

Ghost Solution Suite 3.0 Installation and Upgrade guide

Symantec Ghost Solution Suite 3.0 Installation and Upgrade guide

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- Hardware information

- Available memory, disk space, and NIC information
- Operating system
- Version and patch level
- Network topology
- Router, gateway, and IP address information
- Problem description:
 - Error messages and log files
 - Troubleshooting that was performed before contacting Symantec
 - Recent software configuration changes and network changes

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- Information about upgrade assurance and support contracts
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- Advice about Symantec's technical support options
- Nontechnical presales questions
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Asia-Pacific and Japan customercare_apj@symantec.com

Europe, Middle-East, and Africa semea@symantec.com

North America and Latin America supportsolutions@symantec.com

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Introducing Ghost Solution Suite 3.0

This chapter includes the following topics:

- [About Ghost Solution Suite 3.0](#)
- [Components of Ghost Solution Suite 3.0](#)
- [System requirement for installing the Ghost Solution suite](#)
- [Things to know](#)

About Ghost Solution Suite 3.0

Symantec Ghost™ Solution Suite 3.0 is the industry's most widely-used deployment, system management, and computer imaging software solution. Use Ghost's proven hardware-independent imaging capabilities to significantly accelerate day-to-day imaging and deployment needs. This Windows migration software can also migrate client systems to the latest operating system, all from a single management console. Symantec's Ghost™ Solution Suite 3.0 will introduce the Deployment Solution 6.9 console and core capabilities to Symantec Ghost™ Solution Suite users while maintaining its best capabilities such as Ghost Cast Server, DeployAnywhere, Recovery Kit, and installation simplicity.

Note: Symantec Ghost™ Solution Suite is designed to capture the legacy Symantec Ghost™ Solution Suite 2.x and Symantec™ Deployment Solution customers.

Components of Ghost Solution Suite 3.0

You can install all the Ghost Solution Suite components on the same computer or distribute them across multiple computers, depending on the environment. Following are the components of Ghost Solution Suite 3.0:

- Ghost Solution Suite Console
- Ghost Solution Suite Server
- Ghost Solution Suite database
- Ghost Solution Suite share
- PXE server
- Installing Ghost Solution Suite agent
- Sysprep

System requirement for installing the Ghost Solution suite

The following list includes the minimum system requirements for installing Ghost Solution Suite:

System requirements for installing Ghost Solution Suite

- Ghost Solution Suite (GSS) Agent
GSS Agents require network connectivity and around 5 MB disk space. Other system requirements are the same as the host operating system.
- Ghost Solution Suite Server
We recommend running the GSS Server components on a modern, dedicated server with a 1 GHz or faster processor with 1 GB or more RAM. At an absolute minimum, this server should have a PIII-compatible 600 MHz or newer processor with 512 MB RAM.
- Computers hosting additional PXE servers and file shares should meet the requirements of the operating system hosting these components.
- Automation Requirements
Microsoft recommends 512 MB of memory for computers booting WinPE. At a minimum, you should have 384 MB to avoid boot errors.
- If the SQL Server Express database is installed from within the GSS 3.0 installer, then .NET framework 3.5 or above is also a pre-requisite.

- For WinPE 5.1, .NET 4.5 Framework should be installed before importing the Windows ADK 8.1.

Things to know

The following table lists the important things that you must know when you upgrade to GSS 3.0 from previous versions of Ghost Solution Suite or Deployment Solution:

Table 1-1 Ghost Solution Suite 3.0

Item	Particulars
Default logon credentials after Scripted OS Install task	<p>After running the Scripted OS Install task on a computer, the default logon credentials are set as follows:</p> <p>User name: Symantec Password: Symantec</p> <p>Earlier the default logon credentials were set to as follows:</p> <p>User name: Altiris Password: Altiris</p>
Cannot connect to the DAgent.	<p>After booting into the Windows preboot environment, an error stating unable to connect to DAgent is displayed.</p> <p>Workaround:</p> <p>Edit the aclient.inp and add the following parameter value in the file:</p> <p>Transportuse=1</p>
Scripted OS Install task for Windows XP	<p>For the detailed steps on running the Scripted OS Install task, refer to the following connect article:</p> <p>http://www.symantec.com/connect/articles/</p>
Change of IP address of Ghost Solution Suite Server affects PXE functionality and database services.	<p>Change in IP address of Ghost Solution Suite Server affects PXE functionality and database services.</p> <p>For more information on how to change a Ghost Solution Suite server's IP address, refer to the following article:</p> <p>HOWTO80637</p>

Table 1-1 Ghost Solution Suite 3.0 (continued)

Item	Particulars
Prerequisites for DAgnent installation	<p>The prerequisites for installing DAgnent are as follows:</p> <ul style="list-style-type: none"> ■ Firewall and antivirus must be turned off. If you must have them ON, ensure that they are configured with the required port as open to install the DSAgent. ■ UAC must be turned off on the computers that are installed with Windows Vista and above versions. You can turn on the UAC after installing the DAgnent.

Installing Ghost Solution Suite Server

This chapter includes the following topics:

- [Installing Ghost Solution Suite Server](#)
- [Platform Support](#)
- [System requirements for installing Ghost Solution Suite](#)
- [Installing the Ghost Standard tools from the installer](#)
- [Browsing to the Ghost Recovery kit](#)
- [Ghost Solution Suite Server components](#)
- [Ghost Solution Suite Console](#)
- [Ghost Solution Suite Server](#)
- [Ghost Solution Suite Database](#)
- [Support for multiple database instances](#)
- [Ghost Solution Suite Share](#)
- [PXE server](#)
- [Simple install for Ghost Solution Suite Server](#)
- [Custom install for Ghost Solution Suite Server](#)
- [Thin client install](#)
- [Component install](#)

