Symantec Backup Exec™ System Recovery Manager Implementation Guide

symantec™

Symantec Backup Exec™ System Recovery Manager 8.0 Implementation Guide

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Documentation version 8.0

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- Hardware information

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- 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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Introducing Symantec Backup Exec System Recovery Manager

This chapter includes the following topics:

- About Symantec Backup Exec System Recovery Manager

- What is new and updated in this release

- Components of Backup Exec System Recovery Manager

- How Backup Exec System Recovery Manager works

- What you can do with Backup Exec System Recovery Manager

- Best practices for creating recovery points

- Where to find more information

About Symantec Backup Exec System Recovery Manager

Symantec Backup Exec System Recovery Manager is designed to work with the following products to provide enterprise-level management tasks for server and desktop protection and recovery:

- Symantec Backup Exec™ System Recovery 8.0 and 7.0–Server Edition

- Symantec Backup Exec™ System Recovery 8.0 and 7.0–Windows Small Business Server Edition

- Symantec Backup Exec™ System Recovery 8.0 and 7.0–Desktop Edition

- Symantec Backup Exec™ Retrieve 8.0 and 7.0

- Symantec Backup Exec™ System Recovery Granular Restore 8.0 Option (previously called Symantec Backup Exec™ System Recovery Exchange Retrieve 7.0 Option)

Using Backup Exec System Recovery Manager, you can centrally monitor the recovery point status for Windows servers, desktops, and laptops across your organization, all from a single console (you can install multiple instances of the console). From the Home page, you can easily view the computers that are protected, including job status. You can also perform remote system and drive recovery of Windows computers.

What is new and updated in this release

Table 1-1 describes new and updated features in Backup Exec System Recovery Manager.

Table 1-1   What is new and updated

Feature	Description
Symantec ThreatCon Response	Symantec ThreatCon is Symantec's early threat warning system. You can now configure backups to detect a change in the threat level whenever managed computers are connected to the Internet. When the threat level meets or exceeds the level you specify, Backup Exec System Recovery automatically starts a backup job. You can specify a different ThreatCon level for each backup.
Windows Server® 2008 compatibility	Backup Exec System Recovery and Backup Exec System Recovery Manager console is designed to run on Windows Server 2008.
Support for NTFS partitions	Backup Exec System Recovery now supports NTFS partitions up to 16TB (formatted with 4k clusters).
Granular Restore Option (previously called Symantec Backup Exec Exchange Retrieve Option)	An administrator tool that lets you recover a Microsoft Exchange user's mailbox, email folders, and email messages directly from recovery points. You can also restore documents from Microsoft SharePoint, or search and restore a version of a lost file using the Files and Folders view. The Granular Restore Option works with Backup Exec System Recovery. See "Backup Exec System Recovery Manager optional tool" on page 20.

Table 1-1   What is new and updated *(continued)*

Feature	Description
License management	Use Licensing in Backup Exec System Recovery Manager to manage Backup Exec System Recovery product licenses and their assignments throughout your organization.
	Besides product licenses, you can also manage the Backup Exec System Recovery Manager license from the console.
	See "About managing licenses" on page 89.

Components of Backup Exec System Recovery Manager

An installation of Backup Exec System Recovery Manager consists of several main components for managing recovery points on computers. It also gives you the ability to create and update Easy Installers of Symantec Backup Exec System Recovery (and other components, such as LightsOut Restore and Management Control) on client computers.

Note: Backup Exec System Recovery Manager requires the installation of a Symantec product key for full product activation.

Table 1-2 describes these main components.

Table 1-2   Components of Backup Exec System Recovery Manager

Component	Description
Backup Exec System Recovery Manager console	The Backup Exec System Recovery Manager console, which can be installed on any computer (Windows 2000 or later), lets you remotely run and manage backup and recovery tasks on client computers from a central location. It serves as the main interface to the Backup Exec System Recovery Manager server. The console requires Microsoft .NET Framework 2.0 to run.
	See "About using the console" on page 41.
Backup Exec System Recovery Manager server and database	A dedicated Windows 2003 server class computer that provides the support files that are needed to integrate with the console.
	Among other things, the database that is installed on the server stores backup jobs, client computer information, job history, recovery point information, and configuration details.

Table 1-2   Components of Backup Exec System Recovery Manager *(continued)*

Component	Description
Management Control	Management Control is a necessary component of Backup Exec System Recovery and must be installed on each computer that has backups you want to manage.

Microsoft .NET Framework 2.0 must be installed on client computers prior to the installation of Management Control.

This component publishes a variety of event information to the console (by way of the server), such as the following:

■ The drives on the computer
■ A list of recovery points and their storage locations
■ Backups assigned to the computer
■ License status
■ Backup Exec System Recovery version
■ Management Control version
■ Any configuration changes that are made to the computer

Management Control periodically reads the Backup Exec System Recovery Manager database on the server and pulls down jobs or licenses as needed by the client computer.

If Symantec Backup Exec System Recovery is already installed on a computer, you can install or update the Management Control component separately.

A computer is considered "managed" by Backup Exec System Recovery Manager when Management Control is installed on it.

