# Altiris Deployment Solution™ 6.9 SP5 from Symantec User's Guide



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# Introduction to Altiris Deployment Solution<sup>™</sup> from Symantec

Take control of all your computer resources across your organization using Altiris Deployment Solution<sup>™</sup> from Symantec deployment and management tools. Take a seat at any Deployment Console to remotely manage all types of devices—notebooks, desktops, switches, and servers—through all phases of computer deployment and lifecycle management. Schedule remote system upgrades, distribute patches and drivers, re-image computer hard drives, or migrate large groups of users to new computers without missing a single custom setting or installed program. Use Deployment Solution to handle daily tasks and depend on it for occasional big jobs, such as disaster recovery or large-scale software updates. And do it all remotely from any Deployment Console on any device with a connection to your WAN or LAN.

That is the attitude behind Deployment Solution: increase access and productivity while decreasing costs and IT response time. You will appreciate the simple, easy-to-use graphical consoles to organize computer groups, schedule deployment jobs, and distribute disk image and update packages. It's easy. It's powerful. It conforms and scales to your infrastructure. Go ahead—take some time and learn to take control.

#### What can I do with Deployment Solution?

Deploy. Manage. Migrate. Regardless of your organization's size or special IT requirements, Deployment Solution provides a complete system to cut costs and improve response times for both big and small jobs.

**Manage from a remote console.** Deploy, control, and manage all types of computers across your organization from a remote Deployment Console. Use the feature-rich Deployment Server Console for real-time management of computers.

See on page 69.

**Migrate data, applications, and personal settings.** Through easy-to-use wizards, migrate data and settings from a retiring computer to a new computer by capturing desktop, network, and application settings. Redeploy these personal settings remotely from a Deployment Console.

See New job wizard on page 146.

**Upgrade and install software.** Manage system software on a day-to-day basis for desktops, servers, and notebooks to upgrade applications, install service packs, set up printer drivers, and modify systems as needed. Deployment Solution provides upgrade capabilities for all mobile computers by deploying to remote sites as needed by traveling personnel.

#### See Distributing software on page 175.

**Deploy computers in large groups.** Easily deploy and configure large numbers of computers across an organization. Install hard disk images to groups of new or existing computer types using multicasting features. Install software and personality settings with common applications, data and drivers. Run post-configuration jobs or automated scripts to assign unique security IDs, configure user names, and set IP addresses using deployment jobs.

See on page 95.

**Deploy and manage servers.** Manage all types of Web and network servers, including ultra high-density server board inserts. Automatically redeploy servers based on deployment history and saved server images, or use automated scripted installs with easy-to-create answer files. Operating systems can be installed as image files or run as scripted installs—or as a combination strategy (especially nice for managing ultra-dense server farms). See the *Altiris Deployment Solution Reference Guide*.

**Respond to common help desk requests.** Remotely browse, diagnose, and repair problems on systems without ever leaving a Deployment Console. Detailed hardware and software inventories, along with remote control and chat features simplify remote diagnosis of common problems.

See Remote operations using Deployment Solution on page 122.

**Recover from disaster.** Ease the pain of accidents by automatically backing up and restoring configurations, personalities, registries, partitions, and drives remotely from a Deployment Console. Saving the history of all deployment jobs assigned to a computer makes it easy to restore a system to a previous working state.

See Restoring a computer from its deployment history on page 124.

# **Features of Deployment Solution**

Deployment Solution can be installed and implemented locally as an independent Deployment Server system on a single LAN segment or site, or scaled across the enterprise using Deployment from the Symantec Management Console to consolidate all deployment and IT management efforts.

Each Deployment Server system includes services, applications, and utilities for highbandwidth, real-time deployment, and includes a Web console to perform IT duties from a Web browser. Deployment from the Symantec Management Console integrates multiple Deployment Server systems for generating deployment reports across the enterprise and adds other Web IT solutions, such as Inventory, Application Metering, Carbon Copy, and other solutions of the Client Management Suite.

#### **Deployment server system**

The Deployment Console is a Windows user interface that provides full features to deploy computers, image hard disks, migrate user settings and programs, run scripted installs, remotely control computers, and perform other deployment tasks for all your computer resources. Daily IT requests and jobs formerly completed by visiting each desktop, server or portable computer in the organization can now be completed from your Deployment Server Console.

Components of the Deployment Server system can be installed on a single computer (a Simple install) or distributed across several local computers (a Custom install). A Custom installation lets you install Microsoft SQL Server and access the Deployment Database from a separate computer. The Deployment Share, Deployment Server, PXE Server, and Deployment Consoles can also be distributed to separate computers. The Deployment Server Console displays data directly from the Deployment database.

## Managing from the deployment console

The **Deployment Server Console** (a Windows console) is included with the Deployment Server system and provides complete deployment and management features. It is divided into several operational panes:

- The **Computers** pane displays all computer resources managed by a Deployment Server system. It includes features to right-click and remotely execute operations on managed computers. From this pane, you can drag the computer icons to job icons to schedule deployment and management tasks.
- The **Jobs** pane executes and schedules deployment tasks for selected computers. Using one or more sequenced jobs, you can image, configure computer settings, distribute packages, and run scripts by dragging Job icons to individual computers or computer groups and scheduling a convenient time to execute. It lets you schedule deployment jobs by dragging computer icons to job icons, or vice versa.
- The **Details** pane provides information and features to filter computers by type and build deployment tasks. It extends the user interface features when working in the **Computers** and **Jobs** panes.
- From the Deployment Server Console (the Windows console), a **Shortcut and Resources** pane organizes and provides easy access to .MSI files, .RIPs, image files (.img), Personality Packages (.exe), and other file types. It functions as a library for packages used when building jobs in the console.

In addition, the Deployment Server Console provides easy-to-use wizards to simplify and expedite common deployment tasks.

See on page 69.

# **Managing computers**

From the Deployment Console, you can manage all types of computers to perform immediate deployment and management operations. From the **Computers** pane of the console, computer resources can be grouped by location, department, or type (portables, desktops or servers) and organized to reflect your environment. You can run operations, schedule deployment jobs, access computers or computer groups to change the network settings, run disk image, other deployment jobs.

The console identifies computers and computer groups with a unique icon. To access a computer, click the computer icon to view the configuration settings or run specific deployment and management operations. Computer icons can be dragged to job icons to schedule and run pre-configured deployment tasks from the Windows console. In the Deployment Web console, you can manage computers using drop-down lists, secondary dialog boxes, and other familiar Web features.

See on page 95.

#### Managing with computer icons

Icons displayed in the **Computers** pane of the console help in identifying the computer types and deployment status. Group icons can be expanded to view the member computers, and computer types can be identified by specific icons: desktops and notebooks, servers, computer groups, and Linux computers. Computer icons can also identify the state of the managed computer—a logged-on user, a computer waiting for further instructions, a user not logged on and other states of deployment—when performing operations or executing deployment tasks on a selected computer.

See Viewing computer details on page 96.



This icon identifies a managed **desktop or notebook** computer that is active and has a user logged on.



This icon identifies a managed Windows **network or Web server** that is active and has a user logged on.

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This icon identifies a **Linux** computer.



This icon identifies a **pre-configured computer account** with user account settings that are not associated with a new computer.

Additional icons represent deployment status, inactive computers, computers running a deployment job, and new computers.

See Viewing computer details on page 96.

#### Immediate management access from the console

From a Deployment Console, you can select a computer and start various computer configuration and management operations for a specific computer in your system. You can create new deployment tasks, restart, restore the hard drive, view deployment history, and perform other advanced tasks using the commands on this menu. Some operations—such as changing configuration settings, copying files, and creating quick disk images—create job files automatically.

See *Remote operations using Deployment Solution* on page 122. For complete information about Deployment Consoles, see *Managing from the deployment console* on page 10.

# Building and scheduling deployment jobs

Jobs are designed as objects with defined deployment tasks. Jobs can be built, organized, and scheduled to run on selected computers or computer groups from a Deployment Console. Jobs automate both simple and complex IT administrative duties — from complete deployment and migration tasks to simple DOS commands and modification of configuration settings. You can build and schedule jobs from any of the Deployment Consoles.

Deployment jobs give you the ability to organize, store, and assign administration tasks for each computer or computer group. You can create and deploy images, back up registry files, run scripted installs, or make post-imaging changes such as adding printers and applications. You can deploy and run packages—RIPs, images, personality packages, MIS programs, and others—to migrate applications, configure computer settings, deploy complete hard disk images, and much more. You can also assign jobs with conditions to run only on defined computer types.

See on page 145.

Jobs are built in the Deployment Server Console by creating a job name (identified by a job icon in the console) and adding predefined deployment tasks. Tasks such as **Distribute Software, Run Script**, or **Create Disk Image** are added and executed sequentially when scheduled to run on computers or computer groups. And even within computer groups, different jobs can be assigned to different computer types based on the operating system, hardware, or other specified conditions.

See *Deployment tasks* on page 155.

When a job is built, it can be scheduled to run immediately, at desired intervals, or at any other convenient time when the bandwidth is low. In addition, you can use bandwidth throttling features to schedule and run deployment tasks to large groups without affecting network traffic.

See *Scheduling jobs* on page 153.

From the Deployment Server Console, you have several options to create deployment jobs:

- Create common deployment tasks quickly and easily using the New Event Wizard.
- Import jobs from other Deployment Solution systems.
- Manually create deployment tasks from the console.
- Copy and paste deployment tasks from within the console.

See Building new jobs on page 150.

In the **Jobs** pane, you can create and organize deployment jobs. You can then assign jobs by dragging icons to the desired computer or computer group.

#### **Building jobs**

Building jobs includes creating a new job and then adding tasks to the job to run in sequence when scheduled on selected computers. You can build jobs by adding tasks manually or you can step through the **New Job Wizard** to create common jobs and schedule them. Sample tasks are also included with Deployment Solution to use as installed or to easily customize and run.

See New job wizard on page 146.

After creating and building a job, you can then assign it to a computer and schedule it to run at any time—immediately, after a specified time, or on a daily, weekly, or monthly schedule. The deployment status of each job is reflected in the console.

#### Assigning deployment jobs with icons

Computer icons are used to identify the types of computers in a console. Similarly, job icons identify the status and success of a scheduled deployment job. After scheduling jobs, you can monitor the progress as the job icons are updated at each step of execution.





See Viewing job details on page 145.

#### Scheduling jobs

From the **Schedule Job** dialog, you can run jobs immediately or schedule the job to run in batches at defined intervals. You can also assign the job to repeat every hour, day, or week. Scheduling jobs can be as simple as clicking **OK** to run immediately or as sophisticated as required to meet your deployment needs.

For complete information about building and scheduling deployment jobs, see on page 145.

# Imaging

A primary task of Deployment Solution is to capture an image (a clone of the hard drive) from a reference computer and distribute the image to set up new computers or reinstall computers to their basic configuration. You can create a library of image files on the Deployment Share (file server storage) and schedule image jobs to different computer types as required.

Deployment Server lets you push down a boot image remotely and execute the image using PXE Server, eliminating the need to physically attend and boot each managed computer.

See *Creating a disk image* on page 157, *Distributing a disk image* on page 162, and *New job wizard* on page 146

#### Imaging from deployment server

Deployment Server includes multiple features to capture an image and lay it down to a new or existing computer. You can use the Deployment Server Console to create and distribute disk images using deployment tasks, such as the Quick Disk Image wizard shown below:

Pre-boot environments let you boot to automation to create and deploy images, back up and restore a computer's registry file, or run other automation tasks. You can also boot to a Network Server and run imaging files and other commands.

See Boot Disk Creator Help and PXE Configuration Utility Help.

# Migrating computers

Deployment Solution provides various options to migrate operating systems, computer personalities, software, or entire hard disk images. You can accomplish migration tasks individually or as a single job.

The New Job Wizard steps you through each migration option, letting you capture a complete hard disk image (to upgrade to a new computer), migrate a user to another operating system with the same personality settings and applications, or to simply move personality settings from one computer to the another. Using the New Job Wizard is one of the easiest ways to build deployment tasks to migrate user data and settings.

Deployment Solution lets you build sophisticated deployment jobs that automatically migrate personalities, including deployment tasks to capture the user's personality, migrate the operating system and software, and reconfigure the computer with the user's original personality settings. You can also edit Personality Packages or Rapid

Install Packages (.RIPs) using the PC Transplant Editor and the Wise MSI Editor tools from the Deployment Server Console.

# Deploying and managing servers

Deployment Solution includes features designed specifically for deploying and managing network or Web servers. Server-specific features include scripted installs for initial installation, and support for remote management cards, multiple network adapters, history transfers to support rip and replace redeployment, and additional functionality required for automating server management.

Deployment Solution also integrates with other hardware vendors to provide systems and tools to manage large server installations and support automatic deployment strategies. These unified systems simplify and automate server configurations and large-scale migrations, and support emerging hardware for ultra high-density server systems.

From a Deployment Console you can build deployment jobs to run scripted installs for Windows and Linux servers. You can run these unattended installs directly over the network for individual Web or network servers. You can create answer files for each scripted install from a Deployment Console.

You can also run server-specific scripts and redeployment tasks. Enhanced task logging and history tracking features let you recall deployment actions to quickly redeploy mission-critical servers.

# Get started

Deployment Solution is a full-featured remote deployment system designed to manage computer devices across all types and sizes of small to medium organizations and large enterprises. It includes Windows and Web components to design and scale a system for your specific IT needs and challenges. Deployment Solution provides a wide array of tools, utilities, and applications to design a system for your specific needs. Deployment Solution is easy-to-use and adaptable to your environment.

You can design and install a Deployment Server system specific to your hardware, organizational structure, network architecture, and other environmental variables. The installation and configuration process lets you install Deployment system components (database, services, network share, user interface console) to a single computer or distribute components to separate role servers.

# Chapter 34 Installing Deployment Server

Deployment Server is a flexible, scalable computer deployment and management system that can be installed and configured on a single computer, or installed across several computers to distribute processing for large enterprise environments. You can run a **Simple** install to position all Deployment Server Components on a single computer (most frequently used), or plan and perform a **Custom** install to distribute installation of components across separate computers in the site. The Deployment Web Console can be installed as part of the Deployment Server installation on any computer running Microsoft IIS.

#### See Deployment Server components on page 335.

After installing Deployment Server components, you can remotely install Deployment Agents on all types of computer resources across your organization: laptops, LAN and Web servers, network switches, and so on. Windows computers and Linux computers can be managed as a unified environment, with each client communicating through its own Deployment agent to update inventory data and react to Deployment Server commands and deployment tasks.

Select one of the following methods for installing a Deployment Server system:

- Simple install for Deployment Server
- Custom install for Deployment Server
- Thin client install
- Component install

To install Deployment Agents on the client computer, see *Installing Deployment Solution agents* on page 351.

#### Note

You can also install the Deployment Server components remotely from the Symantec Management Console.

# **Enabling SQL Server 2008**

SQL Server 2008 turns off the network TCP and pipe protocols. Before you install Deployment Server, you need to enable the network TCP protocol.

#### To enable SQL Server 2008

- 1. In the SQL Server Configuration Manager, expand **SQL Server Network Configuration**.
- 2. Click Protocols for MSSQLSERVER.
- 3. In the right pane, double-click TCP/IP.
- 4. Change the Enabled field to Yes.
- 5. Click OK.

6. Restart SQL Server.

You can now install Deployment Server.

# **Deployment Server components**

The Deployment Server system includes the following components:

- Deployment Console
- Deployment Server
- Deployment database
- Deployment share
- PXE server
- DHCP Server (not an Altiris product)
- Deployment Web console
- Installing Deployment Solution agents
- Sysprep

You can install all these components on the same computer or distribute them across multiple computers, depending on the environment.

## **Deployment Console**

The Deployment Console is the Win32 user interface for Deployment Solution. You can install this Windows console on computers across the network to view and manage resources from different locations. In addition, from this console, you can access the Deployment Database on other Deployment Server systems to manage sites across the enterprise.

See *Deployment database* on page 337 and *Connecting to another Deployment Server* on page 93.

The Deployment Console communicates with the Deployment database and Deployment Server services. In a Simple Install for Deployment Server, the Deployment Console is installed on the same computer similar to all other components. In a Custom Install for Deployment Server, you must ensure that a connection is available to these computers and security rights are set. You must have administrative rights on any computer running the Deployment Console.

See *Simple install for Deployment Server* on page 341 and *Custom install for Deployment Server* on page 344.

See also: *Deployment Web console* on page 339, on page 69, and *Deployment Server components* on page 335.

### **Deployment Server**

Deployment Server controls the flow of the work and information between the managed computers and the other Deployment Server components (Deployment Console, Deployment Database, and the Deployment Share). Managed computers connect and communicate with the Deployment Server to register inventory and configuration

information and to run deployment and management tasks. The computer and deployment data for each managed computer is stored in the Deployment Database.

#### Note

To view, start, or stop Deployment Server, go to the *Altiris Server* services in your Windows Manager.

Managed computers require access to the Deployment Server at all times, requiring that you have administrative rights on the computer running the Deployment Server.



Create a user account to run the Deployment Server. The service runs as a logged-on user, not as a system account. You must create this account on all Deployment Server computers. The account must have full rights to the Deployment Share. The account must have a non-expiring password.

See Deployment share on page 338.



Assign a static IP address to the Deployment Server computer. Other components cannot connect to the Deployment Server if you use DHCP and dynamically change the IP address.



To install the Deployment Server on a remote computer, the default administration shares must be present. Restore any shares that have been removed before you install the Deployment Server.

#### Note

It is easier to create an administrative account using the same name and password on all computers than to use the existing name and password of each account.

Most packages (.RIP, Personality Packages, and .MSI files) pass through the Deployment Server. Therefore, if you store these files on the Deployment Server, the deployment of these packages is faster. Image files, however, are sent directly from the Deployment Share to the client computer when you run an imaging task.

See *Deployment Server components* on page 335.

## Deployment database

#### Note

In Deployment Solution 6.0 and later, if you have already set up multiple instances of the Microsoft SQL Server, you can identify a specific instance using this format: <database instance>\express. Example: If you have a clustered Microsoft SQL Server named SQLClusterSvr to manage multiple Deployment Solution systems on different network segments, you can enter the name SQLClusterSvr\salesSegment or SQLClusterSvr\marketingSegment during the Deployment Server setup, depending on the previously established database instance. This feature is supported in the silent install .INI file and the GUI install executable.

The database maintains the following information about the managed computers:

Hardware. RAM, asset tag, and serial numbers

General Information. Computer name and MAC address

Configuration. TCP/IP, Microsoft networking, and user information

**Applications**. The installed applications and information about these applications, such as the name of the application, publisher, and product ID

Services. Installed Windows services

Devices. Installed Windows devices, such as network adapter, keyboard, and monitors

Location information. Contact name, phone, e-mail, department, mail stop, and site

The Deployment Server Database also contains jobs and other data used to manage your computers.

#### Note

You can install a single Deployment Database in each Deployment Server system—you cannot have two databases storing data for a single computer. If the computer you are installing the database on has an existing Microsoft SQL Server<sup>™</sup>, the Deployment Database is added to that instance of the database engine.

## Support for multiple database instances

In Deployment Solution 6.0 and later, you can identify a named instance of the Microsoft SQL Server when installing Deployment Solution. You can now identify other named instances of Microsoft SQL Servers instead of accessing only the default instance. This feature lets you identify and run multiple databases from one clustered Microsoft SQL Server to manage multiple sites or network segments. This feature is supported in the silent install .INI file and the GUI install executable. Deployment Solution also supports a different name for the Deployment Database instead of the default name, eXpress.

See *Custom install for Deployment Server* on page 344 and *Deployment Server components* on page 335.

## **Deployment share**

The Deployment Share is a file server or shared directory where Altiris program files and packages are stored. The Deployment Share can be a shared directory (default Simple install in Program Files\ Altiris\eXpress\Deployment Server) or another file server (in the Custom install, you can assign a Microsoft Windows or Novell NetWare file server).

Deployment Share is where you store image files, registry files, .MSI packages, Personality Packages, script files, and more. When you are deploying or managing a computer, the Deployment Server stores and retrieves these packages from the Deployment Share as needed.



If you want to install Deployment Solution on a remote file server (not the computer where you are running the install program), create a share (or give Read/Write rights for NetWare) on the file server where you want to install the Deployment Server. This share must allow access to all other components, including managed computers and the user account that runs the Deployment Server.

**You must create this share before you begin installing.** If you are not installing on a remote computer, you can select the option to create the share during the installation.

#### Note

You can install only one Deployment Share for each Deployment Server system. However, if the Deployment Share's hard drive gets full, other computers can be used as additional backup storage points. In some cases, other systems emulating a Microsoft or NetWare environment can be used as the Deployment Share.

**Note for NetWare users:** If you have a problem using the Novell NetWare server as a Deployment Share, install the Novell Client instead of the Microsoft NetWare Client.

See Deployment Server components on page 335.

## **PXE** server

The PXE Server provides service to client computers on a subnet. When the Deployment Server sends a deployment job, the client computer receives a request to boot to automation and the PXE-enabled computers connect to the first PXE Server that they discover, which communicates with the Deployment Server and the client computers.

The PXE Server also functions on the same protocols as a standard DHCP Server, so you can place the PXE Server wherever you would place a DHCP server. You can also install as many PXE Servers as required in your system, but you must also install a DHCP Server.

The PXE Server sends a boot menu option list to the client when the computer performs a PXE boot. The deployment job, which contains at least one automation task, uses the default automation environment or the environment specified by a user who has the permission to create a deployment job. Use the boot menu option to request the PXE Server for the boot menu files and download the boot menu files from the PXE Server to the client computer's RAM storage. The client computer always boots according to the request and reply communications taking place between the Deployment and PXE Servers.

Altiris supports DOS, Linux, and Windows PreInstallation Environment (WinPE) as preboot environments. These options let you create a single job, but may contain multiple automation tasks. The default automation environment (the first pre-boot operating system files installed during the Deployment Solution installation) is used for Initial Deployment, unless you specify otherwise.

Using a PXE Server to boot client computers to automation saves you from having to install an automation partition on each client computer's hard disk, or from manually starting computers using Altiris-supported bootable media.See *Boot Disk Creator Help*.

See *Pre-boot operating system (simple)* on page 367, *Install automation partition* on page 133, and *PXE Configuration Utility Help*.

#### **DHCP Server**

The DHCP (Dynamic Host Configuration Protocol) server is a server set up to assign TCP/ IP addresses to the client computers. This server is not an Altiris product, but is required if you want to use the PXE Server.

We recommend that you use DHCP to manage the TCP/IP address in your network, whether you use PXE or not. This greatly reduces the amount of time required to set up and manage your computers.

See *Deployment Server components* on page 335.

## **Deployment Web console**

The Deployment Web console remotely manages a Deployment Server installation from a Web browser. It deploys and manages Windows and Linux computers (both client and server editions) in real time with many of the features that are present in the Deployment Console.

See Deployment Console on page 335.

You can install the Deployment Web console on any computer running the Microsoft IIS Server, such as a computer running Deployment Server, Notification Server, or a remote computer running only Microsoft IIS.

#### Note

If Microsoft IIS is running, the Deployment Web console is installed automatically during the Windows installation.

#### Note

The DS Installer does not detect the version of MDAC that is installed. The Deployment Web console requires MDAC version 2.71 or later to install. If the version of MDAC is earlier than 2.71, the Web console displays a Target of Invocation error.

See *Deployment Console* on page 335 and *Deployment Server components* on page 335.

# **Deployment Server system requirements**

The following are the system requirements for Deployment Server components and the network environment.

#### Network

• TCP/IP is used for communication between all Deployment Server components. If you have a NetWare file server for your Deployment Share, IPX can also be used to communicate with this component.

#### **Deployment Server**

- RAM: 256 MB
- Disk Space: 200 MB

Component	Hardware	Software	
All components require Pentium III processors			
Deployment	<b>RAM:</b> 256 MB	Windows Server	
Server	Disk Space: 200 MB		
Deployment	<b>RAM:</b> 128 MB	Windows XP Professional	
Console	Disk Space: 3.5 MB	Windows Server	

Component	Hardware	Software
PXE server	Memory: 128 MB	DHCP server (must be on the
	<b>Disk Space:</b> 25 MB (for boot files)	network, but does not have to be on the same computer as a PXE Server)
		Windows Server or Advanced Server
Deployment	Memory: 128 MB	(Microsoft SQL Server <sup>TM</sup> or MSDE
UATADASE	<b>Disk Space:</b> 55 MB (for program files), plus space for data.	
Deployment	Memory: 128 MB	Windows Server
<i>share</i> (File server for storage)	<b>Disk Space:</b> 100 MB for Deployment Server program files <u>plus</u> space for storing files (image, boot, .RIP, and so on)	NetWare (File server only. Cannot be used for any other components).
Deployment	Memory: 128 MB	Windows XP Professional
Wed console		Windows Server
		MS IIS
		MDAC

#### **Deployment agents**

The Deployment agent requirements are similar to the target operating system. The Deployment agent requires around 5 MB disk space.

See the following sections for additional information:

- Installing the Deployment Agent on page 353
- Installing Deployment Agent on Linux on page 357
- Installing the automation agent on page 358
- Managing licenses on page 358

# Simple install for Deployment Server

The Simple Install option places all the Deployment Server Components — Deployment Server, Deployment Console, Deployment Share, and Deployment Database — on the same computer.

See Deployment Server components on page 335.

You can install the Deployment Server with a Microsoft Desktop Engine (MSDE) by using the Simple Install. You can install the Deployment Web Console during a Simple Install

(and during a silent install) if the Microsoft IIS services and .NET frameworks are running on the selected computer.



AltirisDeploymentSolutionWin\_(version) installs all Windows components of Deployment Solution. Using the Simple Install option, you can install MSDE on a local computer if a database is not already installed.

#### Note

Simple installation works only with a default Microsoft SQL or MSDE install.

#### To run a simple install

- 1. Start the server and log on using the administrator account you created for the Deployment Server. See *Deployment Server system requirements* on page 340.
- 2. Launch the appropriate Altiris Deployment Server installation file and follow the setup steps.

The Altiris Packager Self-Extracting Executable Options dialog appears.

- Select the Use current temp folder option to use the current temporary folder to download installation files or the Extract to a specific folder option to set a path to an existing folder to download the installation files.
- 4. Click Extract and Execute App to extract and execute the application immediately.

The default installation directory is C:\DSSetup. If the file C:\DSSetup\AppLic.dll already exists, a prompt appears, asking whether you want to overwrite this file. Click **Yes to All**. You may have to wait for some time while Altiris Packager extracts files from this archive.

#### Note

Click **Extract Only** to only extract the application and execute the application later. You must run the axInstall.exe file to start the installation.

- 5. Select the **Simple Install** option from the installation types listed in the **Deployment Server Install Configuration** dialog.
- (Optional) Select the Include PXE Server option to install the PXE Server. (See PXE server on page 338.) Click Install.
- 7. Click Yes on the Software License Agreement page.
- 8. Enter the following information on the **Deployment Share Information** page:
  - a. In the File Server path field, enter or browse to the path to install the Deployment Server program files. The default path is C:\Program Files\Altiris\eXpress\Deployment Server.)
  - b. Select the Create Deployment Share option to create a Deployment Share on the computer. The Deployment Share lets you store files on the computer and run Deployment Server system applications. See *Deployment share* on page 338.
  - c. Select one of the following options to configure the licensing information:
    - If you do not have a license file, select the **Free 7 day license** option. The installation continues and lets you use a free evaluation license file.

- Select the Upgrade using existing license option to upgrade the installation using an existing license.
- Select the **License File** option and browse to locate a license file (.LIC file). This is the activation key you receive when you register your Altiris software. See the *Altiris Getting Started Guide* for further licensing information.

#### Note

You do not need to apply a license key to activate thin clients from HP or Dell. This managed client computer automatically receives a non-expiring license when connected to the console.

d. You must enter an administrator user name and password for the Deployment Server. This account must already exist on the Deployment Share and the Deployment Server. By default, the name you are currently logged on as appears. If you use a domain account, enter the domain and the user name (Example: Domain1\administrator). See *Deployment Server* on page 336.

#### Note:

If a previous installation of the Deployment Database is detected, an **axinstall** prompt appears, asking whether you want to preserve or overwrite the existing database. Click **Yes** to preserve the data in your Deployment Database.

Click Next. The Pre-boot Operating System page appears.

- 9. Select a default pre-boot operating system from any one of the options, such as FreeDos, MS-DOS, Linux, WinPE, or **None**. Browse to locate the FIRM file (for FreeDos and Linux operating systems) or the operating system files (for MS-DOS and WinPE). Click **Next**. The **Installation Information** page appears, displaying the components that you selected to install.
- 10. Click **Install** to install the listed components, or click **Back** to modify the settings before starting the installation. The installation process begins and can take several minutes. The **Installation Information Summary** page appears after the installation completes.

#### Note

If you are upgrading your installation, the message **Do you want to replace the share?** appears. Click **Yes** and continue. If you click **No**, a message appears, stating that the share is already in use and you need to manually set the share to point to the correct directory. Click **OK**.

- 11. (Optional) You can select one of the following options to install agents.
  - Enable Microsoft Sysprep Support. Select this option to enable Microsoft Sysprep support and click Next. You must specify the location of the Microsoft Sysprep files.
  - Remotely install Deployment Agent. Select this option if you want to push the Deployment Agent to computers running Windows operating systems.
  - Install add-ons to provision server hardware. Select this option to install the add-ons for Dell computers.

#### Note

This option is enabled on Dell computers only when add-ons are present in the oeminstall-addons section of the oeminstall.ini file, which is located in the eXpress directory.

12. Click Finish.

You have successfully completed a Simple Install for a Deployment Server system. Click the Deployment Console icon on your desktop to view all the computer resources running Deployment Agents configured for your Deployment Server.

#### Note

Antivirus applications can delete service .EXE files or can disable services.

Example: When you run the Deployment Server Win32 Console, the "Unable to connect to the Altiris Deployment Server DS Management Server. Please ensure this service is started and running currently." error appears. This occurs because the service files are deleted by the antivirus application during scanning. To resolve this issue, disable the antivirus software and reinstall the Deployment Server.

See Custom install for Deployment Server on page 344.

# **Custom install for Deployment Server**

The Custom Install option lets you distribute all the Deployment Server Components — Deployment Server, Deployment Console, Deployment Share, and Deployment Database — on different computers. You can install Deployment Server with a Microsoft Data Engine (MSDE) or install it on an existing SQL Server.

See Deployment Server components on page 335.



AltirisDeploymentSolutionWin\_(version) installs all Windows components of Deployment Solution. Select the Custom install option to add new components or to install Deployment Solution on an existing database.

#### To run a custom install

- 1. Start the server and log on as the administrator account you created for the Deployment Server. See *Deployment Server system requirements* on page 340.
- 2. Launch the appropriate Altiris Deployment Server installation file and follow the setup steps.

The Altiris Packager Self-Extracting Executable Options dialog appears.

- Click the Use current temp folder option to use the current temporary folder to download installation files or the Extract to a specific folder option to set a path to an existing folder to download the installation files.
- 4. Click Extract and Execute App to extract and execute the application immediately.

The default installation directory is C:\DSSetup. If the file C:\DSSetup\AppLic.dll already exists, a prompt appears, asking whether you want to overwrite this file.

Click **Yes to All**. You may have to wait for some time while Altiris Packager extracts files from this archive.

#### Note

(Optional) Click **Extract Only** to only extract the application and execute the application later. You must run the axInstall.exe file to start the installation.

- 5. Select the **Custom Install** option from the installation types listed in the **Deployment Server Install Configuration** dialog if any of the following conditions exist:
  - You are using the NetWare file server as a Deployment Share.
  - You are managing many computers and require a distributed architecture to meet bandwidth restrictions and other design requirements.
- 6. Click Install. Click Yes on the Software License Agreement page.
- 7. Enter the following information on the **Deployment Share Information** page:
  - a. In the File Server path field, enter or browse to the path to install the Deployment Server program files. The default path is C:\Program Files\Altiris\eXpress\Deployment Server.)
  - b. Select the Create Deployment Share option to create a Deployment Share on the computer. The Deployment Share lets you store files on the computer and run Deployment Server system applications. The Deployment Share can exist on a Microsoft Windows server or Novell NetWare server.

#### Note

You can only create the share if it is on a Microsoft Windows Server; the Novell share should already be set up. See *Deployment share* on page 338.

- c. Select one of the following options to configure the licensing information:
  - If you do not have a license file, select the **Free 7 day license option**. The installation continues and lets you use a free evaluation license file.
  - Select the Upgrade using existing license option to upgrade the installation using an existing license.
  - Select the License File option and browse to locate a license file (.LIC file). This is the activation key you receive when you register your Altiris software.

See the *Altiris Getting Started Guide* for further licensing information. Click **Next**.

#### Note

You do not need to apply a license key to activate thin clients from HP or Dell. This managed client computer automatically receives a non-expiring license when connected to the console.

- 8. Enter the following information on the **Deployment Server Information** page:
  - Select the computer where you want to install the Deployment Server. You can
    install the Deployment Server on the local computer or on a remote computer.
    The IP address and the port information for the selected computer are displayed
    by default.
  - b. Enter the path where you want to install the Deployment Server.

- c. You must enter an administrator user name and password for the Deployment Server. This account must already exist on the Deployment Share and the Deployment Server. By default, the name you are currently logged on as appears. If you use a domain account, enter the domain and the user name (Example: Domain1\administrator). (See *Deployment Server* on page 336.) Click **Next**.
- 9. Enter the **Deployment Database** information and click **Next**.
  - Specify the Microsoft SQL Server Instance where you want to install the database. See *Deployment database* on page 337.

#### Note

If you have already set up multiple instances of the Microsoft SQL Server, you can identify a specific database instance in this field using the format: <SQL Server Name>\<database instance>.

- Depending upon the selection of the SQL Server instance, the default port at which the selected instance is listening appears in the SQL Port Number field. You can edit the port number if you have manually entered the SQL Server name or if the port number does not appear automatically due to some firewall restriction.
- You can enter a name other than eXpress in the **Database Name** field.
- 10. Select the type of Deployment Database authentication to be used. You must enter the user name and password if you want to use SQL Server authentication.

#### Note

You cannot use the remote SQL database with NT authentication on a remote computer if you do not have administrative rights on the computer.

Click Next. The Pre-boot Operating Systems page appears.

#### Note:

If a previous installation of the Deployment Database is detected, an **axinstall** prompt appears, asking whether you want to preserve or overwrite the existing database. Click **Yes** to preserve the data in your Deployment Database.

 Select a default pre-boot operating system from any one of the options, such as FreeDos, MS-DOS, Linux, or WinPE. Browse to locate the FIRM file (for FreeDos and Linux operating systems) or enter the path for the operating system files (for MS-DOS and WinPE). Click **Next**.

#### Note

If you are using a free evaluation license, you cannot use the WinPE Add-On Packages.

- 12. Enter the PXE Server information. (See *PXE server* on page 338.) Select the preboot operating system to use as the default PXE boot menu item. You can select DOS, Linux, or WinPE. If you want to use the previously installed pre-boot operating system, select the **Keep current default** option. Click **Next**.
- 13. Specify how you want to connect your managed computer to the Deployment Server by selecting one of the following options.
  - Select the Connect directly to Deployment Server option and enter the Deployment Server IP address and port.

Select the Discover Deployment Server using TCP/IP multicast option and provide the Server name.

#### Note

If you leave the **Server name** field blank, the Deployment Agent connects to the first Deployment Server that responds. Click **Next**.

- 14. Enter the Deployment Console information. You can install the Deployment Console on the local computer or on a remote computer. Click **Next**.
- 15. Enter the Deployment Web Console information. You can install the Deployment Web Console on the local computer or on a remote computer. This computer must be running Microsoft IIS .NET framework. Specify the path where you want to install the Deployment Web Console and also valid user credentials. Click **Next**. See *Deployment web console information* on page 369.

#### Note

This option is disabled if Microsoft IIS is not detected.

The **Installation Information** page appears, displaying the components that you selected to install.

16. Click **Install** to install the listed components or click **Back** to modify the settings before starting the installation. The installation process begins and can take several minutes. The **Installation Information Summary** page appears after the installation completes.

#### Note

If you are upgrading your installation, the message **Do you want to replace the share?** appears. Click **Yes** and continue. If you click **No**, a message appears stating that the share is already in use and you must manually set the share to point to the correct directory. Click **OK**.

- 17. (Optional) You can select one of the following options to install agents on the managed computers.
  - Enable Microsoft Sysprep Support. Select this option to enable Microsoft Sysprep support and click Next. You must specify the location of the Microsoft Sysprep files.
  - Remotely Install Deployment Agent. Select this option if you want to push the Deployment Agent to Windows computers directly after the installation. This can be done any time by selecting Tools > Remote Agent Installer.
  - Install add-ons to provision server hardware. Select this option to install OEM add-ons for servers.

#### Note

This option is enabled only when add-ons are present in the oeminstall-addons section of the oeminstall.ini file, which is located in the eXpress directory.

#### 18. Click Finish.

You have successfully completed a Custom Install for a Deployment Server system. Click the Deployment Console icon on your desktop to view all the computer resources running Deployment Agents configured for your Deployment Server.

See Simple install for Deployment Server on page 341.

# Thin client install

The thin client install option lets you install the Thin Client view of the Deployment Console on your computer. You can install Deployment Server with a Microsoft Data Engine (MSDE) or install it on an existing SQL Server. You need not provide a license file for the Thin Client installation.

#### To run a thin client install

- 1. Start the server and log on using the administrator account you created for the Deployment Server. See *Deployment Server system requirements* on page 340.
- 2. Launch the appropriate Altiris Deployment Server installation file and follow the setup steps.

The Altiris Packager Self-Extracting Executable Options dialog appears.

- Select the Use current temp folder option to use the current temporary folder to download installation files or the Extract to a specific folder option to set a path to an existing folder to download the installation files.
- 4. Click Extract and Execute App to extract and execute the application immediately.

The default installation directory is C:\DSSetup. If the file C:\DSSetup\AppLic.dll already exists, a prompt appears, asking whether you want to overwrite this file. Click **Yes to All**. You may have to wait for some time while Altiris Packager extracts files from this archive.

#### Note

Click **Extract Only** to only extract the application and execute the application later. You must run the axInstall.exe file to start the installation.

- 5. Select the **Thin Client Install** option from the installation types listed in the **Deployment Server Install Configuration** dialog.
- (Optional) Select the Include PXE Server option to install the PXE Server. (See PXE server on page 338.) Click Install.
- 7. Click Yes on the Software License Agreement page.
- 8. Enter the following information on the **Deployment Share Information** page:
  - a. In the File Server path field, enter or browse to the path to install the Deployment Server program files. The default path is C:\Program Files\Altiris\eXpress\Deployment Server.
  - b. Select the Create Deployment Share option to create a Deployment Share on the computer. The Deployment Share lets you store files on the computer and run Deployment Server system applications. See *Deployment share* on page 338.
  - c. You must enter an administrator user name and password for the Deployment Server system. This account must already exist on the Deployment Share and the Deployment Server. By default, the name you are currently logged on as appears. If you use a domain account, enter the domain and the user name (Example: Domain1\administrator). See *Deployment Server* on page 336.

If a previous installation of the Deployment Database is detected, an **axinstall** prompt appears, asking whether you want to preserve or overwrite the existing database. Click **Yes** to preserve the data in your Deployment Database.

Click Next. The Pre-boot Operating System page appears.