- Installing Ghost Solution Suite Agents
- Client connectivity and network adapters
- Installing the Ghost Solution Suite agent
- Remote agent installer
- Enter administrator account information
- Specify install directory
- Automatically add to a group
- Select computers on the network
- Download Microsoft sysprep
- Change settings
- Get server security key
- Installing Ghost Solution Suite agent for Windows
- Automating the installation of Ghost Solution Suite agent
- Editing the sample.inp file
- Using remote agent installer
- Using the template file
- Installing Ghost Solution Suite agent on Linux
- Installing the automation agent
- Installation help
- Configuration
- Installing Ghost Solution Suite Server
- Ghost Solution Suite Server install
- Pre-boot operating system (simple)
- Pre-boot operating system (custom)
- Ghost Solution Suite Database install
- PXE server install
- Client connection to server

- [Sysprep](#)
- [Installing components](#)
- [Installation information summary](#)
- [Add components summary](#)
- [Ghost Solution Suite Database authentication](#)
- [Add components](#)

Installing Ghost Solution Suite Server

Ghost Solution Suite 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 Ghost Solution Suite 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.

See [“Ghost Solution Suite Server components”](#) on page 22.

After installing Ghost Solution Suite Server components, you can remotely install Ghost Solution Suite 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 Ghost Solution Suite agent to update inventory data and react to Ghost Solution Suite Server commands and deployment tasks.

Select one of the following methods for installing a Ghost Solution Suite Server system:

- Simple install for Ghost Solution Suite Server
Install all components on local computer
- Custom install for Ghost Solution Suite Server
Installs components on remote or local computers and lets you customize options.
- Thin client install
Installs GSS Thin client view.
- Component install
Installs additional Ghost Solution components.
- Ghost Recovery Kit

Lets you browse to the Ghost Recovery Kit.

- Ghost Standard Tools
Launches the `Symantec Ghost Standard Tools` installer that lets you install the Symantec Ghost Standard Tools.

To install Ghost Solution Suite Agents on the client computer, refer to the following section:

See [“Installing Ghost Solution Suite Agents”](#) on page 40.

Registering Ghost Solution Suite

You can view the status of the licenses of Ghost Solution Suite and add the license file from the **Symantec Ghost Solution Suite Registration** menu which is present under the **Help > Register**.

Table 2-1 Symantec Ghost Solution Suite Registration

Field	Description
License Summary	Displays the number of Server Nodes and Customer Nodes
License Information	Displays Ghost Solution Suite and the current installed version. Displays the total count of the licenses.
License File	Browse to the location of the SLF license file.

Platform Support

This section lists the supported platforms for Ghost Solution Suite 3.0:

Table 2-2 Platform support matrix for Ghost Solution Suite 3.0

Platform	Client	Server	File Server	Database
Windows Server 2012	Yes	Yes	Yes	Yes
Windows Server 2012 R2	Yes	Yes	Yes	Yes
Windows 8	Yes			
Windows 8.1	Yes			

Table 2-2 Platform support matrix for Ghost Solution Suite 3.0 *(continued)*

Platform	Client	Server	File Server	Database
Windows 7, including Embedded Standard, Professional, Enterprise, and Ultimate editions	Yes			
Windows 2008 Core	Yes			
Windows Server 2008 (x86 and x86_64), including R2 and SP2	Yes	Yes	Yes	Yes
Windows XP SP3	Yes			
VMWare ESX Server 4.0 (vSphere)	Yes Support is provided for VMware ESX Server scripted installations.			
VMWare ESX Server 3.5	Yes Support is provided for VMware ESX Server scripted installations.			
VMWare ESX Server 3.0	Yes Support is provided for VMware ESX Server scripted installations.			
Mac OS X 10.6	Yes			
Mac OS X 10.7	Yes			
Mac OS X 10.8	Yes			
Mac OS X 10.9	Yes			
Mac OS X 10.10	Yes			
Red Hat Enterprise Linux 5	Yes			
Red Hat Enterprise Linux 5 x86_64	Yes			
Red Hat Enterprise Linux 5	Yes			

Table 2-2 Platform support matrix for Ghost Solution Suite 3.0 (*continued*)

Platform	Client	Server	File Server	Database
Red Hat Enterprise Linux 4	Yes			
Red Hat Enterprise Linux 4 x86_64	Yes			
Red Hat Enterprise Linux 4	Yes			
Red Hat Enterprise Linux 6.5	Yes			
SuSE Linux Enterprise Server 11	Yes			
SuSE Linux Enterprise Server 11 x86_64	Yes			
SuSE Linux Enterprise Server 11	Yes			
SuSE Linux Enterprise Server 10	Yes			
SuSE Linux Enterprise Server 10 x86_64	Yes			
SuSE Linux Enterprise Server 10	Yes			
SuSE Linux Enterprise Server 9	Yes			
SuSE Linux Enterprise Server 9 x86_64	Yes			
SuSE Linux Enterprise Server 9	Yes			
Debian Linux 5 (and prior) Stable	Yes			
Solaris SPARC 8, 9 (production agent only)	Yes			
NetWare 6.5			Yes	

System requirements for installing Ghost Solution Suite

The following list includes the minimum system requirements for installing Ghost Solution Suite:

System requirements for installing Ghost Solution Suite:

- Ghost Solution Suite (GSS) Agent
 GSS Agents require network connectivity and around 9 MB disk space. Other system requirements are the same as the host operating system.
- Ghost Solution Suite Server

Symantec recommends running the GSS Server components on a modern, dedicated server with Pentium 4 processor and 2GB of RAM.

- Computers hosting additional PXE servers and file shares should meet the requirements of the operating system hosting these components.
- Automation Requirements
 Microsoft recommends 512 MB of memory for computers booting WinPE. At a minimum, you should have 384 MB to avoid boot errors.
- If the SQL Server 2014 Express database is installed from within the GSS 3.0 installer, then .NET framework 3.5 must be installed.
 For more information on system requirements for installing SQL Server 2014 Express, see the following URL:
<https://msdn.microsoft.com/en-us/library/ms143506.aspx>

Note: If you face an error while installing SQL Server Express, Symantec recommends checking if all the Windows updates are installed.