See "About adding computers to the console" on page 55. |

Table 1-2   Components of Backup Exec System Recovery Manager *(continued)*

Component	Description
Easy Installers	Backup Exec System Recovery Manager lets you create and update Easy Installers. Easy Installers are used to deploy software such as Symantec Backup Exec System Recovery and Management Control to one or more computers across your local area network or wide area network.
	Backup Exec System Recovery Manager ships with several Easy Installers including the following:
	■ Backup Exec System Recovery 8.0 (with and without a user interface) ■ Management Control 8.0 ■ Indexing Server (optional; for Windows Server 2003 only)
	Easy Installers are made available through the Backup Exec System Recovery Download Center Web page. The Web page location is https://*<server_name or IP_address>*:8443/DownloadCenter. This page gets created when you install Backup Exec System Recovery Manager. Users access the Web page to download and install the software onto the computer. Or, you can deploy the software onto client computers through a logon script.
	See "About adding computers to the console" on page 55.
Backup Exec Retrieve	Backup Exec Retrieve is installed at the same time you install the Backup Exec System Recovery Manager server.
	Backup Exec Retrieve communicates with the Indexing Server component on client computers to let users recover their own files from the Backup Exec Retrieve Web page.
Indexing Server	The Indexing Server maintains a folder of files that allow users to search file names, file versions, and recent activity for recovery by way of the Backup Exec Retrieve Web page. The service is an optional feature that can be installed on Windows Server 2003 by way of an Easy Installer. The Indexing Server includes an index control component that communicates with Backup Exec System Recovery Manager and adds the indexer to the database.
	You must enable indexing support in a backup job and a backup destination in order for remote users to take advantage of file retrieval.
	Note: Backup Exec System Recovery must be installed on client computers prior to installing Indexing Server.
	See "About configuring Backup Exec Retrieve" on page 96.

Table 1-2   Components of Backup Exec System Recovery Manager *(continued)*

Component	Description
LiveUpdate	LiveUpdate is the Symantec technology that lets any installed Symantec products connect to a Symantec server automatically and receive program and virus definition updates.
	This ensures that you have the most current software updates associated with your version of the Backup Exec System Recovery Manager console.

Backup Exec System Recovery Manager optional tool

You can purchase the Symantec Backup Exec System Recovery Granular Restore Option for your Backup Exec System Recovery Manager configuration. This option provides fast and flexible recovery of Microsoft Exchange mailboxes, folders, and individual messages, Microsoft SharePoint documents, and unstructured files and folders.

Note: Backup Exec System Recovery must be installed on the client computer prior to installing the Granular Restore Option.

When the Granular Restore Option is installed, a link to the software is added to the Backup Exec System Recovery Manager console from the Manage page, under Services.

You can use Backup Exec System Recovery Manager to create a package of the Granular Restore Option, and then use the package to create an Easy Installer for download or deployment.

See *Symantec Backup Exec System Recovery Granular Restore Option User's Guide* for more information.

How Backup Exec System Recovery Manager works

In Backup Exec System Recovery Manager, backup, recovery, convert to virtual, and delete recovery point operations, called jobs, are submitted through the console and stored in the database. Client computers pull the jobs down from the server and process them. Administrators can run the console from the Backup Exec System Recovery Manager server, or from a remote system. After jobs are created, they are processed by the Backup Exec System Recovery Manager components on the server. All interaction to the Backup Exec System Recovery Manager system, such as submitting jobs, viewing results, and working with Easy Installers, can be done through the console.

Figure 1-1 illustrates how the components work together to provide complete backup and recovery functionality to an entire network.

Figure 1-1   How Backup Exec System Recovery Manager works
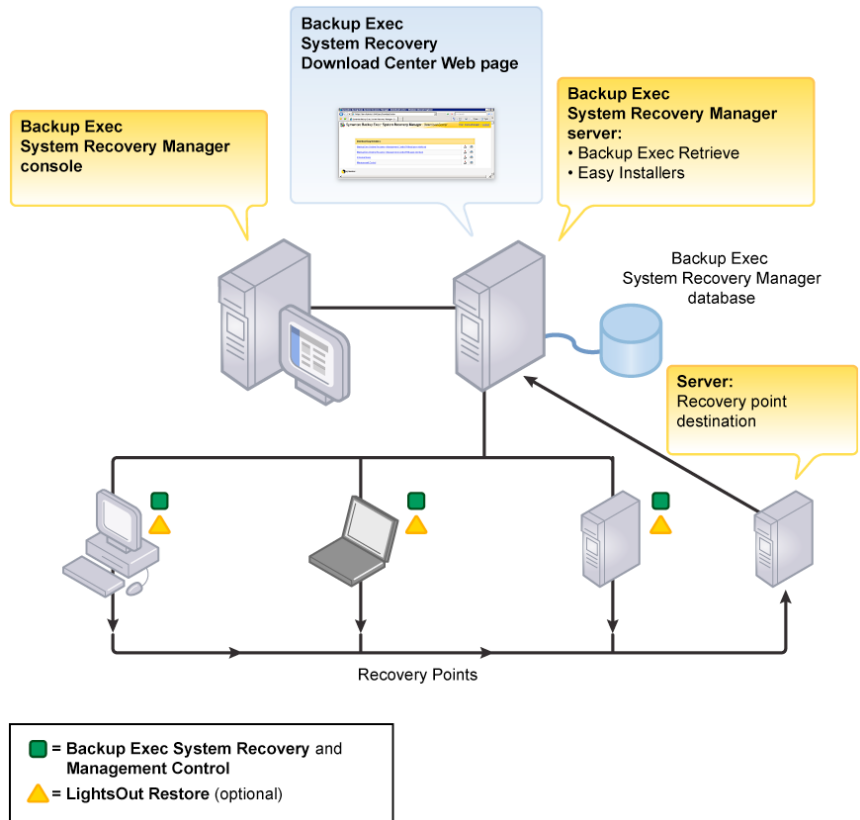
Through the console, you can create a one-time job, such as recovering a drive on a client computer, or you can schedule recurring jobs, such as daily backup jobs. Wizards guide you through most Backup Exec System Recovery Manager operations such as the creation of backup jobs, recovery jobs, or Easy Installers, and the conversion of recovery points to virtual disks.