- 9. Select a default pre-boot operating system from any one of the options, such as FreeDos, MS-DOS, Linux, WinPE, or None. Browse to locate the FIRM file (for FreeDos and Linux operating systems) or enter the path for the operating system files (for MS-DOS and WinPE). Click Next. The Installation Information page appears, displaying the components that you selected to install.
- Click **Install** to install the listed components, or click **Back** to modify the settings before starting the installation. The installation process begins and can take several minutes. The **Installation Information Summary** page appears after the installation completes.

#### Note

If you are upgrading your installation, the message **Do you want to replace the share?** appears. Click **Yes** and continue. If you click **No**, a message appears, stating that the share is already in use and you must manually set the share to point to the correct directory. Click **OK**.

- 11. (Optional) You can select one of the following options to install agents.
  - Enable Microsoft Sysprep Support. Select this option to enable Microsoft Sysprep support and click Next. You must specify the location of the Microsoft Sysprep files.
  - Remotely install Deployment Agent. Select this option if you want to push the Deployment Agent to computers running Windows operating systems.
  - Install add-ons to provision server hardware. Select this option to install OEM add-ons for servers.

#### Note

This option is enabled only when add-ons are present in the oeminstall-addons section of the oeminstall.ini file, which is located in the eXpress directory.

#### 12. Click Finish.

You have successfully completed a Thin Client install for a Deployment Server system. Click the Deployment Console icon on your desktop to view all the computer resources running Deployment Agents configured for your Deployment Server.

#### Note

Antivirus applications can delete service .EXE files or can disable services.

Example: When you run the Deployment Server Win32 Console, the "Unable to connect to the Altiris Deployment Server DS Management Server. Please ensure this service is started and running currently." error appears. This occurs because the service files are deleted by the antivirus application during scanning. To resolve this issue, disable the antivirus software and reinstall the Deployment Server.

# **Component install**

The component install option lets you add selected Deployment Server Components — Deployment Console, Deployment Web Console, PXE Server, and Deployment Agents to the existing Deployment Share. You can also add Microsoft Sysprep files.

See Deployment Server components on page 335.

#### To run a component install

- 1. Start the server and log on using the administrator account you created for the Deployment Server. See *Deployment Server system requirements* on page 340.
- 2. Launch the appropriate Altiris Deployment Server installation file and follow the setup steps.

The Altiris Packager Self-Extracting Executable Options dialog appears.

- Select the Use current temp folder option to use the current temporary folder to download installation files or the Extract to a specific folder option to set a path to an existing folder to download the installation files.
- 4. Click Extract and Execute App to extract and execute the application immediately.

The default installation directory is C:\DSSetup. If the file C:\DSSetup\AppLic.dll already exists, a prompt appears, asking whether you want to overwrite this file. Click **Yes to All**. You may have to wait for some time while Altiris Packager extracts files from this archive.

#### Note

(Optional) Click **Extract Only** to only extract the application and execute the application later. You must run the axInstall.exe file to start the installation.

- 5. Select the **Component Install** option from the installation types listed in the **Deployment Server Install Configuration** dialog and click **Install**.
- 6. Click **Yes** on the **Software License Agreement** page.
- 7. Enter a path for the Deployment Share and click **Next**.
- 8. Select the components you want to install and click **Next**.
  - Install an additional Deployment Console. Select this option to install another Deployment Console (a Windows executable) on another computer. You can add as many Deployment Consoles as required to manage from multiple consoles across your system, but you can install only one at a time. The Deployment Console Information dialog appears.
  - Install an additional Deployment Web Console. Select this option to install an additional Deployment Web Console on the local computer. You can install the Web console only on computers running Windows and Microsoft IIS. See Deployment web console information on page 369. The Deployment Web Console Information dialog appears.
  - Install an additional Altiris PXE Server. Select this option to add additional PXE Servers across a network segment to handle boot requests for large environments. The PXE Server Information dialog appears.

**Master PXE Server**. When you add another PXE Server, the PXE Server that you initially installed is designated as the Master PXE Server. The Master PXE Server works concurrently with any additional PXE Server to handle boot requests across the network segment, but it also allocates additional blocks of IP addresses to other PXE Servers in the system.

For all the available options for installing PXE Server, see *PXE server install* on page 368.

 Install additional Deployment Agents. Select this option to install additional Deployment Agents on client computers, setting up managed computers in the Deployment Server system. The **Remote Agent Install** dialog appears. Enter common administrator credentials for all client computers. See *Enter administrator account information* on page 353.

- Add Microsoft Sysprep files. Select this option to install the Microsoft Sysprep files, if you did not install them earlier. The Sysprep dialog appears. See Sysprep on page 370.
- 9. Select the computer where you want to install the selected components and click **Next**. The **Installation Information** page appears.

#### Note

If you select the **On a remote computer** option, you must browse and select the remote computer.

- 10. Click **Install** to install the listed components or click **Back** to modify settings before starting the installation. The installation process begins and can take several minutes. The **Installation Information Summary** page appears, specifying that the installation was successful.
- 11. Select the **Install add-ons to provision server hardware** option to install the add-ons for Dell computers. Click **Finish**.

#### Note

This option is enabled on Dell computers only when add-ons are present in the oeminstall-addons section of the oeminstall.ini file, which is located in the eXpress directory. This is the only option available on the **Installation Information Summary** page when you select **Component Install**.

You have successfully completed a Component Install for a Deployment Server system. Click the Deployment Console icon on your desktop to view all the computer resources running Deployment Agents configured for your Deployment Server.

# **Installing Deployment Solution agents**

Each client computer requires the Deployment Agent to run as the Production Agent on a local hard disk, which communicates with the Deployment Server and registers in the Deployment Database. For Windows and Linux client computers, Deployment Solution lets you push agent software to a client computer from a Deployment Console, or you can pull the Deployment agent to the client computer from the Deployment Web Console (or pull it from the Deployment Share).

You can install an embedded (recommended) or hidden automation partition, which contains an Automation Agent that establishes communications with the Deployment Server to run the deployment jobs that are assigned to the client computer.

See Install automation partition on page 133.

- Deployment Agent. Install a Production Agent to a Windows desktop, notebook, or server computer. You can also install this agent on any supported Linux workstation or server. See *Installing the Deployment Agent* on page 353.
- **Deployment Agent on Linux**. Install on any supported Linux workstation or server. See *Installing Deployment Agent on Linux* on page 357.

- **Automation Agent**. Install on any Windows desktop, notebook, or server computer. See *Installing the automation agent* on page 358.
- **Deployment Agent on XP, 2003, Vista (Business) and 2008 Server.** Install the Deployment Agent on the selected Windows computers.

## **Client connectivity and network adapters**

Altiris supports all standard network adapter cards and includes many drivers with the installation of Deployment Solution. However, sometimes outdated drivers (including default drivers that come with the hardware) cause problems when clients are in automation mode. To avoid these problems, you should check the manufacturer's Web site for your network adapter to ensure you use their latest driver in your pre-boot operating system configuration file.

Some common client problems that can be solved by updating drivers are:

- Locking when loading drivers or failing to connect to the server
- Locking when imaging (downloading, uploading, or multicasting)

#### **Microsoft client drivers**

The Boot Disk Creator is set up to work with drivers that follow a certain standard. Because not all NIC drivers follow that standard, you may have to move the files to a different location. Ensure that the following files are in the same directory:

The DOS driver for your card (*drivername.dos*) The sample protocol.ini that comes with your driver (*protocol.ini*) The OEM setup file that specifies the DOS driver (*oemsetup.inf*)

Example: The OEM setup file may contain lines similar to the following:

[netcard]

NGRPCI="NETGEAR FA310TX Fast Ethernet PCI Adapter",0,ndis,ethernet,real,NGRPCI,NGRPCI NIF

[NGRPCI] (This header must be the sixth item listed in the line above)

Device=NGRPCI.DOS (If this line is missing, add it. The syntax is device=drivername.)

If there is no protocol.ini file, create a text file that contains the following command:

DriverName=drivername

#### **Novell client drivers**

The Boot Disk Creator performs the following functions:

- Searches all subdirectories for a directory that contains \*.ins, \*.com, and net.cfg files. (These files must be in the same directory.) The .INS file is opened to get information about the network card.
- Searches the file for a line starting with a carat (^). This line must have at least two values listed, separated by a comma. The two values needed are the description of the card (value1) and the .com driver file name (value2).

# **Installing the Deployment Agent**

For client computers running a Windows operating system, Deployment Solution lets you install agent software using the Remote Agent Installer to "push" the agent to a client computer from a Deployment Console. (See *Remote agent installer* on page 353.) You can also pull the Deployment agent to the client computer by accessing the Windows share or downloading the install package from the Deployment Web Console. You must have administrative rights to the client computers and File and Print Sharing must be enabled to install the agent software.



Click **Remote Agent Installer** on the Deployment Console toolbar, or click **Tool > Remote Agent Installer** to open the utility program. You can also download aclient.exe from the network share or Deployment Web Console to install a Deployment agent.

## **Remote agent installer**

DAgent replaced AClient as the default agent for the Windows operating systems.

#### Windows XP

To install, each XP computer must have the following items:

- An Administrator account with a password. This account must be able to browse \\hostname\admin\$ on the selected computer.
- Disabled simple file sharing. This option can be disabled in Windows Explorer by selecting Tools > Folder Options > View tab and clearing the Use simple file sharing check box in the Advanced settings section.
- Enabled File and printer sharing in the Windows Firewall.

#### Windows 2003, Vista, 2008 servers, and Windows 7

You must enable file and print sharing in the Windows Firewall.

## **Enter administrator account information**

Enter common administrator credentials for all client computers, or keep the default credentials to be prompted for each client computer.

Let me specify a username and password for each machine as it's installed. Prompts for an administrative user name password for each computer in the remote install list. This is the default option.

**Use this username and password for all clients**. Enter credentials for an administrator account that has rights to all the client computers that you add to the remote install list.

# Specify install directory

Enter a location to install the Deployment Agent.

**Install directory.** Enter the path to install the Deployment Agent on the client computer.

**Enable this agent to use SIDgen and/or Microsoft Sysprep.** If you plan to use SIDgen or Sysprep to configure this computer the required files can be copied when the agent is installed.

Click **Change Settings** to set the Deployment Agent settings.

See *Deployment agent settings* on page 110.

## Automatically add to a group

You can select one of the following options to automatically add new computers to the group that you specify.

Add client(s) to default group. Adds new computers to the All Computers group.

**Add client(s) to a specific group**. Adds new computers to another group. Use back slashes to separate subgroups.

## Select computers on the network

Identify client computers on the network and add them to a list of computers to remotely install the Deployment Agent.

**Add**. Select the computers by the name in the list, or enter a computer name or IP address.

**Computer Name**. Enter the name of a computer on the network or its IP address.

**Properties**. Select a computer and view the agent install settings. You can also change SID and Agent settings from the **Agent Properties** dialog.

Import. Import new computers from a file.

This file has the following parameters: -c:[computer] -u:[username] p:[password] -i:[input file]. The parameters must be entered in this order. The password parameter is not required if the administrator account does not have one assigned. If you are using the default settings, you do not need to specify an input filename. Each computer entry must be on a separate line.

**Export**. You can export the listed computers into an export file to use later. The default extension is \*.RCI. Remote Agent Installer first looks for an RCI file extension, but any DOS text file can be used.

When the computers appear in the installer list and the properties are set, click **Finish**. The status of the agent install appears.

After the Deployment Agent is installed, it automatically connects to the Deployment Server and appears in the **Computers** pane of the Deployment Console.

## **Download Microsoft sysprep**

If you select **Enable this agent to use SIDgen and/or Microsoft Sysprep** on the previous dialog, the **Remote Agent Installer** dialog locates the required installation files for the specific versions of Sysprep.

**Update file system permissions when changing SIDs**. Select this option to automatically update file system permissions to maintain the individual file permissions that you may have set. This also includes the individual network shares that may exist on this client. On selecting this option, SID conversion takes a long time.

#### Note

SIDgen is no longer supported and should not be used. Altiris recommends using Microsoft Sysprep in situations where SID replacement is required.



To install Microsoft Sysprep, you must download the installation files required for the Windows operating systems running on the client computer.

#### Windows XP/2003 (deploy.cab)

We recommend installing these files from a Windows 2003 server CD. Windows Vista and 2008 Server include sysprep files by default.

## **Change settings**

Click **Change Settings** to modify access, security and other settings on the Deployment Agent to be installed.

See *Deployment agent settings* on page 110.

## Get server security key

This page appears only if you select the **Enable key-based authentication to Deployment Server** option in the **Default Agent Settings** dialog.

Enter the security key file path for the Deployment Server or browse and select a file containing the security key file path.

## Installing Deployment Agent for Windows

Run AClient.exe from the Deployment Share (shared folder) or download the installation file from the Deployment Web Console.

- 1. On the **Altiris Client Service** dialog, enter a location to install the Deployment agent. Select one of these options, if required, and click **Next**:
  - Secure modification of server properties. Select to prohibit users from changing any agent settings.
  - Enable changing of Security ID. Select to manage the security IDs to run a SID utility as part of an imaging job.
  - Advanced. Click to open the Computer Configuration Properties dialog and enter the settings for the Deployment agent you are installing. See Computer configuration properties on page 101.
- 2. If you have enabled the security IDs, a page listing the options for managing the SIDs appears. Select the utilities you want to use and enter the path where the utilities are stored. Click **Next** to install the Deployment Agent.
- 3. (Optional) Select a group in the Deployment Console to add the client to. You can also leave it at the default group.

After the Deployment Agent is installed, it connects to the Deployment Server and appears in the **Computers** pane of the Deployment Console.

See Installing Deployment Solution agents on page 351.
# Automating the installation of Deployment Agent

If you do not select Remote Agent Installer to install the Deployment Agent, install the Deployment Agent using log-on scripts or batch flies. However, this requires that you manually complete the installation at each client computer. Instead, you can use a template file to set applicable options and properties.

The template file is a text file that can be used to automate configuration of the properties when installing the Deployment Agent from a batch file, login script, or manually from a client computer.

The template file can be created using two methods: editing the sample.inp file or using Remote Agent Installer.

# Editing the sample.inp file

Deployment Solution ships with a sample template file named sample.inp, which contains the commands to configure installation options and properties. This file is located in Program Files\Altiris\eXpress\Deployment Server.

Most of the parameters are disabled in this file. To enable an option, remove the semicolon. Example: To specify an IP address and port number for the client to locate the Deployment Server, remove the semicolon from the *TcpAddr* and *TcpPort* lines and change the address and port number to the correct values.

### Using remote agent installer

You can create a template file when running Remote Agent Installer. After modifying agent properties and adding computers to the **Selecting Clients** window, click **Export** to create a template file to import computers (\*.rci) as well as the template file (\*.inp).

Example: If you have computers named PC-1 and PC-2 listed in the **Selecting Clients** window and you export these computers using the file name Export.rci, the following two template files are created:

Export\_PC-1.inp

Export\_PC-2.inp

## Using the template file

To use the template file you create, run the AClient.exe installation program specifying the template file and using the -install switch. Example:

\\FX1\eXpress\AClient.exe aclient.inp -install

The following command-line options are available:

Option	Definition
-install	AClient.exe runs and installs the Deployment Agent on the computer instead of just running it in memory.
-remove	Permanently removes the Deployment Agent from the computer where it is installed.
-silent	Lets you use the options without being prompted for further input.

Option	Definition
-stop	Stops the Deployment Agent from running, but does not remove it. The next time the computer is booted, the Deployment Agent runs in production mode.
-start	Starts the Deployment Agent. This option works only when Deployment Agent is installed on the computer.

# **Installing Deployment Agent on Linux**

You can install the Deployment Agent on any supported Linux workstation or server by downloading and running the Deployment Agent for Linux installation file (a .BIN file) on the client computer. The Deployment Agent is updated automatically on Linux computers when you upgrade to a new version of Deployment Solution. The creation date of the Deployment Agent is checked and updated when a new agent is available.

#### **Installing the Deployment Agent for Linux**

- 1. After downloading the .BIN file to a local directory, you can install from the command line.
  - Browse to the directory where you saved the .BIN file, switch to the root user (su) and change the directory to the location of the .BIN file by entering

(cd < directory>)

After changing the directory, you must have the permission to execute the .BIN file; to obtain the permission, enter

chmod 544 <filename>

■ Enter: ./<*file name*>

The Deployment Agent for Linux is installed in the /opt/altiris/ deployment/adlagent directory.

- 2. To change the adlagent configuration file settings, update the adlagent.conf file. This file is located in the /opt/altiris/deployment/adlagent/conf directory. You can also change the adlagent configuration file settings by executing the configure script from the /opt/altiris/deployment/adlagent/bin directory.
  - To edit the configure file directly, open the adlagent.conf file located in the /opt/altiris/deployment/adlagent/conf directory and make the required changes.

You can also edit the configuration file to change the functionality or properties. Example: You can open the <code>adlagent.conf</code> file in an editor and scroll to the <code>[Transport]</code> section and the UseMcast line. Change <code>UseMcast=true</code> to <code>UseMcast=false</code>. In the <code>TCPAddr=<IP</code> address> line, enter the IP address of the specific Deployment Server you want to manage the client computer. You can also identify and edit additional configuration settings in the configuration file.

 To run the script to change the settings for the adlagent configuration file, browse to the /opt/altiris/deployment/adlagent/bin directory from the shell and enter

./configure

You are prompted to select Multicast options to identify a Deployment Server to manage the current client computer, or you can select a specific Deployment Server by setting the Multicast option to false and adding the IP address of the required Deployment Server.

3. After editing the configuration file, restart the Deployment Agent for Linux.

To start and stop the Deployment Agent for Linux, enter the full path or browse to the /etc/rc.d/init.d directory (with administrator/root rights). You can use either the adlagent stop and adlagent start commands, or only the adlagent restart command. You can also use the Package Manager installed with Linux to restart the Deployment Agent for Linux.

By stopping and starting the Deployment Agent for Linux, the service updates the changes made in the adlagent configuration file.

You can now view the Linux managed computer from a Deployment Console.

See Installing Deployment Solution agents on page 351.

### Installing the automation agent

After Deployment Server has detected a managed computer through the Deployment Agent in a production environment, you can install an **Automation Partition** from the **Computers** pane.

Here are some other ways to create and install an Automation Agent, which is saved in an embedded (recommended) or hidden partition on the client computer's hard disk.

- For Deployment Solution systems running the PXE Server, create boot menu options from the PXE Configuration Utility, using one of the following methods: Boot Disk Creator, Direct from floppy, or User Specified. See PXE Configuration Utility Help.
- To install an Automation Partition you can create a Microsoft Install Package (MSI) and deploy it using a job from the console. You can also create floppy disks, bootable CDs with an ISO image, or bootable USB devices. See *Boot Disk Creator Help.* See *Distributing software* on page 175.

#### To install an automation partition

See Install automation partition on page 133.

# Managing licenses

From the Deployment Console, you can find the number of licenses used, detect an expired license, or apply a license to a client computer. Although you can install multiple Deployment Servers, licensing is based on the number of managed client computers.

The Deployment Server system also provides the license utility to install or update regular licenses, or to add licenses to computers installed with Deployment Solution. This utility shows the license status, installs a new license, and adds additional licenses.

Term	Description
AUP - Annual Upgrade Protection	Altiris Annual Upgrade Protection or AUP lets registered Altiris software users upgrade to any version of the registered product that is released during the coverage period without paying an upgrade charge. Regular production licenses never have a license expiration date, but always have an AUP date. As long as this date does not expire, you can use the license to register any version of Deployment Server.
Licensed Nodes	The total number of client and server computers that a Deployment Server is licensed for. Each client computer that has an agent, and that communicates actively with the Deployment Server, uses a single license node.
	You can view this information on the <b>About</b> <b>Deployment Console</b> box. This information appears in the License Details section when you apply a license using the Product Licensing Utility.
DS and PCT	These are common abbreviations for Deployment Server and PC Transplant. Both these products are licensed with the same licensing model, and often a single license applies to both products at once, although some licenses apply only to PC Transplant.
Expired License	All regular licenses (that are purchased) never expire. However, evaluation licenses do have an expiration date. After the expiry date, the trial or evaluation licenses do not function, and need to be replaced with a regular license.

**Licensing Terms** 

See Using the license utility on page 359, Adding a license from the Deployment Console on page 361, Rapid Deployment Pack licensing on page 362, Finding the number of used licenses on page 362, Computers not using a regular license on page 362, Detecting an expired license on page 362, and Expired licenses on page 363.

# Using the license utility

The Deployment Server system provides a license utility to update or add licenses to installed sites, which lets you apply the license activation key file (.lic file) after Altiris products are installed. This utility is installed on the Deployment Share during the Deployment Server installation.

When you open the License Utility, the **Altiris Activation Key Wizard** appears. On the **Select Altiris Program Files to Activate** page, you can select the **Replace all existing license Activation Keys with this new Activation Key** check box, which overwrites the current Activation Key with the one you are installing.

You can use the License Utility to view the license status, install a specific product, install new or updated licenses for installed software, and additional licenses for installed software.



To open the License Utility

Option 1:

Click Start > Programs > Altiris > Deployment Solution
 > Product Licensing Utility.

#### Option 2:

- 1. Browse to the location where you installed the Deployment Share.
- 2. Run license.exe.

#### To view license status

- 1. Open the License Utility.
- 2. Enter the directory path to the new .LIC file.
- 3. Click Next.

A summary page displays the activation key information.

4. Click Cancel.

# Install a regular license for products

When a product is installed from the Altiris CD or the Altiris Web site, a 7-day trial license is automatically applied. However, you can apply a 30-day evaluation license or a purchased regular license to installed products that use a license activation key file (.LIC).

#### Note

Save the license activation key file, because you will need it when future product updates are released. After you receive the key, store it in a safe place (such as a floppy disk) for future reference. You can store multiple license activation key files in individual folders on a single disk. You can also store multiple license activation key files in the same folder, but the file names must be different.

#### To apply a regular license file

- 1. Open the License Utility.
- 2. Enter the directory path to the new .LIC file and click Next.

The Altiris Activation Key Wizard displays the activation key information.

3. Click Next.

A list displays the Altiris products that are installed on the Deployment Server. Each program file uses license activation key files.

- 4. Select the products that you want to license.
  - Use the **Shift** key to select multiple products.

- Click Add and browse to add another Altiris product. Select the program filename and click Open.
- Select the products that you do not want to apply a license to and click Remove.
- 5. Click **Finish** to apply the license to the selected products.

See Installing Deployment Solution agents on page 351.

### Install multiple licenses

Some Altiris utilities can combine multiple licenses together for the total number of nodes. Example: Two 50-node licenses can be combined to a single 100-node license. This option lets you apply an "add-on" license to the Altiris products that you have installed on the Deployment Server.

- 1. Open the License Utility.
- 2. Enter the directory path to the new .LIC file and click Next.

The Altiris Activation Key Wizard displays the activation key information.

3. Click Next.

A list displays the Altiris products you have licensed.

4. Click **Finish**.

See Managing licenses on page 358, Adding a license from the Deployment Console on page 361, Rapid Deployment Pack licensing on page 362, Finding the number of used licenses on page 362, Computers not using a regular license on page 362, Detecting an expired license on page 362, and Expired licenses on page 363.

### Adding a license from the Deployment Console

Use this option to install a license to a computer from the Deployment Console after the free trial has expired. You must apply a regular (permanent) license to continue managing client computers. You cannot install a license directly on a client computer. However, you *must* install a regular license on the Deployment Server before you can install and manage licenses for client computers from the Deployment Console.

#### To install a regular license on a single computer

- 1. From the Deployment Console, right-click the computer to which you want to apply the license.
- 2. Select Properties.
- 3. Select Apply regular license.
- 4. Click **OK**.

#### To install a regular license on multiple computers

- 1. From the Deployment Console, right-click the computer group to which you want to apply the license.
- 2. Select Advanced.
- 3. Select Apply Regular License.

See *Managing licenses* on page 358, *Using the license utility* on page 359, *Rapid Deployment Pack licensing* on page 362, *Finding the number of used licenses* on page 362, *Computers not using a regular license* on page 362, *Detecting an expired license* on page 362, and *Expired licenses* on page 363.

### **Rapid Deployment Pack licensing**

Rapid Deployment Pack (RDP) is the version of Deployment Server that is released to HP customers. The RDP licensing functionality is similar to the Deployment Server licensing.

If you have RDP licenses with AUP longer than 3 years the Deployment Solution license utility might not work. To use these licenses, download the installation files from the HP Web site. These installation files use a slightly different version of the Product Licensing Utility, and they allow licenses with long AUP dates.

See *Managing licenses* on page 358, *Using the license utility* on page 359, *Adding a license from the Deployment Console* on page 361, *Finding the number of used licenses* on page 362, *Computers not using a regular license* on page 362, *Detecting an expired license* on page 362, and *Expired licenses* on page 363.

### Finding the number of used licenses

Open the Deployment Console and select **Help > About** from the main menu bar. You can see the total number of licenses you have purchased, the total licenses you have used, and the total licenses available.

You can view the information in the **Computers** pane to understand for which computers regular licenses have been applied. In the **Computers** pane, a clock icon in the lower left corner implies that the computer still has a free license.

See *Managing licenses* on page 358, *Using the license utility* on page 359, *Adding a license from the Deployment Console* on page 361, *Rapid Deployment Pack licensing* on page 362, *Computers not using a regular license* on page 362, *Detecting an expired license* on page 362, and *Expired licenses* on page 363.

# Computers not using a regular license

From the Deployment Console, you can understand which computers do not have a regular license. If the icon has a clock in the lower left corner of the **Computers** pane, it is an HP computer that still has the free 30-day license.

See *Managing licenses* on page 358, *Using the license utility* on page 359, *Adding a license from the Deployment Console* on page 361, *Rapid Deployment Pack licensing* on page 362, *Finding the number of used licenses* on page 362, *Detecting an expired licenses* on page 362, and *Expired licenses* on page 363.

# **Detecting an expired license**

A computer listed in the **Computers** pane of the Deployment Console will be **gray** instead of **blue** if the license has expired. However, this may not always mean that the license has expired. To verify that the license has expired, use the following options:

• When you select a computer with an expired license, the following message appears:

Client license expired - see computer properties.

• If you try to view the properties of a computer with an expired license, the following error message appears:

**Error:** You have chosen a computer that has expired. Clients that are expired cannot be managed until a license is purchased for them and they have been flagged in the **Computer Properties** dialog to accept a regular license.

#### Note

If you place a job on a computer with an expired license, the same error message appears.

#### Directing client computers to the correct Deployment Server

If you review the client computer list from the Deployment Console and notice that some computers are not available when you select them, it is possible that the computer was moved from one Deployment Server to the other, and the former server had an expired licence. To verify that a client computer is associated with the Deployment Server you want, do the following:

- 1. Click the Deployment Agent icon on the client computer.
- 2. Select **Properties**.
- 3. Enter the IP address of the correct Deployment Server in the **Address/Hostname** field.
- 4. Click **OK**.

See *Managing licenses* on page 358, *Using the license utility* on page 359, *Adding a license from the Deployment Console* on page 361, *Rapid Deployment Pack licensing* on page 362, *Finding the number of used licenses* on page 362, *Computers not using a regular license* on page 362, and *Expired licenses* on page 363.

### **Expired licenses**

Regular Deployment Server licenses do not expire, however the 7-day trial license and the 30-day evaluation licenses *do* expire, and can cause some problems if not replaced properly after adding regular licenses. Computers with expired licenses become dead nodes and can no longer be managed by the Deployment Console.

When a license is first installed on the Deployment Server, each computer in the database takes a license node. If this node is a temporary license, that computer has a tag in the database that says it is a trial node. If that license is not replaced before the time limit, the computer stops accepting jobs or any type of remote management.

When the Deployment Server receives new regular licenses, it does not by default release the trial license nodes that it was using before. This can cause problems if the trial licenses are still being used and they expire even after you apply a regular license. You can use one of the following methods to deal with this lingering expired license issue:

- You can set up a global option that automatically replaces any trial license with a regular license as soon as they become available. This is a long term and preventative solution to expired license issues.
  - 1. In the Deployment Console, go to **Tools > Options**.
  - 2. Click the **Global** tab.

- 3. Select the **Automatically replace expired trial licenses with available regular licenses** check box. This resolves the computer node licenses expiry issue.
- You can reapply all regular licenses to the computer nodes. This is helpful if you want to see an immediate resolution to a license issue.
  - 1. In the Deployment Console, right-click the **All Computers** computer group (or any other computer group you need to do this to).
  - Select Advanced > Apply Regular License. This makes all computer nodes in that group release the license node they were using and take a regular license node.

See *Managing licenses* on page 358, *Using the license utility* on page 359, *Adding a license from the Deployment Console* on page 361, *Rapid Deployment Pack licensing* on page 362, *Finding the number of used licenses* on page 362, *Computers not using a regular license* on page 362, and *Detecting an expired license* on page 362.

# Installation help

The following are the help file topics for the Deployment Server installation program that you can access by clicking **Help** or pressing the F1 key. These topics identify and explain the elements on the dialogs used in the installation process.

## Configuration

The Deployment Server system supports a **Simple Install** as well as a **Custom Install** option. A Simple installation lets you install all components on a single computer. The Custom installation lets you distribute individual components of a Deployment Server system on multiple computers. The **Thin Client Install** lets you install the Thin Client view of the Deployment Console on your computer. The **Component Install** option lets you install additional components on your system.

#### **Pre-installation**

**Simple install helper**. Select this option to check for an installation of Microsoft SQL Server for a Simple Install. If Microsoft SQL Server or MSDE is located, the installation program continues. Otherwise, the installation program prompts you to download and install MSDE from the Altiris Solutions Center.

#### Installation type

**Simple install**. Select this option to install all Deployment Server components on a single computer. This configuration is recommended for managing computers on a single LAN or across a site with few subnets.

See Simple install for Deployment Server on page 341.

**Include PXE server**. Select this option to install the PXE Server when running the **Simple install** option. The PXE Server requires a DHCP server also installed on your network.

See PXE server on page 338.

**Custom install**. Select this option to install Deployment Server components on multiple computers across your system. A Custom Install lets you balance network activity for large enterprises with multiple subnets. Example: Use this option to distribute the

Deployment Database on another computer or assign another file server as the Deployment Share to store image and package files.

See Custom install for Deployment Server on page 344.

**Thin client install.** Select this option to install the Thin Client view of the Deployment Console on your computer. You do not require a license file to install this view.

See *Thin client install* on page 347.

**Component install**. Select this option to install additional Deployment Server components on your system. Example: Use this option if you want to add a PXE Server to your Simple or Custom installation, or if you need multiple Deployment Consoles.

See Component install on page 349.

If you have multiple network adapter cards, a secondary dialog appears asking you to select the IP address for the Deployment Server interface.

See also *Deployment Server system requirements* on page 340.

#### Note

If you run the Deployment Server on a MS Windows Server 2003 Domain Controller with SMB Signing enabled, you cannot execute any imaging and DOS jobs. When running jobs on MS Windows Server 2003, you must change the SMB Signing Registry Key to execute DOS-based deployment jobs.

#### To disable SMB signing on the Windows 2003 server

- 1. Click Start > Control Panel > Administrative Tools > Local Security Policy > Local Policies >Security Options.
- Locate the Microsoft network server: Digitally sign communications (always) policy setting, right-click it, and select Properties > Disabled.
- Disable the Microsoft network server: Digitally sign communications (if client agrees) policy setting as well. This is enabled by default.

## **Installing Deployment Server**

Specify the *Deployment share* (shared directory) where you want to store the image files, .RIPs, and other package files. Before installing the Deployment Server, ensure that you have a shared Windows or NetWare directory with free disk space and appropriate security rights.

**File server path**. Select the drive letter and directory path where you want to install the Deployment Server. The default path is the Program Files directory on the local computer.

**Create Deployment Share**. If you are installing the Deployment Server on a local Windows computer, select this option to create a shared directory as your Deployment Share. If you are installing on a remote file server or if you select an invalid path, this option is unavailable.

#### Note

If you are installing the Deployment Server on a remote file server, create a share or grant access rights to the Deployment Server directory on the file server before you start the installation. For Windows XP, you must run the Network Setup Wizard accessed from **My Network Places** to enable sharing.

Select one of the following options to configure the licensing information:

- If you do not have a license file, select the Free 7 day license option to use an evaluation license for a new Deployment Server installation.
- Select the Upgrade using existing license option to upgrade the installation using an existing license.
- Select the License File option and browse to locate the license file (.LIC file) that you received when you registered on the Altiris Web site. See the Altiris Getting Started Guide for further licensing information.

Service username and Service password. If running a Simple Install, you must enter an administrator user name and password for the Deployment Server and the Deployment Share. This account must already exist on the Deployment Server and the Deployment Share. If you use a domain account, enter the domain name (Example: orgDomain\admin.

See *Deployment Server components* on page 335, *Installing Deployment Server*, and *Managing licenses* on page 358.

#### Installing Deployment Server using component install

Specify the Deployment Share (shared directory) where the image files, RIPs, and other package files are stored. Ensure that you have a shared Windows or NetWare directory with available disk space and security rights before installing.

See *Deployment share* on page 338.

### **Deployment Server install**

Install the Deployment Server on a computer. The service is identified in the *Services* section of the Windows Computer Management as **Altiris eXpress Server**.

See *Deployment Server* on page 336.

#### To install service on a local computer

- 1. Select the **On this computer** option.
- 2. Enter the Deployment Server IP address and port information.
- 3. Enter the path to install the Deployment Server.
- 4. Enter the user name and password of the Deployment Server. For a domain account, enter the domain and user name. Create this account before starting the installation.

#### To install service on a remote computer

- 1. Select the **On a remote computer** option.
- 2. Enter the name of the computer or browse to where you want to install. By default, the destination path and IP address of the computer appear.
- Enter the user name and password of an administrator account for the Deployment Server computer. For domain accounts, include the domain name (Example: orgDomain\admin). The user account must have rights to the Deployment Share. Create the administrator domain account before starting the installation. See Deployment share on page 338.

See *Deployment Server components* on page 335 and *Installing Deployment Server* on page 334.

### Pre-boot operating system (simple)

Select a pre-boot operating system, which the Deployment Server can use as the default, when creating a deployment job with an automation task. You can also install additional pre-boot operating system files later by using Boot Disk Creator.

If you are running a PXE Server in your system environment, the first pre-boot operating system that you install becomes the default boot menu option for Initial Deployment. The menu options display DOS Managed, Linux Managed, or Windows Managed.

You can assign an automation pre-boot operating system to an automation task when it is added to a deployment job. This flexibility lets you run several automation tasks within a single job, and each task can boot to the automation environment you want.

- None. Select this option if you do not want to provide a default automation operating system. You can also select this later through the Boot Disk Creator utility.
- **FreeDOS**. Browse to the BDCgpl.frm file. This is available on the Deployment Solution download site.
- **MS-DOS**. DOS requires an original Microsoft Windows installation disk, or browse to the system formatted files.
- **Linux**. Browse to the BDCgpl.frm file. This is available on the Deployment Solution download site.
- WinPE. Browse to the WinPE files.
- See Boot Disk Creator Help and PXE Configuration Help.

## Pre-boot operating system (custom)

Select a pre-boot operating system that the Deployment Server can use as the default when creating a deployment job with an automation task. You can also install additional pre-boot operating system files later by using Boot Disk Creator.

If you are running a PXE Server in your system environment, the first pre-boot operating system that you install becomes the default boot menu option for Initial Deployment.

You can assign an automation pre-boot operating system to an automation task when it is added to a deployment job. This flexibility lets you run several automation tasks within a single job, and each task can boot to the automation environment you want.

- **FreeDOS**. Browse to the BDCgpl.frm file. This is available on the Deployment Solution download site.
- MS-DOS. DOS requires an original Microsoft Windows installation disk, or browse to the system formatted files.
- **Linux**. Browse to the BDCgpl.frm file. This is available on the Deployment Solution download site.
- WinPE. Browse to the WinPE files.

See Boot Disk Creator Help and PXE Configuration Help.

### **Deployment database install**

Install the Deployment Database on a local or remote server with or without an existing Microsoft Data Engine (MSDE) or Microsoft SQL Server. To install the database, you must have administration rights to the selected server.

See Deployment database on page 337.

#### Note

If you have multiple instances of the Microsoft SQL Server already set up, you can identify a specific instance using this format: <SQL Server Name>\<database instance>. The instance of the database can vary. Example: If you have a clustered Microsoft SQL Server to manage multiple Deployment Solution systems on different network segments, you can enter the name salesSegment\express or marketingSegment\express depending on the previously established database instance.

Install the Deployment Database using these options:

- Select the Microsoft SQL Server instance where you want to install your Deployment database.
- You can also change the default SQL Port number.
- You can rename the Deployment Database default name, eXpress, by entering a different name in the **Database Name** field. However, this does not alter the Deployment Share name.

See Deployment Server components on page 335.

### **PXE server install**

Select the options to boot locally using the Altiris Automation Partition. For PXEcompliant computers, you can boot across the network using the Intel Pre-boot eXecution Environment option in the PXE Server.

See PXE server on page 338.

#### Note

If you have a Novell NetWare file server, you must set up the PXE Server after installing the Deployment Server. The Universal Network Device Interface (UNDI) default driver is not supported by Novell NetWare.

• Select the **No I will be using an Altiris automation partition on each client computer** option, if you do not want to use PXE and prefer to use embedded (preferred) or hidden partitions, or bootable media to run tasks.

#### Note

This option is unavailable for installing the PXE Servers using the Component Install option.

 Select the Yes, I want to install PXE Server on this computer option to install the PXE Server on the local computer.

#### Note

This option is selected by default for the Component Install.

- Select **Yes**, **I want to install PXE Server on a remote computer** to install the PXE Server on a remote computer. Enter the name of the computer and the path.
- Enter the IP address for the PXE Server and the Deployment Server.
- Enter the path where you want to install the PXE Server.
- Select the pre-boot operating system that can be used as the default PXE boot menu item. The pre-boot operating system options that are enabled depend on the options you selected for the pre-boot operating systems in the **Pre-boot Operating Systems** page. Example: If you select Linux in the **Pre-boot Operating Systems** page, the **Linux** option is enabled as the default PXE boot menu item.

See *Installing the automation agent* on page 358, *Pre-boot operating system (simple)* on page 367, and *PXE Configuration Utility Help*.

### **Client connection to server**

Select the protocol your managed computers can use to connect to the Deployment Server.

**Connect directly to Deployment Server.** Installs the PXE Server using the Intel Preboot eXecution Environment (for PXE-compliant computers only). You can use this without PXE for faster access, as it goes directly to the IP address without searching.

If managed computers are on a different segment or if you are using the PXE Server with an UNDI driver, click **Connect directly to Deployment Server** and enter the IP address of the Deployment Server that the managed computers can connect to. Do not change the port number unless the default is already being used.

#### Note

If you change the port number, you must change the client configurations.

**Discover Deployment Server using TCP/IP multicast.** Lets the managed computers connect to any Deployment Server. To use multicasting and connect to a specific Deployment Server, enter the name of the Deployment Server computer.

Multicasting cannot be used with the UNDI driver. If you want to use different drivers on the PXE Server, you can create multiple PXE boot files after installing.

See Deployment agents on page 109.

### **Deployment web console information**

This feature lets you remotely manage Deployment installations, deploy and manage Windows and Linux computers (both client and server editions) in real-time, and benefit from many of the features available in the Deployment Console.

#### To install deployment web console

- By default, the Deployment Web Console installs on the computer that is running the installer. Select the **On a remote computer** option and browse to a computer where you want to install. If you do not want to install the Deployment Web Console, select the **Do not install** option.
- 2. If you want to change the default values, enter the Console port and Deployment Web Console path for the installation.

