site with data gathering enabled.
4. Select the Home tab of the Ribbon, and choose Stop Data Gathering.
5. Click Yes when the Stop Data Gathering dialog box appears.
6. Repeat this for all sites in the hierarchy.

### CLEANING UP MIGRATION DATA

The next step in the post-migration task is to clean up the migration data, as follows:

1. In the Configuration Manager console choose the Administration workspace.
2. Expand Overview ► Migration in the Administration workspace, and choose Active Source Hierarchy.
3. Select the topmost source hierarchy site with data gathering disabled.
4. Select the Home tab of the Ribbon, and choose Clean Up Migration Data.
5. Verify that you have the right source hierarchy, and click OK when the Clean Up Migration Data dialog box appears (Figure 3.16).

**FIGURE 3.16**  
Cleaning up the migration data of the source hierarchy



## Migrating Packages to the New Application Model

When you migrate your packages to Configuration Manager 2012, the classic packages are migrated as is. Configuration Manager 2012 is built around the new application model, and to get all the features of the new application model you need to convert the package to an application. You can find more information about the new application model in Chapter 7, “Application Deployment.”

After migrating the packages from the Configuration Manager 2007 environment to the Configuration Manager 2012 environment, you have a couple of options for what to do with the packages:

**Do Nothing** You can leave the package and program as they are, since some packages are best left in the classic packages and programs format, for instance, system maintenance tools like defrag and backup. System maintenance tools are often deployed to systems instead of users. System-based classic packages cannot be converted by Package Conversion Manager since it only supports classic packages.

**Convert the Packages Manually** You can manually convert packages and programs to the new application model. This option is not a best practice, and it can be time consuming.

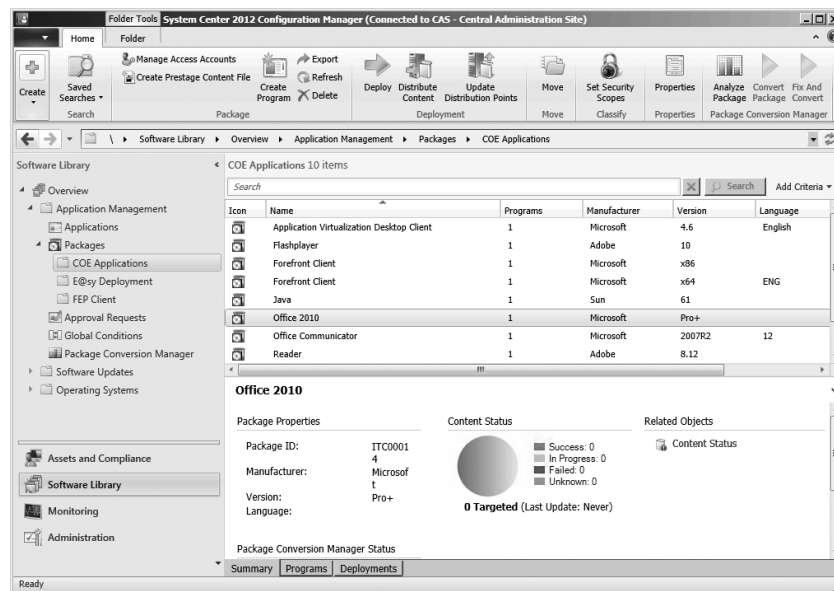
**Convert the Packages with Conversion Manager** Package Conversion Manager will lead you through the process of converting packages to the new application model. The conversion process will move the data to the application model.

Best practice is to convert the packages with System Center Configuration Manager Package Conversion Manager; this way you are able to use all features of the application model of Configuration Manager 2012.

### What Is Package Conversion Manager?

Package Conversion Manager helps you analyze packages and determines the readiness for the conversion of classic packages to the new application model (see Figure 3.17). After the analysis, Package Conversion Manager will convert the package to the new application model by building applications and deployment types, and it migrates machine collection queries to the application model by building global conditions and requirement rules. The converted global conditions and requirement rules are ANDed with the program requirements. This means that the global conditions and requirement rules are merged with the classic program requirements.

**FIGURE 3.17**  
Configuration Manager console with Package Conversion Manager



While you're in the migration process, the summarization screen of Package Conversion Manager helps you identify the progress of your migration.

Package Conversion Manager is fully integrated with the Configuration Manager 2012 console, but it must be installed separately.

Not all packages are suitable for migration with Package Conversion Manager; the Manager supports the migration of packages that are *user facing*, for instance, packages that users interact with, such as these:

- ◆ MSI-based applications
- ◆ App-V-based applications
- ◆ EXE-based applications

Applications that are not supported or not able to be migrated include the following:

- ◆ System maintenance tools like defrag or backup
- ◆ End-of-life packages

### The Conversion Process

You will need to go through the process of converting the packages and programs to the new application model. The process consists of the following phases:

- ◆ Installing Package Conversion Manager
- ◆ Analyzing the packages
- ◆ Converting the packages

#### INSTALLING PACKAGE CONVERSION MANAGER

You need to install Package Conversion Manager on the primary site. Package Conversion Manager is downloadable from the System Center website of Microsoft. Follow the next steps to install the Package Conversion Manager.