You can view a job's current progress from the Monitor page or the Manage page.

Through Backup Exec System Recovery Manager's management functions, you can logically group client computers together to simplify the back up process. On the Manage page, you can organize, track, and troubleshoot all of the computers whose backups you are managing. You can view the backup status and statistics for servers and desktops, including failed jobs.

After a job has been processed, the job's results are stored in the database. Log files, if configured in the console by the administrator, are uploaded to the server to tell you what happened during the processing of the job (events, errors, and so forth).

What you can do with Backup Exec System Recovery Manager

Backup Exec System Recovery Manager lets you work from a remote location to back up and recover Windows-based computers, convert recovery points to virtual disks, and manage recovery points.

Table 1-3 describes the most frequently used tasks.

Table 1-3   What you can do with Backup Exec System Recovery Manager

Task	Description
Define backups and recovery point storage locations	■ Define daily, weekly, monthly, or quarterly backup jobs, and assign them to one or more computers ■ Create full independent recovery points or recovery point sets with incrementals ■ Define recovery point destinations on a network share or on a local drive on the client computer ■ Use your existing installation of Symantec Backup Exec™ for Windows Servers to back up recovery point storage locations on a network to tape media
Recover files, folders, or entire drives	■ Allow users to retrieve their own files and folders using the Backup Exec Retrieve Web page ■ Retrieve email, folders, entire mailboxes, SharePoint documents, or lost files and folders using the Backup Exec Granular Restore Option ■ Remotely recover a data drive on a client computer ■ Remotely recover a system drive on a client computer that is bootable, using LightsOut Restore
Convert recovery points to virtual disks	■ Convert recovery points of a physical computer to a VMware Virtual Disk (.vmdk) ■ Convert recovery points of a physical computer to a Microsoft Virtual Disk (.vhd)
Remotely delete recovery points	■ Delete entire recovery point sets ■ Delete recovery points within a set

Table 1-3   What you can do with Backup Exec System Recovery Manager
(continued)

Task	Description
Remotely administer server, desktop, and laptop computers remotely	■ Troubleshoot and resolve jobs remotely ■ Build and deploy Easy Installers to install Backup Exec System Recovery products and options such as LightsOut Restore and Backup Exec Granular Restore Option ■ Monitor the overall status of recovery points for an entire network of Windows computers

Best practices for creating recovery points

The following list represents some best practices for creating recovery points:

■ Before a backup

■ During a backup

■ After a backup

Before a backup

Table 1-4 describes best practices to ensure the successful creation of recovery points.

Table 1-4   Before a backup

Before a backup	Description
Schedule backups when you know computers are turned on	Computers must be turned on and Windows must be running at the time a backup occurs. If the computer remains off after being polled six times, the computer is put into a "Needs attention" state. However, if Backup Exec System Recovery (with a user interface) is installed on the client computer, Backup Exec System Recovery asks the user if they want to run the missed backup (after the computer is turned on and they log on to Windows). In the meantime, the backup status of the client computer in Backup Exec System Recovery Manager console is "Needs Attention".
Where possible, separate the operating system from the business data	This practice helps speed the creation of recovery points and reduce the amount of information that needs to be restored.

Table 1-4   Before a backup *(continued)*

Before a backup	Description
Use a network destination or a secondary hard disk on the client computer as the recovery point storage location	You should store recovery points to a network share or to a hard disk on the client computer other than the primary hard disk C. This practice helps ensure that you can recover the system in the event that the client's primary hard disk fails.
Understand how backups are run on computers that may be in different time zones	When you use the console to create recovery points of computers across one or more time zones, the backup runs on the day and local time where the client computer is physically located. For example, suppose a client computer's physical location is 2 hours ahead of the Backup Exec System Recovery Manager console time. You create a backup job to run at 6:00 p.m.. When the backup job begins on the client computer it is 6:00 p.m. However, the console displays the job as beginning at 4:00 p.m..
Use defined recovery point destinations	By defining recovery point destinations that are separated from backups and computers, you can easily see how many computers are backed up to a given location and optimize network load balancing during a backup.
Create recovery points often and regularly	Use the Assign New Backup Job Wizard to schedule the consistent creation of recovery points. Use the Configure Backup Exec Job Wizard to schedule the backup of recovery point storage locations to tape media.
Save recovery points to the proper location	Backup Exec System Recovery Manager supports saving recovery points to network locations or to a local hard disk. You should avoid storing recovery points on the Backup Exec System Recovery Manager server because as the number or size of recovery points grows, you have less disk space available for regular server use. When you save recovery points to a separate drive, network location, or removable media, you eliminate this problem.

During a backup

While a backup is running, consider the following best practice:

■ Improve client computer performance during a backup.
  Backup Exec System Recovery requires significant system resources to run a
  backup. If remote users are working at their computers when a backup starts,
  they might notice that the performance of their computer slows down. If

slowing occurs, you can reduce the speed of the backup to improve client computer performance.

See "Setting client options for computers" on page 153.