 You must enter the Service username and Service password that already exist on the Deployment Share and the destination computer where you install the Web Console.

#### Note

If you are installing an additional Deployment Web Console using the Component Install option, the Do not Install option is disabled.

See *Deployment Console* on page 335 and *Deployment Server components* on page 335.

#### Sysprep

Enter the location of the Microsoft Sysprep files according to the operating system. Specify the location or browse and select the required files.

### **Installing components**

Click Install, or click Back to change the settings.

See Deployment Server components on page 335.

# Installation information summary

The components are installed.

You can remotely install Deployment Agents, enable Sysprep support, and download Adobe Acrobat for documentation.

**Enable Microsoft Sysprep support.** Select this option to enable Sysprep support. Provide the location of the Microsoft Sysprep files.

**Remotely install Deployment Agent**. Select this option to push the Deployment Agent.

**Install add-ons to provision server hardware**. Select this option to install the addons for Dell computers.

#### Note

This option is enabled on Dell computers only when add-ons are present in the oeminstall-addons section of the oeminstall.ini file, which is located in the eXpress directory. This is the only option available on the **Installation Information Summary** page when you select **Component Install**.

Click Finish.

See Deployment Server components on page 335.

### Add components summary

The components in the list are installed.

**Download Adobe Acrobat**. Select this option to download the Adobe Acrobat Reader to read the documentation in the .PDF format.

Click Finish.

See Deployment Server components on page 335.

## **Deployment database authentication**

Specify the type of authentication the Deployment Database will use. You can select Windows authentication or SQL Server authentication. If you select SQL authentication, enter the user credentials with administrative rights for the SQL database.

**Use Windows NT authentication**. Select this option to use the Windows network or Active Directory authentication.

**Use SQL Server authentication**. Enter the user name and password set for the Microsoft SQL Server. If using MSDE, the default "sa" user name is used and no password is required.

See *Deployment Server components* on page 335 and *Installing Deployment Server* on page 334.

### **Add components**

If you have already installed Deployment Server, you can add components to the existing system. Select the type of component you want to add.

See Deployment Server components on page 335.

### **Console install**

You can install the Deployment Console either on the local computer or on multiple remote computers. Installing the Deployment Console on remote computers lets you manage computers from multiple Deployment Consoles across the Deployment Server installation.

See Deployment Console on page 335.

- Select the **On this computer** option to install the Deployment Console on the local computer.
- Select the **On a remote computer** option to install the Deployment Console on a remote computer. Enter the computer name or browse and select a computer.

See *Deployment Server components* on page 335 and *Installing Deployment Server* on page 334.

#### Installer return codes

For a list of return codes for the installation program, see the *Error Messages in Deployment Solution* chapter in the Reference Guide.

# Chapter 12 Managing from the Deployment Console

Deployment Solution provides both Windows and Web user interface consoles to deploy and manage computer devices across local or wide area networks. It also provides a Thin Client view of the Deployment Console. As an IT administrator, you can manage all computer devices from one of these Deployment Consoles:

The **Deployment Console** is a Windows-based console with complete deployment and management features, including remote control, security, PXE Server configuration, image editing, and other deployment utilities and features. See *Deployment Console basics* on page 70.

The **Deployment Web Console** provides basic deployment and management functionality from a Web browser, including the ability to remotely access and manage computer devices, build and schedule jobs, and view multiple Deployment connections.

The **Thin Client View** of the Deployment Console provides a simplified experience when dealing exclusively with Thin Clients. The functionality of the Thin Client Console is identical to that of the current Deployment Console. However, you can toggle from Full View to Thin Client View.

**Deployment from the Symantec Management Console** combines management and reporting features across multiple Deployment Server systems and lets you integrate additional Web applications in the client and server management suites, including Inventory, Software Delivery, Recovery, HelpDesk, Patch Management, and Application Metering solutions.



To launch the Deployment Console, click the icon on the desktop, or click **Start > Programs > Altiris > Deployment Solution > Console**.

**Features of the Deployment Console**. The Windows console for Deployment Solution provides standard **Computers**, **Jobs**, and **Details** panes to drag and drop icons, view properties, and identify the state and status of Deployment objects. In addition, the Deployment Console also includes a **Shortcuts and Resources** view and provides the tools, utilities, and features required for complete computer resource management. See *Deployment Console basics* on page 70.

**Set program options**. From the **Tools > Options** dialog, you can set preferences for each Deployment Server system. See *General options* on page 82.

**Set security**. From the **Tools > Security** dialog, you can set security rights and permissions for all Deployment Consoles. See *Security in Deployment Solution* on page 87.

**Connecting to other Deployment Server systems**. Connect to other Deployment Server connections from your current Deployment Console and manage computers outside of your current network segment or site. See *Connecting to another Deployment Server* on page 93.

**Customize the Tools menu**. You can add commands to the **Tools** menu to open commonly-used deployment programs and utilities. See *Extending the tools menu* on page 79.

# **Deployment Console basics**

The Deployment Console is your main portal to Deployment Solution. It is a feature-rich Win 32 program with real-time access to computer resources, deployment jobs, and package files, each represented by distinct icons to identify the status and settings. From the Deployment Console, you can build simple or complex deployment jobs, assign them to a computer group, and verify deployment execution.

Because the Deployment Console can reside on its own computer, you can have multiple consoles running from different locations. The Deployment Console needs to be running only while creating assignments or viewing information about the managed computers. You can turn on the console, run management tasks, and turn off the console.

Scheduling information is saved in the Deployment Database and tasks are executed at their scheduled time. If an assignment to a managed computer is made from two different consoles at approximately the same time, the computer is assigned those tasks in the order they are received. See *Console options* on page 82 to set refresh intervals for the Deployment Console.

## **Features of the Deployment Console**

The Deployment Console is divided into several panes to organize computers, deployment jobs, and software packages and scripts. It gives you a graphical view of your network and provides features to build jobs, drag and drop icons to schedule operations, store and access jobs and packages, and report the status and state of your computer resources. The Deployment Server includes three main panes, toolbars, wizards, shortcuts, and utility programs.

### **Computers pane**

Use this area to view and select managed computers for the Deployment Server system. You can select and right-click a computer in the **Computers** pane to run remote operations using Deployment Solution or to view the computer properties. You can also create computer groups to organize collections of similar computers. See *Remote operations using Deployment Solution* on page 122 and *Computer properties* on page 119.



Create computer groups by clicking **Computer Groups** on the toolbar, or right-clicking in the **Computers** pane and selecting **Groups**. Click **View > Show Computers** to display only computer group icons and not individual computers.

When you select a computer or group, a list of the computers in the group appears in the **Details** pane and provides the basic information about each computer. The **Filter** detail bar appears in the **Details** pane that helps to view computers according to set criteria. When a computer is selected, you can view the computer status in the **Details** pane, including a list of jobs that are running or are scheduled to run on the computer and the status of each job.

To get more details about all tasks that are run on computers, click **Status Detail**. Status Detail displays a more detailed breakdown of the tasks that the job has executed and a status message indicating the status of the tasks.

You can also import new computers from a text file or add security rights and privileges for a specified computer or group of computers. See on page 95 for complete information about setting up, importing, and managing computers from the **Computers** pane.

### Jobs pane

Use this area to create and build jobs using specific deployment tasks. You can select and right-click a job in the **Jobs** pane when building new jobs or running the New Job Wizard. You can also import new jobs from a text file or add security rights and privileges for a specified job or collection of jobs. See *Building new jobs* on page 150 and *New job wizard* on page 146.

Set up folders to organize and access jobs according to your specifications. To create a new folder, right-click in the **Jobs** section and select the **New Folder** option. You can also create folders by selecting **File > New > Folder**.



Click **View > Jobs View** to show or hide the **Jobs** pane.

When you select a job, the **Details** pane displays a list of computers in the folder and gives a basic information about each job, such as its state and status. It also shows the computers or computer groups to which the job is assigned.

- The **Conditions** detail bar also appears, letting you assign jobs to computers. See *Setting conditions for task sets* on page 151.
- In **System Jobs**, folders are created to store jobs that are created when running operations from the console.

**Drag-n-Drop Jobs**. Jobs are created and automatically placed in this folder when you drag an .MSI, .RIP, or other package files from the **Resources** view to a specific computer or group. See *Shortcuts and resources view* on page 72.

**Image Jobs**. Jobs are placed in this folder when you create a Quick Disk Image. See *Quick disk image* on page 125.

**Restoration Jobs**. Jobs are placed in this folder when you restore a computer from its Deployment history. See *Restoring a computer from its deployment history* on page 124.

From the **Jobs** pane, you can drag job icons to computer icons to run jobs, such as creating images, deploying computers, changing configurations, or installing software. After you create a job, you can change it by adding, modifying, or deleting tasks. You can run jobs immediately, schedule them to run at a particular time, or save them for a later time. See on page 145 for complete information about setting up, importing, and managing computers from the **Jobs** pane.

### **Details pane**

The **Details** pane extends the user interface features when working in the **Computers**, **Jobs**, or **Shortcuts** panes.

- When you select a computer in the **Computers** pane, the **Details** pane changes to a **Filters** section (if you click a group icon) and displays the status of all jobs assigned to the selected computer.
- When you select a job icon in the **Jobs** pane, the **Details** pane displays the information about the job to set up conditions, order tasks, and to add, modify, or remove tasks.
- When you select a computer or computer group in the **Computers** pane, the **Details** pane displays the information about a computer, such as its IP address, MAC address, and status.
- When you select a batch file, you can click **Modify** to update the file.
- When you select a hard disk image file (.IMG), the **Details** pane displays a
  description of the image file and information about the included partitions.
- When you click on the package files, the **Details** pane displays the title, description, version, creation date, and platform of an .RIP file or Personality Package.

### Shortcuts and resources view

The **Shortcut and Resources** pane provides easy access to the computers and job objects identified in the console and the software packages stored in the Deployment Share. In the **Shortcuts** view, you can drag computers, computer groups, jobs, and job folders to organize and access commonly-used console objects. In the **Resources** view, you can identify and assign package files.



Click **View > Shortcuts View** to open the **Shortcuts and Resources** pane. You can drag the jobs and computer icons to this pane. Click **Resources** in the **Shortcuts and Resources** view, or click **View > Resources** or **CTRL+R** to open a filtered list of packages on the Deployment Share.

The **Shortcuts** view provides quick links to view and access computers, jobs and packages. It can act as a palette of Deployment Solution icons that you can drag to other working panes in the console, or as a storage to save commonly-used jobs and computer icons.

The **Resources** view lets you see a filtered view of the package files — .MSI files, .RIPs, image files, Personality Packages, and other resource packages — stored in folders in the Deployment Share. From the **Resources** view, you can drag packages directly to the computers in the **Computers** pane to deliver the software. This automatically creates jobs in the **System Jobs** > **Drag-n-Drop Jobs** folder in the **Jobs** pane. The **Resources** view lets you identify packages assigned to each job and assign those packages to create new jobs.

#### Using resources directly

If you do not want to create a shortcut to a resource, but still want to use a resource to assign a job to a computer, you can move the resource to a designated computer. To do so:

- 1. Enable the **Shortcuts** view.
- 2. Click Resources at the bottom of the Shortcuts window.
- 3. Browse to the selected resource and drag it to the appropriate computer.

You can create a new script file from the **Resources** view and use it directly to schedule it on a computer. See *Creating new script files* on page 192.

See *Console options* on page 82 for options to set refresh intervals for the **Resources** view.

# Thin client view of the Deployment Console

The Thin Client view of the Deployment Console provides a simplified experience when dealing exclusively with Thin Clients. The functionality of the Thin Client view is identical to that of the current Deployment Console. However, you can switch from Full view to Thin Client view.

The Thin Client Console has the following panes:

- Computers
- Resources
- Software Packages
- Inventory

The **Computers**, **Resources**, and **Software Packages** panes are on the left side of the Thin Client view, while the **Inventory** pane is on the right side of the Thin Client view.

## Installing the thin client view

During installation, you can install the Deployment Solution Thin Client view. By default, the traditional Deployment Console is installed.

If you select Thin Client view, a Thin Client Jobs system folder is created. All the jobs created from the Deployment Solution Thin Client view are stored in this folder. During the installation process, the following folders are created in this hierarchy for the Thin Client resources:

- Configuration Packages
- Images
- Software Packages

Deployment Solution for Thin Clients uses the same installation program as Deployment Solution. No licensing is required even if you select Thin Client Install.

#### To install thin client

To install Thin Client, choose one of the following options:

• On the **Deployment Server** Install Configuration dialog, select the **Thin Client Install** option. The **Deployment Console Thin Client View** appears.  On the Deployment Server Installation dialog, select the Simple Install option. The Deployment Console appears. Click View > Show Thin Client View. The Deployment Console Thin Client View appears.

## Switching between two views

When you switch between the traditional view and the Thin Client view, you can maintain the last state in which you viewed the console. This ensures that you open the console in the same view that you last closed it in.

#### To switch between the traditional and the thin client view

- 1. Click View.
- 2. Select Show Thin Client View.

#### Note

By default, the Thin Client view is visible if you select Thin Client Install.

When you switch to the Thin Client view, all the menus and items that are not necessary for the Thin Client view are unavailable. These are visible when you switch to the traditional view.

### **Computers pane**

This pane is the same as that in the traditional view. However, only thin clients are displayed. You can right-click this pane to view a new menu. When you right-click a thin client, you can view the following options:

- Capture Configuration
- Capture Images
- Deploy Configuration
- Deploy Image
- Install Automation Partition
- Get Inventory
- Power Control
- Properties
- Remote Control
- Delete
- Manage Inventory View

If you select a Capture option, a text field appears, prompting you for the name of the captured resource. By default, the name is the same as the serial number on the Thin Client, which you can change.

If you select a deploy option, a list of the available resources appears for the selected type, such as Configurations, Images, or Software Packages. You can select a resource from this list.

#### To create a job

You can create a job in one of the following ways:

• Select any of the first six options from the **Computers** pane. All these jobs are scheduled at the current time.

#### Note

The **Schedule Computers for Job** dialog does not have the **Job Schedule** tab. Also, all the automation jobs have the default option selected for boot image.

• Drag resources to the **Computers** pane or computers to the **Resources** pane to schedule jobs at the current time.

#### Note

Ensure that you have the required permissions to drag and drop resources.

All thin client job details are saved in the Thin Client Jobs system folder. You cannot delete or rename this new system folder from the console.

All the above options, except **Properties**, are disabled when the client is not active.

#### Note

All the jobs on the thin clients are automatically created and scheduled by the console, and this happens only when the clients are active. When creating the jobs, the console refers to the operating system type (platform) of the client.

#### **Resources pane**

This pane is a treeview listing all the resources that you can drag and drop to the thin clients and vice versa. The following types of resources appear in this pane:

- Configuration Packages. Example: Captured Registry Settings.
- Images
- Software Packages. Example: HP Tools.

#### Note

All these resources reside in the eXpress share in the ThinClient directory.

When you click any of the submenus corresponding to the subdirectories within the ThinClient directory, the tree expands and displays all the resources included in the directory. If the folder is empty, an appropriate message appears. You can rename or delete the resources.

#### Software packages

The **Software Packages** pane displays the software packages that can be created for the available computers. You can drag and drop this resource to the thin clients and vice versa.

When you right-click the Software Packages pane, you can view the following options:

- New folder. Select this option to create a new folder.
- **Import**. Select this option to import a job. See *To import a job* on page 76.
- Rename. Select this option to rename a folder.

#### Note

You cannot rename the **Software Packages** pane. You can only rename a folder.

- **Delete**. Select this option to delete folders.
- Find Software Packages. Select this option to find software packages.

#### To import a job

- 1. Open the Thin Client view.
- 2. Right-click the Software Packages pane and select Import.

The Import Job dialog appears.

3. In the Job file to import field, browse and specify the file that you want to import.

#### Note

By default, the **Import to Job Folder**, **Overwrite existing Jobs and Folders** with the same names, and **Delete existing Jobs in folder** options are disabled.

To preserve the source operating system file paths of Scripted Install, select the **Preserve Scripted Install OS source paths** option.

Click **OK**.

#### To delete the Software Packages option from the Deployment Console

- 1. Open the Deployment Console.
- 2. In the Jobs pane, select System Jobs > Thin Client Jobs > Software Packages.
- 3. Right-click **Software Packages** and select **Delete**.

A confirmation dialog opens.

4. Click **Yes** to confirm the deletion.

The Software Packages option is deleted from the Deployment Console view.

#### Note

The **Software Packages** option is automatically added in the **Jobs** pane in **System Jobs > Thin Client Jobs** when you switch from the Deployment Console view to the Thin Client view.

#### Inventory pane

This pane displays a table that lists all the thin clients identified by the console. The following columns appear in the **Inventory** pane:

- Name
- Computer Status
- Action Status
- Product Name
- Operating System
- Image Version
- Flash Size
- Memory Size
- BIOS version

You can select which columns to view. The following columns are available, but do not appear:

- Automation Partition
- CPU
- Domain name
- IP address
- MAC address

#### To view Inventory columns

- 1. Right-click the **Inventory** pane. The **Manage Inventory Columns** dialog appears.
- 2. You can add columns to either the **Selected** columns list or the **Available** columns list by clicking the required arrows.
- 3. Click **OK**.

### **Toolbars and utilities**

The toolbars and menus on the Deployment Console provide major features and utility tools to deploy and manage computers from the console. From the **Main** toolbar, you can create new jobs and computer accounts and run basic deployment tasks. On the **Tools** toolbar, you can launch Deployment Solution administration tools and package editing tools. It also includes icons to quickly run commonly used remote operations. See *Remote operations using Deployment Solution* on page 122.



### **Deployment Solution utility tools**

The Deployment Console lets you open utility programs from the **Tools** menu or from the **Tools** toolbar. You can launch Deployment Solution administration tools (Boot Disk Creator, PXE Configuration, Wise SetupCapture and Remote Agent Installer) and package editing tools (Wise MSI Editor, PC Transplant Editor, and Image Explorer) from the toolbar.

#### **Administration tools**



**Boot Disk Creator**. Use this tool to create boot disk configurations, and automation and network boot media to image client computers. The Boot Disk Creator can maintain several different boot disk configurations for different types of network adapter cards. See *Altiris Boot Disk Creator* help.



**PXE Configuration**. After installing the PXE Server, you can create and modify configurations, which make up the boot menu options that appear on client computers. This is another another option to boot computers to automation. See the *Altiris PXE Configuration* help.



**Remote Agent Installer**. Remotely install the Deployment Agent on client computers from the console. This utility lets you push the agent installation to client computers from the Deployment Console. DAgent is the default agent for all Windows platforms.



**PC Transplant Editor**. Use this tool to edit a Personality Package to add or remove data. See the *Altiris PC Transplant Help* located in the Deployment Share.



**Image Explorer**. After a disk image is saved to the Deployment Share, this tool lets you view and manage data in the image file. You can edit and split an image, create an index, and more. See the *Altiris Image Explorer* help file located in the Deployment Share.



**Wise MSI Editor**. Edit .MSI packages generated from the Wise Setup Capture tool or other .MSI files used to distribute software and other files.



**SVS Admin Utility.** Create, import, and manage virtual software layers. See *Software Virtualization Solution* on page 78.

**DeployAnywhere Driver Database Management.** Lets you run DeployAnywhere to create hardware independent images. This functionality is provided by Symantec Ghost Imaging Foundation (GIF). To add and manage drivers, on the **Tools** menu, click the new DeployAnywhere option. To enable this functionality, select the DeployAnywhere option from the deploy image task. For more information about DeployAnywhere or Ghost, see the Symantec Ghost Imaging Foundation documentation.

# **Software Virtualization Solution**

Altiris® Software Virtualization<sup>™</sup> Solution (SVS<sup>™</sup>) is a revolutionary approach to software management. SVS places applications and data into managed units called virtual software packages. You can use SVS to activate, deactivate, or reset applications to avoid conflicts between applications without altering the base Windows installation.

The SVS Admin Utility is a part of SVS. It creates, imports, and manages virtual software layers, which are part of the packages. For information on installing and using the SVS Admin Utility, see the *Software Virtualization Solution Reference Guide*.

For information on the integration of the SVS Admin Utility with Deployment Solution, see *Using SVS admin utility with Deployment Solution* on page 79.

## Using SVS admin utility with Deployment Solution

On a Deployment Solution computer, you can capture application and data files. The installed application, data files, and settings are captured into the virtual software layers.

The Deployment Solution computer should have a clean installation of the Windows operating system. The computer should not have any background processes or programs running that can be captured into the layers. Your base computer should not be running an antivirus program or any other computer management program. If possible, the computer should not have an active Internet connection.

You can create layers on a virtual computer. (See *Managing the SVS layer* on page 177.) This lets you disconnect a computer from the network and reset the computer after each capture. This ensures that you have a clean operating system.

You can also distribute .RIPs, .MSI files, scripts, personality settings, and other package files to computers or groups. See *Distributing software* on page 175.

# Extending the tools menu

You can add commands to the **Tools** menu on the Deployment Console to quickly access additional management applications. This lets you easily access applications commonly used with Deployment Solution.

Commands are added by modifying or adding new .INI files. You can insert commands to the root *ATools.ini* file for the main menu or add new .INI files to create submenus. Place both types of .INI files in the directory where the Deployment Console executable (eXpress.exe) is located. The default location is Program Files\Altiris\ eXpress\Deployment Server.

You can add up to eight menu items to the main menu, and eight menu items for each submenu.

These .INI fields are included for each application added to the "**Tools** > **Altiris Tools**" menu:

[Application name or submenu declaration]

MenuText=<the application name displayed in the menu>

Description=<the name displayed when you mouse over the menu item>

WorkDir=<directory set as default when executable is run>

Executable=<path to the executable files>

The ATools.ini file extends the main **Tools** menu on the console. This sample file contains one submenu, **Web Tools**, and two additional menu items, **Notepad** and **Netmeeting**. The .INI files are located in the Deployment Share.

[Submenus]

Web Tools=wtools.ini

[Notepad]

MenuText=Notepad Editor

Description=Simple Editor

WorkDir=.

Executable=C:\WINNT\notepad.exe

[NetMeeting]

MenuText=NetMeeting

Description=NetMeeting

WorkDir=.

Executable=C:\Program Files\NetMeeting\conf.exe

Another Tools .INI file is **wtools.ini**. It is a submenu file referenced by the main **ATools.ini** file. On the main menu, this is titled "Web Tools" (see Tools.ini) and contains two applications, Internet Explorer and Adobe Acrobat.

[Explorer]

MenuText=Explorer

Description=Windows Explorer

WorkDir=.

Executable=C:\Program Files\Internet Explorer\explorer.exe

[Acrobat]

MenuText=Acrobat Reader

Description=Acrobat Reader

WorkDir=.

Executable=C:\Program Files\Adobe\Acrobat\acrobat.exe

# **Computer filters and job conditions**

Use this dialog while creating a computer group filter to filter only the specified computers in a computer group, or while setting conditions for task sets when running a job only on the specified computers in a group. See *Creating a computer group filter* on page 81 and *Setting conditions for task sets* on page 151.

# Creating conditions to assign jobs

You can set conditions on a scheduled job to run only on the computer devices that match a defined criteria. As a result, you can create a single job with tasks defined for computers with varying properties, including the type of the operating system, network adapters, processors, free disk space, and other computer properties. For each job, you can now create task sets that are applicable only to the computers matching those conditions.



Click a job in the **Jobs** pane. The **Condition** feature appears in the **Details** pane. Click **Setup** to add new conditions or edit existing conditions. When you are setting conditions to schedule a job, select from a list of predefined database fields or create custom tokens that key on other fields in the database.

#### **Creating custom tokens**

You can create custom tokens to set conditions based on the database fields that are not provided in the available preset conditions in the **Conditions** dialog. Example: Select **User Defined Token** from the drop-down list in the **Fields** box. Select **contains** in the **Operation** field, and enter **Milo** in the **Value** field. In the **Token** field, enter the following custom token: <code>%#!computer@lic\_os\_user%</code>. This filters out only the jobs with the registered license user named Milo. The job runs only on the computers that meet the specified criteria.

Filter Name	Description
Active Computers	Displays all the active computers.
Inactive Computers	Displays all the inactive computers.
Computers With Failed Jobs	Displays all the computers where jobs have failed to execute.
Windows 2003 or 2008	Displays only the computers with Windows 2003 or 2008 operating systems.
Windows XP/ Vista	Displays only the computers with Windows XP or Vista operating systems.
Windows CE (PDAs)	Displays only the computers with Windows CE operating systems.
Linux	Displays only the computers with Linux operating systems.
Windows XP Embedded	Displays only the computers with Windows XP Embedded operating systems.
Windows CE .NET	Displays only the computers with Windows CE .NET operating systems.
Pocket PC (PDAs)	Displays only the Pocket PC computers.

# Creating a computer group filter

The **Computer Filters** dialog displays a list of all computers in a group according to the specified criteria. Example: You can create a filter to view all the computers in a particular group that have Windows 2008, 256 MB of RAM, and 20 GB hard disks only. By applying the filter, you can view all the computers that meet the specified criteria in the **Details** pane of the Deployment Console.



Click a computer group in the **Computers** pane. The **Filter** feature appears in the **Details** pane for the selected computer group. Click **Setup** to add new filters, or to modify and delete existing computer filters.

#### To create or modify a computer filter

- 1. Click the **All Computers** group or any other computer group.
- On the Filter bar in the Details pane, click Setup > New to create a new filter.
   Or

#### Click Setup > Modify.

- 3. Type a name for the filter and click **Add**. The **Filter Definition** page appears.
- 4. Define the conditions you want to filter.

Click the **Field** box to see a list of computer values stored in the Deployment Database. Select a computer value and set the appropriate operation from the **Operations** list. In the **Value** box, enter an appropriate value for the selected database field. Example: You can choose **Computer Name** as the **Field**, **Contains** as the **Operation**, and **Sales** as the **Value**.

5. Repeat to include other conditions. Click **OK**.

# **General options**

Use the **Program Options** feature to set the general options for Deployment Solution. Click **Tools** > **Options** to view the **Program Options** dialog.

- Console options
- Global options
- Task password options
- Domain accounts options
- RapiDeploy options
- Agent settings options
- Custom data sources options

## **Console options**

Set basic console features for miscellaneous refresh actions and warning messages.

**Scan resource files for changes every** \_\_\_\_\_ **seconds**. Specify how frequently (in seconds) the Deployment Console updates its view of package files in the **Resources** view. See *Shortcuts and resources view* on page 72.

**Warn user when no tasks are assigned to the 'default' condition**. When a job is assigned to computers and the default condition has no tasks assigned, a message appears. The job has no secondary default tasks assigned if a computer in the group does not meet the primary conditions. See *Setting conditions for task sets* on page 151.

**Refresh displayed data every** \_\_\_\_\_ **seconds**. Refresh the display of data accessed from the Deployment Database. This lets you refresh console data at defined intervals

instead of updating every time the Deployment Console receives a command from the server, which can be excessive traffic in large enterprises.

### Global options

Set global options for the Deployment Server system.

**Delete history entries older than** \_\_\_\_\_ **days**. Specify the number of days entries are kept in the history before they are deleted. Enter any number between 1 and 10,000. If you don't select this option, log entries remain in the history.

**Remove inactive computers after** \_\_\_\_\_ **days.** Specify the number of days you want to keep inactive computers in the Deployment Database before they are deleted. The default value is 30 days, but any number between 1 and 10,000 is valid.

**Synchronize display names with computer names**. Automatically update the displayed name of the managed computer names in the console when the client computer name changes. If this option is not selected, changes to the computer names are not reflected in the console. Synchronization is off by default. The names do not have to be synchronized for the Deployment Server to manage the computer.

**Reschedule failed image deployment jobs to immediately retry**. Immediately retry a failed image deployment job. The program continues to retry until the job succeeds or until the job is cancelled.

**Client/server file transfer port:** \_\_\_\_\_. Specifies a static TCP port for file transfers to the clients. The default value is 0 and causes the server to use a dynamic port. This setting is useful if you have a firewall and need to use a specific port rather than a dynamically assigned port.

**Automatically replace expired trial licenses with available regular licenses**. Lets Deployment Solution automatically assign a permanent license to the computer after the trial license expires.

#### Note

Be careful when using this option. Ensure that you do not give a permanent license to computers you do not want to manage after their trial license expires.

**Display Imaging status on console.** Displays the status of the imaging job on the Deployment Console.

**Remote control ports.** Specifies ports for using the Remote Control feature. You have the option to enter a primary port address and a secondary port address (Optional).

**Remove task passwords when exporting or copying jobs**. Specifies that you must remove the task password when exporting or copying jobs.

**Display only computers and jobs the user has rights to manage**. Displays only the computers and jobs that the user has rights to manage. If this option is not selected, all of the computers and jobs are displayed. If this option is selected when security is enabled and the logged-on user has administrator rights, all computers and jobs are displayed. However, if this option is selected when security is enabled and the logged-on user does not have administrator rights, that user's view is restricted to see the jobs and computers that the user only has rights to. A computer is displayed if the logged-on user has any permission on the computer's group or if the computer's group inherits any permissions from a parent folder.

**Do not update configuration data on a failed configuration task**. If checked, does not overwrite the data in the Deployment Solution database if a configuration task fails. The database is not updated until a successful configuration task finishes running.

**Primary lookup key(s)**. Specifies the lookup key type(s) used to associate a new computer with a managed computer. The options are **Serial Number**, **Asset Tag**, **UUID**, or **MAC Address**.

**Sysprep Settings.** This lets you enter global values for Sysprep. See *Sysprep settings* on page 84.

## Sysprep settings

View and configure the Sysprep settings for the Deployment Server.

# **OS product key dialog**

In the **OS Product Key** dialog, select the suitable operating system from the **Operating System** drop-down list. After you select the operating system, a list of all product keys for the selected operating system appears. Select an operating system from the **Operating System** drop-down list, and click **Add** to type the Product Key. You can type up to 29 characters for the Product Key. The new product key is added to the list of available keys of the selected operating system.

To modify a product key, select the product key to be modified, and click **Edit**. To remove a product key, select the product key to be deleted, and click **Remove**.

#### Note

If the product key is being used by another task, you cannot delete the product key. You are prompted with a message stating that the product key is being used by another task.

### Task password options

According to the network and security properties, the passwords for administrators and users change after a certain number of days. In such a scenario, the password becomes invalid and all jobs and tasks using the user name whose password changes must be modified to use the new password. The **Task Password** option provides administrators with a simple option to manage all password changes from a centralized location.

This feature lets you set or change user passwords from a central location, so you can modify the password for the **Copy File to**, **Distribute Software**, **Run Script**, **Distribute Personality**, and **Capture Personality** tasks when creating or modifying jobs. However, this tab is enabled only to administrators and select users who have been granted the appropriate privileges.

The **Status** field displays the results of password updates. Example: User A's user name and password is used in ten tasks. If you want to update the password for these ten tasks, you can do so through the **Task Password** option. After the password is updated, the **Status** field displays the message: **Password for 10 tasks updated**.

# **Domain accounts options**

This sign-on feature retrieves the name of the administrator (or the user with administration rights) and the password for each domain. This feature lets you avoid

needing to log on for each managed computer when you run imaging and configuration jobs.

You can provide the user credentials for the parent domain or a trusted domain in this window. Deployment Solution supports the UPN and SAM formats, and it accepts either the parent domain user's credentials or the domain user's credentials for any configuration jobs.

Click **Add** to enter the Domain name. The **Add Domain Account** page appears. Enter the name of the selected domain and provide the administrator credentials. Click **OK**. The administrator name and domain are listed in the **Domain Accounts** list box.

#### Note

To enter the administrator user name for a Windows XP domain, you must add both the domain name and the user name. Example: Instead of entering only the user name jdoe, you must enter domainName\jdoe.

### **RapiDeploy options**

This feature optimizes the multicasting ability of the RapiDeploy application in the Deployment Server, letting you deploy images to a group of computers simultaneously, download an image from a file server, or access a local hard drive, and manage the imaging of several client computers concurrently.

Because RapiDeploy is more efficient when writing directly to the IP address of the network adapter driver, you can enter a range of IP addresses when using the multicasting feature for faster computer deployment and management. The Deployment Server accesses the range of computers using the defined IP pairs and avoids retrieving the computers through the port and operating system layers.

However, because some network adapter cards do not handle multiple multicast addresses, you can also identify a range of ports to identify these computers. On the first pass, the Deployment Server accesses the selected computers using the list of IP numbers. On the second pass, the Deployment Server accesses the selected computers using the port numbers or higher level operating system IDs.

#### Note

Multicasting images are not supported when using the UNDI driver on PXE, and are disabled on the client.

Click Reset to set the default values.

### Agent settings options

These are the default agent settings for new computers. Click **Change Default Settings** to change Windows Agents Settings for Windows and DOS. The **Change Default Settings** option is enabled only if you select the **Force new agents to take these default settings or the Force new Automation agents to take these default settings** option. Set Deployment Agent settings for new computer accounts or set Deployment Agent settings for DOS for new computers. See *Deployment agent settings* on page 110 and *Deployment Agent settings for DOS* on page 116.

These default settings are applied only for new client computers that have never connected to the Deployment Server, and have no information stored in the Deployment Database. These settings are not for the existing managed computers, nor are these settings applied when setting properties using the Remote Agent Installer. When the Deployment Agent connects, the Deployment Server verifies if the computer is a new or an existing computer. If the client computer is new and if the **Force new agents to take these default settings** option is selected, the Deployment Agent on the client computer receives the default settings established in the **Options** > **Agent Settings** dialog. If the computer is recognized as an existing managed computer, it uses the existing agent settings. The same process occurs for automation agents if the **Force new Automation agents to take these default settings** option is selected.

**Force new agents to take these default settings**. Select this option to force the default settings when adding a new computer.

**Force new Automation agents to take these default settings**. Select this option to force the default settings when adding a new automation agent connects.

# **Custom data sources options**

This option lets you set up credentials to authenticate to external Deployment Databases and other Microsoft SQL Server databases to extract data using custom tokens. Click **Add** to enter an administrator alias and other login information for the Microsoft SQL Server (or MSDE) hosting the desired Deployment Database.

The information required to create a custom data source entry is listed below:

Alias. The alias name you want to use when referencing the external SQL database.

Server. The name of the external SQL database server or IP address.

Database. The name of the external database from which you want to extract data.

**Use Integrated Authentication**. This option authenticates to the external database using the domain account you are currently logged on as.

**User name and Password**. When the integrated authentication is not being used, you must provide a user name and password to authenticate to the external database.

**Allowed Stored Procedures.** Click this tab to modify the existing list. See *Allowed stored procedure list* on page 86.

### Allowed stored procedure list

Click **Allowed Stored Procedures** to identify the stored procedures from the selected custom data source. You can now select from the list of available stored procedures in the data source. This lets you call stored procedures outside of the Deployment Database (eXpress database) using custom tokens within scripts or answer files.

## Virtual centers options

You can keep a list of all VMware Virtual Center Web services. The hosts and virtual computers from each Virtual Center that have corresponding computers in the Deployment Database appear in the computer tree. These virtual computers appear under the **Virtual computers** node in the **Computers** pane.

Click **Add**. On the **Virtual Center** page, enter the **Display name**, **Server hostname**, and **Username**. By default, the port number is displayed. You can also set up a password for the selected user.

# **Security in Deployment Solution**

Deployment Solution provides a security system based on associating job and computer objects with user and group **permissions**, letting IT personnel be assigned to different security groups to manage operations on specific computer groups or job folders. Each security group can perform only a defined scope of deployment operations on each computer group or job folder. Additionally, each user can be assigned **rights** to access general console features. You can also choose whether to specify that scripts on run only on the Deployment Server.

#### Note

Security rights and permissions set in one console are enforced in all Deployment Consoles.



To set general security rights, click **Tools > Security** and add a user name and password. You can create users and groups and set scope-based rights.

To set feature-based permissions for specific computers or jobs, select the object in the console, right-click and select **Permissions**.

See *Best practices for Deployment Solution security* on page 87, *Enabling security* on page 88, *Setting permissions* on page 92, *Groups* on page 89, and *Rights* on page 90.

### **Best practices for Deployment Solution security**

Deployment Solution is based on defining groups of users and groups of computers and jobs, and associating one with another. We recommend that you first create user groups based on administration duties or access to levels of deployment operations. For example, You probably set up a group with full Administrator rights. This group has access to run all operations on all computers using all types of jobs. No permissions need to be set on each computer group or job folders for the Administrator group because this has full rights to all features and resources.

However, you can also set up a Technician group that has only basic access and permissions limiting deployment operations. This prohibits members of the group from re-imaging the Server computer group or scheduling Distribute Disk Image jobs. You can explicitly **Allow** or **Deny** the group from running these operations for each computer group in the **Computers** pane or each job folder in the **Jobs** pane.

After creating the Technician group, you can limit their rights to set General Options and set permissions on each computer groups and job folder for the group. See *General options* on page 82. You can select the computer group, right-click it and select **Permissions**. Select the group name in the left pane, and click **Allow** or **Deny** for a list of deployment operations. Example: You can select the **Deny** check boxes for **Restore**, **Schedule Create Disk Image**, and **Schedule Distribute Disk Image**.

Additional groups can be created with different rights and permissions depending on the needs and responsibilities in the IT team. If users are assigned to multiple groups, the **Evaluate Permissions** and **Evaluate Rights** features are sorted and display effective permissions and rights.
### **Enabling security**

You can enable security by first creating a group with Administrator rights, adding a user to the Administrator group, and selecting **Enable Security**.

#### Note

When the Administrator Right is selected, you do not need to select any other rights because the Administrator Right implies that all other rights are selected.

1. Click **Tools > Security**.

The **Security** dialog appears.

- 2. Click the **Manage User Groups** tab and click **Add**. The **Add User Group** dialog appears.
- 3. Select the authentication type. You can add a DS group or a group from the Active Directory. To add groups from Active Directory, see *Adding groups from the Active Directory* on page 90.
- 4. Click **DS Group**.

```
Note
```

The **Browse** option is disabled for Local Group.

5. Type a name and description in the Add User Group dialog. Click OK.

The group name appears in the window.

- 6. Select the new group name and click **Rights**.
- 7. Select **Administrator** in the **Rights** dialog. This assigns complete rights and permissions to the group. Click **OK**, and click **Close**.
- 8. On the main Security dialog, click the Manage Users tab, and click Add.

The Add User Account dialog appears.

- 9. Select the authentication type. You can add a DS user or a user from the Active Directory. To add users from the Active Directory, see *Adding users from the Active Directory* on page 89.
- 10. Select the **DS User** option in the **Add User Account** dialog.

Note

The **Browse** option is disabled for DS User.

- 11. Type the user name, full name, and password. Retype the password, and enter a description for the user. Click **OK**.
- 12. Select the user name in the main **Security** dialog. Click **Rights**.
- 13. Click the name of the new Administrator group in the **Groups** window. This assigns the new user to the new group with Administrator rights. Click **OK**.

### Note

You can assign the user Administrator rights directly, but we recommend you to assign users to groups. See *Best practices for Deployment Solution security* on page 87.

14. Now that you have a user with administrator rights, select the **Enable Security** box.

Security is now enabled. You can now create users and groups and assign permissions to computer groups and job folders.

#### Adding users from the Active Directory

You can add users from the Active Directory.

- 1. In the main Security dialog, click the Manage Users tab, and click Add.
- 2. Select the **AD User** option in the **Add User Account** dialog.
- 3. If you know the user name, type it in the **User name** field, or click **Browse** to select the user from the Active Directory.