1. Close the Configuration Manager Console and double click on the executable (PCMSetup.exe) that you have downloaded from the System Center website.
2. Click on Next in the welcome screen and accept the end-use license agreement before going further by clicking on Next.
3. Select the type of installation and click on Next and Install.
4. Click on Finish after the installation is finished and start the Configuration Manager console.

#### ANALYZING PACKAGES

Packages need to be analyzed before they can be converted to the new application model. Analysis of packages can be done in four ways:

- ◆ You can analyze a single item.
- ◆ You can analyze in bulk by selecting additional packages.
- ◆ You can analyze during the conversion process automatically.
- ◆ You can schedule bulk analysis during nonpeak hours.

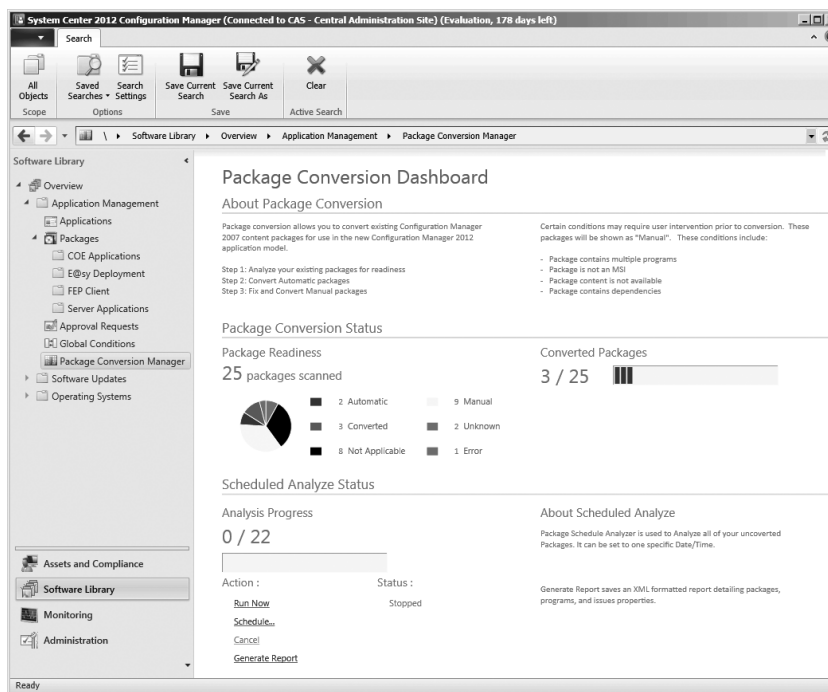
You can run the analysis today to see if the packages are compliant for conversion, but you can migrate the packages at a later stage because while the conversion process is running the packages will be reanalyzed.

#### CHANGING THE COLUMNS OF THE PACKAGES LIST

If you want to view the status of the packages in the packages list, you are then able to add columns to the packages list. This is done by right clicking on the columns and by selecting the Readiness and Last Analyzed/Converted columns.

The analyzing process can result in the following readiness states of the to-be-converted packages, as shown in Figure 3.18 in the Package Conversion Dashboard.

**FIGURE 3.18**  
Package Conversion  
Dashboard



**Unknown** Analysis has not been run for this application.

**Automatic** The package can be automatically converted to the application model. This is the best state to use for bulk migrations.

**Manual** There is not enough data available to convert the package automatically. The administrator needs to supply input for the conversion. You may need to supply information like detection methods and the deployment type preference order through a wizard supplied by Package Conversion Manager.

**Not Applicable** The Package Conversion Manager tool is not able to do anything with the package in this state. You may need to modify the source package to be able to convert the package to the new application model.

**Converted** The package has been converted to the application model. The application is manageable through the Configuration Manager 2012 console.

**Error** If there is an error reported, go to the package, select it, and view the summary to see the readiness issues. For instance, quotes are not supported in the command line of the program.

If you need to convert the package, you need to be sure of the following:

- ◆ The content of the package is present.
- ◆ It is a software distribution package.
- ◆ It contains at least one program.

If one of these three must-haves is not present, then the application is not applicable. If the three are available, you can migrate the application manually. You can use an automatic migration when the three must-haves are present and you have only one MSI per package available, the content is accessible, and there are no unconverted dependencies.

#### **AUTOMATIC CONVERSION**

Once you finish the conversion process, the application is ready for testing. The application is not fully ready for deploying yet because you still need to provide detection methods and configure the deployment type preference order.

All packages need to be analyzed before you can convert the packages and programs to the new application model. The option Convert Package is greyed out until the analyzing phase is finished.