- For WinPE 5.1, .NET 4.5 Framework should be installed before importing the Windows ADK 8.1.

Ports and Protocols used in Ghost Solution Suite 3.0

The following table lists the ports that are used in Ghost Solution Suite 3.0:

Table 2-3 Ports used in Ghost Solution Suite

Component	Service	Port(s)	Protocol	Where is this port connected?	Is this port configurable?
PXE MTFTP	MTFTP	69	UDP	PXE Client	No
		1758 1759	UDP (Multicast)	PXE Client	Yes [Configure by editing PXE.ini file]
PXE Server	PXE Server	67	UDP	PXE Client	No
		68	UDP	PXE Client	No
		4011	UDP	PXE Client	No

Table 2-3 Ports used in Ghost Solution Suite (*continued*)

Component	Service	Port(s)	Protocol	Where is this port connected?	Is this port configurable?
PXE Manager	PXE Manager	405	TCP	PXEConfig	Yes [Configure by editing RPC.ini file]
		406	TCP	PXECfg Service	Yes [Configure by editing RPC.ini file]
PXECfg Service	PXECfg Service	407	TCP	PXE Server and PXE MTFTP	Yes [Configure by editing RPC.ini file]
DB Management (mm)	DB Management Service	505	TCP	Win32 console, axengine, pxemanager	Yes
Ghost Solution Suite Server	Axengine	402	TCP/UDP (multicast)	Agents, pxeserver, DataManager, PXEManager	Yes
Linux Agent	ADLagent	415			
AClient	AClient	402			
PCT Real-time Destination Agents		4949			
		3829			
		4950			
		4951			
		4952			

Installing the Ghost Standard tools from the installer

Ghost Solution Suite lets you install the Ghost Standard tools from the link that is provided in the installer. The Ghost Standard tools include the following:

- Boot Disk Creator.exe
- Ghost Explorer x64.exe
- Ghost Explorer x86.exe

- GhostCast Server.exe
- Ghost32.exe
- Ghost64.exe

The Ghost Standard tools are installed at the following location and are accessible from the Start menu:

```
<Install_dir/>/Program Files(x86)/Symantec/Ghost
```

To install Ghost Standard tools

- 1 Start the server and log on using the administrator account you created for the Ghost Solution Suite Server.
- 2 Launch the appropriate Symantec Ghost Solution Suite installation file and follow the setup steps.
- 3 The **Symantec Packager Self-Extracting Executable Options** dialog appears.
- 4 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.
- 5 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 Symantec 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.

- 6 In the **Ghost Solution Suite Server Install Configuration** dialog, click on **Ghost Standard Tools**.
- 7 In the Symantec Ghost Standard Tools wizard, the default path where the **Ghost Standard Tools** executables are installed is displayed as follows:

```
C:\Program Files(x86)\Symantec\Ghost
```

To change the path where the **Ghost Standard Tools** executables are installed, click on **Change....**

- 8 Click **Next >**.
- 9 Click **Install**.

Browsing to the Ghost Recovery kit

The Ghost Solution Suite lets you browse to the Ghost Recovery Tool kit at the following location:

```
<Install_Dir>\DSSetup\Ghost_recovery_Kit.zip
```

Symantec Ghost Recovery Kit is a suite of tools designed for original equipment manufacturers (OEMs) and value-added resellers (VARs). It adds tools and functionality to the applications included in Symantec Ghost Solution Suite. Symantec Ghost Recovery Kit includes the following tools:

- GhostOEM32
GhostOEM32 is a Win32 version of GhostOEM and is designed to run on Microsoft Windows Preinstallation Environment (WinPE).
- GhostOEM64
GhostOEM32 is a Win64 version of GhostOEM and is designed to run on Microsoft Windows Preinstallation Environment (WinPE).
- PQIDeploy
PQIDeploy is an OEM version of Symantec ImageCenter that provides restore-only capabilities. It contains the full scripting capabilities that are included in ImageCenter. It does not include any graphical user interface (GUI). All commands are specified in a script command file.
- PQIDplyD
- SRFixMbr
The System Recovery Fix MBR executable installs the Boot Partition Selector in the Master Boot Record (MBR).
The Boot Partition Selector requests which partition the end user wants to launch when the computer is booted from the primary hard drive. If no response is made within the timeout interval, then the user partition is launched. Alternatively, the end user can launch the recovery partition. The end user can access the recovery partition only through the Boot Partition Selector.

Ghost Solution Suite Server components

The Ghost Solution Suite Server system includes the following components:

- Ghost Solution Suite Console
See [“Ghost Solution Suite Console”](#) on page 23.
- Ghost Solution Suite Server
See [“Ghost Solution Suite Server”](#) on page 23.
- Ghost Solution Suite Database

See [“Ghost Solution Suite Database”](#) on page 25.

- Ghost Solution Suite Share
See [“Ghost Solution Suite Share ”](#) on page 26.
- PXE server
See [“PXE server”](#) on page 27.
- DHCP Server (not an Symantec product)
- Installing Ghost Solution Suite agents
- Sysprep

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

Ghost Solution Suite Console

The Ghost Solution Suite Console is the Win32 user interface for Ghost Solution Suite . 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 Ghost Solution Suite Database on other Ghost Solution Suite Server systems to manage sites across the enterprise.

See [“Ghost Solution Suite Database”](#) on page 25.

The Ghost Solution Suite Console communicates with the Ghost Solution Suite Database and Deployment services. In a Simple Install for Ghost Solution Suite Server, the Ghost Solution Suite Console is installed on the same computer similar to all other components. In a Custom Install for Ghost Solution Suite 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 Ghost Solution Suite Console.

See [“Simple install for Ghost Solution Suite Server”](#) on page 28.

See [“Custom install for Ghost Solution Suite Server”](#) on page 31.

Ghost Solution Suite Server

Ghost Solution Suite Server controls the flow of the work and information between the managed computers and the other Ghost Solution Suite Server components (Ghost Solution Suite Console, Ghost Solution Suite Database, and the Ghost Solution Suite Share). Managed computers connect and communicate with the Ghost Solution Suite 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 Ghost Solution Suite Database.