The password field is deactivated because the user is being added from the Active Directory.

Note

You can add only one user at a time. To import users, see *Importing users from the Active Directory* on page 89.

- 4. Enter a description for the user in the **Description** box.
- 5. Click **OK**.

#### Importing users from the Active Directory

You can also import users from the Active Directory. To open a standard Windows Active Directory dialog, from the main **Security** dialog, click the **Manage Users** tab, and click **AD Import**. Add users from Active Directory, not groups. The users are added to the Deployment Database. However, you still need to assign the users to security groups with appropriate rights and permissions.

#### Note

When logging on with the imported AD account, Deployment Solution accessed the Windows Active Directory server to validate the user password.

#### **Evaluate rights**

Click **Evaluate Rights** to identify the combined rights of the selected user and its user group(s). This feature identifies effective rights for each user by resolving any possible conflicts between multiple group settings.

### Groups

Assign the user to previously created groups. If you are enabling security, you can assign the user to a group with Administration rights.

To add groups, from the Security dialog, click the **Manage User Groups** tab, and click **Add**. Select the authentication type, and type the required details. You can view the members of any group by clicking the group in the Manage User Groups dialog and clicking **View Members**.

See also *Best practices for Deployment Solution security* on page 87 and *Enabling security* on page 88.

### Adding groups from the Active Directory

You can add users from the Active Directory.

- 1. In the main Security dialog, click Manage User Groups tab, and click Add.
- 2. Select **AD Group** in the **Add User Group** dialog.
- 3. If you know the group name, enter it in the **Name** field, or click **Browse** to select the group from the Active Directory. A list of groups, along with their descriptions, appears in a new dialog. Select a group from the list and click **OK**.
- 4. The **Name**, **Domain**, and **Description** are displayed. However, you can modify the description. Click **OK**.

The newly added group appears in the main **Security** dialog.

## Importing groups from the Active Directory

You can also import users from the Active Directory. In the main **Security** dialog, click the **Manage User Groups** tab, and click **AD Import** to open a standard Windows Active Directory dialog. Add groups from Active Directory. You can choose a domain from the Domain List, and select a group from the displayed list. The group is added to the Deployment Database. However, you still need to assign the users to security groups with appropriate rights and permissions.

## **DS** authentication

If the user is already in the Deployment Database and tries to access the Deployment Console, the Deployment Server checks the authentication with the logged on user, and upon matching does not prompt for user credentials. Similarly, if a group is already added in the Deployment Database and if a logged-on user, who is a part of the AD group, tries to access the Deployment Console, the Deployment Server does not prompt for credentials.

## **Rights**

This dialog lets you set general rights for a user or group. To verify, add, or change the rights assigned to each console user, use the following steps:

- 1. On the **Security** page, select a user and click **Rights**.
- 2. Click the **Rights** tab.
- 3. Select the check box for each right you want to grant.
- 4. After selecting all applicable rights, click **OK** to save your changes.

A brief explanation of each Deployment Server right that can be assigned is given below:

**Administrator**. Lets the user access all features available on the Deployment Console. You must have Administrator rights to enable security. See *Enabling security* on page 88.

**Options Console**. Lets you set the view and the Console options. See *Console options* on page 82.

**Options Global**. Lets you set the view and the Global options. See *Global options* on page 83.

**Options Domain Accounts**. Lets you set the view and the Domains Accounts options. See *Domain accounts options* on page 84.

**Options RapiDeploy**. Lets you set the view and the RapiDeploy options. See *RapiDeploy options* on page 85.

**Options Agent Settings**. Lets you set the view and the Agent Settings options. See *Agent settings options* on page 85.

**Options Custom Data Sources**. Lets you create Custom Data Sources options. See *Custom data sources options* on page 86. You can view, create, and set database aliases.

**Manage Rejected Computers**. Lets you view rejected computers in Deployment Solution and change their status. See *Rejected computers in Deployment Solution* on page 94.

**Refresh Clients**. Lets you refresh Deployment Solution clients. See *Refresh Deployment Solution* on page 94. You can use the **View > Refresh clients <CTRL +F5>** feature to disconnect and reconnect client computers.

**Allow Scheduling on All Computers Group.** Lets you schedule jobs on All Computers. If you have administrator rights, by default, you have the rights to schedule job on all computers, irrespective of the check box state. You can grant this right to a specific user or a group.

**Import/Export.** Lets you import and export jobs and import computers as well. See *Importing and exporting jobs* on page 193 and *Importing new computers from a text file* on page 100.

**Options Task Password.** Lets you centrally update passwords for users and groups so they can access the Copy File to, Distribute Software, Run Script, Distribute Personality, and Capture Personality tasks. You must have administrative rights to access this option. See *Task password options* on page 84.

Use PXE Configuration Utility. Lets you use the PXE Configuration Utility.

**Options Virtual Centers.** Lets you view and add options for Virtual Centers. See *Virtual centers options* on page 86.

**Run Script on DS.** Lets you choose to run scripts either on the server or on the client.

Access to Master Return Code. If unchecked, restricts access to the master return code list. If checked, lets you modify the master return code list.

**Allow DeployAnywhere.** Lets you run DeployAnywhere to create hardware independent images. This functionality is provided by Symantec Ghost Imaging Foundation (GIF). To add and manage drivers, on the **Tools** menu, click the new DeployAnywhere option. To enable this functionality, select the DeployAnywhere option from the deploy image task. For more information about DeployAnywhere or Ghost, see the Symantec Ghost Imaging Foundation documentation.

### **Restricting the number of computers**

This dialog lets you restrict the maximum number of computers that can be selected.

#### Restricing the number of computers

- 1. On the **Security** page, select a user and click **Rights**.
- 2. Click the **Restrictions** tab.

- 3. Type the maximum number of computers that each job can be scheduled on.
- 4. Check the box if you want this user to be able to schedule jobs to run immediately.
- 5. Click **OK** to save your changes.

### Setting permissions

Set permissions for jobs, job folders, computers, and computer groups. See *Best practices for Deployment Solution security* on page 87 for additional design tips.

### Setting permissions

- 1. Right-click on a computer group or job folder (or individual computers and jobs) and select **Permissions**. The **Object Security** dialog appears.
- 2. Click the **Groups** tab and select a group name. Or click the **User** tab and select a user name.
- 3. From the list in the right pane, select if you want to Accept or Deny permission to run the operations on the selected computer or job objects. These permissions include access to remote operations using Deployment Solution and features for scheduling Deployment tasks. See *Remote operations using Deployment Solution* on page 122 and *Deployment tasks* on page 155.
- 4. Select the **Allow** or **Deny** check box to explicitly set security permissions for these Deployment Solution features for the selected objects.

### Note

Administrators have access to all objects with unrestricted rights and permissions. You cannot explicitly deny permissions to computer or job objects for users with administrator rights.

5. To assign permissions to multiple groups, click **Set permissions on all child objects** to assign the values without closing the dialog.

### Note

You can set permissions for all jobs and computers by clicking in the **Jobs** pane or **Computers** pane without selecting a job or computer object.

### **Permission rules**

Permissions received through different sources may conflict with each other. The following permission rules determine which permissions are enforced:

- Permissions cannot be used to deny the user with Administrator console rights access to use any console objects or features.
- User permissions take precedence over Group permissions.
- Deny overrides Allow. When a user is associated with multiple groups, one group could be allowed a permission at a particular level while the other group is denied the same permission. In this scenario, the permission to deny the privilege is enforced.
- Permissions do not flow down an object tree. Instead, the object in question looks in the current location and up the tree, and uses the first permission it finds.

 If a console user does not have permissions to run all tasks the job contains, the user cannot run the job.

#### **Evaluate permissions**

Click **Evaluate Permissions** to identify the combined permissions of groups and containers with conflicting permissions. This feature identifies effective permissions for each object by resolving any possible conflicts.

If a job includes multiple tasks and one of the tasks does not have sufficiently assigned permissions, the whole job fails due to lack of access permissions.

#### Note

Permissions to schedule jobs also lets a user delete jobs in the **Details** pane after a job runs. Example: If a job contains errors and does not run, no other jobs can be scheduled. The user must delete the job before scheduling a new job.

## **Connecting to another Deployment Server**

From the Deployment Console, you can connect to other Deployment Servers on your LAN and manage computers outside of the network segment you are currently logged on to. To open a connection, you must connect to the Deployment Database of the preferred Deployment Server connection using the ODBC Data Source Administrator.



Click **File > Connect to** or press **CTRL+O** to open the **Connect to Deployment Server** dialog. Enter the required information to connect to the external Deployment Server connections using an ODBC driver.

#### Note

Although you are accessing another connection (another Deployment Database), Windows remembers the last place you browsed to, which would be the Deployment Share of the previous Deployment Server connection. You need to browse to the new connection's Deployment Share to access its shared folder that contains its RIPs, images, executables, and other resources.

#### Connecting to a new deployment database

- 1. Click New. The Define Connection Information dialog appears.
- 2. Enter a name for the connection to be opened.
- 3. Establish an ODBC data source.
  - a. Click ODBC Administrator.
  - b. Click the System DSN tab, and click Add.
  - c. Select the SQL Server driver source and click Finish.
  - d. In the **Create a New Data Source to SQL Server** dialog, enter a name and description for the data source.
  - e. If an entry for your server already exists, select it from the menu. Otherwise, enter the name of the server hosting your remote SQL server in this field. Click **Next**.

- f. Click **Next** in the **Create a New Data Source to SQL Server** dialog to accept the default settings for authentication.
- g. Select the **Change the default database to** option and select **eXpress** from the drop-down list. Click **Next**.
- h. Click Finish. The specifications for the new ODBC data source appear.
- i. Click **Test Data Source** to verify that the source is reachable.
- j. Click **OK**. You return to the main **ODBC Data Source Administrator** dialog with your new data source listed in the System DSN tab. Click **OK**.
- 4. From the ODBC Data source name drop-down list in the Define Connection Information dialog, select the new Data Source name you just created.
- 5. In the **Installation Directory path** field, enter or browse the full UNC path (or path using any locally mapped drive) to the directory of the required Deployment Server, such as:

\\*server*\*express* or *H*:

6. Click **OK**.

# **Rejected computers in Deployment Solution**

When an unwanted managed client computers attaches to your Deployment Solution system, you can right-click the computer in the **Computers** pane and select **Advanced** > **Reject Connection**. You can view these rejected computers by clicking **View** > **Rejected Computers**.

The rejected computers are prohibited from being active in the Deployment Database. They are identified and rejected by their MAC address.

You can remove computers from the Rejected Computers list by selecting it and clicking **Accept Computer(s)**. This lets the computer to attach again and be managed by the Deployment Solution system.

# **Refresh Deployment Solution**

You can refresh the Deployment Console by clicking **View > Refresh Console** (or pressing **<F5>**) to update data from the Deployment Database. You can also click **View > Reset Client Connections** (or press **Ctrl+<F5>**) to disconnect and reconnect all managed computers in a Deployment Server system.

When you refresh the managed client computers, you are asked if you want to disconnect all computers. Click **Yes**. This tells the Deployment Agent to shut down and restart. It also creates additional network traffic when all computers connect and disconnect. By refreshing the managed client computers, you ensure that you are viewing the current status and state of all computers resources in your system.

# Chapter 13 Managing computers

From the **Computers** pane of a Deployment Solution console, you can identify, deploy, and manage all computer resources across your organization, including desktop computers, notebook computers, network and Web servers, and network switches. You can quickly modify any computer's configuration settings or view its complete management history. Or you can take on big projects, such as completely re-image the hard drive, restore software, and migrate personality settings for a whole department. You now have management of all your computer resources available from a Windows or Web console from any location.

All computer resources can be accessed and managed as single computers or organized into computer groups with similar hardware configurations or deployment requirements, letting you run deployment jobs or execute operations on multiple computers simultaneously. You can use search features to locate a specific computer in the Deployment Database, or set filters to sort computers by type, configuration, operating system, or other criteria.

**Manage with computer icons.** Major computer types are identified by a computer icon in the console, with a list of scheduled jobs and operations associated with each computer. In the Deployment Console, you can assign and schedule deployment jobs to computers or groups by dragging the computer icon to a job in the **Jobs** pane, or vice versa.

See Viewing computer details on page 96.



Computer icons appear in the **Computers** pane of the Deployment Console, where they can be organized into groups. To assign and schedule a job on a computer in the Deployment Server Console, drag a computer icon or group icon to a job icon.

**Add new computers.** Deployment Solution lets you add new computer accounts and set configuration properties for new computers before they are recognized by the Deployment Server system. Preset computer accounts automatically associate with new computers when they start up, or can be associated with pre-configured computers.

See Adding new computers on page 98.



Click **New Computer** on the console to create a new computer account. You can also click **File > New > Computer** or right-click in the **Computers** pane and select **New Computer**.

When the new computer starts up, you can assign it a preset account.



Click **New Group** on the console to add a new group in the **Computers** pane of the Deployment Console. You can also click **File > New > Computer Group** or right-click in the **Computers** pane and select **New Group**.

**Deploy to groups of computers.** Organize computers by department, network container, hardware configuration, software requirements, or any other structure to meet your needs. You can deploy and provision computers on a mass scale.

To filter computers in a computer group to schedule jobs only to the appropriate computer types, see *Computer filters and job conditions* on page 80.

**Configure Computer Agents.** See the property pages for modifying Deployment Agent settings.

See *Deployment agents* on page 109.

**View and configure computer properties.** You can modify computer settings for each computer from the console. Or you can view the Computer Properties page for detailed access to a computer's hardware, software, and network property settings.

See *Computer configuration properties* on page 101 and *Computer properties* on page 119.

**Run remote operations from the console.** Perform operations quickly in real time from a Deployment Console. Restore a computer to a previous state, configure property settings, send a file, remote control, chat, set security, run deployment jobs, or select from additional management commands.

See Remote operations using Deployment Solution on page 122.

**Build and schedule jobs.** Build deployment jobs with one or more management tasks to run on selected computers. Create jobs, add tasks, and assign the job to computer groups. Jobs can be organized and assigned for daily tasks or to handle major IT upgrades.

See on page 145.

**Manage Servers.** Deployment Solution also manages network or Web servers to administrate high-density server farms or server network resources across your organization.

See the Deployment Solution Reference Guide.

## Viewing computer details

In Deployment Solution, a computer resource is identified in the console with a distinctive icon to display the computer type — Windows desktop or notebook, server, or Linux operating system — and its current status. These computer icons change to convey the state of the computer, such as the *log on status, server waiting status*, or *user with a timed license status*. You can also view the status of the jobs assigned to the selected computer in the **Details** pane of a Deployment Console.

See Viewing job details on page 145.

The following is a sample list of computer icons displayed in each Deployment Console, identifying the computer type and state.



A computer connected to the Deployment Server with a user logged on.

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A computer connected to the Deployment Server, but the user is not logged on.

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	12	<b>.</b>	а.
	200	<u></u>	

A computer with a time-limited user license and a user logged on.



A computer not currently connected to the Deployment Server, but known to the Deployment Database.



A pre-configured computer with values defined in advance using the New Computer feature. As soon as the computer connects, the Deployment Server recognizes the new computer and this icon appears. See *Adding new computers* on page 98.



A managed computer waiting for user interaction before running deployment tasks. This icon appears if the **Workstations** check box is selected in Initial Deployment. See *Sample jobs* on page 196.



A computer identified as a master computer used to broadcast images to other client computers.



A managed server connected to the Deployment Server with a user logged on. Additional icons identify different states of server deployment.



A managed Linux computer connected to the Deployment Server with a user logged on. Additional icons identify different states of Linux computer deployment.



Physical view of Rack/Enclosure/Bay components for high-density server systems. These icons appear as physical representations to allow management of different levels of the server structure. In addition, server icons identify logical server partitions. See *Bay* on page 121 for properties and rules to deploy Rack/Enclosure/Bay servers.



Select the **New Computers** or **All Computers** group to run jobs or operations for these default groups identified by an icon in the **Computers** pane.



Additional computer groups can be added to the **Computers** pane to organize similar computer types or to list computers of similar departments or locations. Click the New Group icon on the toolbar or select **File > New > Computer Group** to create a new group.

See also *Deployment agents* on page 109.

# Adding new computers

Computers can be added to the Deployment Database using the following methods:

- **Install the Deployment Agent**. If you install the Deployment Agent to a computer with the operating system already installed, the computer is added automatically to the Deployment Database at startup. New computers with the Deployment Agent installed are added to the **All Computers** groups (unless otherwise specified in the Deployment Agent configuration). You can move the computer to another group if required.
- Use Initial Deployment to configure and deploy new computers booting to automation. Starting up a new computer with the Automation Agent lets you image the hard drive, assign IP and network settings, distribute personal settings and software, and install the Deployment Agent for new computers. Using Initial Deployment, you can associate new computers with pre-configured computer accounts. These newly configured computers appear in the **New Computers** group. See *Sample jobs* on page 196.
- Create or import computer accounts from the Deployment Console. You can add new computers using the New Computer feature or import computers using a delimited text file. You can pre-configure computer accounts by adding names and network settings from the console. See *Creating a new computer account* on page 99.

#### About new computers

When a new computer starts up, if Deployment Server recognizes the MAC address provided in a New Computer account or import file, it automatically associates the user account at startup with the New Computer icon. If this value is not provided, the computer appears as a pre-configured computer account, letting you associate it with a new computer.



The New Computer icon appears for a new computer if the MAC Address is provided when creating a new computer account using any import or new computer account feature.



A pre-configured computer account icon appears if specific hardware data (MAC Address) is not known. As soon as the computer starts up and is associated with a pre-configured computer account, Deployment Server recognizes the new computer and this icon appears.

### Pre-configured computer account

A pre-configured computer account can be associated with a new computer using the Initial Deployment feature. You can create multiple pre-configured computer accounts and associate the account with a new computer when it boots to automation. At startup, the configuration settings and jobs assigned to the pre-configured computer account can be associated with the new computer.

Deployment Solution provides features to create a pre-configured computer account to pre-define a computer's configuration settings and assign customized jobs to that

computer even if you do not know that computer's MAC address. This type of computer is known as a pre-configured computer account.

Pre-configured computer accounts offer a lot of power and flexibility, especially when you need to deploy several computers to individual users with specific needs. Pre-configuring a computer account saves your time because you can configure the computer before it arrives on site. You can set up as much configuration information (such as computer name, workgroup name, and IP address) as you have about the computer and apply it to the new computer when it comes online. You can also prepare jobs prior to the arrival of the new computer to deploy the computer using customized images, .MSIs, and .RIPs, based on a user's specific needs.

Example: A user might request Windows 2003 with Office and virus scanning software installed on the new computer. The user also might request that the computer personality (customized user settings, address books, bookmarks, familiar desktop settings) be migrated from the old system. You can build any job, including any of the available tasks, and assign it to a pre-configured computer account.

When the new computer finally arrives, you are ready to deploy it because you have done all the work in advance. Boot the client computer to automation, and the new computer can connect to the server and become a managed computer. Now you can perform an Initial Deployment or run a deployment imaging job on the new computer.

### Creating a new computer account

You can create computer accounts for individual computers or for computer groups. When creating new accounts for computer groups, you can automatically assign new names and associate them with existing computer groups or the **New Computer** group.



Click the **New Computer** icon on the console to create a new computer account. You can also click **File > New > Computer** or right-click in the **Computers** pane and select **New Computer**.

#### To create a new computer account

- 1. In the **New Computers** dialog, click **Add**. The **New Computer Properties** page appears.
- 2. Enter names and configuration settings for each new computer account using the Computer Configuration screens. See *Computer configuration properties* on page 101 for a description of the configuration settings.

#### Note

If you do not enter a MAC address, the computer you create or import becomes a virtual computer.

- 3. (Optional) Click **Import** to add new computers from a delimited text file. See *Importing new computers from a text file* on page 100.
- 4. Click **OK**.

A pre-configured computer account icon appears in the **Computers** pane.

When a new computer starts up, you can assign it to this preset account.

#### To create and associate multiple computer accounts

You can create computer accounts and automatically assign predefined names. These computer accounts can be associated with computers in a selected computer group.

- 1. Select a computer group, including the **New Computers** group (empty groups cannot access features). Right-click and select the **Configure** command. The **Computer Configuration Properties** dialog appears.
- 2. Enter names and configuration settings for each new computer account using the Computer Configuration screens. See *Computer configuration properties* on page 101.
- 3. (Optional) Click the Microsoft Networking category and click Define Range.
  - a. In the Fixed text field, enter a base computer name. Example: Sales.
  - b. In the **Range start** field, enter a numeral or letter to add to the Fixed Text name. This creates a unique name for a group of computers starting with the specified character. The range of numerals and letters is assigned to the computer name. Example: Enter 3.
  - c. Select **Append** to add the range of numerals after the computer name. Clear the check box to add names before the computer name.

In the above example, the **Result** field displays computer names beginning with Sales3 and ending with Sales12.

- 4. Click **Associate**. You can now associate computers in a group (including the New Computers group) with the multiple computer accounts.
- 5. Click **OK**.

### Importing new computers from a text file

You can import computer configuration data using delimited text files (.TXT, .CSV, or .IMP files) to establish multiple computer accounts in the Deployment Server database. This file contains all configuration data for a new computer, including all settings in the Computer Properties of a selected computer. See *Computer properties* on page 119.

1. Click File > Import/Export > Import Computers.

A dialog appears, letting you select import files. These files can have .XML, .TXT, .CSV, or .IMP extensions.

2. Select the import file. Click **Open**.

If a correctly formatted computer import file is selected, a message appears, informing you that the computer import is complete and identifying the number of computers added. Click **OK**.

New computers appear as pre-configured computer accounts in the **Computers** pane of the console (as single computers or in groups), and any jobs imported from the import file are listed in the **Jobs** pane.

#### Note

Jobs can be added to the import file. They can be created and associated with the new computers.

If the computer import file is incorrectly formatted, a warning appears, stating that the computer import file is incorrect.

- 3. Edit computer settings by selecting a computer from the list and clicking **Properties**.
- The Computer Properties page opens. You can edit or add values not set in the import file, such as computer name, TCP/ IP settings, user name, and other configuration settings.
- 5. Click OK.

The imported computers appear in the **Computers** pane of the Deployment Console.

You can also import a computer to be placed in a sub-folder in the **Computers** pane and create a job to be associated with the imported computer. See the sample import file for additional information.

### Referencing the sample import file

When creating an import file, use either the ImportComputers55.txt file or the ImportComputers55.xls file in the Samples folder of the Deployment Share. The ImportComputers55.txt file provides a sample import template you can access to test the Import feature. The ImportComputers55.xls file is a Microsoft Excel spreadsheet that lets you add values to each identified column and save the file as a delimited TXT file to import to the Deployment Database. The sample import file places a computer (DB Computer 1) in a computer group (Test Group) and adds a job (Test Job) associated with the imported computer.

#### Deploying new computers on a mass scale

If you need to deploy large numbers of computers (100 to 5,000), consider using a barcode scanning system to collect user information (names, operating system, and application needs) and computer information (MAC address, serial numbers, asset tags). You can save this information to a file, which can be imported into the **New Computers List View**. Depending on the number of incoming computers, the amount of information you have about those computers, and the needs of individual users, you can use either the pre-configured computer account method (best for smaller numbers of new computers) or the Initial Deployment job (best when deploying generic setups by departments or groups).

If you are using an import file, ensure you know the primary lookup key. This information is required by Deployment Server to set up a unique computer. The primary lookup key can be the Serial Number, Asset Tag, UUID, or MAC address.

# **Computer configuration properties**

These computer property settings can be viewed, set, and modified when performing the following computer management operations:

- Adding new computers on page 98.
- *Modifying configuration* on page 182. Create or edit property settings in a deployment job.
- Sample jobs on page 196.

Click the configuration group icons to set additional computer property values. After you edit these computer property settings, the computer restarts so that the changes can take effect.

General configuration settings	Set the most important value from this property sheet. It includes the name of the computer in Deployment Solution, the NetBIOS name of the computer, the MAC address and other settings.
Microsoft networking configuration settings	Set the Windows name of the computer and the Workgroup or Domain settings.
TCP/IP configuration settings	Set the TCP/IP addresses for one or more network adapters.
NetWare client configuration settings	Set Novell Directory Services client logon options.
Operating system licensing configuration settings	Set the registered user name and view the hashed installation license key for the installed operating system.
User account configuration settings	Set the local Windows user account values.

# General configuration settings



The **General** category provides access to important property settings that are also listed in other configuration categories. Click other category icons to view and set additional configuration properties.

Field	Description
Name	Provides a name that appears in the Deployment Console (not the BIOS name of the computer).
	Note
	The <b>Name</b> field is disabled for multiple computer configuration.
MAC address	The unique identification address of the network adapter.
Serial Number	The serial number of the computer's motherboard.
Asset Tag	The asset tag of the computer, if available.
Computer	The Windows name of the computer.
Name	
IP Address	Current IP address of the computer. Multiple IP addresses are listed in this box.
Registered	The name of the user who registered the operating system
User	software.
License key	The hash value rendered from the OEM key or 25-digit license key required when installing the operating system.
User name	The user name for the local Windows user account.
Full name	The full name for the local Windows user account.

Field	Description
Password	The password for the local Windows user account.
	See also Computer configuration properties on page 101.

# Microsoft networking configuration settings



Enter the computer name and workgroup or domain property settings for the managed computer. If you are using Active Directory, you can add computers to a domain and a specified organizational unit (OU).

Use Sysprep to generate unique SIDs. This can be done by manually running the utility or selecting this feature while installing the Deployment Agent.

Field	Description	
Computer name	This is the NetBIOS name for the computer. The name must be unique in the network and limited to 15 characters.	
	<b>Note</b> This field is disabled for multiple computer configuration.	
Use Token for computer name	Select this check box to specify the computer name using tokens. Selecting this option enables the <b>Select Token</b> option and disables the <b>Define Range</b> option.	
	<b>Note</b> This option is applicable for multiple computers and not for single computers.	
	Select Token: You can select one of the following tokens from the drop-down list.	
	• %NAME%- Complete computer name.	
	<ul> <li>%NICyMACADDR%- MAC address of the computer with NIC specific number. Selecting this option enables the NIC Number option. You need to specify the NIC number, which ranges from 1-8.</li> </ul>	
	• %SERIALNUM%- Serial number from SMBIOS.	
	• %NODENAME%- First 8 characters of actual computer name.	
	The <b>NIC Number</b> textbox is visible for NIC number input; the default value is 1.	

Field	Description
Define Range	Click to create a sequential range of computer names. The <b>Computer Name Range</b> dialog appears. For new computers, set a range of names for multiple new computers.
	• <b>Fixed text</b> . Enter the text portion of the name that you want to associate with each computer. Example: MARKETING.
	• <b>Range start</b> . Enter a whole number to add to the fixed text. Example: 1.
	• <b>Append</b> . Select this check box to add the range after the fixed text in the computer name. If you clear this box, the number is added as a prefix to the fixed text.
	<ul> <li>Result. View an example of the selected names that is assigned to each computer. Example: MARKETING1MARKETING6.</li> </ul>
	<b>Note</b> When setting name ranges, do not set names using multiple Modify Configuration tasks and assigning the names by setting conditions for task sets. If you set up two separate name ranges to be assigned by separate conditions, the computer names increment irrespective to the base name. See <i>Modifying</i> <i>configuration</i> on page 182, <i>Setting conditions for task sets</i> on page 151, and <i>Computer configuration properties</i> on page 101.
Workgroup	Select this option and enter the name of the workgroup to place the managed computer.
	<b>Note</b> You can select either the <b>Workgroup</b> or the <b>Domain</b> option.
Domain	Enter either the fully qualified domain name, the DNS domain name, or the WINS domain name. You can enter the fully qualified domain name (Example: mjones.yourcompany.com), and specify the organizational unit (OU) using this format: OU/newOU/users. The complete entry to place the computer in the users OU is the following:
	mjones.yourcompany.com/OU/newOU/users
	internal.myServer.org/New Corporate Computer OU/ Mail Room/Express Mail Servers

# TCP/IP configuration settings



Enter TCP/IP settings for one or more network adapters. Click **Advanced** to setup IP Interfaces, Gateways, DNS, WINS, and Static Routes. For computer groups, click **Associate** to assign a range of pre-defined IP addresses.

Field	Description	
Host name	The DNS name of a device on a network. The name is used to locate a computer on the network.	
Network adapter	A list of all network adapters installed in the selected computer.	
	The network adapter with the lowest bus, device, and function number is the first listed (NICO - zero based). If the bus, device, and function information cannot be determined for a network adapter, it is enumerated in the order it is detected.	
	When configuring multiple network adapters, ensure that one network adapter is not using an Intel Universal NIC driver (commonly called UNDI driver) to connect to Deployment Server. If one network adapter uses the native driver and one uses an UNDI driver, your computer appears twice in the console.	
	<ul> <li>Add. Enter new settings for additional network adapters installed on the client computer. You can add "virtual" network adapter settings to send a job to a computer group containing computers with varying numbers of network adapters. If a computer in the group has only one network adapter, it is configured only with the IP settings listed first. If IP settings are provided for additional network adapters not present in the computer, they are disregarded.</li> <li>If you add a new network adapter, the <b>Remove</b> button appears. You can remove the new network adapter by clicking <b>Remove</b>.</li> </ul>	
	See also Computer configuration properties on page 101.	
Description	<ul> <li>MAC Address. The MAC address is a unique number assigned to the network adapter by the manufacturer. You cannot change this number. The MAC address appears in this box when you view computer configuration settings. This box is disabled when creating a Modify Configuration task.</li> <li>DNS connection suffix. Enter this to add domain suffixes to the reat address.</li> </ul>	
	Obtain an IP Address automatically	
	<ul> <li>Use the following IP address.</li> </ul>	
	Obtain DNS server address automatically.	
	Obtain the following DNS server addresses.	
	• <b>Reboot After Configuration</b> . Restarts the computer after configuration.	
Adapter state	The state of the Network Interface Card (NIC). AClient and DAgent do not report limited information for disabled NICs. Deployment Solution tracks any disabled NICs when it rebuilds or reconfigures a computer. Users have the option of enabling, disabling, or keeping the card in its current state.	

### **TCP/IP** advanced options - IP interfaces

IP Interfaces (Linux and Windows type only). Click **Add** to set named interfaces for this network adapter. You can add TCP/IP addresses to an existing network adapter card on Linux or Windows operating systems.

Field	Description
IP Address	Add or modify an IP address common to all interfaces.
Subnet mask	Enter the appropriate subnet mask.

Field	Description
Interface Name	Establish Linux-specific IP interface settings. Ensure you use the "eth" syntax when naming new interfaces. Example: eth0:1 or eth0:new interface.
Broadcast Address	Enter the Broadcast address for the specified IP interface.
Interface State	The default value of the interface state is <b>Up</b> , which denotes that the named interface is operating. You can shut down the named interface by selecting <b>Down</b> .
	See also Computer configuration properties on page 101.

### TCP/IP advanced options - gateway

View Gateway addresses. Click **Modify** to edit an existing IP address. Use the up and down arrows to move an address to the top of the list, which acts as the primary address. Review all selection by clicking the TCP/IP option on the Configuration page.

Field	Description
Gateway	Add additional gateways for this network adapter.

### **TCP/IP advanced options - DNS**

Click Add to set a new DNS address.

**DNS server addresses, in order of use**: Add additional Domain Naming Servers (DNS) for this network adapter.

**Append these DNS Suffixes (in order):** Add the name of the Domain Suffix and use the up and down arrows to set the DNS suffix search order.

## **TCP/IP** advanced options - WINS

Click Add to set a new WINS address.

Add additional WINS settings for this network adapter. Select one of the **Enable NetBIOS over TCP/IP**, **Disable NetBIOS over TCP/IP**, or **Use NetBIOS settings from DHCP server** options for this network adapter. See also *Computer configuration properties* on page 101.

Field	Description
Destination	IP address of the destination Deployment Server.
Netmask	Subnet mask.
Gateway	Additional gateways required to reach the destination server.
Interface	IP address for the interface over which the destination can be reached.
Metric	Cost associated with the route
Flags (Linux)	Enter the flag associated with a Linux-specific operating system. Possible flags include:
	U (route is up)
	H (target is a host)
	G (use gateway)
	R (reinstate route for dynamic routing)
	D (dynamically installed by daemon or redirect)
	M (modified from routing daemon or redirect)
	A (installed by addrconf)
	C (cache entry)
	! (reject route)

## TCP/IP advanced options - static routes

# **NetWare client configuration settings**



Set Novell NetWare client values for a new or existing computer. Select whether you want to log in directly to a NetWare server or to a NetWare tree in the Novell Directory Service (NDS). You can specify the preferred tree, server name, and NDS context.

Field	Description
Ignore NetWare settings	Select to disregard all Novell NetWare client settings for this computer. Clear to specify the required information.
Preferred server	Select this option and enter the name of the NetWare server. Example: \\OneServer. This is the primary login server for the NetWare client.
Preferred tree	Select this option and enter the name of the NDS tree.
NDS User name	Enter the name of the user object for the NetWare client.
NDS Context	Enter the organizational unit context for the user.

Field	Description
Run login	Select this option to run the NetWare client login scripts.
scripts	See also Computer configuration properties on page 101.

## **Operating system licensing configuration settings**



Enter or view the license information for your Windows operating system software.

Field	Description
Registered user	Enter the name of the registered user.
Organization	Enter the name of the organization.
License key	Enter the alpha-numeric license key. This is the hash value rendered from the OEM key or 25-digit license key required when installing the operating system. See also <i>Computer configuration properties</i> on page 101.

# User account configuration settings



Set up local user accounts for the newly imaged computer or when running a configuration task. Enter a user name, full name, and password; and set standard Windows login options.

Field	Description
User name	The user name for this local Windows user account.
Full name	The full name for this local Windows user account.
Password	The password for this local Windows user account.
Confirm password	Confirm the password for the local Windows user account.
Groups	Specify the Windows groups that this user belongs to as a comma-delimited list. Example: Administrators, Marketing, Management.

Field	Description
User must change password at next logon	Select to force the user to change the password after setting the configuration properties.
User cannot change password	Prohibit the user from changing the password at any time.
Password	Select to maintain the user password.
never expires	See also Computer configuration properties on page 101.

# **Deployment agents**

To remotely manage computers from a Deployment Console, a Deployment Agent is installed on each computer in the Deployment Server system. Deployment Agents are provided for various computer types, including Windows, Linux, and DOS computers.



To set or modify Deployment Agent settings from the Deployment Server Console, right-click a computer or group, select **Change Agent Settings** and click **Production** or **Automation**.

To set or modify agent settings for new computers, click **Tools > Options**, click **Agent Settings**.

The following Deployment Agents reside on the client computer and communicate with the Deployment Server.

Deployment Agent on Windows	The Deployment Agent runs on Windows computers, including desktops, notebooks, and servers.
	See Deployment agent settings on page 110.
Deployment Agent on Linux	This Deployment Agent runs on Linux workstations and servers.
	See Deployment agent settings on page 110.
Automation Agent	The Automation Agent is used when you create configurations to boot client computer to automation. This is done through Boot Disk Creator.
	See Boot Disk Creator Help and Install automation partition on page 133.
Deployment Agent on ThinClient CE 6.0	This agent runs on ThinClient Windows CE 6.0 operating systems and lets the Deployment Console manage WinCE 6.0 based Thin Clients.
Deployment Agent on CE .NET	This agent runs on the CE .NET 4.2 operating system.

Notification Server Client	The NS client is an Altiris agent that runs on computers supported by the Notification Server. This agent runs on the Deployment Server computer when running Deployment Solution on the Notification Server.
Deployment Server Agent	This agent runs on the Deployment Server computer when running Deployment Solution on the Notification Server.

### Install Deployment Agent to add a managed computer

When a Deployment Agent is installed on a computer, it searches the network for a Deployment Server to attach to. When the Deployment Agent locates a Deployment Server, the client computer is added as a record to the Deployment Database.





When the Deployment Agent for Windows icon is clear, it shows that the client computer is not connected to the Deployment Solution system. The agent may be configured incorrectly, the Deployment Server is down, or other network problems exist.

### Automatically update to newer version of Deployment Agent

At times, Altiris may update versions of the Deployment Agent to enhance features. For best performance, we recommend that all managed computers run the latest version of the Deployment Agent. When a new version of the Deployment Agent is saved to the Deployment Share file server, the managed computers automatically update the Deployment Agent.

- From the computer where Deployment Server is installed, click Start > All Programs > Altiris > Deployment Solution > Configuration. The Altiris Deployment Server Configuration Utility page appears.
- 2. Click Options.
- 3. Click Transport.
- 4. Select the Automatically update clients option and click OK.

## **Deployment agent settings**

You can set the default agent settings when new client computers are added to the system that the Deployment Server manages.

You can also modify the properties settings for the Production or Automation Agent through the Automation Agent.



To set or modify agent settings in the Deployment Server Console for Windows or Linux clients, right-click the computer and select **Change Agent Settings > Production Agent Settings**.

- To set or modify agent settings for the Deployment Agent, click **Tools** > **Options**.
- Click the **Agent Settings** tab.
- Select the **Force new agents to take these default settings** check box to set the Deployment Agent settings for all new computers.
- Click the Change Default Settings tab. Click each agent setting tab to set the properties. See Server connection on page 112, Access on page 113, Security on page 114, Log file on page 114, Proxy on page 115, and Startup and shutdown on page 115.



Click OK.

To view or modify settings from the Windows client, right-click the Deployment Agent icon in the system tray (or double-click the client icon in the system tray and click **Properties**).

When the client agent is first started, the agent establishes a connection to the Deployment Server using the following general steps:

- 1. The agent service is started and initialized.
- 2. A TCP socket is created.
- 3. A connection is made to the Deployment Server.
- 4. The agent is updated, if required.
- 5. A basic inventory of the client is sent to the Deployment Server.

After the initial connection process is complete, no additional data needs to be sent to or from the Deployment Server for the client agent to remain connected.

#### Note

If no Deployment Solution traffic is sent to the Deployment System agent, the TCP/IP protocols send an occasional watchdog packet (approximately every 24 hours) to ensure that the connection is still valid.

### **Deployment agent properties**

Right-clicking the Deployment Agent icon gives you access to the following options:

**View status**. Brings up the Altiris Client Service box to observe the current status of the Deployment Agent. You can also see the computer name, deployment server connected to, IP address, multicast address, and MAC address. You can also watch Deployment Agent communicate with the Deployment Server. Clicking **Properties** lets you edit the Deployment Agent properties. Passwords protect this option.

**About**. Displays the version and licensing statement for the Deployment Agent. Passwords do not affect this option.

**View log file**. View the Deployment Agent log file, if you have chosen the option to create a log file. Passwords have no effect on this option.

**Clear log file.** Clear the log file that has been created.

**Shutdown for imaging**. Make an image of a computer without using a job. This makes the required preparatory changes to the computer before an image is made. Failure to do this breaks the reconfiguration phase when deploying the image using a job. Passwords protect this option.

**Change Name in Console**. Change how this computer is listed in the deployment server console. This option does not change the NetBios name of the computer or the name of the computer in the database, but only changes the name of the computer displayed in the Computers window. Passwords protect this option.

**Remove**. Uninstall Deployment Agent from the computer. Passwords protect this option.

**Exit**. Stops all Deployment Agent services from running but does not uninstall Deployment Agent. Deployment Agent loads normally the next time you boot the computer. Passwords protect this option.