To manually analyze packages, perform the following steps:

1. In the Configuration Manager console open the Software Library workspace.
2. Expand Overview > Application Management > Packages, and select one or more classic packages.
3. Select the Home tab of the Ribbon, and choose Analyze Package in the Package Conversion Manager section.

If you want to schedule the analyzer to analyze the packages off peak hours you are able to schedule analyzing the classic packages by following the next steps:

1. In the Configuration Manager console open the Software Library workspace.
2. Expand Overview > Application Management > Package Conversion Manager.
3. In the Package Conversion Dashboard you have the option to click on the Schedule Action. Click on the Action and set the schedule by supplying a date and time before clicking on Ok.

In the notification area of the taskbar you will see an icon for the schedule; by clicking on the icon you are able to cancel the schedule.

#### **CONVERTING THE PACKAGE**

When the package is analyzed and the readiness state changes from Unknown to Automatic or Manual, you can convert the packages and programs to the new application model. Packages that have an Automatic readiness state can be converted as follows:

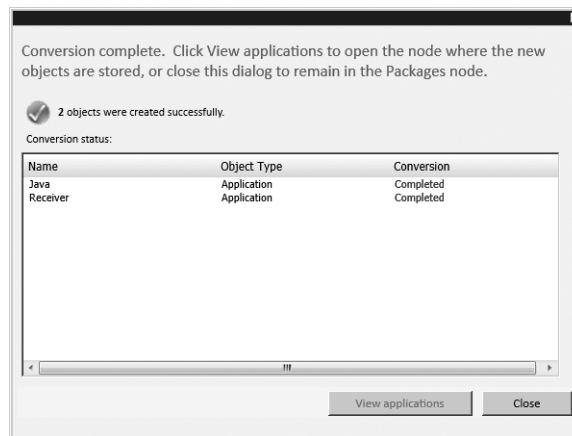


1. In the Configuration Manager console select the Software Library workspace.
2. Expand Overview > Application Management > Packages, and select one or more classic packages that have an Automatic readiness state.
3. Select the Home tab of the Ribbon, and choose Convert Package in the Package Conversion Manager section.
4. Review the programs and confirm the conversion of the selected packages into new application objects. Click OK.

After the conversion progress dialog box closes, you will see a dialog box with the results of the conversion.

5. Click OK and review the converted packages in the Applications section of the Application Management workspace (Figure 3.19).

**FIGURE 3.19**  
Conversion of  
the packages is  
complete



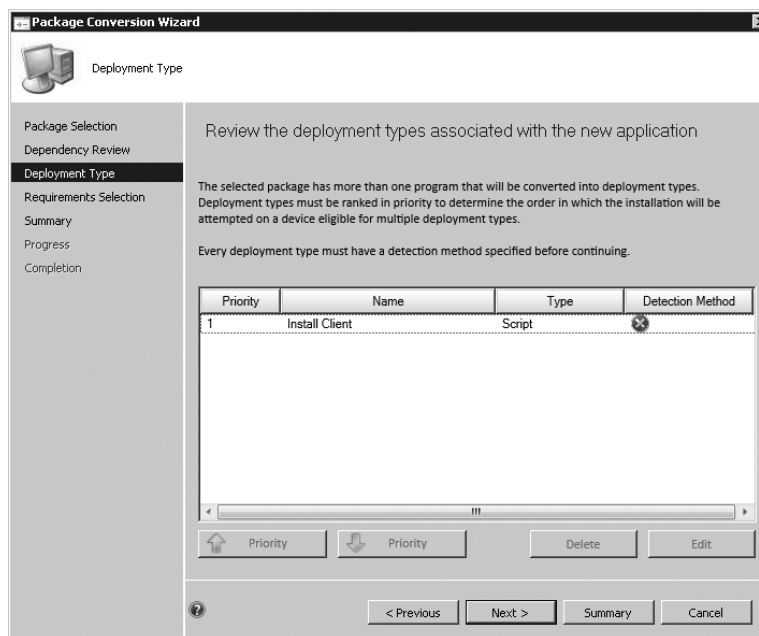
During the conversion process the package is reanalyzed to be sure that the latest information about the package and program is available. The readiness state of the classic package will be changed from Automatic to Converted.

To manually convert packages and programs, follow these steps:

1. In the Configuration Manager console choose the Software Library workspace.
2. Expand Overview > Application Management > Packages, and select one or more classic packages that have a Manual readiness state.
3. Choose Fix And Convert in the Package Conversion Section of the Home Ribbon.
4. Review the items to fix in the Package Selection screen of the Package Conversion Wizard and click on Next.
5. Review dependencies on unconverted packages and possible issues and click on Next.
6. Review the deployment types associated with the new application and fix possible issues.

In Figure 3.20, you see that there is an issue with the detection method. To fix this click on Edit Detection Method and click on Add to configure a detection method. In this case, an MSI product code is missing, so select Windows Installer as Setting Type and browse to the MSI to retrieve its product. Click on OK twice and check if the issue is fixed.