Note: To view, start, or stop Ghost Solution Suite Server, go to the Symantec Server services in your Windows Manager.

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



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

See [“Ghost Solution Suite Share ”](#) on page 26.



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



To install the Ghost Solution Suite Server on a remote computer, the default administration shares must be present. Restore any shares that have been removed before you install the Ghost Solution Suite 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 Ghost Solution Suite Server. Therefore, if you store these files on the Ghost Solution Suite Server, the deployment of these packages is faster. Image files, however, are sent directly from the Ghost Solution Suite Share to the client computer when you run an imaging task.

See [“Ghost Solution Suite Server components”](#) on page 22.

Ghost Solution Suite Database

You can install the Ghost Solution Suite Database on Microsoft SQL Server™ 2014 Express edition.

Note: In Ghost Solution Suite 3.0 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 Ghost Solution Suite systems on different network segments, you can enter the name `SQLClusterSvr\salesSegment` or `SQLClusterSvr\marketingSegment` during the Ghost Solution Suite 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 Ghost Solution Suite Server Database also contains jobs and other data used to manage your computers.

Note: You can install a single Ghost Solution Suite Database in each Ghost Solution Suite 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™, the Ghost Solution Suite Database is added to that instance of the database engine.

Support for multiple database instances

In Ghost Solution Suite 3.0, you can identify a named instance of the Microsoft SQL Server when installing Ghost Solution Suite. 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. Ghost Solution Suite also supports a different name for the Ghost Solution Suite Database instead of the default name, eXpress.

See [“Custom install for Ghost Solution Suite Server”](#) on page 31.

See [“Ghost Solution Suite Server components”](#) on page 22.

Ghost Solution Suite Share

The Ghost Solution Suite Share is a file server or shared directory where Ghost Solution Suite program files and packages are stored. The Ghost Solution Suite 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).

Ghost Solution Suite 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 Ghost Solution Suite Server stores and retrieves these packages from the Ghost Solution Suite Share as needed.



If you want to install Ghost Solution Suite 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 Ghost Solution Suite Server. This share must allow access to all other components, including managed computers and the user account that runs the Ghost Solution Suite 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 Ghost Solution Suite Share for each Ghost Solution Suite Server system. However, if the Ghost Solution Suite 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 Ghost Solution Suite Share .

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

See [“Ghost Solution Suite Server components”](#) on page 22.

PXE server

The PXE Server provides service to client computers on a subnet. When the Ghost Solution Suite 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 Ghost Solution Suite Server and the client computers.

You can install a PXE Server on a Microsoft Server 2003, Windows 2000 Server, Advanced Server. 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.

Ghost Solution Suite supports Linux, and Windows PreInstallation Environment (WinPE) as pre-boot 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 Ghost Solution Suite 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 Symantec Ghost Solution Suite supported bootable media.

See *Boot Disk Creator Help* and see *PXE Configuration Utility Help*.

See [“Pre-boot operating system \(simple\)”](#) on page 52.

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 Symantec 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 [“Ghost Solution Suite Server components”](#) on page 22.

Simple install for Ghost Solution Suite Server

The Simple Install option places all the Ghost Solution Suite Server Components - Ghost Solution Suite Server, Ghost Solution Suite Console, Ghost Solution Suite Share , and Ghost Solution Suite Database - on the same computer.

See [“Ghost Solution Suite Server components”](#) on page 22.

You can install the Ghost Solution Suite Server with a Microsoft Desktop Engine (MSDE) by using the Simple Install.



`SymantecGhostSolutionSolutionWin_(version)` installs all Windows components of Ghost Solution Suite. Using the Simple Install option, you can install MSDE 2000 on a local computer if a database is not already installed.

Note: Simple installation works only with a default Microsoft SQL 2000, SQL 2005, SQL 2014, or MSDE install.

To run a simple install

- 1 Start the server and log on using the administrator account you created for the Ghost Solution Suite Server.

See [“PXE server”](#) on page 27.

- 2 Launch the appropriate Symantec Ghost Solution Suite Server installation file and follow the setup steps.

The **Symantec Packager Self-Extracting Executable Options** dialog appears.

- 3 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 Symantec 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 **Ghost Solution Suite Server Install Configuration** dialog.
 - 6 (Optional) Select the **Include PXE Server** option to install the PXE Server and click **Install**.
- See “[PXE server](#)” on page 27.
- 7 Click **Yes** on the **Software License Agreement** page.
 - 8 Enter the following information on the **Ghost Solution Suite Share Information** page:

- In the **File Server path** field, enter or browse to the path to install the Ghost Solution Suite Server program files. The default path is `C:\Program Files\Altiris\eXpress\Deployment Server`.
- Select the **Create Ghost Solution Suite Share** option to create a Ghost Solution Suite Share on the computer. The Ghost Solution Suite Share lets you store files on the computer and run Ghost Solution Suite Server system applications.
See “[Ghost Solution Suite Share](#)” on page 26.
- Browse and select the licence file.
- You must enter an administrator user name and password for the Ghost Solution Suite Server. This account must already exist on the Ghost Solution Suite Share and the Ghost Solution Suite 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`).

Note: If a previous installation of the Ghost Solution Suite 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 Ghost Solution Suite Database.

- 9 Click **Next**. The **Pre-boot Operating System** page appears.
- 10 Select a default pre-boot operating system from any one of the options, such as Linux, WinPE, or **None**. Browse to locate the FIRM file Linux operating systems or the operating system files and WinPE. Click **Next**. The **Installation Information** page appears, displaying the components that you selected to install.
- 11 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**.

- 12 (Optional) You can select the following option to install agents.
 - **Remotely install Ghost Solution Suite agent (Windows Vista, 2008 or later only)**. Select this option if you want to push the Ghost Solution Suite

agent to computers running Windows Vista, Windows 2008, or later operating systems.