After a backup

Table 1-5 describes best practices after a backup occurs.

Table 1-5 After a backup

After a backup	Description
Maintain duplicate recovery points for safety.	Store recovery points on the network and create CDs, DVDs, or tapes of recovery points for storage off-site in a safe, secure place. Use Symantec Backup Exec for Windows Servers to back up recovery point locations on the network.
Verify that recovery points or recovery point sets are stable and usable.	Where possible, document and test your entire recovery process by doing a restore of recovery points (using the Backup Exec System Recovery console) and single files (using the Recovery Point Browser in Backup Exec System Recovery or Backup Exec Retrieve) on the original client computer where the recovery points were created. Doing so can uncover potential hardware or software problems. Enable the Verify recovery point after creation feature when you create a backup job. Use the Convert to Virtual feature to test and evaluate restored recovery points.
Manage storage space by deleting old backup data.	Delete incremental recovery points to reduce the number of files you have to maintain. This strategy also uses hard disk space more efficiently.
Review information in the Error Jobs dialog box and on the Home page .	Periodically review the contents and events in the Error Jobs dialog box and on the Home page to ensure stability in the computer system. You should also review log files periodically.
Review the contents of recovery points.	Ensure that you back up essential data by periodically reviewing the contents of recovery points files with Backup Exec Retrieve or the Recovery Point Browser in Backup Exec System Recovery.

Where to find more information

This product's documentation includes an Implementation Guide (sbesrm.pdf) and readme file on the Backup Exec System Recovery Manager product CD, a printed Getting Started Guide, and online Help available from within the console.

In addition to the product documentation, check the Symantec Web site and the Knowledge Base for answers to frequently asked questions, troubleshooting tips, online tutorials, and the latest product information. On the Internet, go to:

www.symantec.com/techsupp/

Note: Viewing the online manuals requires Acrobat Reader 5.0 or later.

Installing Backup Exec System Recovery Manager

This chapter includes the following topics:

Preparing for installation

Installation procedures might vary, depending on your work environment and how you want to install the Backup Exec System Recovery Manager console and server. You can install the Backup Exec System Recovery Manager console and server on the same computer, or customize the installation by installing the console and server on separate computers.

You can have multiple installations of the console in a network domain (or across network domains if the correct ports are set up), and you can run one or more instances of the console at a time within the domain.

Before you install the product, make sure your computer meets the system requirements. Review the Readme file on the installation CD for any known issues.

Note: Installation of the product is not supported on encrypted file systems.

System requirements for Backup Exec System Recovery Manager

To install and use this product, your computer must meet the minimum requirements that are described in Table 2-1.

Table 2-1   Minimum system requirements

Component	Requirements
Processor	Pentium 3: 1 GHz or higher (Pentium 4: 3.0 GHz or higher recommended)
Operating system	See "Supported Windows operating systems" on page 28.
RAM	The memory requirements for the two main components are as follows: ■ Backup Exec System Recovery Manager server: 1 GB ■ Backup Exec System Recovery Manager console: Dependent on the operating system
Available hard disk space	The hard disk space requirements for each component are as follows: ■ Backup Exec System Recovery Manager console: 100 MB ■ Backup Exec System Recovery Manager server: 750 MB ■ Backup Exec Retrieve: 15 MB ■ Microsoft .NET Framework 2.0: 280 MB (32-bit computers); 610 MB (64-bit computers) ■ Storage space on the network for the recovery points
Software	Microsoft .NET Framework 2.0 is required to run Backup Exec System Recovery Manager and Backup Exec System Recovery on client computers. When you start the Backup Exec System Recovery Manager console for the first time, .NET is automatically installed if it does not already exist or an older version exists. However, it does not get installed when Backup Exec System Recovery is installed on client computers. **Note:** Microsoft .NET Framework 2.0 must be installed on client computers before you install Management Control.

Supported Windows operating systems

Table 2-2 describes the supported Windows operating systems for Backup Exec System Recovery Manager console and server installations. For security reasons, the Backup Exec System Recovery Manager server must be installed on a dedicated Windows 2003 server class computer with an NTFS-formatted hard disk.

Table 2-2   Supported Windows operating systems for console and server
installations

Operating system (with minimum service pack)	Console	Server
Windows Vista Home Basic	X	
Windows Vista Home Premium	X	
Windows Vista Ultimate	X	
Windows Vista Business	X	
Windows Server 2008	X	
Windows Small Business Server 2005	X	
Windows Server 2003 x64 Editions (SP 1)	X	X
Windows Server 2003 R2 Editions (SP 1)	X	X
Windows Small Business Server 2003 (SP 1)	X	X
Windows Server 2003 (SP 1)	X	X
Windows Small Business Server 2003 (SP 1)	X	X
Windows Advanced Server 2000 (SP 4)	X	
Windows Server 2000 (SP 4) and Update Rollup 1 for SP 4	X	
Windows Small Business Server 2000 (SP 4)	X	
Windows XP Professional x64 Edition (SP 2 or later)	X	
Windows XP Professional (SP 2 or later)	X	
Windows Professional 2000 (SP 4)	X	

Migration from Symantec LiveState Recovery Manager

Backup Exec System Recovery Manager does not support the migration of any
version of LiveState Recovery Manager.

If you are currently running any version of LiveState Recovery Manager with
LiveState Recovery on client computers, you should first uninstall all LiveState
Recovery clients. You should then uninstall the LiveState Recovery Manager
console and server. No legacy data or backup jobs are preserved.