**User Properties**. Quickly go to the User Properties page to view or make changes. Passwords protect this option.

**Admin Properties.** Quickly go to the Admin Properties page to view or make changes. Passwords protect this option.

**Show Network Interfaces**. View what network cards are in your computer. Passwords protect this option.

The following configuration properties (organized using tabs in the dialog) are included in the **Production Agent Settings** dialog.

Server connection	Log file
Access	Proxy
Security	Startup and shutdown

### Server connection

**Connect directly to this Deployment Sever.** Select this option so that the client receiving the Deployment Agent connects to the Deployment Server you selected to configure.

**Address/Hostname**. Enter the IP address or NetBIOS name of the Deployment Server computer.

**Port.** Enter the port number communicating with the Deployment Server.

**Enable key-based authentication to Deployment Server.** Select this option to specify mandatory authentication for client computers to connect to the Deployment Server. This helps keep rogue computers from connecting to unauthorized Deployment Servers.

**Discover Deployment Server using TCP/IP multicast.** Managed computers can use the multicast address if they are on the same segment as the Deployment Server or if multicast is enabled on the network routers. Ensure that the multicast address and port match those set up on the Deployment Server. Try using defaults on both the client and Deployment Server if you have problems while connecting.

Managed computers should use the Deployment Server IP address if multicasting is disabled on the network routers or if they are not on the same network segment as the Deployment Server. The port number must match the number set on the Deployment Server. Otherwise, the client computers cannot connect.

**Server Name.** Enter the NetBIOS name of the computer running the Deployment Server.

**Port**. Enter the port number distributing the multicast address.

Multicast Address. Enter the group multicast address.

**TTL**. Specifies the number of routers the multicast request can pass through. Change this setting if you want to locate a Deployment Server that is more than 32 routers away (default setting) or to restrict the search to a smaller number of routers, making it easier to find the closest Deployment Server.

**Refresh connection after idle.** Select the **Refresh Connection after idle** check box and set the refresh time in hours or days. The Deployment Server closes the connection after the specified time and immediately tries to re-open the connection. This sends a message to client computers that the network is down.

The default checking is of 28800 seconds or 8 hours. We recommend keeping this setting above 28800. Do not set this option too low—reconnecting to the Deployment Server increases bandwidth when connecting. If this option is set too low, your client computers will take longer to connect than to refresh their connections.

**Abort files transfers if rate is slower than.** Select this option to preserve bandwidth when running deployment tasks on slower connections.

### Access

Set these commands to control the way the client handles requests from the server.

**Allow this computer to be remote controlled.** Select to let the administrator remotely control the selected computer. The default setting is to NOT let the computer be remotely controlled.

**Prompt the user before performing actions.** You can select the following options to prompt the user before the corresponding action is performed:

- **Shut down and Restart.** Prompts the user before shutting down and restarting the computer. This feature overrides the **Power Control** option from the Deployment Server to force applications to shut down without a message.
- **Copy file and Run command**. Prompts the user before running a program or executing file copy commands.
- **Remote Control.** Prompts the user before running the Remote Control commands.

**Time to wait for user response.** If one of the **Prompt the user before perform actions** is selected and the user is not at the computer to respond, you need to decide whether to continue or abort the operation. Specify the time to wait for the user's response, and select one of the following:

- **Continue the operation.** Select to continue if there is no response from the user.
- Abort the operation. Click to not continue if there is no response from the user.

Select when the Deployment Server is denied access to the Deployment Agent. Select the days and set the start and end times when access to the Deployment Agent is denied.

### Security

This page lets you secure data between the Deployment Server and the Deployment Agent, or to set a password so that the user on the client computer can only view and modify the User Properties of the Altiris Client Settings on the managed computer.

**Encrypt session communication with Deployment Server.** Select to allow encryption from this managed client computer to the Deployment Server. This lets encrypted data transmissions between the Deployment Server and the Deployment Agent on the client computer. If selected, the client computer can connect (but is not required to connect) using encryption.

To enable encryption protocols, you must open the Altiris Deployment Server Configuration Utility, click **Options** and select the **Transport** tab. Select the **Allow encrypted sessions** check box to let Deployment Server transmit using encryption protocols.

**Require encrypted session with any server.** Select to require encryption between the managed client computer and the Deployment Server. If this option is selected and the option to allow encryption in the Deployment Configuration tool is not selected, the Deployment Server does not communicate with the Altiris Client on the managed client computer.

#### Note

Selecting encryption options slows down the communication path between the agent and the Deployment Server.

**Password protect Admin properties from user.** Select to let users on the managed computer access the Admin properties only if they enter the set password. If the check box is selected and the user does not know the password, they will have rights only to view the User Properties, which includes only the User Prompts and Remote Control tabs on the Altiris Client Settings dialog.

• Enter the password in the **Password** field and re-enter the password for confirmation in the **Confirm password** field.

**Hide client tray icon.** Select to hide the Altiris Client icon in the system tray of the managed computer. If you hide the icon, you must run AClient.exe with the -admin switch to view and modify the complete administrative properties from the managed client computer.

## Log file

The **Log File** page controls how data is logged and saved in a Deployment Server system, letting you save different types and levels of information to the log files. You can save a text file with log errors, informational errors, and debug data using this dialog.

If the log exceeds the specified size, the older data is dropped from the files. You can maximize the size of the log file to save all selected data.

**Save log information to a text file**. Select this option to save information to a log file. By default, this option is cleared. Selecting this option enables the **File name** and **Maximum size** fields. **File name**. Enter the name and path of the log file. The default path is \Program Files\Altiris\AClient\AClient.log file.

Maximum size. Enter the maximum number of bytes for each log file.

**Log errors**. Select this option to save only the errors returned when running a job or operation between the Deployment Server and the Deployment Agent.

**Log informational messages**. Select this option to save a list of procedural steps run on the client computer.

**Log debugging information**. Select this option to list comprehensive debugging information in the text file.

#### Note

If the log exceeds the specified size, the older data is dropped from the files, so it is recommended to provide maximum file size.

### Proxy

Typically, remote networks on the other side of a router or switch cannot receive multicast or Wake-On-LAN packets from the Deployment Server. Setting the managed computer as a proxy client computer forwards or re-creates the multicast packets. A managed client computer setup as a multicast proxy simply acts as a Deployment Server and advertises the server's name and IP address through multicasting. You can also set the managed computer as a proxy to send Wake-On-LAN packets.

Set these options to control how the managed computer acts as a proxy agent, identifying the type of traffic this managed computer forwards from the server.

**Forward Wake-On-LAN packets.** Select if you want the managed computer to forward Wake-on-LAN packets.

**Forward Deployment Server discovery multicast packets.** Select if you want to advertise the Deployment Server to client computers on another LAN segment or if the client computer is on the other side of the router.

**Send multicast advertisement every.** Set the time in seconds, minutes, or hours for managed computers to send a multicast advertisement.

### Startup and shutdown

**Delay starting jobs after system startup.** Set the time in seconds, minutes, or hours for managed computers to delay jobs until after system startup.

**Specify the Windows boot drive.** Specify the drive that the client computer boots from. The default is the C drive.

**Force all programs to close when shutting down.** Select this option to shut down applications when using Power Control features. The user is still prompted to Abort or Continue the shutdown.

**Synchronize date/time with Deployment Server.** Select this option to synchronize the system clock of managed computers with the time of the Deployment Server.

**Prompt for a boot disk when performing automation jobs.** Select this option to prompt for a boot disk while running any automation jobs.

#### Advanced

**Disabled direct disk access for Deployment Agent for DOS (BootWorks) communication.** Select this option to disable the direct disk access for Automation communication.

## **Deployment Agent for Linux**

The Deployment Agent for Linux is an agent software that runs on managed Linux computers. The agent collects and sends data from the managed computer to the Deployment Server system, executes deployment tasks sent from the server, installs packages, and runs management processes as directed from a Deployment Console. See *Installing Deployment Agent on Linux* on page 357 for additional information.

A Linux managed computer is identified in the Deployment Console by unique Linux icons reflecting deployment and process status, letting you deploy and manage computers similar to the Deployment Agent for Windows, with the following exceptions:

Deployment Task	Deployment Agent for Windows	Deployment Agent for Linux
Create Disk Image	Yes	Yes
Distribute Disk Image	Yes	Yes
Scripted OS Install	Yes	Yes
Distribute Software	Yes	Yes
Capture Personality	Yes	No
Distribute Personality	Yes	No
Change Configuration	Yes	Yes
Run Script	Yes	Yes
Copy File	Yes	Yes
Shutdown/Restart	Yes	Yes

## **Deployment Agent settings for DOS**

You can configure property settings for the Automation Agent for specified computers or computer groups. You can remotely maintain important agent settings and update settings as required from the console.



To set or modify agent settings for a specific computer, right-click the computer icon and select **Change Agent Settings > Automation Agent** in the Deployment Console.

To set or modify agent settings for ALL computers, click **Tools > Options**, click **Agent Settings > Change Default Settings**.

When a new client computer connects, it receives the default agent settings from Deployment Server for drive mappings, authentication, and LMHost entries. Each client computer still has the capability to maintain its unique settings for the Deployment Agent for DOS as set in the Boot Disk Creator.

Automation Agent Settings include the following property settings:

- Drive mappings
- Authentication
- Network

### **Drive mappings**

Set drive mappings used by the Deployment Agent for DOS to access hard disk image files and other packages from a specified network drive. You must map the F Drive to the Deployment Share. You can also map other file server directories when storing large numbers of image files or deployment packages.

Click Add to open the Add Drive Mapping page. Select the following options:

**OS.** Select the operating system from the drop-down list.

**Drive Mapping**. Enter the drive letter and volume of a shared folder. Example: F: \\WebDeploy\Image files.

#### Note

You must select a shared folder in this field. You can browse and select any type of folder, but the Deployment Agent for DOS maps to and accesses files only from a shared folder.

Path. Enter a UNC path.

You can also edit or remove a drive mapping from the list. See also *Deployment agents* on page 109.

### Authentication

Provide the login credentials that the Deployment Agent for DOS needs to map network drives. The associated credentials for each network drive must have the rights that the Automation agents need to access files.

**Domain/Workgroup**. To map the network drives, enter the name of the user's Domain or Workgroup that the Deployment Agent for DOS uses to log on.

**Username**. To map the network drives, enter the user name that the Deployment Agent for DOS logs on as.

Password. Enter the password.

**Confirm Password**. Retype the password for confirmation.

See also *Deployment agents* on page 109.

### Network

These settings let you match the IP address with the computer name, as maintained in the LMHosts file in the Deployment Agent for DOS partition.

- 1. Click Add. The Add LMHosts Entry dialog appears.
- Enter the Computer Name. Enter the name of a computer to associate with an IP address.
- 3. Enter the IP Address.

or

Click **Lookup IP**. This automatically populates the field with the IP address of the entered computer name.

4. Click **OK**.

See also *Deployment agents* on page 109.

# Managing client connections

The following utilities are provided for managing transmissions between the Deployment Server and the Deployment Agents running on the managed client computers.

### **Reset a client connection**

Resetting the connection that a managed computer has with the Server simply disconnects and reconnects the computer. This is useful for troubleshooting or if you suspect a bad connection.

To reset a client connection, right-click a computer and click **Advanced > Reset Connection**. When the computer disconnects, its icon turns gray. The computer should reconnect and its icon color returns to its original active status color.

### Reject or retrieve a rejected computer

If a computer you do not want to manage connects to your Deployment Server, you can reject it. This removes the unwanted computer from the **Computers** pane in the console. Further attempts by the computer to connect are denied. Although the computer is not deleted, any history or schedule information associated with the computer is deleted.

- 1. Right-click the computer you want to reject from connecting to the Deployment Server.
- 2. Click Advanced > Reject Connection.
- 3. Click **OK**.

Rejected computers are stored in a Rejected Computers list. Select **View > Rejected Computers** to view this list.

### Accept a previously rejected computer

If you now want to accept a previously rejected computer, you can retrieve it and reconnect it to the Deployment Server.

- 1. Click View > Rejected Computers.
- 2. From the list, select the computer you want to retrieve.
- 3. Click **Accept Computer(s)** to remove the computer from the rejected list (this doesn't delete the computer, just removes it from the list of rejected computers).
- 4. Click **Yes** to confirm the action, click **Close**.

This client computer can now be managed from within the **Computers** pane. Connection requests from this client computer are now allowed.

See also *Deployment agents* on page 109.

# **Computer properties**

View and edit the computer properties for each managed computer.



View and edit computer properties by double-clicking a computer icon in the **Computers** pane, or right-clicking and selecting **Properties**, or clicking the icon in the toolbar.

General	Services
Hardware	Devices
Drives	Location
Network configuration	
TCP/IP	
Applications	

### General



View or change the name of the computer as it appears in the console. You can view the following: logged-on user names, operating system installed, name of the Deployment Server, whether an automation partition is installed, version of the Altiris Windows Client, and other client information.

See also *Computer configuration properties* on page 101.

## Hardware



View processor make and type, processor count, RAM installed on the computer, display configuration, manufacturer, model, product name, MAC address of each network adapter installed, serial number, asset tag, UUID, and whether Wake On LAN and PXE are installed and configured.

See also *Computer configuration properties* on page 101.

## Drives



View information about each drive on the computer. If you have multiple drives, you can select a drive from the list to view its settings, such as the capacity, serial number, file system, volume label, and number of drives installed.

See also *Computer configuration properties* on page 101.

## **Network configuration**



View Microsoft Networking, Novell Netware settings, and user information for the selected managed client computer.

See also *Computer configuration properties* on page 101.

## TCP/IP



View TCP/IP information, including a list of all installed network adapter cards (up to eight) for the selected computer. Click **Change** to open the **Configuration** page to modify settings (see *Configuring computers* on page 125).

See also *Computer configuration properties* on page 101.

## **Applications**



View the applications that are installed on the computer, including their description, publisher, version number, product ID, and system components.

See also *Computer configuration properties* on page 101.

## Services



View the services installed on the computer along with the description, start type, and path for each service.

See also Computer configuration properties on page 101.

## **Devices**



View the devices installed on the computer, including display adapters, disk drives, ports, storage volumes, keyboards, and other system devices.

See also *Computer configuration properties* on page 101.

## Location



View and edit user-specific properties such as contact name, phone number, e-mail address, department, mail stop, and site name. As the administrator, you can enter this information manually or you can let the user populate this screen using the **Prompt User for Properties** option. See *Prompt user for properties* on page 132.

See also *Computer configuration properties* on page 101.

### Bay



View location information and other properties for Rack / Enclosure / Bay components for high-density and blade servers. Set rules for automatic re-deployment of blade servers based on physical location changes. This property is available only to systems using blade servers.

### Server deployment rules

From the Bay property page, you can select rules to govern actions taken when a new blade server is detected in a selected bay. These rules are described below:

Rule	Action
Re-Deploy Computer	Restore a blade server using deployment tasks and configuration settings saved from the previous server blade in the bay. This lets you replace new blades in the bay and automatically run deployment tasks from its deployment history. (See <i>Restoring a</i> <i>computer from its deployment history</i> on page 124.)
	All deployment tasks in the bay's history are run starting from the last Distributing a Disk Image task or Scripted OS Install task, or from any script (in a Run Script task) with this command: rem deployment start. See <i>Distributing a disk image</i> on page 162, <i>Scripted OS install</i> on page 168, and <i>Running a script</i> on page 184.
Run Predefined Job	The server processes any specified job. Select a job to run automatically when a new server is detected in the bay.
Ignore the Change	This option lets you move blades to different bays without automatically running jobs. The server blade placed in the bay is not identified as a new server and no jobs are initiated. If the server existed in a previous bay, the history and parameters for the server are moved or associated with the new bay. If the server blade is a new server (never before identified), the established process for managing new computers is executed.

Rule	Action
Wait for User Interaction	(Default) No job or tasks are performed (the Deployment Agent on the server blade is instructed to wait). The icon on the console changes to reflect that the server is waiting.

See also Computer configuration properties on page 101.

## **Lights-Out**



View information about the remote management hardware installed on the selected computer (most often a server) used to power up, power down and restart the computer remotely, or to check server status. You can also enter the password for the remote management hardware by clicking **Password**.

### Note

This feature is currently only available for selected HP Integrated Lights Out (ILO) and Remote Insight Lights-Out Edition (RILOE) features.

See also *Computer configuration properties* on page 101.

# **Remote operations using Deployment Solution**

The **Operations** menu in the Deployment Console provides a variety of commands to remotely manage all computers in your site or network segment. Some operation commands, such as **Restore**, automatically create and schedule deployment jobs and place them in the **System Jobs** folder in the **Jobs** pane. Other commands, like **Chat** or **Remote Control**, open utility programs to access and remotely manage computers.



Open the computer operations menu by right-clicking a computer icon in the **Computers** pane, clicking **Operations** on the menu bar, or clicking the icons in the toolbar.

Restore	Reconfigure your computer to a former state. Select from a list of previous deployment tasks and select to restore only the ones you want. See <i>Restoring a computer from its deployment history</i> on page 124.
History	View, print, delete, and save to file a history of deployment tasks. See <i>Viewing a computer's history</i> on page 125.

Configure	Set network and local configuration properties for each computer, including computer name, IP address, domains, Active Directory context. See <i>Configuring computers</i> on page 125.
Quick Disk Image	Select a computer and image its hard disk. This creates and stores the image to distribute now or later. See <i>Quick disk image</i> on page 125.
Power Control	Wake up, restart, shut down, and log off remotely. See <i>Power</i> control on page 126.
Remote Control	Open a remote control window directly to a selected client computer. Investigate problems directly from your console. See <i>Remote control</i> on page 127.
Execute	Type and run commands remotely. See <i>Execute</i> on page 131.
Copy File to	Copy selected files, directories, or entire directory structures and send them to the selected computer(s). See <i>Copying a file</i> on page 188.
Chat	Start an individual chat session with one or more selected client computers. Communicate actions or query for symptoms during administration. See <i>Chat</i> on page 132.
ADVANCED >	
Clear Computer Status	Clear computer status as shown in the title bar of the List View.
Prompt User for Properties	Query the user for personal information. This feature sends a form to the user to fill out. See <i>Prompt user for properties</i> on page 132.
Reset Connection	Disconnect and reset the connection between Deployment Server and the Deployment Agent on the selected computer.
Install Automation Partition	Embed automation partitions onto the selected computer's hard disk to enable a managed computer to run automation tasks.
Get Inventory	Update property settings for a selected computer. These inventory settings can be viewed in <i>Computer properties</i> on page 119. Select it to ensure that you have the latest inventory of the computer.
	Set the timeout value in the General tab of the Deployment Server Configuration utility (in the Control Panel).
Reject Connection	Refuse communication with the selected computer.
Install BIS Certificate	Install a BIS certificate for the selected computer.
Remove BIS Certificate	Remove a BIS certificate from the selected computer.
Uninstall agent	Uninstall the agent from the selected computer.
Apply Regular License	Apply a permanent license if a client computer is using a time- limited license or requires an updated license.
New Job Wizard	Open this to build, assign, and schedule deployment jobs for the selected computer. See <i>New job wizard</i> on page 146.
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New Group	Click to create a new computer group in the <b>Computers</b> pane.
New Computer	Create a new computer account. See <i>Adding new computers</i> on page 98.
Rename	Assign the computer or group a new name in the console. Right- click a computer or group to edit in the <b>Computer</b> pane.
Delete	Delete a computer, a computer group, or any combination of computers and groups from the database.
Change Agent Settings	Update property settings for the Deployment Agent running on selected computer(s). See <i>Deployment agents</i> on page 109.
Permissions	View security settings for the selected computer(s).
Job Scheduling Wizard	Open this to assign deployment jobs to the selected computer.
Properties	View computer configuration and network properties. See <i>Computer properties</i> on page 119.

# Restoring a computer from its deployment history

Occasionally, it is necessary to restore a computer to its original settings based on operations or deployment jobs previously executed on the computer. A computer's past deployment history appears in the **Restore Computer** dialog, where you can restore a computer by selecting the tasks from its history file. You can rerun the deployment tasks to restore the computer.



Restore a computer by right-clicking a computer icon in the **Computers** pane and selecting **Restore**, clicking **Operations > Restore Computer** on the menu bar, or clicking this icon in the toolbar. You can restore a computer using Remote Operations Using Deployment Solution or by creating and scheduling a job using the New Job Wizard. See *Remote operations using Deployment Solution* on page 122 and *New job wizard* on page 146.

1. Right-click a computer and click **Restore**.

The **Restore Computer** dialog appears with a list of previous tasks with check boxes.

- 2. (Optional) Select the type of tasks to be displayed from the **Show only** drop-down list. Select the date from the **Since** list box to filter tasks.
- 3. Click **Next** to view a summary of tasks selected to reschedule.
- 4. Click **Next** to schedule the job. See *Scheduling jobs* on page 153.
- 5. Click Finish.

When you finish this computer operation, a new job appears in the **Jobs** pane of the Deployment Console under the **System Jobs > Restoration Jobs** folder. The job name has a generic format of Restore: <computer name>.

#### Viewing a computer's history

You can view the history of deployment tasks for a specific computer. Users who do not have administrative privileges or the permissions to delete a computer's history cannot access this option.

1. Right-click a computer and click History.

The **History of** *<Computer Name>* dialog appears with a list of previous tasks, including when the task was scheduled, its deployment status and other deployment information.

- 2. (Optional) Click Save As to save the file as a .TXT or .LOG file.
- 3. (Optional) Click **Print** to print the History file.
- 4. Click **Delete** to delete the History file. Click **Yes** to the confirmation message.
- 5. Click **Close**.

See also *Remote operations using Deployment Solution* on page 122.

## **Configuring computers**

From the **Operations** menu, you can enter and modify configuration settings for computers. See *Computer configuration properties* on page 101 for complete information about configuration settings.

1. Right-click a computer and click **Configure**.

The **Computer Configuration Properties** dialog appears.

- 2. Set basic configuration values in the General configuration group (default view).
- 3. Click other configuration group icons in the left pane to set additional values.
- 4. Click **OK**.

See also *Remote operations using Deployment Solution* on page 122.

## Quick disk image

This computer operation creates a disk image of the selected computer. This option is a quick and easy way to create a disk image of a selected managed computer from the Deployment Console.

To run a disk image job you must have an automation partition installed on the client computer, or it is PXE-enabled and can boot to automation by connecting to a PXE Server.

1. Right-click a computer and click **Quick Disk Image**.

The **Schedule Computers for Job** dialog appears. See *Scheduling jobs* on page 153.

- 2. Schedule the job to run immediately or at a later time. You can also click the option to not schedule the job (this option places the job in the working area and does not run until you manually drag it to a selected computer and reschedule it).
- 3. Click OK.

A new job appears in the **Jobs** pane of the Deployment Console under the **System Jobs > Image Jobs** folder. The job name has a generic format of Create Image: <computer name>. See also Remote operations using Deployment Solution on page 122.

## **Power control**

This computer operation lets you wake up a computer, restart a computer, shut down, or log off as the current user for a selected managed computer. You can also power a computer on if Wake-On-Lan is supported.



Restore a computer by right-clicking a computer icon in the **Computers** pane and selecting **Power Control**, clicking **Operations > Power Control** on the menu bar, or clicking the icon on the toolbar.

1. Right-click a computer and select **Power Control**.

A secondary menu appears with the following options:

The Wake-Up feature is hardware-dependent and is available only for inactive computers. Select this command to start a computer that has been turned off.			
<b>Notes</b> Your operating system and network adapter must be capable of recognizing and processing the Wake-on-LAN packets. Non- embedded network adapters must be properly configured. Example: 3Com NICs have an extra header cable that enables Wake-on-LAN. Check the documentation that comes with your network adapter for more information about Wake-on-LAN.			
For NICs and operating systems that support Wake-on-LAN Power Management features, go to the <b>Properties</b> dialog of the network adapter driver and select the <b>Power Management</b> tab. Click the <b>Allow this device to bring the computer out of standby</b> option for this device to bring the computer out of standby status.			
You must enable this feature for some computers in their BIOS.			
Click to reboot the selected managed computer. Select <b>Force</b> <b>Applications to close without a message box</b> to restart immediately without prompting the user.			
Click to shut down the selected managed computer. Select <b>Force</b> <b>Applications to close without a message box</b> to shut down immediately without prompting the user.			
Click to log off the selected managed computer. Select Force Applications to close without a message box to log off immediately.			

- Select a Power Control option. A Confirm Operation dialog appears. Select the Force application to close without a message option to shut down users without a warning. If you do not select this option, the user is prompted to save work before the power operation continues.
- 3. Click Yes.

See also *Remote operations using Deployment Solution* on page 122.

## **Remote control**

Multiple methods are provided to remote control managed computers. The integrated DS remote control utility can be used on Windows computers.

Additionally, you can access the built-in Remote Desktop feature built into many Windows operating systems directly from the Deployment Console. You can also manually add access to other remote control utilities by modifying a configuration file.

- DS remote control (page 127)
- Remote desktop connection (page 130)
- Additional remote control programs (page 131)

### **DS** remote control

Remote Control is a computer management feature built into the Deployment Server Console. It lets you control all types of computers to view problems or make immediate changes as if you were sitting at the managed computer's screen and using its keyboard and mouse.



When a managed computer is being remotely controlled, the Deployment Agent icon in the managed computer's system tray flashes these two icons alternately.



Remote Control also provides Chat, Refresh, , Send File, and **Ctrl+Alt+Delete** features to assist in managing computers from the console. See *Chat* on page 132 and *Copying a file* on page 188.

#### Note

You cannot disable the flashing eye icon while the computer is being remotely controlled.

Before you can remotely control a managed computer:

- The managed computer must have the Altiris Agent for Windows installed and properly set up.
- The client must have the appropriate **Proxy** option selected in Altiris Client Properties. See *Proxy* on page 115.
- The client and Deployment Server Console must be able to communicate to each other through TCP/IP.

#### To remotely control a managed computer

1. Right-click a computer and click **Remote Control** > DS Remote Control.

This opens the **Remote Control** window displaying the managed computer's screen.

If you cannot perform a remote-control operation from the selected managed computer, you can change this client setting by using the **Remote Control** options in the **Change Agent Settings** command. The default setting is to not allow remote control of the managed computer. See *Proxy* on page 115.

2. From the Remote Control window, you can execute the following commands:

Toolbal	
Chat	Click to open a chat session with the selected managed computer. This starts a chat session between the console computer and the managed computer. The chat session opens a chat window that lets you send messages back and forth between the Deployment Console and the managed computer. If you start a chat session while controlling multiple computers in a single window, the chat session is only between the Deployment Console and the master client.
Refresh	Click to update the screen view of the managed computer.
Ctrl+Alt+DeletClick to select Restart or Logon options for the managed computer.	
	<b>Note</b> The managed computer must be running Windows and have the keyboard and mouse driver installed for this feature to be available.
Send File	See Send files during remote control on page 129
	See Send mes daming remote control on page 125.
Toggle Control	Click to toggle between the view of control access of the managed computer (default) and of access only of the managed computer.
Toggle Control Control menu	Click to toggle between the view of control access of the managed computer (default) and of access only of the managed computer.
Toggle Control       Control menu       Disable Input       from the Client	Click to prohibit the user of the managed computer from using the keyboard or mouse during the remote-control session.
Toggle ControlControl menuDisable Inputfrom the ClientClose Window	Click to prohibit the user of the managed computer from using the keyboard or mouse during the remote-control session. Click to close the remote control window of the managed computer.
Toggle Control         Control menu         Disable Input         from the Client         Close Window         View menu	Click to prohibit the user of the managed computer from using the keyboard or mouse during the remote-control session. Click to close the remote control window of the managed computer.
Toggle ControlControl menuDisable Input from the ClientClose WindowView menuRefresh	Click to prohibit the user of the managed computer from using the keyboard or mouse during the remote-control session. Click to close the remote control window of the managed computer.
Toggle ControlControl menuDisable Input from the ClientClose WindowView menuRefreshFit to Window	Click to refresh the view of the screen. Click to refresh the view of the screen. If this option is selected, the client display image becomes the same size as the Remote Control window. If this option is not selected, the image retains the size of the client display.
Toggle ControlControl menuDisable Input from the ClientClose WindowView menuRefreshFit to WindowColor Depth	Click to prohibit the user of the managed computer from using the keyboard or mouse during the remote-control session. Click to close the remote control window of the managed computer. Click to refresh the view of the screen. If this option is selected, the client display image becomes the same size as the Remote Control window. If this option is not selected, the image retains the size of the client display. See <i>Remote control properties</i> on page 129.

3. To end a Remote Control session, click **Control > Close Window** in the Remote Control window.

### Send files during remote control

Click to send files to the managed computer that is remotely controlled. Enter the name of the source file to be copied and the destination path on the managed computer. Select the required compression and encryption options.

If you are controlling multiple clients within a single window, this dialog sends a file only to the master client.

Source filename. Enter the name of the file to be sent.

**Destination path**. Enter the path where you want the file to reside on the managed computer.

**Compress Data**. Select to compress the file during the copy process to decrease network traffic.

Encrypt Data. Select to encrypt data package for security.

You can also drag entire folders from the Deployment Console computer to the remote control window, which copies the files to the remote client computer.

#### **Remote control properties**

**Color Depth**. Click to specify the color depth (number of colors) used by the Remote Control window. This setting applies only to the Remote Control window at the console, not to the display of the managed computer. There is no benefit of setting a color depth on the Remote Control window greater than that of the managed computer. The benefit of lower color depths is improvement in speed.

**Use specific image resolution**. Click to specify the width and height of the image that represents the client display.

**Update Interval**. Select to specify how often the image in the Remote Control window is updated (in milliseconds). The more frequently the display is updated, the more bandwidth is required.

**Only update foreground window**. Select to refresh only the selected window in the remote control session.

### Set remote control permissions

Deployment Solution provides multiple features for ensuring privacy and security when a managed computer is remotely controlled. Before a managed computer can be remotely controlled, the Remote Control preferences on the Deployment Agent for Windows must be set to allow remote control access.

You can also lock the keyboard and mouse of the managed computer or set a prompt for the user, asking for permission to initiate a remote session. This lets the user accept or reject the request. In certain environments, such as a lab or classroom, using a prompt to ask for permission might not be preferred.

To remotely set security options on each managed computer, use *Change agent settings* from the console or open **Properties** on the Deployment Agent on the client computer (you must access **Admin properties**).

- 1. After opening the Deployment Agent property page, select the **Remote Control** tab.
- 2. Select **Allow this computer to be remote controlled** to provide access from the Deployment Server Console.
- 3. (Optional) To lock the keyboard and mouse during a remote control session, select the **Enable keyboard and mouse driver** option.

This option works only on Windows.

After selecting this option (either enabling or disabling the keyboard and mouse) you must restart the managed computer. This can be done using a Power Control operation. See *Power control* on page 126.

- 4. If you want the user to be prompted before a remote control session begins, click the **User Prompts** tab.
  - a. From the **Choose the commands you would like to be prompted before executing** options, select the **Remote Control commands** option.
  - b. Specify the number of seconds you want the prompt to wait. Also, specify what will happen after the prompt time is over. Click either **Continue the operation** or **Abort the operation**.
- 5. Click **OK**.

### Start multiple sessions

You can manage multiple computers using the Remote Control feature. However, the more computers you include in the session, the larger the bandwidth over the network.

- Open a separate Remote Control window for each managed computer. Right-click each computer and select **Remote Control**. A new window appears for each selected computer.
- Open a Remote Control window for a group of managed computers. Right-click a computer group icon and select **Remote Control**.

The **Remote Control Options** dialog appears with options to **Control each client separately** in its own window or to **Control all clients together**. If you select to control clients separately, individual windows appear for each computer. If you select to control clients together, you are asked to select a master computer.

The Master Computer is the computer that appears in the Remote Control window, but all operations performed from the Master Computer's console also run on the other computers in the group. All computers in the group should be similar in configuration to work properly.

#### Note

If you are controlling multiple computers in a single window, you can send a file only between the console and the master client. If you want to send a file to multiple clients at the same time, use the **Copy File to** feature. See *Copying a file* on page 188.

• To end a Remote Control session, click **Control > Close Window**.

### **Remote desktop connection**

Remote Desktop connection is available for many Windows operating systems.

#### To remotely connect to a computer

- 1. Open the Deployment Console and right-click the Vista computer you want to remotely connect.
- 2. Click Remote Desktop. The remote desktop window for the computer appears.

The remote desktop connection is established to the Vista computer.

# To remotely connect to multiple computers using the Remote Desktop option

- 1. Open the Deployment Console and right-click the computer you want to remotely connect.
- 2. Click **Remote Desktop**. The remote desktop window for the computer appears.

The remote desktop connection is established to the computer.

#### To remotely connect to multiple computers

- 1. Open the Deployment Console and right-click the computers you want to remotely connect.
- 2. Click Remote Control. The Remote Control Options dialog appears.
- 3. Select **Control each client separately in its own window** to remote control each computer separately.

or

Select **Control all clients together, in the same window, using the following master** to remote control the selected computers together and select the master computer.

4. Click OK.

The remote control connection is established for the computers.

## Additional remote control programs

You can manually add access to additional remote control programs to the Remote Control menu in the Deployment Console.

To add a program, open the RemoteControlTools.ini located at the root of your Deployment Share and follow the instructions provided in the file.

## Execute

Send a command from the Deployment Console as if you were entering a command from the command-line prompt on the client computer.



Execute a command to a client computer by right-clicking a computer icon in the **Computers** pane and selecting **Execute**, clicking **Operations** > **Execute** from the menu, or clicking this icon in the toolbar.

- 1. Type a command you would like executed on the selected remote computer(s), or select from a list of previously-run commands. Example: Type regedit to open the registry on the computer.
- 2. To run the command as another user on the managed computer, click **User** and enter the user name and password.

## **User account**

Use this dialog to run a script using another local user account. You can log in with another user name and password with rights to run an execute command.

**Run with default security credentials**. This option runs with the current user credentials. This is the default option.

**Run with the following credentials**. Click this option to log on with another user name and password.

See also *Remote operations using Deployment Solution* on page 122.

### Chat

You can communicate with managed computers using the **Chat** text messaging system. From the Deployment Server Console, select an individual computer or a group of computers to open an individual chat session with each logged-in user.



Open text messaging with a user by right-clicking the computer icon in the **Computers** pane and selecting **Chat**, or clicking this icon in the **Remote Control** dialog. See *Remote control* on page 127.

- 1. Open a chat session. The **Chat with <computer name>** window appears, identifying the computer you are sending messages to.
- 2. Type a message in the lower field.
- 3. Click Send or press Enter.

The exchange of text messages appears in the upper field.

See also Remote operations using Deployment Solution on page 122.

## Prompt user for properties

This feature lets an administrator prompt a user for computer location and user information. The information supplied in this form appears in the **Location** properties in the **Computer Properties** dialog. See *Computer properties* on page 119.

#### To prompt a user for location properties

 In the Computers pane of the Deployment Server Console, right-click a computer and click Advanced > Prompt User for Properties. You can also select a computer and click on the Prompt User for Properties icon in the toolbar or click on Operations > Prompt User for Properties.

A dialog appears in the Deployment Server Console with a list of properties.

Select the properties to prompt the user. The properties selected in this dialog are active on the property form sent to the user, letting the user enter information for the selected properties.

#### Note

All properties are selected by default; you must deselect the properties you don't want to include when the client is prompted.

3. Click OK.

The properties form appears for the logged-on user of the computer, asking for location properties.

Enter Console In	formation - Altiris Client Service	X	
The system administrator has requested information about the name and location of this machine.			
Name to show in the console:			
Site:			
Department:			
Mail stop:			
Contact name:			
Email address:			
Phone number(s):			
	OK Cance	el l	

When the user enters information and selects **OK**, the **Location** properties in the Computer Properties field are updated for the selected computer. If the user changes the computer name, the name in the **Computers** pane of the Deployment Console also changes. These settings are stored directly to the Deployment Database.

See also *Chat* on page 132 and *Remote operations using Deployment Solution* on page 122.

## Install automation partition

When the Deployment Server sends a deployment job to client computers, tasks within the job can be assigned the default automation pre-boot environment, or one of DOS, Linux, or WinPE. With an embedded (recommended) or hidden automation partition installed on the client computer's hard disk, deployment jobs can run automatically.

You can have multiple tasks within a deployment job, and each task can be assigned to run in a different automation environment, depending on the task and end result you want. The following are the automation tasks you can add to the deployment jobs.

- Run script
- Create disk image
- Distribute disk image
- Scripted OS install

During the Deployment Server installation, the Pre-boot Operating System page appears for you to select a default pre-boot operating system, which is used by Boot Disk Creator to create the configurations that boot client computers to automation. You can install additional pre-boot operating system files through Boot Disk Creator. See *Boot Disk Creator Help*.

If you are running PXE Servers, you do not need to install an automation partition on each client computer's hard disk. When the Deployment Server sends a deployment job, PXE-enabled client computers search for a PXE Server to receive the boot menu options and the boot menu files that are required to boot to automation. See **Automation Pre-boot Environment** in the *Deployment Server Reference Guide*.

#### To install an automation partition

- 1. Right-click a computer and click **Advanced > Install Automation Partition**.
- 2. From the drop-down list, select the pre-boot operating system environment you want to install.
- 3. Click **OK**.

The Automation Agent you selected installs as an embedded partition on the client computer's hard disk. After the installation completes, the client computer reboots automatically. You can now run automation-specific deployment tasks on this computer.

## Change agent settings

This feature lets you modify most of the agent settings for a selected computer or computer group. You can set properties for the Production Agent (Deployment Agent), or for an Automation Agent.

#### To change agent settings

- 1. From the **Computers** pane, right-click a computer and select **Change Agent Settings**.
- 2. Select either Production Agent or Automation Agent.
- 3. Edit the properties settings.
- 4. Click **OK**.

# **Deploying and managing servers**

Deployment Solution provides additional features to remotely install, deploy and manage network and Web servers. From the Deployment Server Console, you can configure new server hardware, install operating systems and applications, and manage servers throughout their life cycle. And because servers are mission-critical, you can set up a system to quickly deploy new servers or automatically re-deploy servers that have failed. Features like rules-based deployment, support for remote management cards, and quick server restoration from a deployment history give you new tools to manage all servers throughout your organization.



Servers are identified in the **Computer** pane with distinctive server icons. Like all managed computer icons, the icons change to identify the status and state of the computer, such as user logged on or Server Waiting.



#### Note

Servers are recognized by their operating system (such as Windows or Linux), multiple processors, and specific vendor server models.

**Manage Servers from the Console**. The Deployment Server Console includes features specifically designed for deploying and managing servers, such as enhanced task logging and history tracking features to let you recall administrative actions and quickly redeploy mission-critical servers.

**Set Server-specific options**. Servers are essential to any organization and require special planning and management strategies. Deployment Server provides server-specific features to automatically deploy new servers and maintain existing servers. See *Server deployment options* on page 136.

## Server management features

Deployment Server provides various features for deploying and managing servers. These features are supported for client computers as well, but are essential in deploying servers.

**Server icons**. The Deployment Console displays icons that identify servers across the network. Like other computer icons in the console, server icons can be selected to view server properties or assign specific jobs and management tasks

Icon	Description
	The server is active and a user is logged on.
-	The server is disconnected from the console.
-	

The server is in a waiting state.

**Run Scripted Installs.** Execute scripted, unattended installs across the network for both Microsoft Windows and Linux servers. Follow steps to create answer files and set up operating system install files using a wizard. See *Scripted OS install* on page 168.

**Support for multiple network adapter cards.** Because servers may require more than one network interface card, Deployment Server provides property pages to access and configure multiple network adapters remotely from the console. See *TCP/IP configuration settings* on page 104.