13 Click **Finish**.

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

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

Example: When you run the Ghost Solution Suite Server Win32 Console, the "Unable to connect to the Symantec Ghost Solution Suite Server 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 Ghost Solution Suite Server.

See "[Custom install for Ghost Solution Suite Server](#)" on page 31.

Custom install for Ghost Solution Suite Server

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

See "[Ghost Solution Suite Server components](#)" on page 22.



`SymantecGhostSolutionSuiteWin_(version)` installs all Windows components of Ghost Solution Suite. Select the Custom install option to add new components or to install Ghost Solution Suite on an existing database.

To run a custom install

- 1 Start the server and log on as the administrator account you created for the Ghost Solution Suite Server.
- 2 Launch the appropriate Symantec Ghost Solution Suite Server installation file and follow the setup steps.

The **Symantec Packager Self-Extracting Executable Options** dialog appears.

- 3 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 Symantec 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 **Ghost Solution Suite Server Install Configuration** dialog if any of the following conditions exist:
 - You are using the NetWare file server as a Ghost Solution Suite 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 **Ghost Solution Suite Share Information** page:
 - In the **File Server path** field, enter or browse to the path to install the Ghost Solution Suite Server program files. The default path is `C:\Program Files\Altiris\Express\Ghost Solution Suite Server`.
 - Select the **Create Ghost Solution Suite Share** option to create a Ghost Solution Suite Share on the computer. The Ghost Solution Suite Share lets you store files on the computer and run Ghost Solution Suite Server system applications. The Ghost Solution Suite 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 "[Ghost Solution Suite Share](#)" on page 26.

- Browse and select the (.SLF) licence file.

8 Enter the following information on the **Ghost Solution Suite Server Information** page:

- Select the computer where you want to install the Ghost Solution Suite Server. You can install the Ghost Solution Suite 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.
- Enter the path where you want to install the Ghost Solution Suite Server.
- You must enter an administrator user name and password for the Ghost Solution Suite Server. This account must already exist on the Ghost Solution Suite Share and the Ghost Solution Suite 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 “[Installing Ghost Solution Suite Server](#)” on page 15.) Click **Next**.

9 Enter the **Ghost Solution Suite Database** information and click **Next**.

- Specify the Microsoft SQL Server Instance where you want to install the database. See Ghost Solution Suite Database

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 Ghost Solution Suite 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 Ghost Solution Suite 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 Ghost Solution Suite Database.

- 11 Select a default pre-boot operating system from any one of the options, such as Linux, or WinPE. Browse to locate the FIRM file (for Linux operating systems) or enter the path for the operating system files (for 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 27.) Select the pre-boot operating system to use as the default PXE boot menu item. You can select, 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 Ghost Solution Suite Server by selecting one of the following options.
 - Select the **Connect directly to Ghost Solution Suite Server** option and enter the Ghost Solution Suite Server IP address and port.
 - Select the **Discover Ghost Solution Suite Server using TCP/IP multicast** option and provide the Server name.

Note: If you leave the **Server name** field blank, the Ghost Solution Suite agent connects to the first Ghost Solution Suite Server that responds. Click **Next**.

- 14 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**.

- 15 (Optional) You can the following option to install agents on the managed computers.
 - **Remotely Install Ghost Solution Suite agent (Windows Vista, 2008 or later only).** Select this option if you want to push the Ghost Solution Suite agent to Windows computers directly after the installation. This can be done any time by selecting **Tools > Remote Agent Installer**.

- 16 Click **Finish**.

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

See [“Simple install for Ghost Solution Suite Server”](#) on page 28.

Thin client install

The thin client install option lets you install the Thin Client view of the Ghost Solution Suite Console on your computer. You can install Ghost Solution Suite 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 Ghost Solution Suite Server.
- 2 Launch the appropriate Symantec Ghost Solution Suite Server installation file and follow the setup steps.

The **Symantec Packager Self-Extracting Executable Options** dialog appears.

- 3 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 Symantec 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 **Ghost Solution Suite Server Install Configuration** dialog.
- 6 (Optional) Select the **Include PXE Server** option to install the PXE Server. (See “[PXE server](#)” on page 27.) Click **Install**.
- 7 Click **Yes** on the **Software License Agreement** page.
- 8 Enter the following information on the **Ghost Solution Suite Share Information** page:
 - In the **File Server path** field, enter or browse to the path to install the Ghost Solution Suite Server program files. The default path is `C:\Program Files\Altiris\Express\Ghost Solution Suite Server`.
 - Select the **Create Ghost Solution Suite Share** option to create a Ghost Solution Suite Share on the computer. The Ghost Solution Suite Share lets you store files on the computer and run Ghost Solution Suite Server system applications.
See “[Ghost Solution Suite Share](#)” on page 26.
 - You must enter an administrator user name and password for the Ghost Solution Suite Server system. This account must already exist on the Ghost Solution Suite Share and the Ghost Solution Suite 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 “[Ghost Solution Suite Server](#)” on page 23.
If a previous installation of the Ghost Solution Suite 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 Ghost Solution Suite 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 **Linux**, **WinPE**, or **None**. Browse to locate the FIRM file (for Linux operating systems) or enter the path for the operating system files (for 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 must manually set the share to point to the correct directory. Click **OK**.

- 11 (Optional) You can select the following option to install agents.
 - **Remotely install Ghost Solution Suite agent (Windows Vista, Windows 2008 or later only)**. Select this option if you want to push the Ghost Solution Suite agent to computers running Windows Vista, Windows 2008, and later operating systems.
- 12 Click **Finish**.

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

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

Example: When you run the Ghost Solution Suite Server Win32 Console, the "Unable to connect to the Symantec Ghost Solution Suite Server 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 Ghost Solution Suite Server.

Component install

The component install option lets you add selected Ghost Solution Suite Server Components - Ghost Solution Suite Console, PXE Server, and Ghost Solution Suite Agents to the existing Ghost Solution Suite Share . You can also add Microsoft Sysprep files.