> **Note:** If a user uninstalls LiveState Recovery and chooses to keep their backup history and jobs, Backup Exec System Recovery Manager creates new backup jobs in the database (based on the user's old backup jobs) when their computer becomes managed.

Refer to the *Symantec LiveState Recovery Manager Implementation Guide* for uninstall instructions.

Supported virtual disk programs

You can use Backup Exec System Recovery Manager to convert recovery points of a physical computer to a VMWare Virtual Disk (.vmdk) or a Microsoft Virtual Disk (.vhd).

See "Converting recovery points to virtual disks" on page 133.

Virtual disks created from recovery points are supported on the following platforms:

- VMware GSX Server 3.1 and 3.2
- VMware Server 1.0
- VMware ESX Server 2.5 and 3.0
- VMware Infrastructure 3
- Microsoft Virtual Server 2005 R2

System requirements for packages

Packages of Backup Exec System Recovery can be installed with an Easy Installer on a variety of Windows operating systems.

> **Note:** The specific hardware requirements for packages vary depending on the package contents. Refer to Backup Exec System Recovery product documentation for complete system requirements.

This product supports up to 1000 installations of Backup Exec System Recovery for each installation of Backup Exec System Recovery Manager. However, because network performance varies greatly among organizations, the total number of supported installations of Backup Exec System Recovery may be more or less for your network. Network performance should be monitored to ensure that installations of Backup Exec System Recovery are not extended beyond the capacity and capability of your network.

Backup Exec System Recovery Manager comes with several packages for use in Easy Installers, including the following products:

- Backup Exec System Recovery
- Management Control
- Indexing Server

If you want to a create a package of LightsOut Restore , you need the Symantec Recovery Disk. LightsOut Restore requires 500 MB of hard disk space on the client computer. If you want to create a package of Backup Exec Granular Restore Option, you need to purchase the product.

See "Creating packages for an Easy Installer " on page 56.

Backup Exec System Recovery–Server Edition and –Windows Small Business Server Edition

Table 2-3 describes the supported install packages of Backup Exec System Recovery–Server Edition and Backup Exec System Recovery–Windows Small Business Server Edition on Windows operating systems.

Table 2-3   Supported install packages on Windows operating systems

Operating system	With user interface	Without user interface
Windows Server 2008	X	X
Windows Vista Business	X	X
Windows Server 2003	X	X
Windows Small Business Server 2003	X	X
Windows 2000 Advanced Server (SP 4 or later)	X	X
Windows 2000 Server (SP 4 or later)	X	X
Windows 2000 Small Business Server	X	X

Backup Exec System Recovery-Desktop Edition

Table 2-4 describes the supported install packages of Backup Exec System Recovery–Desktop Edition on Windows operating systems.

Table 2-4   Supported install packages on Windows operating systems

Operating system	With user interface	Without user interface
Windows Vista Ultimate	X	X
Windows XP Professional x64 Edition (SP 2 or later)	X	X
Windows XP Professional (SP 2 or later)	X	X
Windows Professional 2000 (SP 4 or later)	X	X

Upgrading from existing installations of Backup Exec System Recovery 6.5

Backup Exec System Recovery Manager 8.0 does not support the backup management of existing installations of Backup Exec System Recovery 6.5 on client computers. Instead, you must upgrade Backup Exec System Recovery 6.5 to version 7.0 or 8.0.

See "About adding computers to the console" on page 55.

Compatibility and integration with Symantec Backup Exec for Windows Servers

Backup Exec System Recovery Manager includes the Configure Backup Exec Job Wizard. This wizard is a finite version of the full Backup Job Properties dialog box that is found in Symantec Backup Exec™ 11d for Windows Servers and Symantec Backup Exec 10d for Windows Servers.

By tapping into your existing installation of Backup Exec, you can use Backup Exec System Recovery Manager to back up network-stored recovery points directly to media.

See "Configuring a Backup Exec for Windows Servers backup job" on page 135.

User rights requirements

Users on Windows Vista/XP/Server 2008/2003 Server/2000 must have administrator rights to install and use Backup Exec System Recovery Manager, or to deploy Easy Installers of Backup Exec System Recovery.

60-day trial version

If you install the 60-day trial of Backup Exec System Recovery Manager, you can install Backup Exec System Recovery and create recovery points of system and data volumes for up to 10 computers.

With the trial version, you also have access to the Symantec Support Knowledge Base. This searchable database includes software library files, frequently asked questions, customer-to-customer news groups, and additional technical information.

The Backup Exec System Recovery Manager trial expires 60 days after your first use of the software. At that time, you can upgrade to the full version (even after the trial expiration). Or, you can continue to use the Backup Exec System Recovery Manager console, but only to remove computers from the Manage page.

About installing the product

The Backup Exec System Recovery Manager installation program checks for the required software and hardware resources, lets you select the installation folder, updates registry settings, and then copies the required files to the hard disk. The console installation program copies the .NET Framework 2.0 files to the hard drive. When you run the console for the first time, you may be prompted to install .NET if it is not already installed or a previous version of .NET exists.

See "Installing the Backup Exec System Recovery Manager server" on page 33.

See "Installing the Backup Exec System Recovery Manager console" on page 35.

Installing the Backup Exec System Recovery Manager server

Before you begin, you should review the requirements for installing the Backup Exec System Recovery Manager server.

See "System requirements for Backup Exec System Recovery Manager" on page 28.