**FIGURE 3.20**  
Deployment type  
issue



7. Click on Next to review the requirements selection and check the requirements to add to the selected deployment type and, click on Next.
8. Review the summary and click on Next. After the Package Conversion Wizard is completed successfully click, on Close. You will find the converted package in the applications node where all the applications reside.

### NOT APPLICABLE CLASSIC PACKAGES

When the readiness state of a classic package is shown as Not Applicable for a migration, you can find out why the package and programs are unable to be migrated by selecting the package and viewing the summary. As mentioned previously, there are several reasons why a package can be tagged Not Applicable.

### CONVERTING PACKAGE DEPENDENCIES

Classic packages with an unconverted dependency will have a readiness state of Manual after the first analysis. The reason is that Package Conversion Manager cannot automatically convert a package that is a dependency. You will need to convert any package that is a dependency first before converting the classic package. For instance, if you have a classic package that depends on a classic package with the .NET Framework, you need to convert the .NET Framework classic

package. If you reanalyze the classic package with the .NET Framework dependency and there are no other issues, it will be available for conversion.

### The Conversion Process

The conversion process does a lot of work to convert and migrate all settings to the new application model. The conversion process converts information like package properties, program properties, and MSI information. Not only such things as application name, deployment type name, or detection method are converted, but also, 28 optional properties of the packages and programs. Investments you made are preserved for the new application model.

### Package Conversion Manager Best Practices

For the integration of Package Conversion Manager within Configuration Manager 2012, the following pre-migration and migration best practices are defined.

#### PRE-MIGRATION

You can prepare the migration of the packages to the new application model by using the following best practices:

**Utilize Platform Requirements** In the package program set the platform that the program will run on. The settings are migrated as global conditions and requirements for the application.

**Use the UNC Path for Source Location** This is required for migrating the package to an application. Otherwise the new Configuration Manager 2012 site server cannot access the source content.

**Use Only MSIs with One Unique PID** The MSIs need to have one unique PID. When creating your own MSI, include only one PID. Otherwise, the detection methods for installation of the applications won't work correctly.

#### CONVERSION PROCESS

For the conversion process the following best practices are defined:

**Convert Any Depended Classic Packages First** Always convert the dependent classic packages first before converting the classic packages that are depended on them. Depended classic packages that have a readiness state of Automatic will optionally be converted automatically.

**Concentrate on Your User-Centric Applications** Since Configuration Manager 2012 is user centric, be sure to concentrate on you user-centric applications. Configuration Manager 2007 was designed for system targeting, so try to find the classic packages that can interact with the user and that can be converted with Package Conversion Manager.

**Keep Track of Your Efforts** Use the summarization to plan the conversion of the classic packages and to keep track of your conversion process. For instance, you can check to see what percentage has converted.

**Once Converted, Check Requirements** Once a package is converted, check the requirements of the application to make sure that they are sufficient for the new application model.

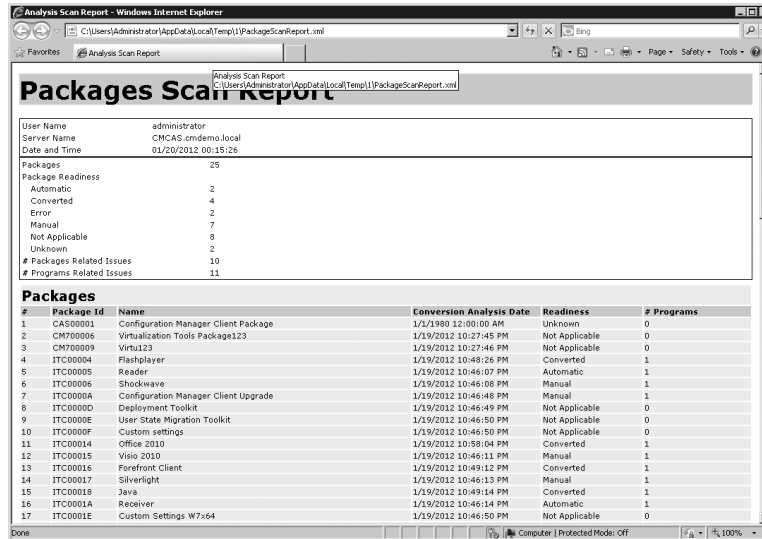
### Monitoring Conversion

Besides the Package Conversion Manager Dashboard, shown in Figure 3.18, you are also able to monitor the conversion of your packages, shown in Table 3.2.

**TABLE 3.2** Package conversion monitoring features

MONITORING FEATURE	DESCRIPTION
Package Conversion Dashboard	The dashboard shows the overall readiness/conversion state of all of your packages. This is the best way to monitor your package conversion process.
PCMTTrace.log	This log file can be found in the temporary directory of the user. This log file consists of all information about the package conversions.
Packages Node	Add the Readiness and the Last Analyzed/Converted columns to packages node view.
Packages properties	You are able to view the package conversion manager status per package. Possible readiness issues are reported here.
Package Scan Report	From the Package Conversion Dashboard you are able to generate a report. This report is saved in the users temp folder (%TEMP%) and is called PackageScanReport.xml, shown in Figure 3.21.