**Synchronized server date and time**. Deployment Server automatically sets the server's date and time after installing or imaging (as part of the configuration process). Deployment Agents include an option to disable this feature (it is off by default).

**Enhanced scripting capabilities**. You can deploy multiple tasks per deployment job and boot to DOS multiple times when configuring and deploying a clean server. Deployment Server also lets you view and debug each step in the deployment script, and track each job to provide a history of tasks for redeploying a server.

# Server deployment options

Deployment Server includes features to automatically reconfigure and redeploy new servers. If you are using Initial Deployment to automatically re-image new servers or run installation scripts, you can (1) safeguard against mistaken disk overwrites, or (2) run automatically for every server not identified as a managed computer in the database. These contrasting settings are based on polices you define for managing servers in your organization.

Example: If you rely on PXE to boot the new server and you want to deploy new servers automatically without halting the process, you must change the default settings in the PXE Configuration Utility. In contrast, if you want to ensure that the server waits before being deployed (or waits a set time before proceeding) to avoid erroneous redeployment, you must set the options in the **Advanced** section of Initial Deployment.

#### Halt the initial deployment of servers

When a server boots from a PXE server or from Automation (if the option is set), Deployment Server recognizes it as a new computer and attempts to configure the computer with sample jobs. See *Sample jobs* on page 196. Initial Deployment includes a feature to prohibit servers from being deployed automatically.

- 1. Click Initial Deployment and select Properties.
- 2. Click the **Advanced** tab.
- 3. Select the **Servers** check box and click **OK**.

Initial Deployment does not run for any computer identified in the console as a server.

#### **Change PXE options for initial deployment**

If installing a server using a PXE Server, the server attempts to install, but does not run automatically using default settings. It waits until a boot option is selected from the client computer. You can change the default setting in the PXE Configuration Utility to allow Initial Deployment to run automatically and not wait for user intervention.

- 1. Click on Start > All Programs > Altiris > PXE Services > PXE Configuration Utility.
- 2. Click the **DS** tab.
- 3. Select a pre-boot operating system from the **Initial Deploy boot option** dropdown list.
- 4. Click Execute Immediately.

Initial Deployment runs automatically for every identified server.

- 5. Click Save.
- 6. Click **OK**.

#### **Clear BootWorks prompt for remote Iistall**

When you run a deployment job on a computer where the Deployment Agent is remotely installed, a message appears stating that *no BootWorks partition or PXE stamp is found*. The message remains open until the user clicks **OK** on the message dialog, which delays executing the scheduled job as part of an automated redeployment process. To fix this delay:

- 1. Select Tools > Options. The Program Options dialog appears.
- 2. Select the Agent Settings tab.
- 3. In the Automation Agent Settings section, select the Force new Automation agents to take these settings check box and click Change Default Settings.
- 4. Click **OK**.

Following these steps, ensures that the BootWorks message does not appear and a job runs smoothly when scheduled.

## Managing server blades

Deployment Solution lets you manage high-density server blades with Rack/Enclosure/ Bay (R/E/B) hardware and properties. From the Deployment Console, you can deploy and manage these space-efficient server blades using the **physical view** to assign jobs to the Rack, Enclosure, or Bay level of the server cluster, or you can manage each server blade directly from the **logical view**.

See *Bay* on page 121 for properties and rules to deploy Rack/Enclosure/Bay servers.



Using Deployment Solution, you can employ rip and replace technology that lets you insert a new server blade and automatically configure and deploy it exactly like the previously installed server blade, letting you replace any server that is down and get it back on line quickly. By default, the replay option is checked when you create a new job. This option replays the job during any rip and replace actions.

Symantec provides fail-safe features to ensure that no server is mistakenly overwritten and that all disk images, software, data, and patches are applied to the new server from the history of jobs assigned to the previous server blade.

## Managing new server blades

Deployment Solution lets you automatically deploy, configure and provision new server blades using a variety of features, including Sample Jobs and Server Deployment Rules.

See *Sample jobs* on page 196 and *Server deployment rules* on page 121.

#### New server blades in newly identified bays

When new blades are identified in a Bay that has not been used previously (if it has been used previously, the Bay object is identified in the physical view), both the Initial Deployment and Virtual Bays features can be set up to automatically run configuration tasks and deployment jobs.

*To Create Virtual Bays*: Set up Virtual Rack/Enclosure/Bays for Hewlett-Packard Rapid Deployment Pack installations of Deployment Solution.

Initial Deployment setup: Clear the Servers check box in the Advanced dialog.

If both new computer features are set up and a new server blade is installed in a Bay not previously identified by the Deployment Server, the Create Virtual Bay feature executes and Initial Deployment does *not* execute.

#### New server blades in identified bays

If a new HP server blade is installed in an identified Bay (one that already has a server blade installed and is visible from the Deployment Console), both Sample Jobs in Deployment Solution and Server Deployment Rules can be set up. However, when both are set up, the Server Deployment Rules execute and Initial Deployment does *not* execute.

## **Virtual bays**

Hewlett-Packard blade servers now have a Virtual Bay feature that lets you pre-assign deployment jobs to the Rack, the Enclosure, or to a specific blade server in the Bay. Any

HP blade server can have predefined deployment jobs and configuration tasks associated with it to execute automatically upon installation. (This feature requires that the *Hewlett-Packard Rapid Deployment Pack* is installed.) The Virtual Rack/Enclosure/ Bay icons change from virtual icons to managed server icons in the Deployment Console as live blade servers are inserted and identified by Deployment Solution.

Rack name. Enter or edit the name of the Rack.

Enclosure name. Enter or edit the name of the Enclosure.

**Enclosure type**. Select the type of HP server blade from the list.

**Initial Job**. Select an existing job to run when the pre-configured computer account is associated with a new server blade.

**Server Change rule**. Select the Server Deployment Rules to run on the Bay when a new server blade is installed.

See Server deployment rules on page 121.

#### Note

If you create Virtual Bays for an enclosure (such as the BLe-class with 20 bays) and if another model of server blade with an enclosure containing fewer bays is connected (such as the BLp-class with 8 bays), the excess virtual bays are truncated automatically. Conversely, if you create Virtual Bays with fewer bays (8) and install an enclosure with additional bays (20), you must re-create the virtual bays in the enclosure (right-click the enclosure name in the physical view and click **New Virtual Bays**).

See also *Managing new server blades* on page 137.

### Hewlett-Packard server blades

Hewlett-Packard high-density blade servers can be deployed and managed from the Deployment Console. The following HP server blades are supported:

HP Proliant <sup>™</sup> BL e-Class	HP Proliant™ BL p-class	
Proliant <sup>™</sup> BL 10e	Proliant™ BL 20p	
Proliant <sup>™</sup> BL 10e G2	Proliant™ BL 20p G2	
	Proliant™ BL 40p	

HP blade servers let you employ all features provided in the Deployment Console when you install the HP Proliant Essentials Rapid Deployment Pack (see *www.hp.com/servers/rdp*), including the Virtual Blade Server feature. The name of each Rack for an HP Server appears along with the assigned name for the Enclosure and Bay. These names are collected from the SMBIOS of the server blade and appear in both the physical and server views within the **Computers** pane of the Deployment Console.

For HP blade servers in the physical view, the Rack name can be a custom name in the console, with all subordinate Enclosures and Bays also identified. Example:

<rackName>

<enclosureName>

<bayNumber>

See also *Server management features* on page 135 and *Server deployment options* on page 136.

## **Dell server blades**

Dell high-density blade servers can be deployed and managed from the Deployment Console. All Dell Rack Servers are supported by Deployment Solution, but the server blades can also be managed from the physical view in the Rack/Enclosure/Bay view. The following servers are supported:

Dell Rack Servers	Dell Server Blades
All PowerEdge <sup>™</sup> rack servers	PowerEdge™ 1655MC

For Dell blade servers in the physical view, the Rack name is always **Dell.** All subordinate Enclosures and Bays are identified with custom names under the Dell rack name. Example:

#### Dell

#### <enclosureName>

#### <bayName>

See also *Server management features* on page 135 and *Server deployment options* on page 136.

## **Fujitsu-Siemens server blades**

Fujitsu-Siemens high-density blade servers can be deployed and managed from the Deployment Console. All Fujitsu-Siemens Rack Servers are supported by Deployment Solution, but the server blades can also be managed from the physical view in the Rack/ Enclosure/Bay view. The following servers are supported:

Fujitsu-Siemens Rack Servers	Fujitsu-Siemens Server Blades
All Primergy <sup>™</sup> rack servers	Primergy <sup>™</sup> BX300 blade servers

For Fujitsu-Siemens blade servers in the physical view, the Rack name is always **Fujitsu-Siemens.** All subordinate Enclosures and Bays are identified with custom names under the Fujitsu-Siemens rack name. Example:

#### **Fujitsu-Siemens**

<enclosureName>

#### <bayName>

See also *Server management features* on page 135 and *Server deployment options* on page 136.

If you have Fujitsu-Siemens Server blades managed by the Deployment Server, ensure that the SNMP service is running on the Deployment Server. Also, if the Deployment Server is installed on a Windows 2003 server, ensure that the security is set correctly to receive traps from remote computers. By default, Deployment Servers cannot receive traps from remote computers.

### **IBM server blades**

IBM high-density Blade Centers can be deployed and managed from the Deployment Console. All IBM blade servers are supported by Deployment Solution, but the server blades can also be managed from the physical view in the Rack/Enclosure/Bay view.

For IBM blade servers in the physical view, the Rack name is always **IBM**. All subordinate Enclosures are identified with custom names under the IBM rack name and Bays are identified by number. Example:

IBM

<enclosureName>

<baynumber>

See also *Server management features* on page 135 and *Server deployment options* on page 136.

# Finding a computer in the database

This search filter lets you type a string and query specified database fields for specific computer properties. You can search for user or computer names, licensing or location information, or primary lookup keys: MAC address, serial number, asset number, or UUID. This search filter queries property values appear in the **Computer Properties** pages. See *Computer properties* on page 119.



Click **<CTRL> F** or click **Find Computer** on the console toolbar to search the Deployment Database for computers by property settings.

The search begins at the top of the computer list and highlights the computer name in the **Computers** pane when a match is found. **Press F3** to find the next computer that matches the search criteria until there are no more results, or the end of the computer list is reached.

- 1. In the **Search For** field, type all or part of the computer's property values you would like to search for. This alpha-numeric string is compared with specified database fields.
- 2. From the **In Field** drop-down list, select the field you want to search in the Deployment Database.

Example: To find a computer by searching for its IP address, type the address in the **Search For** field and select the **IP Address** from the **In Field** drop-down list.

Name	BIOS name of the computer.
Computer Name	Deployment Solution name of the computer.
MAC Address	Example: 0080C6E983E8.
IP Address	Example: 192.168.1.1.
ID	Example: The computer ID. 5000001.
Serial Number	Serial number installed in BIOS. A primary lookup key.
Asset Tag	Asset number in BIOS. A primary lookup key.
UUID	A primary lookup key.
Registered User	Name entered when the operating system was installed.
Product Key	Product Key for the operating system.
Logged On User	Name of the user currently at the computer.
Physical Bay Name	The actual bay number. Example: 7x.

The computer you are looking for appears highlighted in the **Computers** window in the console.

#### Note

This search is not case-sensitive and allows wildcard searches using \*.

See also Computer filters and job conditions on page 80.

# **Using lab builder**

Use the Lab Builder to set up jobs under the **Lab** folder in the **Jobs** pane to set up a classroom or lab environment.



Click **Lab Builder** on the console toolbar or click **File > New > Lab Builder** to set up jobs specifically created for managing multiple computers in a lab environment.

#### You can set up jobs to:

- Create Disk Image
- Deploy Lab
- Restore Lab
- Update Configuration
- Upload Registries

Each of these jobs contains a default list of tasks. Lab Builder places these five new jobs under a folder (which you name) located under the **Lab** folder. All tasks in the jobs have been assigned default paths and file names that let them use the same images and configuration information, registry data, and so on. We recommend that you do not change the file names and paths. If you change the default settings (example: changing the image name), you must change them in all jobs where the image is used.

#### To use Lab Builder

- 1. Click the Lab Builder icon on the toolbar, or choose File > New > Lab Builder.
- 2. Enter the name of the Lab Setup.

#### Note

The lab name must be unique because the program creates a default image file name based on the name, and the image file name must be unique. The default image name is synchronized in all lab jobs, so if you change the name later you must change it in all the jobs that use the image.

- 3. (Optional) Enter a lab description to help you differentiate the lab from others and click **OK**.
- 4. Identify an image in the **Create Disk Image** job. See *Creating a disk image* on page 157.
- 5. Set computer names and addresses in the **Update Configuration** job.

The following information describes the default jobs. To run one of these jobs, simply drag it to the computer or computer group you want it applied to.

**Create Disk Image**. This job uploads an image of a computer to the server and an image name is created automatically based on the lab name. However, there is no actual image in the job until you drag the image source computer to this job.

**Deploy Lab**. This job has three default tasks: Deploy image, Apply configuration settings, and Back up registry files. The image that is uploaded using the Create Disk Image job is deployed when you use this job. The configuration settings you specify in the Update Configuration job are applied to the computers, and the computer registry files are uploaded to the Deployment Server.

**Restore Lab**. This job restores the image and registry files to a computer where a lab was previously deployed. You can quickly get a computer running again by restoring the lab on that computer.

**Update Configuration**. This job lets you set unique configuration information (such as computer names and network addresses) for client computers. When a lab is deployed, each computer has an identical image, but not the same configuration settings. This means you don't have to visit each computer to reset the IP addresses and other settings when you deploy an image.

Upload Registries. This job backs up computer registry files to the Deployment Server.

# Chapter 14 Building and scheduling jobs

A job represents a collection of predefined or custom deployment tasks that are scheduled and executed remotely on selected client computers. You can build jobs with tasks to automatically create and deploy hard disk images, back up and distribute software or personality settings, add printers, configure computer settings, and perform all aspects of IT administration. Jobs can be run immediately for a specific computer, or stored and scheduled for daily or long-term administrative duties on multiple computer groups.



Job icons appear in the **Jobs** pane of the Deployment Console. To assign and schedule a job in the Deployment Console, drag the job icon to selected computer icons. Job status icons also appear in the **Details** pane of the Deployment Console to indicate various deployment states. See *Viewing job details* on page 145.

The New Job Wizard guides you through common deployment and management jobs. It is an easy way to set up new users or migrate users to new computers, create and distribute images of computers on the network, distribute software packages, restore computers, and more. See *New job wizard* on page 146.

Jobs include one or more Deployment tasks. You build jobs by adding tasks to a job and customizing the task for your specific needs. You can add tasks to capture and distribute images, software packages, and personality settings. You can also write and run a script task, or run scripted installs, configure settings, copy files and back up registry settings. You can also modify existing jobs by adding, modifying, copy and pasting, or deleting tasks to suit your requirements. See *Deployment tasks* on page 155 and *Building new jobs* on page 150.

Set conditions on jobs to run only on computers with properties that match the criteria you specify. You can build one job to run on different computer types for different needs, and avoid mistakes by ensuring that the correct job runs on the correct managed computer. See *Setting conditions for task sets* on page 151.

Initial Deployment lets you run predefined jobs and configuration tasks on new computers when they start up. You can automatically deploy new computers by imaging and configuring TCP/IP, SIDs, and other network settings and installing basic software packages. See *Sample jobs* on page 196.

Sample jobs are installed with Deployment Solution and appear in the **Samples** folder of the **Jobs** pane. You can run many sample jobs as they are, or you can set environmental variables. See *Sample jobs* on page 196.

# Viewing job details

As jobs are assigned, scheduled and executed, it is helpful to know specific details about their status and assignments. The Deployment Console provides job icons to show the state and status of the job in the **Details** pane:

• Job status icons that update the state of the job in running deployment tasks. These icons are graphical symbols in the Deployment Console used to identify the status of an assigned job.

 A job is scheduled to run on a computer or computer group.

 A job is in progress.



A job has executed successfully.



A job is associated with a computer or group of computers but is not scheduled.



Indicates error conditions when individual tasks run.

- A description of the job, if available. You can also use **Add** or **Modify** in the main window to edit the description.
- If a job defines error conditions when individual tasks run, the **Status** field displays any errors incurred and the tasks that completed successfully.
- **Job Schedule details.** This is the job's run time, beginning when the job started and ending when it completed successfully.
- The currently applied conditions appear in a list box with a **Setup** option to add conditions to different task sets for different computer properties within a job. Conditions specify characteristics that a computer must have before the job runs. See *Setting conditions for task sets* on page 151.
- A list of tasks assigned to the job and task descriptions also appears. Change the order of the task execution with the up and down arrows. Tasks are executed in the order they are listed. See *Deployment tasks* on page 155.
- Features to add, modify, and delete tasks for each job.
- A list of assigned computers and its deployment history.

To sort jobs or computer details, just point and click on the category in the **Details** pane. Example: Click the **Status** column heading to organize and display the progress status of the job.

See also Viewing computer details on page 96.

# New job wizard

The New Job Wizard provides integrated features to build, assign, and schedule common deployment jobs. It helps you build the most common jobs, and guides you through additional steps to assign and schedule the jobs to selected computers. It lets you

quickly build image files and deploy new computers, distribute software packages, migrate users, and more.

#### Note

When a software package or deployment job is scheduled to run on client computers, the Altiris Client Service Message dialog appears, warning them that a job is about to execute. If a user clicks **Abort** when the message appears, an event is logged to the client's history so that Deployment Solution administrators know when users abort a scheduled event.



Create a new job by clicking **New Job Wizard** on the Deployment Console, clicking **File > New > Job Wizard**, or right-clicking in the **Jobs** pane of the Deployment Console and selecting **New Job Wizard**. The New Job Wizard appears to guide you through basic deployment jobs.

1. Select a job option:

**Create an image**. This wizard guides you through the steps required to create an image of a computer's hard disk and schedule the job. See *Creating a disk image* on page 157.

**Deploy and configure computers**. This wizard guides you through the steps required to deploy a previously created new disk image on a selected computer and install software and personality settings. See *Distributing a disk image* on page 162.

**Deploy software packages.** This wizard guides you through steps required to install software packages. You can set conditions, select packages, assign to computers, and schedule the job. See *Distributing software* on page 175.

**Restore a computer**. This wizard guides you through the steps required to restore a computer to a known working state by re-imaging the hard drive and reinstalling software packages, personality settings, and defining configuration values. This option reschedules jobs saved in each managed computer's history record, which contains all deployment tasks previously processed. See *Restoring a computer from its deployment history* on page 124.

**Migrate computers.** This wizard guides you through the steps required to migrate the hard disk image, applications, and personality settings from a source computer to a destination computer. You can perform one or more migration operations using the provided options.

- 2. Give the job a unique name. You can type a name up to 64 characters.
- 3. Follow the steps in each wizard to create a job (some New Job wizards build multiple jobs).
- 4. (Optional) Unselect the Replay during rip and replace option.

This option is selected by default. This option replays the job during any rip and replace actions.

After creating a job, the job appears in the **Jobs** pane of the Deployment Console with the deployment tasks listed in the **Tasks** list.

You cannot define return codes when using the New Job Wizard. See *Building new jobs* on page 150 to build customized jobs and set up return codes.

See also *Modifying tasks in a deployment job* on page 190.

### Migrating computers

From the New Job Wizard, you can select **Migrate computers** to quickly distribute hard disk images, software, and settings from a user's current computer to a new computer. You can image a new computer's hard disk with a new operating system and install software and personality settings. Or perform different levels of migration to distribute only software or to simply capture and distribute personality settings to the new computer.

#### Migrate one computer to another separate computer

Click this option to migrate a user from a source computer (old computer) to another destination computer (new computer). Capture personality settings, distribute a new hard disk image, distribute software and redistribute the saved personality settings from the source computer to the new destination computer.

Click the option to migrate only personality settings to one or more computers. Also select **Prepare destination computer with a disk image** to distribute a disk image to the new computer and select **Install software packages prior to applying the personality on the destination computer** to install software packages on the new computer.

#### Note

This option creates two jobs that appear in the **Jobs** pane: **Job (Capture)** and **Job (Distribute)**.

**Job (Capture)** includes a Capture Personality Settings task (see *Capturing personality settings* on page 179) to capture the personality of the source computer and a Modify Configuration task to rename the source computer to avoid naming conflicts (see *Modifying configuration* on page 182). The source computer is named *computerName* (Old).

**Job (Distribute)** includes a Deploy Image task (see *Distributing a disk image* on page 162) if selected, a Modify Configuration task to update settings to the destination computer, and one or more Install Package tasks to update software (if selected) and migrate personality settings. See *Distributing software* on page 175.

#### Migrate the same computer to another operating system

Click this option to upgrade the operating system on a computer and reinstall personality settings and software packages on the same computer. It creates jobs and tasks to capture the personality settings, distribute a new disk image, distribute software packages, and migrate the personality settings.

Click the option to deploy a disk image and migrate the personality settings to the computer. (Optional) Select **Install software packages prior to applying the personality on the destination computer** to install software packages on the computer.

This option creates two jobs that appear in the **Jobs** pane: **Job (Capture)** and **Job (Distribute)**.

**Job (Capture)** includes a Capture Personality Settings task (see *Capturing personality settings* on page 179) to capture the personality of the source computer.

**Job (Distribute)** includes a Deploy Image task (see *Distributing a disk image* on page 162) and one or more Install Package tasks to update software, if selected (see *Distributing software* on page 175).

#### Simply capture the personality of the computers

Click this option to capture and save, but not distribute, the personality settings of the selected computer(s). You can select a personality template and save Personality Packages to the Deployment Share, letting you distribute these personality settings later to new computers.

#### Note

This option creates a single job with a Capture Personality Settings task (see *Capturing personality settings* on page 179).

See also New job wizard on page 146.

## Selecting computers in the new job wizard

The New Job Wizard provides steps to select and assign computers to the jobs created in the wizard, rather than requiring you to create a job and assign it to computers when building new jobs. The jobs created in the New Job Wizard appear in the **Jobs** pane, and can be saved and assigned to other computers at a later time. You can also schedule jobs for the specified computers in the wizard. See *Building new jobs* on page 150 and *Scheduling jobs* on page 153.

## Applying computers to a job

When deploying software in the New Job Wizard, you can select computers to assign the Distribute Software task created in the wizard. (See *Distributing software* on page 175.) You can also select an option to simply store the job and use it at another time without scheduling the job. Regardless of the scheduling option selected, the job appears in the **Jobs** pane to use at another time.

**New Computers**. Open an **Adding New Computers** dialog to create new user accounts to assign the job. See *Adding new computers* on page 98.

See also Scheduling jobs on page 153.

## Associating destination computers

Use this dialog to associate source computers with destination computers when migrating personality settings. Depending on the computers selected in the previous **Select Computers** dialog, you can migrate personality settings captured from the source computers to new destination computers.

Right-click a computer in the **Source** column to replace it with another source computer. Right-click a computer in the **Destination** column to replace it with another destination computer and assign it to a new source computer. To automatically assign multiple computers, click **Automatic** to assign source computers with destination computers using an alpha-numeric order. The associated computers share personality settings after running the jobs.

See also Migrating computers on page 148.

## Setting up conditions in the new job wizard

The New Job Wizard also provides steps to set up conditions, a step usually performed independently for each job during its build phase. Setting conditions lets you run selected tasks only on computers matching defined criteria. See *Setting conditions for task sets* on page 151.

Click **Setup conditions for this set of tasks** to open the **Define Conditions** dialog from the New Job Wizard.

# Installing software packages

The New Job Wizard provides steps to install software packages to the selected computers. You can install any type of software to the managed client computer, including .MSIs, .RIPs, and personality packages. If the selected package is not an .RIP or personality package, a message appears asking if you want to continue. See *Distributing software* on page 175 for additional information.

## **Option summary**

After selecting the options in the New Job Wizard, you can view a summary of the job names, assigned computers, conditions, and other selected choices. To change any options, click **Back** to return to the previous dialog. Click **Finish** to complete the steps in the wizard.

See also *New job wizard* on page 146 and *Job scheduling wizard* on page 151.

# **Building new jobs**

A job can be a single task to distribute software or change computer property settings, or a series of tasks sequenced to migrate hard disk images, set post-installation TCP/IP and SID values, and install software packages and personality settings.



To create a new job, click this icon on the Deployment Console, or click **File > New > Job**, or right-click in the **Jobs** pane of the Deployment Console and select **New Job**. You can modify jobs by double-clicking the job or right-clicking, and selecting **Properties**. Add tasks to each job by clicking **Add**.

1. Create a new job. Enter a unique name and description for the job. You can type a name up to 64 characters.

A new job is added to the **Jobs** pane in the Deployment Console. You can group and organize jobs, and access and apply them to computers or computer groups from an index of prebuilt jobs.

- 2. (Optional) Set conditions to apply the job to specified computers meeting defined criteria. Order multiple conditions to run jobs on computers that match the first applicable condition. See *Setting conditions for task sets* on page 151.
- 3. Click **Add** to open a list of deployment tasks to add to each job. See *Deployment tasks* on page 155.
- 4. Set task options using the provided wizards.
- 5. (Optional) Unselect the Replay during rip and replace option.

This option is selected by default. This option replays the job during any rip and replace actions.

After you complete the steps to create a task, it is added to the **Task** list. Click **Add** to add another task. Use the up and down arrows to change the order of execution of the tasks in the **Task** list.

Tasks are executed in the order that they appear in the task list. Therefore, ensure you do not run a task that overrides the previous tasks. Example: List **Distribute Disk Image** above **Distribute Software** or **Distribute Personality**, letting the hard disk be imaged before installing applications and settings.

- 6. (Optional) Set Return Codes. The last action in each task wizard lets you set return codes for each deployment task. See *Setting up return codes* on page 193.
- 7. After adding tasks, click **OK**.
- 8. To schedule the job, drag it to a computer or computer group. The **Schedule Jobs** dialog appears. See *Scheduling jobs* on page 153.

See also Importing and exporting jobs on page 193.

# Job scheduling wizard

The Job Scheduling Wizard provides features to assign jobs to selected computers and computer groups, and to schedule the jobs to run without using a mouse. This new feature meets Section 508 requirements to improve disability access and enables integration of voice activation software and other user interface features.

# Select a job

Select the jobs or groups of jobs to assign to computers or computer groups. Use the SHIFT and CTRL keys to select multiple jobs or job folders. Click **Next**.

### Select a computer or computer groups

Select the computers or groups of computers to assign the jobs selected in the previous dialog. Use the SHIFT and CTRL keys to select multiple computers or groups. Click **Next**.

**New Computers**. Click when adding new computers. See *Adding new computers* on page 98.

# Setting conditions for task sets

Setting conditions on a job lets you run selected tasks only on computers that match defined criteria. As a result, you can create a single job with tasks defined for computers

with varying properties, including operating system types, network adapters, processors, free drive space, and other computer properties. You can create task sets for each job that apply only to the computers matching those conditions.

#### Note

The default condition (named default) has no parameters or values associated with it. If this is the only condition that a job contains, the tasks associated with the default condition will always work on all computers to which the job is assigned. A default condition is like having no conditions.

In addition, if a task is associated with the default condition, the task always runs when a computer does not meet any other conditions associated with this job.

- 1. Select a job from the **Jobs** pane of the Deployment Console. The **Job Properties** dialog appears.
- 2. Click **Setup** next to the **Condition** field. A menu appears with options to create a new condition, or to modify, delete, or reorder a condition.
- 3. To reorder conditions, click **Order** and reorder them using up or down. See *Order condition sets* on page 153.
- 4. To create a new condition, click **New** in the menu. The **Condition Settings** dialog appears. Enter a name up to 64 characters.
- 5. Click **Add** to open the **Condition** dialog. Specify the following conditions and click OK:
  - From the Field drop-down list, select a data field heading. You can define conditions based on common client features such as operating system, software and hardware version, hard drive space, operating system language, RAM, and other characteristics.

To set up custom conditions based on custom tokens, select **User Defined Tokens** from the **Field** drop-down list.

- From the **Operation** drop-down list, select a compare statement.
- In the Value box, type a string to search for in the selected database field. You can set conditions based on computer properties stored in fields in the Deployment Database. Example: You can set a condition to match a particular asset tag, Altiris agent version, or IP address. You can use wildcard characters and AND/OR operators.
- To set up custom conditions based on custom tokens, select User Defined Tokens from the Field list.

The task set you create appears in the Task list for each condition. When you select a new condition, the tasks for that condition appear.

Example: You can set Condition A to distribute the XPImage.img file to Windows XP computers using a Deploy Image task. You can set Condition B to distribute the W2KImage.img file to other Windows computers using another Deploy Image task. When the job is applied to a computer group, the conditions are evaluated for each computer and the appropriate task runs on the appropriate computer.

When using User Defined Tokens to set conditions for some client property values, you may be required to use the decimal value instead of the hex value. Example: When setting conditions based on the *NICS* table on the *nic\_device\_id* and *nic\_vendor\_id* columns, you must use decimal values.

See also Deployment tasks on page 155.

## **Order condition sets**

By specifying and ordering different sets of conditions, you can determine when a task executes based on defined computer properties. Each condition is processed in sequence until the computer matches the condition defined within a set. If the computer does not meet any of the defined conditions, it runs the default condition. Once a match is found, the set of tasks for this condition set is processed.

See also Setting conditions for task sets on page 151.

# Scheduling jobs

After a job is created and is assigned to multiple computers or computer groups, the **Schedule Job** dialog appears, letting you schedule the job to one of the following options: **Do not schedule**, **Run this job immediately**, **Schedule this job**. Jobs and job folders selected from the **Jobs** pane of the Deployment Console are scheduled in the order they are selected, even across multiple Deployment Servers.

#### To schedule a job

- 1. Drag a job to a computer or computer group. The **Schedule Job** dialog appears.
- 2. In the **Schedule Job** dialog, click the **Job Schedule** tab. The following options are available:
  - Do not schedule. This option lets you assign jobs to computers but does not run the job until you return to the Schedule Job dialog and set a run time.
  - Run this job immediately. This option lets you run the job immediately.
  - Schedule this job. This option lets you specify the date and time to run the job.
  - Repeat this job every. This option lets you schedule this job to repeat after a specified number of minutes, hours, days, or weeks.
  - Allow this job to be deferred for up to. This option lets you defer the job for a specified number of minutes, hours, days, or weeks when the server is busy executing other jobs, setting a lower priority for particular jobs. By default, all jobs are deferred up to five minutes.
  - Schedule in batches of x computers at y minute intervals. This option lets you schedule computers in batches to maximize efficiency.
- Click the Computer(s) Selected tab. This is a list of computers on which the job is scheduled to run, with their associated group and IP address.
- 4. Click the **Job(s) Selected** tab. The job name and folder located in the **Jobs** pane appear. Use the up and down arrows to change the order of the scheduled jobs.
- 5. Click **OK**.

The **Schedule Job** dialog is the same for Rescheduling Jobs, New Job Wizard, and Job Scheduling Wizard.

#### To reschedule a job

1. From either the **Computers** or **Jobs** panes in the Deployment Console, select a job or computer that has been previously scheduled.

A job icon appears in the **Details** pane, identifying the computers assigned or the name of the job.

2. Select the job icon, click the scheduled computers in the **Details** pane, right-click and click **Reschedule**.

If you select a computer icon, click the job icon in the **Details** pane, right-click and click **Reschedule**. The **Schedule Jobs** dialog appears.

- 3. To immediately start a scheduled job that has not yet run, right-click the job icon and select **Start Now**.
- To stop a repeating job, right-click the job in the **Details** pane and click **Discontinue Repeat**. At this point you need to schedule a new time to run the job or click the **Do not schedule** option.

#### To remove computers from a scheduled job

You can complete this task by removing a job assigned to a computer or removing a computer assigned to a job.

- 1. Click a job in the **Jobs** pane.
- 2. Click a computer in the **Details** view and press **Delete** or right click the job(s) and select **Delete**.

#### To remove tasks from a job

You can remove tasks assigned to a job by double-clicking the job and opening the **Job Properties** dialog. (Edit features also open in the Details view of the Deployment Console when you select the job from the **Jobs** pane).

- 1. Select one of the assigned tasks in the Task list.
- 2. Click **Delete**.

#### To remove scheduled jobs from a computer

- 1. Click the computer.
- Select the scheduled job in the **Details** pane, and press **Delete** or right click the job(s) and select **Delete.** To remove multiple jobs, hold down the **SHIFT** or **CTRL** key while you select the job(s), press **Delete** or right-click the job(s) and select **Delete**.

The icon for a scheduled job is yellow.

#### To run a job immediately from the resources view

If you have a batch file, image file, .RIP, .MSI, or executable file assigned to a job or stored in the Deployment Share, these files and packages appear in the **Resources** view (see *Shortcuts and resources view* on page 72). You can drag these files and

packages from the Resources view to a computer or computer group to automatically create and run a job (or you can drag computers to a file or package in the Resources view). A job is created automatically for each assigned package in the **Systems Jobs > Drag-n-Drop** folder.

See also *Building new jobs* on page 150 and *Modifying tasks in a deployment job* on page 190.

# **Deployment tasks**

A task is an action of a job. Jobs are built with tasks. Each task runs according to its order in the task list contained in a job. You can resize the task pane by dragging the bottom pane (horizontal bar) that separates the task list and the scheduled computer list of the Deployment Console. This lets you view a greater number of tasks in a deployment job without using the scroll bar to navigate up and down.

## Task names in a mixed-language environment

Deployment Server does not handle the code pages in a mixed-language environment well. If a Windows 32-bit Deployment Server Console is installed on a native single-byte OS (for example, English, Italian, and French) and viewed on a double-byte language, the task names show as a series of question marks.

When you view the task names on a native double-byte OS, they display correctly.

## **Common Tasks**

The Add menu of the Deployment Console includes the following tasks:

**Create Disk Image.** Create a disk image from a reference computer and save the image file (.IMG or .EXE files) for later distribution. See *Creating a disk image* on page 157.

**Distribute Disk Image.** Distribute previously created disk images (.IMG or .EXE files) or create a disk image from a reference computer on the network and simultaneously distribute it (.IMG or .EXE) to other managed computers on the network. See *Distributing a disk image* on page 162.

**Scripted OS Install.** Run scripted (unattended) installs using answer files to install computers remotely over the network. See *Scripted OS install* on page 168.

**Distribute Software.** Distribute .RIPs, .MSI files, scripts, personality settings, and other package files to computers or groups. See *Distributing software* on page 175.

**Manage SVS Layer**. Instantly activate, deactivate or reset layers and completely avoid conflicts between applications, without altering the base Windows application. See *Managing the SVS layer* on page 177.

**Capture Personality.** Capture the personality settings of a selected computer on the network using the PC Transplant software. PC Transplant ships as a part of Deployment Server. See *Capturing personality settings* on page 179.

**Distribute Personality.** Send a Personality Package to computer or groups. This task identifies valid Altiris packages and assign passwords and command-line options to Personality Packages. See *Distributing personality settings* on page 181.

**Modify Configuration.** Modify the IP address, computer and user name, domains and Active Directory organizational units, and other network information and computer properties. See *Modifying configuration* on page 182.

**Back up Registry.** Copy the registry files of selected computers and save the registry file settings to a selected directory. See *Backing up and restoring registry files* on page 183.

Restore Registry. Copy the registry file settings to a managed computer.

**Get Inventory.** This lets you gather inventory information from client computers to ensure that the Deployment Database is updated with the latest computer properties. See *Get Inventory* on page 166.

**Run Script.** Create custom commands using scripts to perform jobs outside the bounds of the preconfigured tasks. Use the **Run Script** dialog to select or define a script file to run on specified computers or groups. See *Run Script* on page 167.

**Copy File to.** Copy a file from the Deployment Share or another source computer to a destination computer. See *Copy File to* on page 170.

**Power Control.** Perform power control options to restart, shutdown, power off, and log off. See *Power Control* on page 172.

**Wait.** Use the **Wait** dialog to retain a computer in automation mode after a task is performed. See *Wait* on page 172.

Tasks are listed for each job in the **Task** list. Each task runs according to its order in the list. You can change the order using the up and down arrow keys.

# **Supported Live Task Types**

The following is the list of the live tasks supported for the x64, IA64, and SPARC platforms.

Task	x64	IA64	SPARC
Restore Computer	Yes	Yes	Yes
History	Yes	Yes	Yes
Configure	Yes	Yes	Yes
Quick Disk Image	Yes	Yes	Yes
Power Control: Wake Up	Yes	Yes	Yes
Power Control: Restart	Yes	Yes	Yes
Power Control: Shutdown	Yes	Yes	Yes
Power Control: Log off	Yes	Yes	No
Remote Control	Yes	No	No
Execute	Yes	Yes	Yes
Copy File	Yes	Yes	Yes
Chat	No	No	No
Advanced: Clear Computer Status	Yes	Yes	Yes
Advanced: Prompt User for Properties	Yes	Yes	No

Task	x64	IA64	SPARC
Advanced: Reset Connection	Yes	Yes	Yes
Advanced: Install Automation Partition	Yes		
Advanced: Get Inventory	Yes	Yes	Yes
Advanced: Reject Connection	Yes	Yes	Yes
Advanced: Uninstall Windows Agent	Yes	Yes	No
Advanced: Install BIS Certificate	No	No	Yes
Advanced: Remove BIS Certificate	No	No	Yes
Advanced: Apply Regular License	Yes	Yes	Yes
New Job Wizard	Yes	Yes	Yes
New Group	Yes	Yes	Yes
New Computer	Yes	Yes	Yes
Rename	Yes	Yes	Yes
Delete	Yes	Yes	Yes
Change Agent Setting	Yes	Yes	Yes
Permissions	Yes	Yes	Yes
Job Scheduling Wizard	Yes	Yes	Yes

# Creating a disk image

This task creates an image of a computer's hard disk. You can save the disk image as an .IMG, .EXE, .WIM, .DMG, or .GHO file.

For more information about Ghost, see the Symantec Ghost Imaging Foundation documentation.



Create an image file by using the New Job Wizard or adding the task when building new jobs. You can distribute the disk image file using the **Distribute a Disk Image** task. This task will run Altiris RDeploy.exe from the console to capture and migrate hard disk images. See *New job wizard* on page 146, *Building new jobs* on page 150, and *Distributing a disk image* on page 162.

To create an image of a computer, you must boot to DOS, Linux, or WinPE. This requires that you set up a PXE Server or install an automation partition.

#### To create a disk image

- 1. In the **Jobs** pane in the Deployment Console, select a job.
- 2. In the **Details** pane, click **Add** and select **Create Disk Image**.
- 3. In the **Create Disk Image** dialog, select an imaging tool from the drop-down list. You can select RapiDeploy (Text mode), RapiDeploy (Graphics mode), RapiDeploy (Linux mode), ImageX, Mac Image or Ghost.

#### RDeploy Options

RDeployT is the default imaging executable. This facilitates the imaging of thin client computers. The following are the RapiDeploy options for imaging:

Graphical Mode (RDeploy). Select this option to run the RDeploy in a GUI mode.

**Text Mode (RDeployT).** Select this option to run the RDeploy in a text mode.

Linux (RDeploy). Select this option to run the RDeploy in Linux mode.

You can select the ImageX or Mac Image option for imaging. If you select ImageX, the image is created as a .WIM file. If you select Mac Image, the image is created as a .DMG file. For information on creating a Mac Image, see *Creating a Mac image* on page 159.

You can also select the Ghost option for imaging. If you select Ghost, the image is created as a .GHO file. For information on creating a Ghost Image, see *Creating a Ghost image* on page 160.