If you install the Backup Exec System Recovery Manager server into a new environment where Backup Exec System Recovery does not exist, the installation creates a new database structure for storing data about computers and jobs.

Note: Following the installation of the server, you may need to reconfigure TCP/IP port numbers to enable successful communication with Backup Exec System Recovery Manager.

See "Configuring TCP/IP ports for a new installation of Backup Exec System Recovery Manager" on page 175.

Warning: For security reasons, the Backup Exec System Recovery Manager server must be installed on a dedicated Windows 2003 server class computer with an NTFS-formatted hard disk.

It is recommended that the Backup Exec System Recovery Manager server be assigned a static IP address after you install the server. This avoids the problem where dynamic DNS service is either limited or unavailable which can cause bi-directional communication problems between the Management Control component on the client computer and the Backup Exec System Recovery Manager server.

To install the Backup Exec System Recovery Manager server

1 Insert the Backup Exec System Recovery Manager product CD into the media drive of the server computer.

   ■ If CD auto-run is enabled, the install browser window is displayed.

   ■ If the CD auto-run is not enabled, on the Windows taskbar, click **Start > Run**, type `drive:\autorun` (where drive is the drive letter of your media drive), and then click **OK**.
     If you are running Windows Vista and the Run option is not visible, do the following:

     ■ Right-click the Start button, and then click **Properties**.

     ■ On the Start Menu tab, click **Customize**.

     ■ Scroll down and check **Run command**.

     ■ Click **OK** twice.

     ■ On the Windows taskbar, click **Start > Run**, type `drive:\autorun` (where drive is the drive letter of your media drive), and then click **OK**

2 Click **Install Backup Exec System Recovery Manager**.

3 Read the license agreement, and then click **I accept the terms in the license agreement**.

4 Click **Next**.

5 Do one of the following:.

   ■ Click **Complete** to install the server and console on the same computer and to the default installation path. Click **Next** and then go to step 8.

   ■ Click **Custom**, and then click **Next**. Go to the next step.

6   On the Manager Console drop-down list, select **This feature will not be available**. This ensures that the console is not installed. (You can optionally install the console if you want.)

7   Do one of the following:

■   To install Backup Exec System Recovery Manager server in the default folder path, click **Next**.

■   To change the default folder path, click **Change**, locate the folder in which you want to install the server, and then click **OK**. Click **Next**.

8   Specify the user name and password for the server.

This password is used to access the server when you log on to the console. The password cannot contain the following three special characters: ' (apostrophe), " (quotation mark), or \ (backslash).

You cannot access the server through the console if you do not enter the password correctly, or you forget the password. In such cases, you must uninstall, and then reinstall the software. Store the password in a secure place; Symantec has no method for restoring a password to the server.

This account grants full privileges inside the console and is known as the System Admin role. When you log on to the console as the System Admin, you can set up other role-based user accounts with varying levels of privileges.

9   Click **Next**.

10   Click **Install** to begin installing the Backup Exec System Recovery Manager server.

11   Click **Finish** at the conclusion of the installation.

12   Click **Exit** to close the Installation Wizard.

Installing the Backup Exec System Recovery Manager console

Before you begin, you should review the requirements for installing the Backup Exec System Recovery Manager console.

See "System requirements for Backup Exec System Recovery Manager" on page 28.

Note: Backup Exec System Recovery Manager console does not require the installation of a product key for full activation.

See "60-day trial version" on page 33.

You can install the console anywhere in your enterprise where you need access to the Backup Exec System Recovery Manager server and database. You can have

multiple installations of the console in a network domain, and you can run one or more instances of the console at a time within the domain (or across network domains if the correct ports are set).

To install the Backup Exec System Recovery Manager console

1   Insert the Backup Exec System Recovery Manager product CD into the media drive of the console computer.

■   If CD auto-run is enabled, the install browser window is displayed.

■   If the CD auto-run is not enabled, on the Windows taskbar, click **Start > Run**, type `drive:\autorun` (where drive is the drive letter of your media drive), and then click **OK**.
If you are running Windows Vista and the Run option is not visible, do the following:

■   Right-click the Start button, and then click **Properties**.

■   On the Start Menu tab, click **Customize**.

■   Scroll down and check **Run command**.

■   Click **OK** twice.

■   On the Windows taskbar, click **Start > Run**, type `drive:\autorun` (where drive is the drive letter of your media drive), and then click **OK**

2   Click **Install System Recovery Manager** .

3   Read the license agreement, click **I accept the terms of the license agreement**, and then click **Next**.

4   Do one of the following:

If you are installing the console on Windows Vista, Windows XP, or Windows Professional 2000	Click **Install** to begin installing the console.
If you are installing the console on a supported Windows server	◆ Do one of the following: ■ Click **Custom** and then click **Next**. On the Manager Server drop-down list, click **This feature will not be available**, and then click **Next**. ■ Click **Console Only**. ◆ Click **Install** to begin installing the console.

5   When the installation is complete, check **Launch Symantec Backup Exec
    System Recovery Manager console** if you want to start the console after
    closing the wizard.

6   Click **Finish**.

    If you unchecked the option **Launch Symantec Backup Exec System Recovery
    Manager console**, you are finished.

    If you chose to launch the console after closing the installation wizard, you
    may be prompted to install Microsoft .NET Framework 2.0 if it does not exist
    on the computer or a previous version is installed.

7   Click **Yes**, and then follow the on-screen prompts to install Microsoft .NET
    Framework 2.0.

Post-installation tasks

Some of the post-installation tasks to get you started include the following:

- See "Starting Backup Exec System Recovery Manager " on page 41.