See [“Ghost Solution Suite Server components”](#) on page 22.

To run a component install

- 1 Start the server and log on using the administrator account you created for the Ghost Solution Suite Server.
- 2 Launch the appropriate Symantec Ghost Solution Suite Server installation file and follow the setup steps.

The **Symantec Packager Self-Extracting Executable Options** dialog appears.

- 3 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 Symantec 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 **Ghost Solution Suite Server Install Configuration** dialog and click **Install**.
- 6 Click **Yes** on the **Software License Agreement** page.
- 7 Enter a path for the Ghost Solution Suite Share and click **Next**.
- 8 Select the components you want to install and click **Next**.
 - **Install an additional Ghost Solution Suite Console.** Select this option to install another Ghost Solution Suite Console (a Windows executable) on another computer. You can add as many Ghost Solution Suite Consoles as required to manage from multiple consoles across your system, but you

can install only one at a time. The **Ghost Solution Suite Console Information** dialog appears.

- **Install an additional Symantec 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, refer to the following section:
See “[PXE server](#)” on page 27.
 - **Install additional Ghost Solution Suite Agents.** Select this option to install additional Ghost Solution Suite Agents on client computers, setting up managed computers in the Ghost Solution Suite Server system. The **Remote Agent Install** dialog appears. Enter common administrator credentials for all client computers.
See “[Enter administrator account information](#)” on page 43.
 - **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 “[PXE server](#)” on page 27.
- 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 Ghost Solution Suite Server system. Click the **Ghost Solution Suite Console** icon on your desktop to view all the computer resources running Ghost Solution Suite Agents configured for your Ghost Solution Suite Server.

Installing Ghost Solution Suite Agents

Each client computer requires the Ghost Solution Suite Agent to run as the Production Agent on a local hard disk, which communicates with the Ghost Solution Suite Server and registers in the Ghost Solution Suite Database. For Windows and Linux client computers, Ghost Solution Suite lets you push agent software to a client computer. See [“Installing the automation agent”](#) on page 49. from a Ghost Solution Suite Console, or you can pull the Ghost Solution Suite Agent to the client computer from the Ghost Solution Suite Share .

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

- **Ghost Solution Suite 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 Ghost Solution Suite agent for Windows”](#) on page 45.
- **Ghost Solution Suite agent on Linux.** Install on any supported Linux workstation or server.
See [“Installing Ghost Solution Suite agent on Linux”](#) on page 47.
- **Automation Agent.** Install on any Windows desktop, notebook, or server computer.
- **Ghost Solution Suite agent on XP, 2003, Vista (Business) and 2008 Server.** Install the Ghost Solution Suite agent on the selected Windows XP, Server 2003, Vista (Business), and Server 2008 computers.

Client connectivity and network adapters

Symantec supports all standard network adapter cards and includes many drivers with the installation of Ghost Solution Suite . 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 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 caret (^). 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 Ghost Solution Suite agent

For client computers running a Windows operating system, Ghost Solution Suite lets you install agent software using the Remote Agent Installer to "push" the agent to a client computer from a Ghost Solution Suite Console. (See "[Remote agent installer](#)" on page 42.) You can also pull the Ghost Solution Suite agent to the client

computer by accessing the Windows share. 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 Ghost Solution Suite Console toolbar, or click **Tool > Remote Agent Installer** to open the utility program. You can also download `acient.exe` from the network share to install a Ghost Solution Suite agent.

Remote agent installer

DAGENT replaced AClient as the default agent for the following Windows platforms:

- Windows 2000 SP4 or higher
- Windows 2003 Server
- Windows XP SP2 or higher
- Windows Vista
- Windows 2008 Server
- Windows 2008 Server R2
- Windows 7
- Windows 8
- Windows 8.1
- Windows Server 2012
- Windows Server 2012 R2

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 Ghost Solution Suite agent.

Install directory. Enter the path to install the Ghost Solution Suite 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 Ghost Solution Suite agent settings.

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 Ghost Solution Suite 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.

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

After the Ghost Solution Suite agent is installed, it automatically connects to the Ghost Solution Suite Server and appears in the **Computers** pane of the Ghost Solution Suite 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. Symantec 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 2000/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 Ghost Solution Suite agent to be installed.

Get server security key

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

Enter the security key file path for the Ghost Solution Suite Server or browse and select a file containing the security key file path.

Installing Ghost Solution Suite agent for Windows

Run `dagent.msi` from the Ghost Solution Suite Share (shared folder).

1. On the **Symantec Client Service** dialog, enter a location to install the Ghost Solution Suite 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 Ghost Solution Suite agent you are installing.
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 Ghost Solution Suite agent.

3. (Optional) Select a group in the Ghost Solution Suite Console to add the client to. You can also leave it at the default group.

After the Ghost Solution Suite agent is installed, it connects to the Ghost Solution Suite Server and appears in the Computers pane of the Ghost Solution Suite Console.

See [“Installing Ghost Solution Suite Agents”](#) on page 40.

Automating the installation of Ghost Solution Suite agent

If you do not select Remote Agent Installer to install the Ghost Solution Suite agent, install the Ghost Solution Suite agent using log-on scripts or batch files. 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 Ghost Solution Suite 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

Ghost Solution Suite 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\Ghost Solution Suite 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 Ghost Solution Suite 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
<code>-install</code>	<code>AClient.exe</code> runs and installs the Ghost Solution Suite agent on the computer instead of just running it in memory.
<code>-remove</code>	Permanently removes the Ghost Solution Suite agent from the computer where it is installed.
<code>-silent</code>	Lets you use the options without being prompted for further input.
<code>-stop</code>	Stops the Ghost Solution Suite agent from running, but does not remove it. The next time the computer is booted, the Ghost Solution Suite agent runs in production mode.
<code>-start</code>	Starts the Ghost Solution Suite agent. This option works only when Ghost Solution Suite agent is installed on the computer.