**FIGURE 3.21** Package Scan Report



## Migrating Branch Offices with the Physical-to-Virtual Migration Toolkit

To achieve the Configuration Manager 2012 migration goals set in the beginning of this chapter, you will need the physical-to-virtual (P2V) Migration Toolkit to take care of the “Maximizing the reusability of x64-bit hardware” goal. This P2V Migration Toolkit can be used when you have a branch office with limited hardware availability to perform a side-by-side upgrade.

The P2V Migration Toolkit eliminates the need for a side-by-side migration of physical servers. It enables you to host the Configuration Manager 2007 site server and the Configuration Manager 2012 site server on the same machine using virtualization with Hyper-V. The P2V Migration Toolkit uses Configuration Manager operating system deployment to create a virtual instance of the Configuration Manager 2007 site server. It uses a virtualization task sequence so that the creation of the P2V virtual machine is simplified and automated.

### Requirements

The P2V Migration Toolkit requires Hyper-V to be available on the Windows Server 2008 R2 server. For virtualization with Hyper-V the following are required:

- ◆ The server must have an x64 processor.
- ◆ The BIOS must support hardware-assisted virtualization and hardware data execution prevention. Virtual machines will not start unless these features are enabled.

The P2V Migration Toolkit requires that the Configuration Manager 2007 SP2 console be installed on the workstation or server where you want to start it from. Further requirements are as follows:

- ◆ Windows 7 or Windows Server 2008 R2
- ◆ Microsoft .NET Framework 4.0 or Microsoft .NET Framework 4.0 client profile
- ◆ Windows Automated Installation Kit for Windows 7
- ◆ Desktop experience feature in Windows Server 2008 R2

The source server that needs to be virtualized has the following operating system requirements, shown in Table 3.3.

**TABLE 3.3** Operating System requirements for P2V conversions

OPERATING SYSTEM	EDITION	ARCHITECTURE
Windows Server 2003 SP2 or greater	Standard, Enterprise and Datacenter	X86, x64
Windows Server 2003 R2 SP2 or greater	Standard, Enterprise and Datacenter	X86, x64
Windows Server 2008	Standard, Enterprise and Datacenter	X86, x64
Windows Server 2008 R2	Standard, Enterprise and Datacenter	x64

## P2V Migration Scenario

The physical-to-virtual migration scenario is primarily used for two types of scenarios:

- ◆ It can be used for branch offices that are part of your Configuration Manager 2007 hierarchy and where you have only one piece of hardware that can be reused for Configuration Manager 2012 and that can support Hyper-V.
- ◆ It can be used for a branch office with very slow WAN links that doesn't allow an over-the-wire migration because of costs; the global SQL replication over the WAN is too expensive.

After a P2V migration of an old server is finished, you can migrate Configuration Manager 2007 and Configuration Manager 2012 side by side.

## The Task Sequence

The task sequence is a sequence of tasks that are performed, for instance, during an operating system deployment. The task sequence that is used for the P2V migration scenario performs the following list of tasks that result in a virtual machine on a new Windows Server 2008 R2 operating system. (You'll learn more about task sequences and operating system deployment in Chapter 9.)

The task sequence tasks are as follows:

1. Capture the selected physical disk partitions into virtual hard disks.
2. Install Windows Server 2008 R2.
3. Enable the Hyper-V role on the new Windows Server 2008 R2 server.
4. Set up and configure the Windows Server operating system by doing the following:
  - a. Install the Configuration Manager 2007 client to be able to connect the Configuration Manager 2007 site server.
  - b. Join the domain.
  - c. Add predefined local administrators.
5. Prepare and compact virtual hard disks.
6. Create the virtual machine, configure the network, and attach the virtual hard disks.

## Steps for Using the P2V Migration Toolkit

The P2V Migration Toolkit helps you create a task sequence that can be used in two different ways:

- ◆ Create a task sequence with stand-alone media.
- ◆ Create non-task sequence bootable media.

This way you are flexible in the P2V migration approach.