- See "Editing server and client settings" on page 84.

- See "About adding computers to the console" on page 55.

- See "Updating the Backup Exec System Recovery Manager console" on page 53.

- See "Creating a backup job" on page 103.

Uninstalling Backup Exec System Recovery Manager

You can uninstall the Backup Exec System Recovery Manager. The uninstallation
program removes the files and registry settings that it copied to the computer's
hard disk during installation.

You uninstall the product through the Add or Remove Programs option in the
Windows Control Panel. After the removal process begins, you cannot cancel it.

Backup Exec System Recovery Manager automatically deletes product files and
program shortcuts on the Windows Start menu.

If you uninstall Backup Exec System Recovery Manager where the server is located,
be aware that Backup Exec System Recovery is not uninstalled from any client
computers that you have added to the console. Therefore, to uninstall Backup
Exec System Recovery, you should first remove the client computer from the
console. Management Control is "turned off" on the client computer so it no longer
communicates with Backup Exec System Recovery Manager. You can then use

Windows Add or Remove Programs on the client computer itself to uninstall Backup Exec System Recovery.

See

Uninstalling the Backup Exec System Recovery Manager console

When you uninstall the Backup Exec System Recovery Manager console, product files are automatically deleted, including program shortcuts on the Windows Start menu.

If you do not uninstall Backup Exec System Recovery Manager where the server is located, any computers, computer groups, jobs, or job categories that you have added to the console remain in the Backup Exec System Recovery Manager database. If you decide to reinstall the console later, the computers, groups, recovery point storage locations, and jobs in the database re-populate the console interface.

To uninstall the Backup Exec System Recovery Manager console

1 From the computer where the console is installed, do one of the following:

   ■ On the Windows taskbar, click **Start > Settings > Control Panel > Add or Remove Programs**.

   ■ On the Windows Vista taskbar, click **Start > Control Panel > Programs and Features > Uninstall or Change a Program**.

2 Click **Symantec Backup Exec System Recovery Manager**.

3 Click **Remove** (**Uninstall** on Windows Vista).

4 Click **Yes** to begin the uninstallation.

Uninstalling the Backup Exec System Recovery Manager server

If you uninstall Backup Exec System Recovery Manager where the server is located, be aware that Backup Exec System Recovery is not uninstalled from any client computers that you have added to the console. Therefore, to uninstall Backup Exec System Recovery, you should first remove the client computer from the console. Management Control is "turned off" on the client computer so it no longer communicates with Backup Exec System Recovery Manager. You can then use Windows Add or Remove Programs on the client computer itself to uninstall Backup Exec System Recovery.

See

To uninstall the Backup Exec System Recovery Manager server

1 From the computer where the server is installed, do one of the following:

- On the Windows taskbar, click **Start > Settings > Control Panel > Add or Remove Programs**.

- On the Windows Vista taskbar, click **Start > Control Panel > Programs and Features > Uninstall or Change a Program**.

2   Click **Symantec Backup Exec System Recovery Manager**.

3   Click **Remove** (**Uninstall** on Windows Vista).

4   Click **Yes** to begin the uninstallation.

Using the Backup Exec System Recovery Manager console

This chapter includes the following topics:

- About using the console
- Using the Drag-and-drop Workspace
- Updating the Backup Exec System Recovery Manager console
- Sending feedback
- Where to go from here

About using the console

If you are new to using Backup Exec System Recovery Manager, you should first review this information before adding computers to the console or deploying backups and other jobs.

From the console you can create and deploy backups from your workstation, delete recovery points, recover a computer, and convert recovery points to virtual disks. You can view various reports and the complete status of all jobs that are running on the computers that you manage.

Starting Backup Exec System Recovery Manager

You start the console from the Windows Start menu.

During the installation of the Backup Exec System Recovery Manager server, you had to specify an administrator account password. When you start the console, you must type the correct user name, password, and server name (or IP address of the server) to access the server through the console's interface.

To start Backup Exec System Recovery Manager

1 Do one of the following:

- On the classic Windows taskbar, click **Start > Programs > Symantec > Backup Exec System Recovery> Symantec Backup Exec System Recovery Manager**.

- On the Windows Vista, Windows XP, or Windows 2003 taskbar, click **Start > All Programs > Symantec > Backup Exec System Recovery> Symantec Backup Exec System Recovery Manager**.

   If you are starting the console for the first time, you may be prompted to install Microsoft .NET Framework 2.0 if it does not exist on the computer or you have a previous version of .NET.

2 Click **Yes** and follow the on-screen prompts to install Microsoft .NET Framework 2.0. Otherwise, skip to the next step.

3 Type the user name and password to the console.

4 In the Log on to text box, type the computer name or IP address of the Backup Exec System Recovery Manager server.

5 Click **OK**.

6 If this is your first log on to the server, click **OK**, and then click **Yes** to install the certificate of authority. Otherwise, skip to the next step.

7 Do one of the following:

- If you are logging on to a trial version of the software, enter the product key and then click **Activate** to activate the Backup Exec System Recovery Manager server.

- Click **Later** to activate the Backup Exec System Recovery Manager server later on and continue using the trial version.

Exiting Backup Exec System Recovery Manager

When you exit Backup Exec System Recovery Manager, the console is closed and you are returned to the Windows desktop. Any jobs you have deployed to computers continue to function as usual.