#### Important

Linux (RDeploy) and Ghost options are available only when the ImageTools.ini file is stored in the eXpress folder.

4. Enter additional parameters in the **Additional Parameters** field.

You can add command-line options specifically for the RapiDeploy program to run imaging tasks. See *Command-line Switches* in the *Deployment and Migration Guide*.

5. Enter a path and file name to store the disk image file. You can store image files to access later when a managed computer is assigned a job that includes the image file.

The default file name extension is .IMG. Saving image files with an .EXE extension converts them into self-extracting executable files (the run-time version of RapiDeploy is added in the file). You can also save ImageX files with a .WIM extension, a Mac image with a .DMG extension, and a Ghost image with a .GHO extension.

If WinPE is used, Deployment Solution supports UNC and DFS paths in the **Name** field. For example, you can type \\My\_Server\My\_Volume\myimagefile.img in the **Name** field.

6. Select **Disable image path validation** if you want to store the image file outside of the Deployment Share file structure. If you do not select this option and do not specify a Deployment Share path, a warning message appears, reminding you to configure your automation process to use the path indicated in the **Name** field. You can still save your image to a location outside of the Deployment Share file structure even when you do not select this option. This option only eliminates the warning message. You can use this option to store images locally on the managed computer's hard drive or to an additional server used to store images.

If you typed a UNC path in the **Name** field and the server does not have access to the path, check to disable image path validation. Otherwise, the process fails.

When storing images locally on the managed computer's hard drive, ensure that you enter the path relative to the managed computer (Example: C:\myimage.img). When you store an image locally on a managed computer instead of a file server, you save server disk space and reduce network traffic.

**Prerequisite:** To store images locally on the managed computer's hard drive, you must have a hidden automation partition installed on the managed computer's hard disk with the required disk space to hold the images you want to store.

#### Caution

When imaging computers where images are stored on the managed computer's hidden automation partition, use the option to remove the automation partition only when you want to clear all images from the computer.

- 7. Select **Prepare using Sysprep** to use Sysprep to prepare the system for imaging.
- 8. From the **Operating System** drop-down list, select the operating system or **Add new to** open the **OS Product Key** dialog and select the OS Information.
- 9. Click **Advanced Settings**. This opens the **Sysprep advanced settings** dialog. See *Advanced Sysprep settings for creating a disk image* on page 161.
- 10. (Optional) Select the **Do not boot to Production** option to create an image of the hard disk while booted to Automation without first booting to Windows to save network settings (TCP/IP settings, SID, computer name, and so on). If you select this option, these network settings are not reapplied to the computer after the imaging task, resulting in network conflicts when the computer starts.
- 11. From the **Automation pre-boot environment (DOS/WinPE/Linux)** drop-down list, select the required pre-boot environment to perform the **Create Disk Image** task in the selected pre-boot environment. By default, the Default Automation (Auto-select) type is selected.

#### Note

ImageX requires a WinPE x86 pre-boot environment.

- 12. (Optional) To select Media Spanning and additional options, click **Advanced**. See *Create disk image advanced* on page 162.
- 13. Click **OK** (if you are using the New Job Wizard) or click **Next**.
- 14. (Optional) Set Return Codes. See Setting up return codes on page 193.
- 15. Click **Finish**. The task appears in the **Task** list for the job. The disk image is created when you run this task.

#### Tip

If an imaging job fails on a managed computer, the **Deployment Agent Configuration** page appears on the client computer. This page displays a prompt to confirm whether the user wants to configure the client computer or restore the original settings. On the client computer's screen, select **Cancel** > **Restore Original Settings**.

See also *Deployment tasks* on page 155.

### Creating a Mac image

You can create a Mac Image using the **Create Disk Image** task.

#### To create a Mac image

1. In the **Create Disk Image** dialog, select **Mac Image (\*.dmg)** from the **Imaging Tool** drop-down list.
2. (Optional) Provide the disk number in the **Additional Parameters** field using the following format:

-d[disk#]

By default, all partitions of disk 1 are imaged. To image a different disk, provide the disk number in the **Additional Parameters** field using the same format.

- 3. Choose from one of the following options to add the path and file name for the disk image:
  - Specify the share using the following format: afp://server/sharepoint/path/filename.dmg
  - Provide credentials using the following format:

afp://username:password@server/sharepoint/path/filename.dmg

If no credentials for this server are provided in the automation configuration, the guest account is used by default.

#### Warning!

These credentials are passed unencrypted and can be read by a network sniffer.

#### Caution

The captured disk image must be stored on an AppleTalk Filing Protocol (AFP) share.

4. Select Disable image path validation.

The image file is stored outside of the Deployment Share file structure. If you do not select this option, a warning message appears, reminding you to configure your automation process to use the path indicated in the **Name** field. You can still save your image to a location outside of the Deployment Share file structure even when you do not select this option. This option eliminates the warning message.

- 5. (Optional) Select the **Do not boot to Production** option if you do not want the computer to boot to Production before creating the image.
- From the Automation pre-boot environment (DOS/WinPE/Linux) drop-down list, select the required pre-boot environment to perform the Create Disk Image task in the selected pre-boot environment. By default, the Default Automation (Auto-select) type is selected.
- 7. Click Next. The Return Codes dialog appears.
- 8. (Optional) Set Return Codes. See *Setting up return codes* on page 193.
- 9. Click **Finish**. The task appears in the Task list for the job. The Mac image is created when you run this task.

#### Note

The **Sysprep settings** option is disabled if you select **Mac Image** as the Imaging Tool. The **Automation pre-boot Environment** for Mac Image is the **Default Automation** when capturing Mac images.

### **Creating a Ghost image**

Symantec<sup>™</sup> Ghost Solution Suite is a corporate imaging and deployment solution. It also provides operating system migration, software distribution, computer personality migration, hardware and software inventory, and secure system retirement.

For more information about Ghost, see the Ghost Imaging Foundation documentation.

You can create a Ghost Image using the Create Disk Image task.

#### Important

To use the Ghost Solution for creating a disk image, you have to store the ghost.exe and ImageTools.ini files in the Program Files\Altiris\eXpress\Deployment Server directory.

#### To create a Ghost image

- 1. In the **Create Disk Image** dialog, select **Ghost Image (.gho)** from the **Imaging Tool** drop-down list.
- 2. Add additional parameters in the Additional Parameters field.
- 3. Enter the path and file name to store the disk image.
- (Optional) To disable the validation of the image path, select the **Disable image** path validation check box. This is useful if the image is stored locally, or if you are retrieving the image from a remote server.
- 5. To use Microsoft Sysprep, select the **Prepare using Sysprep** check box and specify the operating system and product key.
- From the Automation pre-boot environment (DOS/WinPE/Linux) drop-down list, select the required pre-boot environment to create the disk in the selected preboot environment.

By default, the **Default Automation (Auto-select)** type is selected.

7. Click Next.

The Return Codes dialog appears.

- 8. (Optional) Set Return Codes. See Setting up return codes on page 193.
- 9. Click Finish.

The task appears in the Task list for the job. The Ghost image is created when you run this task.

# Advanced Sysprep settings for creating a disk image

You can use the **Sysprep Advanced Settings** dialog to specify Sysprep mass storage device support. By default, the **Enable mass storage device support using built-in drivers (For Windows XP and 2003 only)** option is selected.

**Disable mass storage device support.** When this option is selected, the Sysprep.inf file contains the section [Sysprep] with the key value pair as BuildMassStorageSection = No.

**Enable mass storage device support using built-in drivers.** When this option is selected, the Sysprep.inf file contains the section [Sysprep] with the key value pair as BuildMassStorageSection = Yes.

**Enable mass storage device support using following:** When this option is selected, the Sysprep.inf file contains the section [SysprepMassStorage] and is appended by contents of the file mentioned in the **Mass storage section file** field. You can also copy the drivers directory mentioned in the **Mass storage drivers** field.

**Command-line switches.** You can add command-line options.

# Advanced Sysprep settings for creating a disk image in Windows Vista

You can use the **Sysprep advanced settings** dialog to specify the settings for any Windows Vista operating system. If you select Windows Vista as the operating system under Sysprep settings on the **Create Disk Image** dialog and click **Advanced Settings**, the **Sysprep advanced settings** dialog for Windows Vista appears. This dialog lets you select Plug-n-Play (PnP) drivers options, as well as Sysprep options, such as command-line options.

### Create disk image advanced

#### Media Spanning

**Maximum file size**. The maximum file size supported is 2 GB. To save an image larger than 2 GB, the Deployment Server automatically breaks it into separate files regardless of your storage capacity. From the **Maximum file size** drop-down list, select a media type.

**Specify** \_\_\_\_\_ **MB.** If the preferred type is not on the list, select **Other (specify) and** enter the required file size in the **Specify** \_\_\_\_\_ **MB** field.

#### Additional Options

**Compression**. Compressing an image is a trade-off between size and speed. Uncompressed images are faster to create, but use more disk space.

Select **Optimize for Size** to compress the image to the smallest file size. Select **Optimize for Speed** to create a larger compressed image file with a faster imaging time. The default setting is **Optimize for Speed**.

#### Note

Configuration restoration after imaging a compressed drive is not supported for this release.

**Description**. (Optional) Enter an image description to help identify the image and click **OK**.

### Distributing a disk image

Distribute an RDeploy, ImageX, Mac, or Ghost image file to managed computers to deploy a previously created hard disk image.

Deployment Solution supports hardware independent imaging through DeployAnywhere. DeployAnywhere requires Windows PE on 32-bit automation only.

DeployAnwhere creates a hardware abstraction layer (HAL) and updates network drivers and storage drivers. It performs post-imaging functionality while you are still in automation mode.

You can use the following switches with DeployAnywhere:

- /logPth that specifies the fully qualified path where the DA log files are written.
- /logID that specifies the ID to prepend to the log file name.

For more information about DeployAnywhere or Ghost, see the Symantec Ghost Imaging Foundation documentation.



Distribute a hard disk image using the New Job Wizard or adding the Distribute Disk Image task when building new jobs. You can create the disk image file using the Create a Disk Image task. See *New job wizard* on page 146, *Building new jobs* on page 150, and *Creating a disk image* on page 157.

#### Note

If you deploy a Windows image over a Linux computer or a Linux image over a Windows computer, you must change the path of the Deployment Agent for the Windows log file.

#### To distribute a disk image

 Open the New Job Wizard and select **Deploy and configure computers** and click **Next**. The **Job conditions** page appears. (See *Setting up conditions in the new job wizard* on page 150.) Click **Next**.

or

In the **Jobs** pane in the Deployment Console, select a job. In the **Details** pane, click **Add** and select **Distribute Disk Image**.

- 2. In the **Disk Image Source** page, click **Select a disk image file** to select a stored image file. This lets you set down a new image file from a previously imaged computer. Enter the name of an existing image file.
  - If you do not want the Deployment Server to validate the selected path, select Disable image path validation. This is useful if the image is stored locally, or if you are retrieving the image from a remote server.
- 3. Click **Select a computer on the network** to image a source computer on the network. Enter the name and location of the source computer to both create an image and distribute the newly created image file.

This option saves an image of a selected computer's hard disk in its current state each time the job runs. You can schedule the job to image a specified computer every time it runs, which updates the image each time.

- Select the Save the disk image as a file while distributing option to save the newly created image file. If you use a reference computer as the image source, you can also choose to save the image as a file for later use. Enter or browse to the location where you want to store the file.
- 4. Select **Prepared using Sysprep** to use Sysprep to prepare the system for imaging.
- 5. From the **Operating System** drop-down list, select the operating system.

#### Note

Click Add New to open the OS Product Key dialog and select the OS Information.

- 6. From the **Product Key** drop-down list, select the product key.
- 7. Click **Advanced Settings** to open the **Sysprep Advanced Settings** dialog. See *Advanced Sysprep settings for distributing a disk image* on page 166.
- 8. Enter the required Additional Parameters.

 Select Automatically perform configuration task after completing this imaging task to restart the computer and push the configuration settings to the imaged computer.

#### Note

If you clear this option, a warning appears, confirming that you want to remove the configuration step after the image is deployed. As a result, the imaged computer may not reconnect to the network.

- 10. (Optional) Select the **DeployAnywhere** option if you want to do hardware independent imaging.
- 11. (Optional) Select the **Boot to production to complete configuration task**.
- 12. From the **Automation pre-boot environment (DOS/WinPE/ Linux)** drop-down list, select the required pre-boot environment to perform the **Distribute Disk Image** task. By default, the **Default Automation (Auto-select)** type is selected.
- 13. (Optional) Click **Advanced** to resize partitions and set additional options. See *Distribute disk image-resizing* on page 166. Click **OK**.
- 14. Click Next.
- 15. (Optional) Set Return Codes. See Setting up return codes on page 193.
- 16. Click **Finish**. The task appears in the Task list for the job. The disk image is distributed when you run this task.

See also Deployment tasks on page 155.

### Distributing a Mac image

You can deploy a Mac image using the Distribute Disk Image task.

This task deploys only .DMG files that were created using a Create Disk Image task. The Distribute Disk Image task cannot deploy an image that was created by Apple Disk Utility or the hdiutil tool.

#### To deploy a Mac image

- 1. Select the Select a disk image file option.
- In the Name field, choose from one of the following options to add the path to the Mac (.DMG) image:
  - Specify the share using the following format: afp://server/sharepoint/path/filename.dmg
  - Provide credentials using the following format: afp://username:password@server/sharepoint/path/filename.dmg

If no credentials for this server are provided in the automation configuration, the guest account is used by default.

#### Warning!

These credentials are passed unencrypted and can be read by a network sniffer.

#### Caution

The captured disk image must be stored on an AppleTalk Filing Protocol (AFP) share.

- 3. Select **Automatically perform configuration task after completing this imaging task** to run the configuration task after the imaging task is complete.
- 4. Click **Next**. The Return Codes dialog appears.
- 5. (Optional) Set Return Codes. See Setting up return codes on page 193.
- 6. Click **Finish**. The task appears in the Task list for the job. The Mac image is deployed when you run this task.

#### Note

The **Image is stored locally on the client** and the **Sysprep settings** options are disabled when you select a Mac image. The **Select a computer on the network** feature is not supported when using Mac Imaging. The **Automation pre-boot Environment** for Mac Image is **Default Automation** when deploying Mac images. This option uses the NetBoot architecture that was previously set up. For more information, see topics on NetBoot in the Administration Guide.

### **Distributing a Ghost image**

You can distribute a Ghost (.GHO) image using the Distribute Disk Image task.

For more information about Ghost, see the Symantec Ghost Imaging Foundation documentation.

#### To distribute a Ghost image

- 1. On the Distribute Disk Image dialog, select the **Select a disk image file** option.
- 2. Browse and select a .GHO image.

If you do not want the Deployment Server to validate a selected path, select **Disable image path validation**. This is useful if the image is stored locally, or if you are retrieving the image from a remote server.

- 3. To use Sysprep to distribute the image, select **Prepared using Sysprep**.
- 4. From the **Operating System** drop-down list, select the operating system.

#### Note

Click **Add New**. From the **Sysprep Settings** dialog, select the operating system information.

- 5. From the **Product Key** drop-down list, select the product key.
- 6. Add any additional parameters in the Additional Parameters field.
- To restart the computer and push the configuration settings to the imaged computer, select **Automatically perform configuration tasks** after completing this imaging task.
- 8. From the **Automation pre-boot environment** drop-down list, select the required pre-boot environment to perform the **Distribute Disk Image** task.

By default, the Default Automation (Auto-select) type is selected.

- 9. Click Next.
- 10. (Optional) Set **Return Codes**. See *Setting up return codes* on page 193.
- 11. Click Finish.

The task appears in the Task list for the job. The Ghost image is deployed when you run this task.

### Advanced Sysprep settings for distributing a disk image

You can generate the Sysprep.inf file for the **Distribute Disk Image** task, depending on the option selected in the **Advanced Sysprep Settings** dialog.

**Use default answer file**. When this option is selected, the Deployment Server generates the Sysprep.inf file depending on the data present in the database.

**Use the following answer file.** When this option is selected, the Deployment Server picks up the contents of the file mentioned in the Sysprep answer file field and prepares the Sysprep.inf file from it.

# Advanced Sysprep settings for distributing a disk image in Windows Vista

You can use the **Sysprep advanced settings** dialog to specify the settings for any Windows Vista operating system. If you select Windows Vista as the operating system under Sysprep settings on the **Distribute Disk Image** dialog and click **Advanced Settings**, the **Sysprep advanced settings** dialog for Windows Vista appears. This dialog lets you select Sysprep answer file options.

### Distribute disk image-resizing

By default, whenever you deploy an image, you have the option to resize the partition to take advantage of the available disk space. Drive Size gives you information about the size of the image, so you can determine if you need to change partition sizes. **Minimum** indicates the amount of space the image will use on the target computers. **Original** indicates the image source disk size.

Fixed Size. Select this option and enter the desired partition size.

**Percentage**. Select this option and enter the percentage of free space you want the partition to occupy.

Min. View the minimum size of the partition.

Max. View the maximum size of the partition.

#### Note

FAT16 file systems have a 2 GB limit and cannot be resized larger than that (although they can be resized smaller than the minimum value). HP partitions remain a fixed size.

### Distribute disk image-additional options

This option lets you specify operations for existing Automation Agents and OEM disk partitions. The options are as follows: leave the partition as it is, remove, or replace the existing partitions. If the image file does not contain any information for an automation or OEM partition, the default option is to leave the client's existing Automation or OEM partition as it is.

#### **RDeploy options:**

**Graphical Mode[RDeploy].** Click this option to choose RDeploy as the imaging executable.

**Text Mode[RDeployT].** Click this option to choose RDeployT as the imaging executable. Text Mode or RDeployT is the default choice.

#### **Automation partition:**

**Leave the client's existing Automation partition as it is**. If the image file contains no automation partition information, by default, this option is selected. The automation partition remains unchanged when distributing disk images.

**Delete the client's Automation partition [-nobw]**. Select this option to delete the *existing* Automation partition from client computers.

**Replace the client's existing BW partition from image file [-forcebw].** Select this option to replace the *existing* automation partition on the client computer with the automation partition from the image file.

#### **OEM partition:**

**Leave the client's existing OEM partition as it is.** If the image file contains no OEM partition information, by default, this option is selected. The OEM partition remains unchanged when distributing disk images.

**Delete the client's OEM partition [-nooem].** Select this option to delete the existing OEM partition from client computers.

**Replace the client's existing OEM partition from image file [-forceoem].** Select this option to replace the *existing* OEM partitions on the client computer with the OEM partition from the image file.

**Additional Command line switches**. You can add command-line options specifically for the RapiDeploy program that runs imaging tasks.

#### Note

The *checkdisk* command-line option should not be used from a Deployment Console. The post-configuration task fails after an image restore.

See also *Deployment tasks* on page 155.

# Imaging computers from USB disk on key (DOK) devices (JumpDrives)

Deployment Solution supports imaging clients from bootable USB Disk on Key (DOK) devices.

#### To image computers from USB disk on key devices

- 1. Format the USB DOK using HP's USB Disk Storage Format tool as FAT and make it a DOS startup disk.
- 2. In Boot Disk Creator, create a new automation boot disk while creating a new configuration.
- 3. Select Bootable disk-Removable disk to install on the USB Disk on Key.
- 4. Copy HIMEM.SYS to the device.

Copy RDeployT.exe from the *<InstallPath>\eXpress\Deployment Server\RDeploy\DOS* directory to the device.

- 5. Copy the <Filename>.img file to the device.
- 6. Create an Autoexec.bat with the script and command-line option, rdeployt -md fc:\IMAGE.img -d2

#### Note

The -d2 switch is the most important part of the script, as it specifies the flash drive.

7. Create a Config.sys with the following:

```
DEVICE=C:\HIMEM.SYS
switches = /f
DOS=HIGH,UMB
SHELL=command.com /p /E:1024
BUFFERS=20
FILES=20
STACKS=0,0
FCBS=1,0
LASTDRIVE=Z
```

8. Boot from the USB Disk on Key (recognized as C:) and rdeployt executes and images correctly.

### Scripted OS install

The Scripted OS Install task performs remote, automated, and unattended operating system installations over the network using answer files to input configuration and installation-specific values. Scripted installs let you deploy server and client computers across the network from installation files and perform post-installation configuration tasks. You can run scripted installs for Windows or Linux computers.

#### Note

Scripted Install requires either an automation boot disk or a PXE Server. Using embedded automations causes the selected image (DOS, Linux, WinPE) to load and halt. It does not let the scripted install run.

When running a Scripted OS Install task, you can identify the type of operating system to install for supported languages, run the scripted install, and update with service pack installations. This task provides easy-to-use features to create an answer file for each scripted installation.

Scripted installs are flexible in performing post-configuring tasks, but much slower and bandwidth-intensive. Complete network and Web server installation and configuration tasks benefit most from scripted installs.

**Windows**. Use complete unattended install features to copy Windows operating system source files quickly to the Deployment Share and easily create an answer file. Configured operating system install sets can be reused to build and run scripted install jobs as needed. See *Scripted install for Windows* on page 169.

**Linux**. Run scripted install jobs to remotely install different versions of Linux. You can customize sample scripted install jobs installed with the Deployment Server system and create a *kickstart* answer file to remotely run a scripted install. See *Scripted install for Linux* on page 175.

### **Scripted install for Windows**

- After selecting Add > Scripted OS Install, select the Windows option and click Next.
- Select the type of Windows operating system to install and the preferred language. See Select OS version and language on page 170. Select the required pre-boot environment from the Automation - PXE or BootWorks environments (DOS/ WinPE/Linux) Automation pre-boot environment (DOS/WinPE/Linux) dropdown list to perform the Distribute Disk Image task in the selected pre-boot environment. The option reported by the PXE Manager is the default pre-boot environment option. By default, the Default Automation (Auto-select) type is selected. Click Next.
- From the Select or add new OS source files drop-down list, select the operating system source files already copied to your Deployment Share. See *Installation source files* on page 171.

Click **Add New** from the list to set up the new operating system installation files. See *Operating system-source files* on page 171.

Click **OK** after entering a unique name and the path to the operating system installation source files. The source files will be copied to the Deploy folder in the Deployment Share directory. The first source files added are given a generic name of WinOS001, with additional operating system source folders named as WinOS002, WinOS003 and so on. Service Pack source files are also stored as WinSP00x.img files.

This process could take a few minutes. Because the installation source files are copied over to the Deployment Share, when running subsequent scripted installs you do not need to add new source files for this version of Windows. They can be selected from the list of installation source files. See *Installation source files* on page 171.

#### Note

When importing Scripted Install jobs, you must edit the job files to point to the installation source files on the new Deployment Server system. This requires you to run the Scripted Install for Windows wizard and modify the path and name of the folder for the Installation Source Files for the exported jobs. This is required for both the main installation and the service pack installation files. See also *Scripted install for Windows* on page 169, *Installation source files* on page 171, and *Importing and exporting jobs* on page 193.

- 4. After the source files are copied, select the newly created operating system source name from the **Installation Source Files** list. Click **Next**.
- 5. In the Partition and Format Disk page, click Select a DOS disk image to distribute a DOS disk image (default), or click Continue without distributing DOS image to partition and format the hard disk of the destination computer using custom scripts or setup utilities. Click Advanced to set partition size, delete hidden partitions or set RapiDeploy command-line parameters. Click Next. See Operating system-source files on page 171.

#### Note

Before running a scripted install, you must install DOS. However, DOS is not required if you are using your own scripts or utilities to partition and format the client computer.

- 6. Import an answer file to the Deployment Database. See *Import an answer file* on page 172. Click **Next**.
- 7. Create the Answer file. See *Answer file setup* on page 172. Click **Next**.
- 8. Set command-line options for cmdlines.txt files and for the WINNT installation program. See *Command-line switches for scripted install* on page 173. Click **Next**.
- 9. View and modify the Deployment Agent for Windows configuration file from the dialog. See *Deployment agent settings for scripted install* on page 173. Click **Next**.
- View the summary of the selected options. See *Scripted install summary* on page 174. Click **Next**.
- 11. Set up return codes for the Scripted Install task. See *Setting up return codes* on page 193. Click **Finish**. The task appears in the Task list for the job.

See also Scripted OS install on page 168.

### Select OS version and language

Identify the operating system version to run in a scripted install. The selected version and language must correspond to your Windows installation files.

We support multiple languages for the following Deployment Solution utilities:

- Boot Disk Creator
- Image Explorer
- PXE Configuration Utility
- Remote Client Installer
- Control Panel Applet
- DS Info
- PW Util (Password utility)
- Switch Management

**Select the operating system version**. Select the Windows operating system you want to install from the list. Click **Template** if you want to install another version or language of a Windows operating system not provided in the list.

**Select the operating system language**. Select the language version of the operating system to install. The language must correspond to the operating system source files. If you selected the **Template** option, only the Multilingual language option can be selected (this is a generic language option).

**Automation (Pre-boot Environment).** Select the required pre-boot environment from the Automation (Pre-boot Environment) drop-down list. The option reported by the PXE Manager is the default pre-boot environment option.

List of supported multiple languages:

• German

- French
- Spanish
- Japanese
- Simplified Chinese

See also Scripted install for Windows on page 169.

### **Installation source files**

If you copied installation files to the Deployment Share for previous scripted installs, the name of this install source configuration appears in the list box for each operating system type and language. To create new source configuration sets for additional operating system installs, select **Add new** from the drop-down list.

**Select or add new operating system source files**. Select the assigned name for each operating system source configuration in the list, or select **Add new** from the list to create a new install task. Previous scripted install jobs will create a WinOS00x.img file in the Deploy directory of the Deployment Share.

The **Operating System-Source Files** dialog lets you identify the version of Windows install files and enter the path to the files (on the CD or other medium).

**Select or add new service pack source files**. Run service pack updates immediately after installing the operating system during the scripted install process. Previous scripted install jobs will create a WinSP00x.img file.

See also Scripted install for Windows on page 169.

### **Operating system-source files**

Name the operating system source configuration, specify the path, and automatically copy Windows installation files to the Deployment Share.

**Enter a unique name for the operating system source files**. Enter a name for the operating system source configuration files to assign an alias to associate with the install files for a specific operating system version and language.

**Enter path to operating system source files**. Enter the path to the I386 folder on the CD where the Windows installation programs and support files are stored. Example: Browse to the CD drive and select I386\WINNT.exe. Click **Open**.

The Windows operating system identified previously in the **Installation Source Files** dialog must match the source files selected here. If the name and language of the operating system does not match the installation files, you receive an error.

Click **OK** and the files will copy from the source CD (or other volume) to the Deployment Server\Deploy directory in the Deployment Share. This process will take a few minutes.

**Enter a short description**. (Optional) Enter a description of the Windows operating system source configuration. Example: W2K Advanced Server SP3 English.

See also Scripted install for Windows on page 169.

### **Partition and format disk**

Select a DOS disk image to distribute to the client computers before starting the Windows scripted install. A DOS image is provided in the Images directory in the Deployment Share (default path in the **Name** field).

**Select a DOS disk image.** Click this option to distribute a DOS image from the Deployment Share. The Deployment Server system includes a DR DOS image file that is selected by default. You can create your own MS DOS image from your Windows CD and build a job.

**Advanced**. Select advanced options to set the size of the partitions, or to remove hidden partitions and add command-line options.

See *Create disk image advanced* on page 162 and *Distribute disk image-resizing* on page 166.

**Continue without distributing DOS image**. Click this option to not install a DOS image from Deployment Server. Skip this step if you are installing DOS using custom procedures for your environment.

See also Scripted install for Windows on page 169.

### Import an answer file

Reference a previously created answer file for a Windows scripted install. You can also view a summary of the operating system source configuration.

**Import existing unattend.txt.** Select to import a previously created answer file to the Deployment Database. The values for the answer file are imported from the delimited text file and appear in the **Answer File Setup** dialog.

**Path of the unattend.txt**. Enter a path and select an answer file with any name. The answer file is imported to the database, edited in the console (if required), and distributed as an unattend.txt file to the client computer.

See also Scripted install for Windows on page 169.

### Answer file setup

Use the tabs in this dialog to enter values to create an answer file for a scripted install. These values are stored in the Deployment Database. An answer file is generated from the database (unattend.txt) and distributed to each managed computer when the job runs.

In the **Answer File Setup** dialog, select a value (a row) in the table. A list appears in the **Values** column to change values for each entry. You can add new variables to each section by selecting the bottom row named **Add new Variable**. To add a new section to the answer file, click the right arrow until the **Add new Section** tab appears (the last tab on the right).

The required answer file values are selected automatically in the dialog with a gray check mark (you cannot clear these variables). Optional but selected values have a green check mark. Other optional values are cleared. Select these optional values if you want to add them to the answer file when it is generated.

The various tabs in the **Answer File Setup** dialog correspond to the general answer file sections. See the *Microsoft Windows Unattended Setup Guide* for specific values for an unattended setup file.

See also Scripted install for Windows on page 169.

### Add a new section

Use this dialog to add new variable sections to the answer file.

**Enter a name for the section**. If you add a section, this name appears in the new tab in the **Answer File setup** dialog.

Enter a description. Enter comments to describe the new section.

See the *Microsoft Windows Unattended Setup Guide* for your specific operating system values for an unattended setup file.

See also *Scripted install for Windows* on page 169.

### **Delete a section**

To delete a new section that you added, right-click the section and select **Delete selected Section**.

### Add a new variable

Use the **New Variable for Section "Unattended"** dialog to add new variables to the answer file. This variable appears as a row in the **Answer File Setup** dialog.

Name of the variable. Select a variable name.

**Type of the new variable**. Select a variable data type. The **Default value of the variable** and **Displayed value of the variable** fields are enabled depending on the variable type selected.

**Default value of the variable**. Enter values for a list, text, password, IP address, or variable only types.

**Displayed value of the variable**. Enter an alias for list item types to appear instead of the real variable value.

**Description**. Enter comments to describe the new variable. It appears in the **Description** column of the **Answer File Setup** dialog.

See also Scripted install for Windows on page 169.

### **Command-line switches for scripted install**

Use the **Scripted OS install commands** dialog to enter Windows commands that are executed from the cmdlines.txt file. You can also add scripted install command-line options.

**Switches**. Add or edit switch commands to this line for the install program for the scripted install.

**Additional commands in the cmdlines.txt file**. Enter additional Windows scripted install commands in this dialog. The commands execute in the order they are listed. The provided command installs the Deployment Agent for Windows during the Install Component phase of the installation. You can view and edit Deployment Agent settings in the next dialog.

See also *Scripted install for Windows* on page 169.

### Deployment agent settings for scripted install

View or edit Deployment Agent for Windows settings in this dialog. You can change agent settings using this text-edit dialog. See *Deployment agent settings* on page 110 for a list of the Deployment Agent properties.

See also Scripted install for Windows on page 169.

### Scripted install summary

View a summary of the selected options for the scripted install. Click **Back** to change any of these settings or click **Finish** to complete the Scripted Install task. Click **Next** to set up return codes. See *Setting up return codes* on page 193.

See also *Scripted install for Windows* on page 169.

### Scripted install for Windows Vista and 2008 server

The Scripted OS install for Windows Vista and Windows 2008 Server provides a wizard to help set up Vista and Windows 2008 Server installation files and run sample jobs. Follow the steps in the wizard to identify the type of scripted install as Vista or Windows 2008 Server. You can gather all the files for Vista or Windows 2008 Server for the job, but the server does not build any answer file. Instead, you are asked for the location of the answer file. Also, a sample answer file is provided.

#### To perform a scripted install for Windows Vista and 2008 server

- 1. On the **Scripted Operating System Installation** page of the **Scripted OS Install** dialog, select the following options:
  - Windows Vista or Windows 2008 Server as the operating system
  - Operating system language
  - Automation pre-boot environment

#### Note

Deployment Solution supports only WinPE environments.

#### Click Next.

- From the Select or add new OS source files drop-down list on the Installation Source Files page of the Scripted OS Install dialog, select Vista or Windows 2008 Server.
- 3. (Optional) You can select the required option from the **Select or add new service pack source files** drop-down list. Click **Next**.
- Select the Select a DOS disk image\Diskpart tool option on the Partition and Format Disk page of the Scripted OS Install dialog to partition and format the disk. Click Next.

#### Note

You can select the **Continue without selecting DOS image\Diskpart Tool** option to partition and format the hard disk using your own scripts and setup utilities.

- 5. On the **Scripted Operating System Installation** page of the **Scripted OS Install** dialog, browse to select the path of the unattended .XML file.
- 6. On the Scripted OS Install Commands page of the Scripted OS Install dialog, set the command-line options for the cmdlines.txt files and enter the Additional commands in the cmdlines.txt file. (See Command-line switches for scripted install on page 173.) Click Finish. The job

#### Note

If you want to use the sample answer files (Vista\_unattend.xml and Longhorn\_unattend.xml) provided by default in the Deploy folder of the Deployment Share, you must enter the product key (for the version you want to install) before you schedule the job. (See *OS product key dialog* on page 84.) If you do not select the product key, the job fails.

### Scripted install for Linux

The Scripted OS install for Linux provides a wizard to help set up Linux installation files and run Sample jobs. Follow steps in the wizard to identify the type of scripted install and locate the answer files. You can also modify and run Sample deployment jobs to remotely run a scripted install on Linux servers and workstations.

**Directory**. Browse to or enter the path and name of the Linux answer file (Kickstart file).

**Command-line**. Enter the command-line options.

**Automation pre-boot environment (DOS/WinPE/Linux)**. Select the required preboot environment from the drop-down list to perform the Backup and Restore task in the selected pre-boot environment. By default, the Default Automation (Auto-select) type is selected.

See also Scripted OS install on page 168 and Scripted install for Windows on page 169.

### Scripted install summary

View a summary of the selected options for the scripted install. Click **Back** to change any of these settings or click **Finish** to complete the Scripted Install task.

### **Distributing software**

Send .MSI Packages, .CAB, .EXE, and other package files to selected computers or computer groups, including EBS, and .RPM files for Linux computers. This task identifies valid Altiris packages and assigns passwords and command-line options.



Distribute software packages to managed computers using the New Job Wizard or adding the **Distribute Software** task when building new jobs. See *New Job Wizard* on page 130 and *Building New Jobs* on page 134.

1. Enter the name and location of the package to distribute in the **Name** field.

#### Note

Information about the package appears in the **Description** field for valid packages. If no description appears, the file is not an .RIP or a Personality Package.

- 2. For .RIPs, if you set the **password** option when you created the .RIP, you must enter the password for the package to run.
- 3. Select Run in quiet mode to install the package without requiring user interaction.
- 4. Specify the users to associate with the .RIP or the Personality Package.

- Select Apply to all users to run the package for all users with accounts on the computer.
- If you want to send the package to a managed computer with multiple users and to install it for certain users with a unique password, clear the **Apply to all** users box.

Example: To install an .RIP for a specific user account on a computer, add values to the **Additional command-line switches** field:

-cu:"JDoe;TMaya;Domain\BLee"

#### Note

The command-line switches are specific to any package you are distributing that supports command-line options, such as .MSI and Personality Packages. For a complete list of command-line options, see the *Wise MSI Product Guide* and the *Altiris PC Transplant Pro Product Guide*.

5. If distributing an install package or other types of packages with associated support files, you can select **Copy all directory files** to install all peer files in the directory. Select **Copy subdirectories** to distribute peer files in the directory and all files in associated subdirectories.

#### Note

Some clients may have software installed on the client computer that, for protection against harmful software, only lets software programs on a list of "well-known" executables to run. Therefore, whenever the system administrator wanted to install a patch on client computers, he or she would have to update the well-known-executables list on all the client computers, which could be a lot of work.

To save the work of updating that list, or of manually renaming distribution packages, the RenameDistPkg feature was added. Now, the system administrator may update the well-known-executable list once with a filename of their choice. The well-known filename may be entered into the Windows registry of the Deployment Server computer (the computer running axengine.exe) as the Value data of a string value named RenameDistPkg under the

HKEY\_LOCAL\_MACHINE\SOFTWARE\Altiris\Altiris eXpress\Options key. If the RenameDistPkg registry entry is set, Deployment Server renames the installation files that are copied to the client computers.

This feature only affects files that are temporarily copied to the client computer as part of a Distribute Software task. The file that is to be executed only during the installation, sometimes referred to as the package, is the file that is renamed, not the files that are actually installed to various locations on the target computer.

If the **Copy all directory files** option is enabled, only the main (installable) file is renamed.

- 6. Click **Advanced** to specify how files are distributed to the managed computer. You can copy through the Deployment Server, or copy directly from the file source and then run, or run directly from the file source. See *Distribute software advanced* on page 177. Click **Next**.
- 7. Provide additional command-line options for distributing software.
- 8. (Optional) Set Return Codes. See Setting up return codes on page 193.
- 9. Click **Finish**. The task appears in the Task list for the job. The software is distributed when you run this task.

#### Notes

When an .RIP or Personality Package is executed through Deployment Server, the quiet mode command-line option is applied. This means the user cannot interact with the user interface on the managed computer.

If the Personality Package is configured to run only if a particular user is logged in and only if the user has an account on the managed computer, the package runs the next time that user logs in. If the user does not have an account, the package aborts and sends an error back to the console through the Deployment Agent. If the package is not run through the Deployment Server, a message appears on the managed computer and the user is prompted to abort or continue.

See also Modifying tasks in a deployment job on page 190.

### Distribute software advanced

**Copy files using Deployment Server then execute**. Select this option to distribute packages through the Deployment Server to the managed computer, requiring two file copy transactions if the Deployment Share is on another file server. This option is run for Simple installs and is the default option.

**Copy directly from file source then execute**. Select this option to copy packages directly from the Deployment Share if this data store is located on another server (a Custom install). It copies the file and runs it, avoiding running through the Deployment Server and reducing processor output.

**Run directly from file source**. Select this option to run files remotely from the Deployment Share or another selected file server.

**Specify user**. Enter the user name and password for the client computer and the Deployment Share. Both must have the same user name and password (this is not an issue if both are on the same domain).

**Run script in console user session**. For Windows 2008, Vista, and Windows 7, you can see the output of jobs on a local desktop and use that output for debugging purposes. The script runs in a logged-in user's UI session. If no users are logged in, the job fails. DAgent can also run scripts in a console user session.

### Managing the SVS layer

The Manage SVS Layer task lets you instantly activate, deactivate, or reset SVS layers. This task helps in avoiding conflicts between applications, without altering the base Windows application. You can reduce the testing time for applications, as you can install different versions of an application on the layers at the same time, and activate or deactivate the layers as required. For more information on SVS Help, refer to *Software Virtualization Solution* on page 78.

#### Note

This task runs only on Windows computers.



Manage the SVS Layer using the New Job Wizard or adding the **Manage SVS Layer** task when building new jobs. See *New job wizard* on page 146 and *Building new jobs* on page 150.

- 1. After creating a job, click **Add** > **Manage SVS Layer**.
- 2. Enter the .VSA file name in the **Layer name** drop-down list, or browse and select a .VSA file. You can also enter a .VSA file path in the **Layer name** drop-down list. The Deployment Console checks if the path entered is correct. If it finds that the file path is correct and it is a valid .VSA file, it replaces the path name with the layer name in the .VSA file.

#### Note

The console displays a list of the previously selected layers in the **Layer name** drop-down list. This makes it easier for you to select a layer from the list, instead of browsing or typing the .VSA file name again.

3. Select **Import Package** to import the selected layer and apply the actions present in the **Action** drop-down list. The actions are:

Action Name	Description
(none)	Only import package.
Activate	Import package and immediately activate it.
Activate on startup	Import package and activate it on startup.
Activate and Activate on startup	Import package, and immediately activate it and activate it whenever the computer starts up.