Installing Ghost Solution Suite agent on Linux

You can install the Ghost Solution Suite agent on any supported Linux workstation or server by downloading and running the Ghost Solution Suite agent for Linux installation file (a `.BIN` file) on the client computer. The Ghost Solution Suite agent is updated automatically on Linux computers when you upgrade to a new version

of Ghost Solution Suite . The creation date of the Ghost Solution Suite agent is checked and updated when a new agent is available.

Installing the Ghost Solution Suite 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 Ghost Solution Suite 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 `adlagent.conf` file in an editor and scroll to the [Transport] section and the `UseMcast` line. Change `UseMcast=true` to `UseMcast=false`. In the `TCPAddr=<IP address>` line, enter the IP address of the specific Ghost Solution Suite 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 Ghost Solution Suite Server to manage the current client computer, or you can select a

specific Ghost Solution Suite Server by setting the Multicast option to false and adding the IP address of the required Ghost Solution Suite Server.

- 3 After editing the configuration file, restart the Ghost Solution Suite agent for Linux.

To start and stop the Ghost Solution Suite 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 Ghost Solution Suite agent for Linux.

By stopping and starting the Ghost Solution Suite agent for Linux, the service updates the changes made in the `adlagent` configuration file.

You can now view the Linux managed computer from a Ghost Solution Suite Console.

See [“Installing Ghost Solution Suite Agents”](#) on page 40.

Installing the automation agent

After Ghost Solution Suite Server has detected a managed computer through the Ghost Solution Suite 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 Ghost Solution Suite 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*.

To install an automation partition

Installation help

The following are the help file topics for the Ghost Solution Suite 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 Ghost Solution Suite 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 Ghost Solution Suite Server system on multiple computers. The **Thin Client Install** lets you install the Thin Client view of the Ghost Solution Suite Console on your computer. The **Component Install** option lets you install additional components on your system.

Installation type

Simple install. Select this option to install all Ghost Solution Suite 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 Ghost Solution Suite Server”](#) on page 28.

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 27.

Custom install. Select this option to install Ghost Solution Suite 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 Ghost Solution Suite Database on another computer or assign another file server as the Ghost Solution Suite Share to store image and package files.

See [“Custom install for Ghost Solution Suite Server”](#) on page 31.

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

See [“Thin client install”](#) on page 35.

Component install. Select this option to install additional Ghost Solution Suite 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 Ghost Solution Suite Consoles.

See [“Component install”](#) on page 38.

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

Note: If you run the Ghost Solution Suite Server on a MS Windows Server 2003 Domain Controller with SMB Signing enabled, you cannot execute any imaging jobs. When running jobs on MS Windows Server 2003, you must change the SMB Signing Registry Key to execute 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**.
- 2 Locate the **Microsoft network server: Digitally sign communications (always)** policy setting, right-click it, and select **Properties > Disabled**.
- 3 Disable the **Microsoft network server: Digitally sign communications (if client agrees)** policy setting as well. This is enabled by default.

Installing Ghost Solution Suite Server

Specify the Ghost Solution Suite Share (shared directory) where you want to store the image files, .RIPs, and other package files. Before installing the Ghost Solution Suite 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 Ghost Solution Suite Server. The default path is the Program Files directory on the local computer.

Create Ghost Solution Suite Share . If you are installing the Ghost Solution Suite Server on a local Windows computer, select this option to create a shared directory as your Ghost Solution Suite 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 Ghost Solution Suite Server on a remote file server, create a share or grant access rights to the Ghost Solution Suite 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.

See [“Ghost Solution Suite Share ”](#) on page 26.

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

See [“Ghost Solution Suite Server components”](#) on page 22.

See [“Installing Ghost Solution Suite Server”](#) on page 51.

Installing Ghost Solution Suite Server using component install

Specify the Ghost Solution Suite 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 [“Ghost Solution Suite Share”](#) on page 26.

Ghost Solution Suite Server install

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

See [“Ghost Solution Suite Server”](#) on page 23.

To install service on a local computer

- 1 Select the **On this computer** option.
- 2 Enter the Ghost Solution Suite Server IP address and port information.
- 3 Enter the path to install the Ghost Solution Suite Server.
- 4 Enter the user name and password of the Ghost Solution Suite 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.
- 3 Enter the user name and password of an administrator account for the Ghost Solution Suite Server computer. For domain accounts, include the domain name (Example: orgDomain\admin). The user account must have rights to the Ghost Solution Suite Share . Create the administrator domain account before starting the installation.

See [“Ghost Solution Suite Share”](#) on page 26.

See [“Ghost Solution Suite Server components”](#) on page 22.

See [“Installing Ghost Solution Suite Server”](#) on page 51.

Pre-boot operating system (simple)

Select a pre-boot operating system, which the Ghost Solution Suite 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 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.
- **Linux.** Browse to the `BDCgpl.frm` file that is present in the GPL folder.
- **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 Ghost Solution Suite 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.

- **Linux.** Browse to the `BDCgpl.frm` file that is present in the GPL folder.
- **WinPE.** Browse to the WinPE files.

See *Boot Disk Creator Help and PXE Configuration Help*.

Ghost Solution Suite Database install

Install the Ghost Solution Suite 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 [“Ghost Solution Suite Database”](#) on page 25.

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 Ghost Solution Suite systems on different network segments, you can enter the name `salesSegment\express` or `marketingSegment\express` depending on the previously established database instance.

Install the Ghost Solution Suite Database using these options:

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

See [“Ghost Solution Suite Server components”](#) on page 22.

PXE server install

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

See [“PXE server”](#) on page 27.

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

- Select the **No I will be using an Symantec 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 Ghost Solution Suite 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. For more information, *PXE Configuration Utility Help*.

See [“Installing the automation agent”](#) on page 49.

See [“Pre-boot operating system \(simple\)”](#) on page 52.

Client connection to server

Select the protocol your managed computers can use to connect to the Ghost Solution Suite Server.