### CREATING A TASK SEQUENCE WITH STAND-ALONE MEDIA

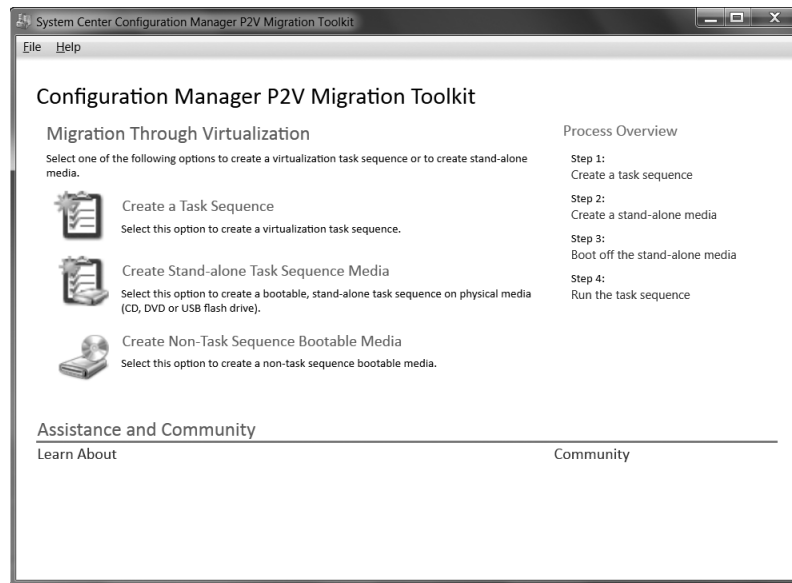
This option is used when you want to automate the entire end-to-end process from operating system rebuild to virtual machine creation. To create the task sequence with stand-alone media, the following four broad steps are required:

1. Create the task sequence.
2. Create a stand-alone media.
3. Boot off the stand-alone media.
4. Run the task sequence.

The first step, though, is to create the task sequence itself:

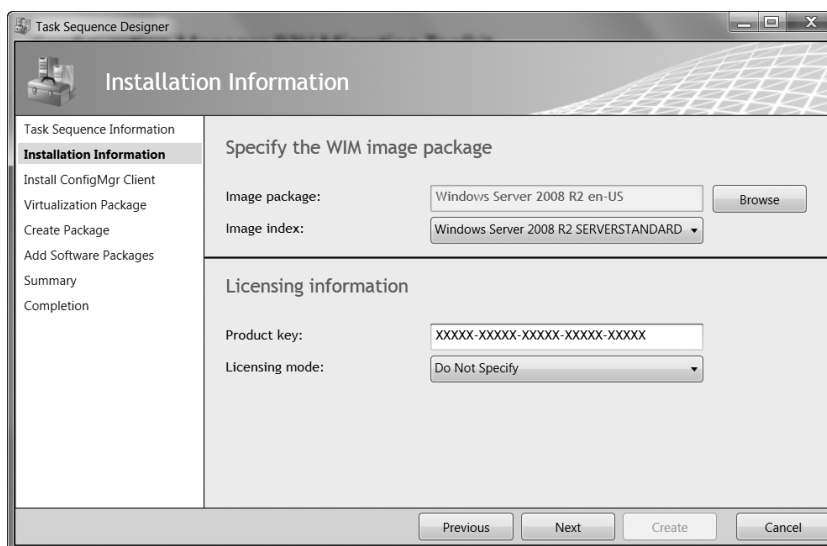
1. Start the P2V Migration Toolkit, and you will see the screen, shown in Figure 3.22.

**FIGURE 3.22**  
The P2V Migration Toolkit



2. Click Create A Task Sequence.
3. Supply the site server name and site code, and click OK.
4. When the Task Sequence Designer launches, supply the name for the task sequence in the Task Sequence Name field.
5. Click Browse, and select an existing 32-bit boot image and click on OK.
6. Click Next.
7. Click Browse, and select the Windows Server 2008 R2 image package, shown in Figure 3.23.

**FIGURE 3.23**  
Specify the  
operating system  
WIM image



8. Provide the license key and license information, and click Next.
9. Click Browse, and select the Client Installation Package. Click Next.
10. Select Create New Virtualization Tools Package, or select Use An Existing Virtualization Tools Package, and click Browse to select the package. Click Next.
11. If you need to create a new virtualization tools package, supply the package name, specify the deployment share, and select the distribution points where the package need to be placed. Click Next.
12. Select Software Packages that need to be installed during the P2V installation process, and click Next.
13. Review the summary, and click Create.
14. Click Close.

The next step in the process of virtualizing the Configuration Manager 2007 site server is to create a stand-alone media. The stand-alone media can consist of a USB drive or a CD/DVD set. To create a stand-alone USB flash drive, follow this procedure:

1. Start the P2V Migration Toolkit.
2. Select Create Stand-alone Media.
3. Supply the site server name and site code, and click OK.
4. Select USB Flash Drive.
5. Click Yes if you want to format the USB flash drive.
6. Supply a password (optional), and click Next.