- 4. Click **Advanced** to copy files using the Deployment Server or copy files directly from the file source. See *Importing package advanced* on page 179.
- 5. Select **Manage Layer** to manage the selected layer using actions present in the **Action** drop-down list. The actions are:

Action Name	Description
Activate	Activate layer.
Activate on startup	Activate layer on startup.
Activate and Activate on startup	Activate layer and activate it whenever the computer starts up.
Deactivate	Deactivate layer.

Action Name	Description
Deactivate on startup	Deactivate layer on startup.
Deactivate and Deactivate on startup	Deactivate layer and deactivate it on startup.
Delete	Delete layer.
Reset	Reset layer.
Reset and Activate	Reset and activate layer.
Reset and Deactivate	Reset and deactivate layer.

- 6. Select **User defined action** to enter a command line.
- 7. (Optional) Set Return Codes. See Setting up return codes on page 193.

#### Note

SVS clients have an automatic 120-day license. To purchase a permanent license, please visit the Altiris Sales Web site (*www.altiris.com/sales.aspx*).

### Importing package advanced

**Copy files using Deployment Server**. Select this option to copy files using the Deployment Server.

**Copy directly from file source**. Select this option to copy files directly from their source. If you select this option, you must enter the following **File source logon** details:

- **User name**. Enter the user name.
- **Password**. Enter the password.
- Confirm Password. Enter the password again.

Click OK.

### **Capturing personality settings**

The Capture Personality task lets you save personal display and user interface settings defined in the operating system for each user. You can create a Personality Package that you can save and distribute when migrating users. This task runs *Altiris PC Transplant* from the console to capture and distribute settings.



Capture personality settings using the New Job Wizard or adding the **Capturing Personality** task when building new jobs. See *New job wizard* on page 146 and *Building new jobs* on page 150. Also see *Distributing personality settings* on page 181 to migrate settings to another user.

1. After creating a job, click **Add** > **Capture Personality**.

2. Enter the name of a personality template file, or browse and select a template. A default personality template is included in the PCT folder of the Deployment Share (DEFAULT.PBT). Enter the name of the folder where you want to store the package.

The personality template lets you define the settings, files, and options to be captured during run time. Click **Template Builder** to open a wizard to build a custom template.

- 3. In **User account and folder login**, enter the login credentials for the managed computer from which the personality settings are captured, and the file server where the Personality Package is stored.
- 4. In **Package login**, enter a password for the Personality Package. This is a run-time password that is required when the Personality Package runs on the destination computer.
- 5. Click Advanced to specify additional features.
- 6. Set the **Advanced** options and click **OK**. Click **Next**. See *Capture personality advanced options* on page 180.
- 7. (Optional) Set Return Codes. See Setting up return codes on page 193.
- Click Finish. You have now created a Capture Personality task, which appears in the Task list. You must schedule this task to capture a personality setting and save it as a PCT file in the selected location (most often in the PCT folder on the Deployment Server shared directory on the Deployment Share). See *Distributing personality* settings on page 181.

#### Note

Set the conditions on the job for either Windows XP, 2003, 2008 and Vista computers to ensure that the appropriate Capture Personality task runs on the appropriate computers.

### Capture personality advanced options

**Domain users**. Select this option to capture personality settings for all domain users on the computer.

**Local Users.** Select this option to capture personality settings for all local users on the computer.

**Custom**. Specify users or groups to capture personality settings. Select the **Custom** check box and enter the **Users** or **Groups** you want to capture personality settings. Also, instead of specifying names, you can also select users who have been either created or accessed in the specified number of days.

**Additional command-line switches**. You can add command-line options specifically for the PC Transplant program that migrates personality settings. See the *Altiris PC Transplant Reference Guide* in the docs folder of the Deployment Share.

## **Distributing personality settings**

The Distribute Personality task lets you save personal display and user interface settings defined in the operating system for each user. You can distribute Personality Packages to migrate personality settings. This task runs *Altiris PC Transplant* from the console to capture and distribute settings.



Distribute personality settings using the New Job Wizard or adding the **Distribute Personality** task when building new jobs. See *New job wizard* on page 146 and *Building new jobs* on page 150. See also *Capturing personality settings* on page 179 to create a Personality Package.

1. In the **Name** field, enter the file name and location of the PCT file.

#### Note

The information about the Personality Package appears in the **Description** field for valid Personality Packages (PCT files). If no description appears, the file is not a valid package.

If you use a token, such as %COMPNAME%, in this field, and you proceed with the job, when you apply the job to a Windows XP computer, the user must enter input before the job completes. Altiris recommends you enter a valid Personality Package name and use the **Additional command-line switches** fields for token values. See the *Altiris PC Transplant Reference Guide* for a complete list of valid command-line options.

- 2. In the **Password** field, type the password set for the PCT file when created.
- 3. Select **Run in quiet mode** to install the package without displaying the PC Transplant screens.
- 4. Specify the users to associate with the Personality Package.
  - Select Apply to all users to run the package for all users with accounts on the specified computer.
  - If you want to send the package to a managed computer with multiple users and to install it for certain users with a unique password, clear the **Apply to all** users box.

Example: To install a Personality Package for specific user accounts on a computer, add values to the **Additional command-line switches** field. Example:

-user: JDoe; TMaya; BLee

#### Note

The command-line options are specifically for Personality Packages. For a complete list of command-line options, see the *Altiris PC Transplant Reference Guide*.

- (Optional) Click Advanced to specify how to copy Personality Packages to the managed computer. You can copy through Deployment Server and then run, or copy directly from the file source and then run, or run directly from the file source. See *Distribute personality advanced* on page 182. Click OK.
- 6. Click Next.
- 7. (Optional) Set Return Codes. See Setting up return codes on page 193.
- 8. Click **Finish**. The task appears in the Task list for the job. The personality is distributed when you run this task.

For more information about capturing a computer's personality settings, see the *Altiris PC Transplant Help*.

See also *Distributing software* on page 175 and *Modifying tasks in a deployment job* on page 190.

### **Distribute personality advanced**

**Copy files using Deployment Server then execute**. Select this option to distribute software packages through the Deployment Server to the managed computer, requiring two file copy transactions if the Deployment Share is on another file server. Use this option for Simple Installs to take advantage of security rights defined by Deployment Server. This is the default option.

**Copy directly from file source then execute**. Select this option to copy packages directly from the Deployment Share, sending only one copy across the network. It copies the file and runs it and avoids running through the Deployment Server and diminishing processor output. Because the Deployment Agent doesn't recognize shared rights and is not guaranteed to have a mapped drive to the data source, you must identify a user name and password for the data share computer from the target computer. This option also requires a full UNC path name in the **Source Path** field in the **Copy File** dialog.

**Execute directly from file source**. Select this option to run files remotely from the Deployment Share or another selected file server.

**File source access and credentials**. Enter the user name and password for the client computer and the Deployment Share. Both must have the same user name and password (this is not an issue if both exist in the same domain).

### **Modifying configuration**

You can add a task to configure or modify the configuration of computer property settings using the **Modify Configuration** dialog. The Deployment Agent updates the property settings and restarts the computer for changes to take effect.

- 1. After creating a job, double-click the job, and click **Add > Modify Configuration**.
- 2. Select the **Reboot after Configuration** check box to restart client computer after the configuration changes are complete. By default, the check box for **Reboot after Configuration** is selected.
- 3. Enter or edit the property settings in the **Configuration** dialog. Click the category icons in the left pane to set additional values for each property setting group. See *Computer configuration properties* on page 101.
- 4. Click Next.
- 5. (Optional) Set Return Codes. See Setting up return codes on page 193.
- 6. Click **Finish**. The task appears in the Task list for the job. The configuration is modified when you run this task.

See also *Modifying tasks in a deployment job* on page 190.

### Backing up and restoring registry files

#### Note

This feature has been deprecated and removed from the product in a later release.

Copy registry files of selected computers using the **Back Up Registry** task and save the registry file settings to a selected directory. You can also create a **Restore Registry** task to copy the registry settings to a managed computer.



Copy registry settings by adding the **Back Up Registry** task when building new jobs. Restore registry settings by adding the **Restore Registry** task. See *Building New Jobs* on page 134.

- 1. Enter the directory path to back up or restore registry files.
- 2. The Computers with registry files in this directory field displays the names of the computers whose registry files will be captured in this directory.
- Select the required pre-boot environment from the Automation pre-boot environment (DOS/WinPE/Linux) drop-down list to perform the Backup and Restore task in the selected pre-boot environment. The Default Automation (Autoselect) type is selected.
- 4. Click **Advanced** if Windows was installed on client computers in a directory other than the default. Enter the correct path to the root of the Windows directory.
  - Select Include registry information for all users to back up registry keys for all user accounts.

#### Note

If you clear this check box, only the Administrator and Guest user accounts are backed up or restored.

- 5. Click Next.
- 6. (Optional) Set Return Codes. See Setting up return codes on page 193.
- 7. Click **Finish**. The task appears in the Task list for the job.

See also *Modifying tasks in a deployment job* on page 190.

### **Getting inventory**

Use this task to gather inventory from an individual computer or a group of client computers. This ensures that the Deployment Database is updated with the latest computer properties information, which includes the following information:

- Applications
- Devices
- Drivers
- Hardware
- Location

- Network
- Services
- TCP-IP
- General

Location is the only area that administrators can manually enter if they want to. The Deployment Solution software gathers the other information from each computer.

You can view the history of the Get Inventory task in the **Computers History** pane. See *Viewing a computer's history* on page 125.

 Click Add and select Get Inventory from the list. The Get Inventory task appears in the list.

### **Running a script**

Select an existing script or write a new script file to run on selected managed client computers.



Run script files on client computers by adding the **New Script** task when building new jobs. See *Script information* on page 185 to identify how the script appears, script security, and an option for server-side execution of the script. See also *Building new jobs* on page 150.

1. If you have a script file defined, select **Run Script** and browse to select the file. To read or edit the script file, click **Modify**.

#### Note

To run scripts that call an executable, use the start command.

**Example:** Enter start C:\windows\notepad.exe to open the Notepad application on the client computer.

- To create a new script, click **Run Script**. Enter the script in the provided field, or click **Import** and select a script file to import. After you import the script, you can modify it in the provided field.
- 3. Specify the operating system to run the script. You can choose Windows, DOS, Linux, or Mac OS X. Click **Next**.
- 4. Set Script Information. See Script information on page 185. Click Next.
- 5. (Optional) Set Return Codes. See Setting up return codes on page 193.
- 6. Click **Finish**. The task appears in the Task list for the job. The script runs when you run this task.

#### Notes

- When a computer is in an automation mode using a DOS configuration, it does not detect DOS partitions. To run a script using the DOS Automation Agent, use FIRM (File-system Independent Resource Manager) commands. FIRM can only copy and delete files; it cannot run a code on a drive.
- The Deployment Server assumes a return code of zero (0) as a successful script execution. Some programs return a code of one (1) to denote a successful script

execution. If a program returns a one (1), you see an error message at the Deployment Console even though the script ran correctly. To modify the return codes, you can edit the script file to return a code that the console interprets correctly.

See also *Modifying tasks in a deployment job* on page 190.

### **Script information**

#### **Script Run Location**

Select one of the following options to run the script:

- **On the client computer**. This option runs the script on the managed computer to which you assign the job.
- Locally on the Deployment Server. This option runs a server-side script on the Deployment Server of the managed computer. In most cases you can create a server-side script task that runs in context with other tasks. Example: You can add a task to image a computer and add a task to execute a server-side script to post the imaging return codes to a log file stored on the Deployment Server computer.

Use the **-id** option for running scripts on Deployment Server when using the WLogEvent and LogEvent utilities. See *Using LogEvent and WLogEvent in scripts* on page 186.

#### Note

You cannot use this feature to run scripts that require user intervention. The script runs on the Deployment Server of the managed computer, but is not visible. Example: If you run a DOS command locally on the Deployment Server, the Command Prompt window does not open on the Deployment Server computer when the script runs.

When running the script on the Deployment Server, it runs specifically for the assigned managed computer. Example: If you create a job with a script to run locally on the Deployment Server and assign the job to 500 computers, the script runs on the Deployment Server 500 times.

#### **Client run environment**

Select the environment for your client computer. You can run the script either in production mode or in automation mode.

• Production - Client-installed OS (Windows/Linux/Mac OS X)

**Security Context**. You can specify one of the following security options for running the scripts:

- **Default** (local system account). Use the network security account established to administrate all managed computers.
- Specific user. If you have selected to run the task on the local Deployment Server, enter an administrator user name and password for that Deployment Server account. In most cases Deployment Server does not have the Deployment Agent installed, which prohibits it from using a network security account.
- Run script in console user session. For Windows 2008 and Vista, you can see the output of jobs on a local desktop and use that output for debugging

purposes. The script runs in a logged-in user's UI session. If no users are logged in, the job fails.

 Scripts run in an elevated mode, which skips the usual consent step through a user access control (UAC). Otherwise, someone must physically go to the remote computer and approve the action to allow the script to run.

**Script Window**. From the drop-down list, select how you want the script window to appear: minimized, normal, maximized, or hidden.

#### Note

This option is available only for Windows environment.

#### Script Options - (Windows/Linux/Mac OS X)

- Additional command-line switches. Enter commands to execute when the script runs in Windows, Linux, or Mac OS X.
- Automation pre-boot environment (DOS/WinPE/Linux/Mac OS X). Select this option to run the script in an automation environment. Select a pre-boot automation environment from the drop-down list.

If you select Linux as the operating system type, the **Locally on the Deployment Server** option is disabled and only the **Additional command-line switches** under the **Production Client installed OS (Windows/Linux/Mac OS X)** is enabled.

If you select **DOS** as the operating system type, the **Locally on the Deployment Server** and the **Production - Client-installed OS (Windows/Linux/Mac OS X)** options are disabled.

#### **Example script**

The process to convert NT4 from FAT16 to NTFS normally returns a 1 after a successful completion. The following is an example of the file that is modified to return a code of 0 (which is the success code recognized by the Symantec Management Console and utilities). You can make similar changes to your script files as needed.

CONVERT /FS:NTFS

if ERRORLEVEL 1 goto success

goto failure :success set ERRORLEVEL = 0 goto end :failure echo Failed set ERRORLEVEL = 1 goto end :end

### Using LogEvent and WLogEvent in scripts

The logging features, LogEvent and WLogEvent, accommodate detailed logging to help debug complex scripts. These utilities include the following features:

- Logging is stored in the database instead of a log file.
- A DOS-based tool can be called from any script file to log status and error codes.
- The console displays and works with the new status messages.

LogEvent posts status sends messages to the Deployment Console, letting you view the status of the script. It is a light-weight reporting tool that can log both status strings and status codes to the history file and the console.

**LogEvent** — Use the LogEvent utility for DOS and Linux scripts.

**WLogEvent** – Use the WLogEvent utility for Windows scripts.

The LogEvent and WLogEvent utilities are command-line driven only — there is no user interface. Use both utilities with the following switches.

#### LOGEVENT -c:code -id:%ID% -l:level -ss:"message"

code is any number for a return code level.

id is used for server-side scripting only. For server-side scripts you must add the -id:%ID% switch.

See the **Locally on the Deployment Server** option in Script Information to select a server-side script. See *Script information* on page 185.

level is the severity level. The following levels are used:

- 1 = Information message
- 2 = Warning message

3 = Critical failure message. Only this level can be used to set up a return code. See *Setting up return codes* on page 193. The response does not execute for a return code unless a level 3 is specified when using the LogEvent and WLogEvent command in a script.

**message** is the status string. If spaces exist in the message, the string must be contained in quotes. Specifying a severity level of 3 causes the script job to fail.

#### **Example scripts**

```
REM Bootwork unload
Set ImageName=F:\Images\XPIntel.img
rdeploy -mu -f%ImageName% -p1
logevent -l:1 -ss:"Created %ImageName%."
```

REM Execute WLogEvent.exe from CMD script REM This script requires WLogevent.exe to reside on the client REM in the temp directory .\WLogevent.exe -c:0 -l:1 -ss:"Running Dir on %NAME%" dir .\WLogevent.exe -c:0 -l:1 -ss:"Finished with the DIR command on %NAME%"

### **Copying a file**

Copy all types of files to managed computers. You can send selected files or directories to a computer or computer group.



Send files to client computers by adding the **Copy File to** task when building new jobs. Use the **Copy File to** operation (see *Remote operations using Deployment Solution* on page 122) to copy files quickly from **Computers** pane in the console. See *Building new jobs* on page 150.

- 1. Select either the **Copy File** or **Copy Directory** option. When you select the **Copy Directory** option, select **Copy Subdirectories** to copy all subdirectories.
- 2. Enter the directory path and name of the file or directory. The **Source path** defaults to the Deployment Share, but you can enter or browse to a file or directory.

To copy files or directories through the Deployment Server from the Deployment Share, you can enter a relative path in this field. To copy files or directories directly from the Deployment Share to the managed computer, you must enter the full UNC path name. See *Copy file to advanced* on page 189.

#### Note

When entering the source path for copying files through the Deployment Server, you can only access the shared directories through an established user account. Specifically, you can only use UNC paths when you have sufficient authentication rights established.

3. Select the **Allow to run in automation** check box to run this task in automation mode.

#### Note

This option is only applicable for Linux and WinPE automation.

- 4. Type the destination path. The **Destination path** field automatically enters a sample path, but you can enter the directory path you require. If the destination path does not exist on the destination computer, it is created.
- Click Advanced to specify additional features to copy files through the Deployment Server or directly from a file server. See *Copy file to advanced* on page 189. Click Next.
- 6. (Optional) Set Return Codes. See *Setting up return codes* on page 193.
- 7. Click **Finish**. The task appears in the Task list for the job. The file is sent to the specified location when you run this task.

See also *Modifying tasks in a deployment job* on page 190.

#### **Using location variables**

Location variables are being added to the Deployment Server for the Copy Files feature, letting you enter a token variable instead of requiring a complete location path when copying files to a managed computer (a client computer running the Deployment Agent).

Deployment Solution supports long names in the REM replacetoken command. If your file name includes spaces, enclose the file name in quotes so that it handles correctly.

The current variables include:

**Temp**. Enter Temp in the Destination path to set the Temp directory (identified in the system path) for the managed computer. Example: Instead of entering C:\windows\temp\setup.exe in the Destination path, enter temp:setup.exe.

### Copy file to advanced

Select options to copy files directly from the Deployment Share. This option is for files stored on another network server in a distributed Deployment Server installation.

**Copy files using Deployment Server**. This option distributes software packages through the Deployment Server to the managed computer, requiring two file copy transactions if the Deployment Share is on another file server. Use this option for Simple installs to take advantage of security rights defined by the Deployment Server. You can use a relative path name entered in the **Source Path** field in the **Copy Files** dialog. This is the default option.

**Copy directly from file source**. Click this option to copy packages directly from the Deployment Share, sending only one copy across the network. It copies the file directly to avoid running through the Deployment Server and diminishes processor output. Because the Deployment Agent doesn't recognize shared rights and is not guaranteed to have a mapped drive to the data source, you need to identify a user name and password for the data share computer from the target computer. This option also requires a full UNC path name in the **Source Path** field in the **Copy File** dialog.

**File Source logon**. Enter the user name and password for the client computer and the Deployment Share. Both must have the same user name and password (this is not an issue if both exist in the same domain).

### **Power control**

Start the computer using Wake on LAN or run standard power control options to restart the computer, shut down, or log off the current user.



Wake up, shut down, or log off client computers by adding the **Power Control** task when building new jobs. See *Building new jobs* on page 150.

- 1. Create a job.
- 2. Click Add > Power Control.
- 3. Select an option: Restart, Shut down (if available), Log off, or Wake up (send Wake-On-LAN).
- 4. Select Force application to close without a message, if required. Click Next.
- 5. (Optional) Set Return Codes. See Setting up return codes on page 193.
- 6. Click **Finish**. The task appears in the Task list for the job.

### Waiting

Use the Wait task to boot a computer in the automation mode and wait for user interaction.

- 1. Create a job.
- 2. Click Add > Wait.

The Wait dialog appears.

- 3. Select the appropriate pre-boot environment from the drop-down list. Click Next.
- 4. (Optional) Set Return Codes. See Setting up return codes on page 193.
- 5. Click **Finish**. The task appears in the Task list for the job.

## Modifying tasks in a deployment job

You can build jobs by adding or modifying deployment tasks. You can modify the tasks in a job that is already scheduled on any computer. The job will run the modified tasks according to the previously set schedule.

#### To add a task to a job immediately

If the task (image, batch file, executable, and so on) is saved in the product directory, it appears on your **Resources** list in the **Shortcuts** pane. Simply drag it to an existing job to add it.

#### To add a task to a job

- 1. In the **Jobs** pane, double-click the job you want to modify.
- 2. Click Add and select another task from the menu.
- 3. Follow the basic instructions on each dialog provided for each task. Select the type of task you want to add and follow the directions.
- 4. After finishing task configuration, a new task appears in the **Jobs** list.
- 5. Change the order of the tasks using the up and down arrows. The tasks run in the order listed.

#### To copy and paste a task

Use the steps below to copy and paste tasks within the same job, or from one job to another. You can use CTRL+C and CTRL+V to copy and paste tasks.

- 1. In the Jobs pane, click the job that contains the task you want to copy.
- 2. In the **Details** pane, right-click the task, and select **Copy**. (To copy multiple tasks, press the CTRL key and select the desired tasks. The tasks that are highlighted are copied when you select **Copy**.)
- 3. In the **Jobs** pane, click the destination Job where you want to paste the task.
- 4. Right-click in the **Details** pane and select **Paste**. The tasks appear at the bottom of the task list, and use the condition settings of the current job.
- 5. Change the order of the task using the up and down arrows. The tasks run in the order listed.

#### To modify a task in a job

- 1. In the **Jobs** pane, double-click the job you want to modify.
- 2. Select the desired task from the list.
- 3. Click **Modify** and follow the directions to make the required changes. Click **OK**.

#### To remove a task from a job

- 1. In the **Jobs** pane, double-click the job you want to modify.
- 2. Select the task you want to remove from the task list. Click **Delete**.
- 3. Click **OK**.

#### To copy and paste tasks

Use the steps below to copy and paste tasks within the same job or from one job to another. You can also use CTRL+C and CTRL+V to copy and paste tasks.

- 1. In the **Jobs** pane, click the job that contains the task you want to copy.
- 2. In the **Details** pane, right-click the task and select **Copy**. (To copy multiple tasks, press the CTRL key and select the desired tasks. The tasks that are highlighted are copied when you select **Copy**.)
- 3. In the **Jobs** pane, click the destination Job where you want to paste the task.
- 4. Right-click in the **Details** pane and select **Paste**. The tasks appear at the bottom of the task list and use the current condition settings of the destination job.
- 5. Change the order of the tasks using the up and down arrows. The tasks execute in the order listed.

#### To add a new task to an existing task list

- 1. Select a job from the **Jobs** pane.
- 2. Click on one of the tasks within the job and add a new task. The new task is inserted *above* the task you highlighted, and all other jobs shift down by one position.
- 3. Use the up and down arrows to change the order of the tasks within the job.

### Modifying multiple modify configuration tasks

If you have scheduled multiple Modifying Configuration tasks to a computer group, you can double-click **Modify Configuration** in the task list of the **Details** pane to modify each computer's configuration settings independently.

In the **Jobs** pane, click the job with a Modify Configuration task. Double-click the Modify Configuration task.

A message appears. Click **YES** to modify configuration settings individually for each scheduled computer. Click **NO** to modify the Modify Configuration task when the job is scheduled again (the current job sends modified configuration files already created).

If you click **YES**, a Modify Job Wizard appears with a list of each managed computer scheduled to change configuration settings. Select one or more computers and click **Next**.

- 1. In the Computer Configuration Properties property page, modify the settings. Click **Next**. See *Computer configuration properties* on page 101.
- 2. Set Return Codes. See *Setting up return codes* on page 193.
- 3. Click **Finish**.

# Creating new script files

You can create script files and directly schedule the script file to run scripts on any computer or computer groups.

#### To create new script files

- 1. Go to **View > Shortcuts View**.
- 2. Click **Resources** in the **Shortcuts view** to move the focus to the Resources view.
- 3. Go to File > New > Script File.

#### Note

The Script File option is activated only if the focus is on the Resources view.

A script file is created by default at the root of the resources. The default file name is Batch.bat.

4. Right-click the Batch.bat file, and select Modify.

#### Note

You can rename the batch file by right-clicking the file and selecting **Rename**.

- 5. Type the script in the open file, and save it.
- 6. Drag the Batch.bat file to a computer or computer group where you want to schedule the job.
- 7. Specify the scheduling options, and click **OK**. See *Scheduling jobs* on page 153.

## Copy and paste jobs and job folders

Jobs or job folders (including their subfolders) can be copied to any other job folder in the left pane of the **Jobs** pane of the Deployment Console. A Job folder can only be copied to a root level folder, which has a limit of 30 subfolders, and cannot be copied to a child level folder.

If you copy a job or folder with the same name as the destination job or folder, the copied job or folder is automatically named Copy of *<job or folder name>*. This feature can only be performed by administrators or users who have permissions to create jobs or job folders.

#### To copy jobs and job folders

- 1. In the Jobs pane, right-click a job or job folder you want to copy, and click Copy.
- 2. In the **Jobs** pane, right-click the destination job folder and click **Paste**.

# Importing and exporting jobs

Jobs can be exported to back up the Deployment Server data or to share jobs between Deployment Server installations.

#### To import jobs

1. Right-click in the Job pane, and select Import

or

Click File > Import/Export > Import Jobs.

- 2. Browse to or enter the path and name of an existing import file (a .BIN file).
- 3. Select **Import to Job Folder** to import the jobs to an existing folder in the **Jobs** pane. If you have a folder already selected, it appears in the edit field.
- 4. Select **Overwrite existing Jobs and Folders with the same name** to replace identical jobs and folders.
- 5. Select **Delete existing Jobs in folder** to overwrite and replace all jobs in the selected **Jobs** folder. Click **OK** to import the job(s).

#### To export jobs

 Right-click the job or **Jobs** folder you want to export and select **Export**. or

Click File > Import/Export > Export Jobs.

- 2. Select the destination folder and enter a file name.
- 3. Click Export subfolders to export all folders subordinate to the selected job folder.
- 4. Click **OK**.

## Setting up return codes

When you create a task in a job, you can define a response to specific return codes generated from that task after it runs. You can determine the response if the task runs successfully or if the task fails. You can also set up custom return codes generated from scripts or batch files that are unique to your environment or deployment system.

#### Note

Return code handling cannot be set up for jobs created in the New Job Wizard.

When creating a task, the **Return Codes** page appears so you can set a response if the task was successful or to determine a default response if the task failed. Because Deployment Server returns a 0 (zero) if the task runs successfully, any other return code value denotes some type of failure in running the task. As a result, in the **Success** field you can select an action if the return code is 0 (zero), or select an action in the **Default** field if the return code is not a 0 (zero).

Return codes are first evaluated to be successful (zero) or failed (non-zero). If the task returns as successful, it runs the action specified in the **Success** field. If it is not successful, it determines if the return code has been assigned a custom code value. If the return code is defined as a custom code, the selected action for that custom code runs. If no custom code is assigned to the return code, the action set in the default runs.

#### Note

If you are using LogEvent and WlogEvent in Scripts, you can generate return codes only when the level 3 message is specified. Specifying a severity level 3 causes the script job to fail and lets you respond using this return code feature.

#### **Return code actions**

For both successful tasks (in the **Success** field) and failed tasks (in the **Default** field), you can specify the following actions:

**Stop.** This action stops the job after the task runs. Subsequent tasks do not run.

**Continue.** This action lets the subsequent tasks in the job continue after the task runs.

Select a job. This action lets you select existing jobs to run after the task completes.

These actions also apply to custom return codes designed specifically for your system.

#### **Custom return codes**

In the **Other return codes** field, you can view custom return codes set specifically for your system. You can add return codes by clicking **Add** below the **Other return codes** field, or by clicking **Master Return Code**.

Type a custom code in the **Code** field, select a response action from the **Response** list, select the result from the **Result** list to specify the interpretation of this return code as Success or Failure, and provide a message in the **Status** field.

These custom codes can respond to any return codes set up in scripts or batch files in the Run Scripts task, or these custom codes can respond to system return codes thrown from the Deployment Server or external codes generated when distributing applications, personality settings, or disk images. Any task can have custom codes that respond to different return code values.

**Master Return Code List.** This is a list of all the return codes existing in the Deployment Database. You can add, modify, and delete the codes and their values so that setting codes for other tasks is easier.

**Add.** This lets you add a new custom return code for the task. You can also add the return code to the Master Return Codes list.

**Modify.** This lets you modify the return codes listed in the **Other return codes** field. The changes you make do not update the Master Return Codes list.

**Delete.** This lets you delete return codes listed in the **Other return codes** field, but not from the Master Return Codes list.

#### To set up master return codes

The Master Return Code List dialog lets you:

- Add, modify, and remove return codes in the master list.
- Select return codes for the current job from the drop-down list.

#### To add master return codes

- 1. Select a job from the **Jobs** pane.
- 2. Click Add in the right pane to add a task. Select the task. The task dialog appears.

#### Note

You can add Master Return Codes for all tasks except Get Inventory.

- 3. Click Next until the Return Codes page appears.
- 4. Click Master Return Codes. The Master Return Code List dialog appears.
- 5. Click Add. The Add Return Code dialog appears.
- 6. Enter the return code in the **Code** field and click **OK**. The code is added to the master list.

#### **To modify Master Return Codes**

- 1. Click Modify. The Modify Return Code dialog appears.
- 2. Enter data in the **Response**, **Result**, and **Status** fields and click **OK**. The code is modified.

#### To delete master return codes

- 1. Select the code you want to delete and click **Delete**. A warning message appears to confirm the deletion.
- 2. Click Yes. The selected return code is deleted from the Master list.

#### Note

The **OK** and **Cancel** options in the **Master Return Code List** dialog apply to the return codes selected. If no return codes are selected, or none exist in the list, **OK** is disabled. Click **OK** on the **Master Return Code List** dialog to add the selected return codes to the current job.

#### To set up return codes

To set up return codes, you need to determine how to respond to the Deployment Server success return code (zero) in the **Success** field, how to respond to a failure return code (a non-zero) in the **Default** field, and how to respond to a custom or externally generated return code defined in the **Other return codes** field.

The following example describes how to set up a simple process to deal with custom and system return codes, and how to interpret the status of user-defined return codes:

- In the Success drop-down list on the Return Codes page, keep the default value Continue. This lets the job continue running additional tasks in the job after successfully completing this task.
- 2. Click Add to add custom return codes. The Add Return Code dialog appears.
- 3. In the **Code** field, enter a value of 10 (ten).
- 4. Click the **Response** drop-down arrow and select **Continue** from the list.
- 5. Click the **Result** drop-down arrow and select **Success** from the list. Even if the return code was not zero, which is success by default, the task is considered a success as per the user's choice.
- 6. Enter a description for the return code in the **Status** field. This is the message that appears when the task within a selected job runs.
- Select the Add to Master return code list check box to add the custom code to the master return code list. The code is listed in both the Other return codes and
**Master Return Codes** lists. This is useful if you want to use the return code again. Click **OK**.

- If the code you added already exists, a message dialog displays the return code and asks if you want to replace it. Click **Yes** to replace the return code, and click **No** to return to the **Add Return Code** dialog.
- 9. Select the Select a job option from the Default drop-down list to select a job to run when a default condition is reached. The Select a Job dialog appears, letting you select an existing job that runs if the task returns a failed system return code (non-zero) or a return code not defined as a custom return code.

#### Note

The status of the tasks executed in a job also appears in the history of a computer.

# Sample jobs

Sample jobs are installed with each Deployment Server system, letting you quickly modify or add parameters, or to run the sample jobs as they are. During installation, jobs are automatically imported from the samples.bin file to the Deployment Server system where they can be viewed in the **Samples** folder in the **Jobs** area of the Deployment Console. Click each job and identify its features in the **Description** field of the **Details** pane.

Jobs in each folder marked with an asterisk (\*) require input parameters or other minor modifications added before running on your system. These modifications let you add parameters to the job, such as user name and password or other required data for the job to be functional. Jobs requiring input parameters or customizing do not function properly if you do not edit the job with the information specific to your environment.

All files without an asterisk (\*) can be used to perform the identified functions without modification. However, if the job conditions are not met or are not consistent with the computer type, you may get an error. Example: If the **Repair Office XP** job runs on a computer without **MSOffice XP**, you get an error when running the job.

#### Note

When upgrading versions of Deployment Solution, we recommend that you copy and rename modified sample jobs to avoid overwriting by new sample jobs.

# DAgent

DAgent is the default agent for the Windows platforms.

You can implement the following features in the Security tab:

- Hide the DAgent icon in the system tray of the managed computer. You then need to run DagentConfig.exe as an administrator to view the administrator properties.
- Limit users on the managed computer to access the administrator properties only if they enter the set password. If the password is entered incorrectly three times, a 3minute lock-out time period begins and an appropriate error message displays.

You can also uninstall DAgent.

# **Uninstalling DAgent**

You can uninstall DAgent from the client computer. This functionality is provided only from the console side.

#### To uninstall DAgent

- 1. In the console, right-click.
- 2. Click Advanced > Uninstall Agent.

# **Upgrading AClient to DAgent**

A sample job lets you upgrade AClient to DAgent.

You can upgrade AClient to DAgent by using the sample job that is included with Deployment Solution. You can also choose to use the Remote Agent Installer tool that upgrades the agent for you.

No automatic utility or tool is available that upgrades AClient to DAgent for you.

#### To upgrade AClient to DAgent

- 1. In the left pane, under Jobs, expand the Samples folder.
- 2. Expand the Misc Jobs folder.
- 3. Click the **DAgent Upgrade** sample job.
- 4. Copy the sample job to another location and rename it.
- 5. Schedule the job to run.

# Symantec Backup Exec System Recovery (BESR) sample jobs

Deployment Solution includes several BESR sample jobs.

For more information on BESR, see http://www.symantec.com and search for Symantec Backup Exec System Recovery.

# Initial deployment

Initial Deployment is a default job designed to help in the process of setting up computers that do not exist in the Deployment Database. Initial Deployment lets you define how computers are initially set up after being identified by the Deployment Server.

You can define various computer configuration sets and deployment jobs for the user during startup, letting the user select the computer settings and hard disk images, software, and personality settings for their specific needs and environment. New computers appear in the **New Computers** group in the **Computers** pane of the Deployment Console.



To access Initial Deployment, double-click **Initial Deployment** from the **Jobs** pane or right-click **Initial Deployment** and click **Properties**. The **Properties of Initial Deployment** dialog appears.

#### Notes

- Initial Deployment is ideal for small-scale deployments, from 1 to 10 computers. We do not recommend this feature for large deployments -- from 10 to 100 computers or mass deployments -- from 100 to 5000 computers. We also do not recommend this feature where you use virtual computers, customized jobs, and the computer import feature.
- Although Initial Deployment is commonly used on computers that support PXE, you can also configure a boot disk to run Initial Deployment. In this case, the image you deploy must include automation pre-boot environment so that post imaging tasks can run successfully. Installing an Automation Partition on the client computer's hard disk ensures that future imaging deployment jobs run successfully.

#### Note

To completely deploy and configure a computer using Initial Deployment, you must define at least one Configuration and one Job.

Initial Deployment consists of a dialog with the following tabs with separate features to deploy new computers:

- Configurations
- Jobs
- Advanced

## Configurations

Click the **Configurations** tab on the **Initial Deployment** dialog to configure different sets of computer properties. Each configuration set is presented to the user as a menu. The user can select the configuration set designed for their environment. Compare the **Configurations** tab with the **Jobs** tab. See *Jobs* on page 199.

#### Note

If you do not create any configuration sets, the deployment process automatically sets TCP/IP information to use DHCP and names the computer to match the computer's asset tag, serial number or MAC address -- in that order, depending on what is available.

- 1. Double-click **Initial Deployment** in the **Jobs** pane drop-down list. The Properties of Initial Deployment dialog appears.
- 2. Click the **Configurations** tab.
- Click Add. A configuration set appears in the Configurations menu field. The Configuration page of the New Job Wizard appears.
- 4. Enter values to set computer and network properties for new computers. See *Modifying configuration* on page 182 for a list of property categories.

- 5. Click **Add** again to configure another set of property settings. You can add multiple configuration sets for the user to select from a menu after connecting to Deployment Server. You can modify, rename, or delete a selected configuration set.
- 6. After setting the properties, click **Apply**.
- 7. From the **Default Menu choice** drop-down list, select a configuration set as the default.
- 8. Click the **Timeout after** <u>seconds and proceed</u> check box and specify the time after which you want to run the default job.
- 9. Click **OK**, or click the **Jobs** tab to define a task.

## **Advanced Configuration**

Click **Advanced** on the Configurations tab to open the **Advanced Configuration** dialog. This dialog lets you set advanced configuration settings for client computers and provides different options for processing jobs for client computers.

- Select Process this job as each client becomes active. This job is processed only when clients become active.
- Select **Process this job in batch mode**. This job is processed for a batch of clients for the **Minimum clients** specified and after the specified **Timeout** in minutes.
- Select **Hold all clients until this time**. You can specify the **Start time for this job**, which runs for all clients at the specified time.
- Click OK.

## Jobs

Click the **Jobs** tab on the Initial Deployment dialog to add existing jobs or create new jobs to run on the new computer. The jobs you add or build using this dialog are listed in a menu and presented to the user during startup. The user can select the deployment jobs to image the computer and install applications and personality settings. Compare the **Jobs** tab with the **Configurations** tab. (See *Configurations* on page 198.) The conditions on the jobs are limited to the data that can be accessed at the DOS level (Example: Serial number, manufacturing number, NIC information, manufacturing name).

- 1. Click **Initial Deployment** in the **Jobs** pane drop-down list. The **Properties of Initial Deployment** dialog appears.
- 2. Click the **Jobs** tab.
- 3. Click **New** to build a new job. The **Select a job** dialog appears. See *Building new jobs* on page 150. Select a folder in which you want to create the job. Click **OK**. The **Job Properties** dialog appears.
- 4. Click Add Existing to add an existing job.
- 5. From the **Default menu choice** drop-down list, select a job as the default.
- 6. Click the **Timeout after** \_\_\_\_\_ **seconds and proceed** check box and specify the time after which you want to run the default job. The default setting is 60 seconds.
- 7. Click **OK**, or click the **Advanced** tab to stop servers or workstations from running configuration task sets and jobs automatically.

See also *Sample jobs* on page 196.

## Advanced

Click the **Advanced** tab to set options to stop Initial Deployment from automatically running the default configuration task sets and jobs. This avoids accidental re-imaging or overwriting of data and applications for either workstations, such as desktop and laptop computers, or servers, such as Web and network servers identified by Deployment Server.

When a computer not yet identified by the Deployment Database is first detected, it is placed in the New Computers group and an Initial Deployment configuration set and job is run. However, in many cases you do not want Web or network servers to be automatically re-imaged without confirmation from IT personnel.

- Select **Servers** to stop servers from automatically running Initial Deployment configuration jobs. Servers are identified as the managed computers running multiple processors or identified as a specific server model from specific manufacturers. Example: Both an HP Proliant computer and a Dell computer with multiple processors are identified as servers. Identifying a computer as a server by the operating system cannot be accomplished for new computers until the server operating system has been installed.
- Select **Workstations/Clients** to force desktop and laptop computers to stop before automatically running Initial Deployment.

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