Connect directly to Ghost Solution Suite Server. Installs the PXE Server using the Intel Pre-boot 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 Ghost Solution Suite Server** and enter the IP address of the Ghost Solution Suite 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 Ghost Solution Suite Server using TCP/IP multicast. Lets the managed computers connect to any Ghost Solution Suite Server. To use multicasting and connect to a specific Ghost Solution Suite Server, enter the name of the Ghost Solution Suite 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.

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 [“Ghost Solution Suite Server components”](#) on page 22.

Installation information summary

The components are installed.

You can remotely install Ghost Solution Suite Agents..

Remotely install Ghost Solution Suite agent (Windows Vista, 2000 or later only). Select this option to push the Ghost Solution Suite agent.

Click **Finish**.

See [“Ghost Solution Suite Server components”](#) on page 22.

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 [“Ghost Solution Suite Server components”](#) on page 22.

Ghost Solution Suite Database authentication

Specify the type of authentication the Ghost Solution Suite 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 [“Ghost Solution Suite Server components”](#) on page 22.

See [“Installing Ghost Solution Suite Server”](#) on page 15.

Add components

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

See [“Ghost Solution Suite Server components”](#) on page 22.

Upgrading to Ghost Solution Suite 3.0

This chapter includes the following topics:

- [Supported upgrade paths for Ghost Solution Suite 3.0](#)
- [Upgrading from Deployment Solution 6.9 SP6](#)

Supported upgrade paths for Ghost Solution Suite 3.0

The supported upgrade paths of the Ghost Solution Suite 3.0 from the earlier release versions to the latest release version are as follows:

Table 3-1 Upgrade and Migration paths for Ghost Solution Suite 3.0

Upgrade or migrate from	To Ghost Solution Suite 3.0
Deployment Solution 6.9 SP6	<p>As Ghost Solution Suite 3.0 has evolved primarily from Deployment Solution 6.9, it works seamlessly with the Deployment Solution 6.9 database. There are no changes in the log location and the path of where the images are stored.</p> <p>Symantec recommends to use the existing database while migrating from Deployment Solution 6.9 SP6.</p> <p>Note: Ghost Solution Suite 3.0 supports the WinPE 5.1 version. If you have already installed the ADK for WinPE 4.0 that is consumed in the Deployment Solution 6.9, then after installing Ghost Solution Suite 3.0, the manage WinPE for 5.1 is created and overwrites the existing manage WinPE image of 4.0.</p>

Table 3-1 Upgrade and Migration paths for Ghost Solution Suite 3.0
(continued)

Upgrade or migrate from	To Ghost Solution Suite 3.0
Ghost Solution Suite 2.5.1	<p>There is no supported upgrade path from Ghost Solution Suite 2.5.1.</p> <p>To upgrade from Ghost Solution Suite 2.5.1 to Ghost Solution Suite 3.0, you must install the Ghost Solution Suite 3.0 as a fresh installation.</p> <p>You can reuse the images that you have captured using Ghost Solution Suite 2.5.1. You must manually copy the images to the following path in the Ghost Solution Suite Server:</p> <pre data-bbox="494 574 1094 626"><Install_Dir>:\Program Files (x86)\Altiris\Express\Deployment Server\Images\</pre> <p>You cannot reuse the database from Ghost Solution Suite 2.5.1.</p>

Upgrading from Deployment Solution 6.9 SP6

As Ghost Solution Suite 3.0 has evolved primarily from Deployment Solution 6.9, it works seamlessly with the Deployment Solution 6.9 database. There are no changes in the log location and the path of where the images are stored. Symantec recommends using the existing database while migrating from Deployment Solution 6.9 SP6.

Note: Ghost Solution Suite 3.0 supports the WinPE 5.x version. If you have already installed the ADK for WinPE 4.0 that is consumed in the Deployment Solution 6.9, then after installing the Ghost Solution Suite 3.0, the WinPE image for 5.x is created and overwrites the existing manage WinPE image of 4.0.

The following table lists the steps that you must follow to upgrade to Ghost Solution Suite 3.0

Table 3-2 Process to upgrade to Symantec Ghost Solution Suite 3.0

Step	Action	Description
Step 1	Upgrade the Deployment Server to Ghost Solution Suite Server	<p>Upgrade the existing Deployment Server to Ghost Solution Suite Server.</p> <p>To upgrade to Ghost Solution Suite Server, run the <code>Ghost Solution Suite 3.0.exe</code> on the computer on which the Deployment Solution 6.9 SP6 is already installed.</p> <p>Provide a valid SLIC license or you can use a 14-days trial license by clicking on Next.</p> <p>Note: The existing Deployment Solution 6.9 LIC license does not work with Ghost Solution Suite 3.0.</p> <p>See "Installing Ghost Solution Suite Server" on page 15.</p>
Step 2	Restore the database and set up for creating preboot images	<p>Retain the Express Share file server path and provide the existing Deployment Solution 6.9 SP6 database name.</p> <p>Provide the latest FRM file and the ADK 8.1 setup file to create the LinPE and WinPE 5.0 preboot images.</p> <p>Select default options for other settings and start the installation by clicking on Install.</p>
Step 3	Upgrade the client computers with Ghost Solution Suite 3.0 agent	<p>After the installation of Ghost Solution Suite completes, launch the Ghost Solution Suite console.</p> <p>The existing clients that are connected to the Ghost Solution Suite server automatically start upgrading with the latest version of the Ghost Solution Suite agent.</p> <p>See "Installing Ghost Solution Suite Agents" on page 40.</p>

Troubleshooting tips

This appendix includes the following topics:

- [Troubleshooting tips](#)

Troubleshooting tips

The following table lists the troubleshooting tips of Ghost Solution Suite 3.0:

Table A-1 Troubleshooting tips

Issue	Description	Workaround
The SEP Network Threat Protection feature blocks PXE server connection.	The SEP Network Threat Protection feature blocks PXE server from connecting to Ghost Solution Suite client computers.	Disable the following: <ul style="list-style-type: none">▪ Network-related policies▪ Turn off the firewall if you want to install the agent remotely using RAI.