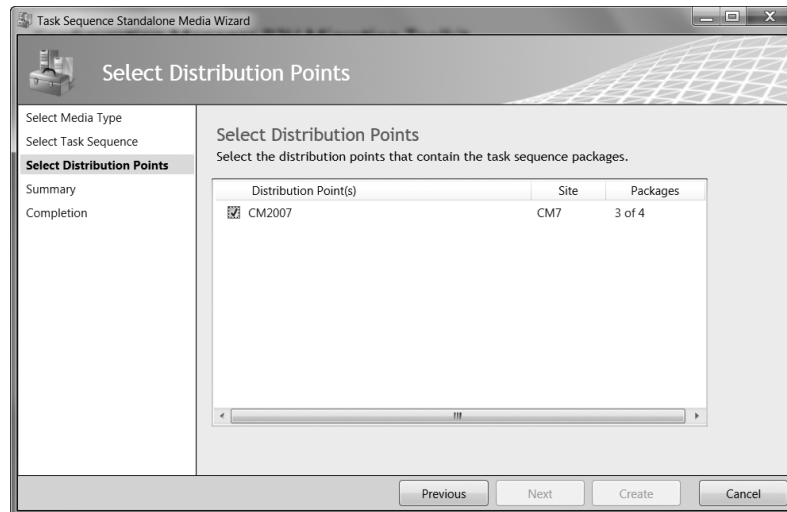


7. Click on Browse to select the task sequence you created earlier, and click Next.
8. Select the distribution point(s), and click Next.
9. Review the summary, and click Create.
10. If the wizard has completed successfully, click Close.

To create a stand-alone CD/DVD set, perform the following steps:

1. Start the P2V Migration Toolkit.
2. Select Create Stand-alone Task Sequence Media.
3. Supply the site server name and site code, and click OK.
4. Select CD or DVD.
5. Select the media size (650 MB, 4.7 GB or 8.5 GB).
6. Select Browse to be able to browse to the file location, and supply a name for the ISO file.
7. Supply a password (optional), and click Next.
8. Click on Browse to select the task sequence you created earlier, and click Next.
9. Select the distribution point(s), as shown in Figure 3.24, and click Next.

**FIGURE 3.24**  
Be sure to place all  
the content on the  
distribution points



10. Review the summary, and click Create.
11. When the wizard has completed successfully, click Close.

The final phase of the process is to run the task sequence. Do the following:

1. Boot the branch office site server from either USB or CD/DVD.
2. Configure IP settings and supply the password if necessary and click on Next.

3. Click Next when the conformation is displayed after booting.
4. Click Next on the welcome page of the bootable device, shown in Figure 3.25.

**FIGURE 3.25**  
The Physical-to-Virtual Migration Toolkit



5. Your system will be validated; if the system is okay, click Next.
6. Supply the computer name, domain information, and an account that will have domain join rights. Click Next.
7. Supply the password for the local administrator and a username that must be added to the Local Administrators group. Click Next.
8. Select the target drive that needs to be captured and where the new operating system needs to be installed, and click Next.
9. Select the drives to virtualize, and click Next.
10. Supply a UNC path to a location where the new virtual hard disk (VHD) image can be saved.
11. Supply the credentials of a user who will have permissions to save the virtual hard drive.
12. Click Next.
13. Supply a new name for the virtual machine, the memory, the virtual network name, and the network that will be connected to the virtual machine. Click Next to continue.
14. After reviewing the summary, click Finish, and the process will start.

The task sequence will begin the physical-to-virtual process. Once that is complete, the operating system will be installed and the VHD files will be added to Hyper-V on the new operating system.

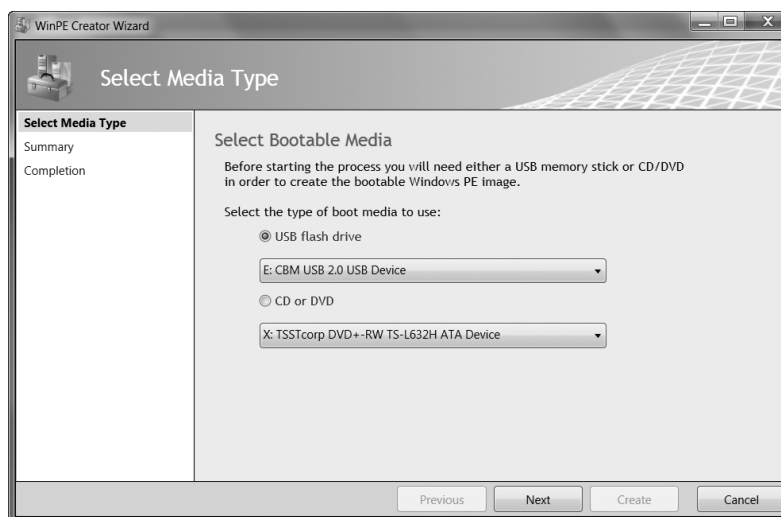
### CREATE A NON-TASK SEQUENCE BOOTABLE MEDIA

Another option is to create a non-task sequence bootable media; this can also be a CD/DVD set or a USB flash drive. This procedure is just to create a virtual hard disk that can be used in Hyper-V. A non-task sequence bootable media is created with the following procedures.

To create a stand-alone media USB flash drive, do the following:

1. Start the P2V Migration Toolkit.
2. Select Create Windows PE Boot Media. In the next screen of the WinPE Creator Wizard, select the boot image OS architecture type to target in order to create the bootable Windows PE image, and then click on Next.
3. Select USB Flash Drive, as shown in Figure 3.26.

**FIGURE 3.26**  
Selecting the USB  
flash drive



4. Click Yes if you want to format the USB flash drive, and click Next.
5. Review the summary, and click Create.
6. When the wizard has completed successfully, click Close.

To create a stand-alone media CD/DVD set, perform these steps:

1. Start the P2V Migration Toolkit.
2. Select Create Non-Task Sequence Bootable Media.
3. Select CD or DVD, select the CD/DVD drive with an empty CD or DVD, and click Next.
4. Review the summary, and click Create.
5. When the wizard has completed successfully, click Close.

After creating the stand-alone media USB device or DVD/CDs, you can boot the Configuration Manager 2007 site server from that media and start the following process:

1. Boot the branch office site server from either USB or CD/DVD.
2. Click Next on the welcome page of the bootable device.
3. Select the drives to virtualize, and click Next.
4. Supply a local path to a location where the new virtual hard disk (VHD) image can be saved. This can be a USB disk. Click Next.

The file is created and copied to the defined location.

5. Once the creation is complete, click Finish.

When finished, copy the VHD image to a Windows Server 2008 R2 server and configure a virtual machine in Hyper-V to use the VHD image.



## Real World Scenario

### MIGRATING TO CONFIGURATION MANAGER 2012

Sports Clothes United Inc. is a company that develops and sells sports clothing to retailers and their own shops all over the world. The head office is located in San Francisco. The company is growing so fast that they acquire a new company called Fit Clothes. Fit Clothes has their own Configuration Manager 2007 R3 SP2 environment.

You as a consultant or Configuration Manager administrator are asked to migrate the Fit Clothes Configuration Manager 2007 R2 SP2 environment to the new Configuration Manager 2012 infrastructure and deploy the corporate standard of Sports Clothes United.

#### MIGRATION SCOPE

The Corporate IT department investigated the Configuration Manager 2007 R3 SP2 environment of Fit Clothes and came to the conclusion that only the classic packages, advertisements, and collections need to be migrated to the Configuration Manager 2012 environment of Sport Clothes United. After the classic packages are migrated, they must be converted to the new application model.

Your assignment is to migrate these assets.

#### MIGRATION APPROACH

Because the corporate IT department decided that the assets needs to be migrated, you need to use the migration feature of Configuration Manager 2012. You always need to test your migration approach in your test lab and define and crystallize your steps while testing your approach. The following steps should be used:

1. Define the topmost source site as the source hierarchy.
2. Configure credentials to be able to gather data from the source site(s).

3. Use the collection migration to migrate your collections with the associated applications and advertisements.
4. After successfully migrating the classic packages to Configuration Manager, analyze the packages to discover the readiness level for the new application model.
5. Convert the classic packages with a readiness level of Automatic.
6. Fix and convert the packages with a readiness level of Manual.
7. Stop the data-gathering process, and clean up the migration data.
8. Uninstall Configuration Manager 2007.

Once you have completed those steps, you have migrated the required Configuration Manager 2007 assets to Configuration Manager 2012.

## The Bottom Line

**Determine what are you able migrate with the migration feature.** The new migration feature in Configuration Manager 2012 allows you to migrate the old Configuration Manager 2007 investments to Configuration Manager 2012 side by side. In earlier versions you were able to migrate the server in place or side by side by replicating data, but no real manageable migration feature was available.

**Master It** With the migration feature you cannot migrate things like the following.

- ◆ Queries
- ◆ Security rights for the site and objects
- ◆ Configuration Manager 2007 reports from SQL Server Reporting Services
- ◆ Configuration Manager 2007 web reports
- ◆ Client inventory and history data
- ◆ AMT client-provisioning information
- ◆ Files in the client cache

To keep it positive, identify what objects you are able to migrate with the migration feature of Configuration Manager 2012.

**Discover which migration approach is supported.** Configuration Manager 2012 provides migration features that can be used for your migration of Configuration Manager 2007 to Configuration Manager 2012.

**Master It** With the earlier upgrades or migrations of Configuration Manager in your mind, what migration approaches are supported when migrating from Configuration Manager 2007 to Configuration Manager 2012?

**Ascertain what kind of interoperability is supported during the migration.** Interoperability like that supported in earlier versions is no longer supported; nevertheless, the migration feature of Configuration Manager 2012 supports some kinds of interoperability during the migration process. Depending on the size of your Configuration Manager 2007 source hierarchy, this can take some time.

**Master It** Interoperability like you were used to in SMS 2003 and Configuration Manager 2007 is no longer supported. Give two examples of interoperability features in Configuration Manager 2012.

**Migrate packages and programs to the new application model.** The classic packages just migrated to Configuration Manager 2012 can be used and targeted to collections of users and computers, but Configuration Manager is built around a new application model that allows you to implement user-centricity in your Configuration Manager 2012 environment.

**Master It** Converting classic packages to the application model is not a feature of Configuration Manager, but with extra software it can be done from the Configuration Manager 2012 console in a couple of different ways. What is name of the tool that you use to convert the classic packages, and what are the steps to convert a classic package?