To exit Backup Exec System Recovery Manager

1   On the File menu of the console, click **Exit**.

2   Click **Yes**.

Logging off from the server

When you log off, the console is closed and the Backup Exec System Recovery Manager log on dialog box is displayed. Any jobs you have deployed to computers continue to function as usual.

To log off from the server

1   On the File menu of the console, click **Log off**.

2   Click **Yes**.

Changing console passwords

You must be logged on in the role of System Admin to change your console password or the console passwords of other users. Users who are not logged on in the role of System Admin can change their own password. Passwords are case-sensitive.

Note: You cannot access the Backup Exec System Recovery Manager server by way of the console if you do not enter the correct password, or you forget the password. (In such cases, you must uninstall, and then reinstall the console and the server software.) Store the password in a secure place; Symantec has no method for restoring a password to the server.

See "About managing roles-based user accounts" on page 86.

To change your own console password

1   Verify that you are already logged on to the console in the role of System Admin.

2   On the Tools menu, click **Change Password**.

3   Type the password that you want to change in the Old password text box.

4   Type the new password in the New password and Confirm password text boxes.

5   Click **OK**.

To change the console passwords of other users

1   Verify that you are already logged on to the console in the role of System Admin.

2   On the Tools menu, click **Options > Users**.

3   On the right pane, select a user name.

4   On the toolbar, click **Edit**.

5   Type the new password in the **Password** and **Confirm Password** text boxes.

6   Click **OK**.

7   Click **Close**.

About the console views

The console consists of the following five main views where you do your work:

- Home page

- Manage page

- Monitor page

- Reports page

- Shortcuts page

Home page

The Home page is the default view each time you log on to the console. It is always available as a tab in the left pane of the console window.

The Home page provides a visual overall status of servers and desktops that may or may not be protected by Backup Exec System Recovery. Actual data regarding computer or server incidents populates this page.

Table 3-1 describes the information available from the Home page.

Table 3-1   Home page information

Pane name	Description
Status	The Status pie chart shows the proportions of certain current status types for all recovery-enabled servers or desktops. A computer is considered recovery-enabled if is has Backup Exec System Recovery and Management Control installed on it. You can click the drop-down list button in the upper-right corner of this pane to select a status type or to print the chart. You can also click a pie slice in the chart to open a corresponding tab on the Manage page for a detailed view. You can refine the details further by using the Filter bar above the table. See "Changing pane details" on page 51.
	Computer status types include the following: ■ Backed up: The number of all managed computers, servers, or desktops, that have made a recovery point of all drives in the last 30 days and have not missed the last scheduled back up. Computer can be considered "Backed up" without having an assigned backup job as long as one or more recovery points have been created within the last 30 days. A backed up drive can be fully recovered. ■ Needs Attention: The number of all managed computers, servers, or desktops that have a backup job assigned but it has not been run for a long time, or it has missed the last scheduled backup (meaning that existing recovery points are probably old). A computer drive that needs attention can be recovered, but if the recovery points are older, it will not contain the latest versions of files or folders. ■ At Risk: The number of all managed computers, servers, or desktops that have no recovery points available from which to recover the drives. A computer at risk cannot be recovered.
	The License pie chart shows the proportions of licenses for all managed computers. License status types include the following: ■ License: The number of all managed computer that have a current license assigned. ■ Not Licensed: The number of all managed computers that have a trial version of Backup Exec System Recovery installed but the trial license has expired, or an installation of Backup Exec System Recovery exists but no license has been activated. ■ Trial License: The number of all managed computers that have a trial version of Backup Exec System Recovery installed.

Table 3-1   Home page information *(continued)*

Pane name	Description
Statistics	The Statistics pie chart shows a summary of all of the managed computers. The computers are sorted by servers, desktops, and operating systems. You can click the drop-down list button in the upper-right corner of this pane to select a statistic type or to print the chart. See "Printing a chart on the Home page" on page 48. You can also click a pie slice in the chart to open a corresponding tab in Manage for a detailed view. You can further refine the details by using the Filter bar above the table. See "Changing pane details" on page 51.
	Computer statistics include the following: ■ Server and Desktop: The number of managed server and desktop computers. ■ Server Operating System: The number of managed server computers that are running a particular version of Windows. ■ Desktop Operating System: The number of managed desktop computers that are running a particular version of Windows.
Hot Spots	Displays the current state of all server and all desktop computers under the management of Backup Exec System Recovery Manager. Click the drop-down list button in the upper-right corner of this pane to select filtering options or to print the chart. You can click a bar in the Hot Spot bar chart to open a corresponding view. This view can help you further troubleshoot problems. For example, depending on the view, you can show Management Control and Event log files or retry a backup. Or, you can request updated information from selected client computers. Over time, the console gets populated with any new information as computers respond.

Table 3-1   Home page information *(continued)*

Pane name	Description

	Hot Spot data types include the following displays:
	
	■ Backup Failures: The number of managed server and desktop computers that have backup failures.
	  Backup failures can be caused by running out of hard disk space at the recovery point storage location, or if the backup is unable to connect to the specified recovery point storage location (usually a non-local storage location).
	■ Recovery Failures: The number of managed servers and desktops that have failed recovery jobs.
	■ Conversion Failures: The number of managed servers and desktops that have failed convert to virtual jobs.
	■ Deletion Failures: The number of managed servers and desktops that attempted to delete incremental recovery points but failed.
	■ Not Reporting: The number of managed servers and desktops that have not reported back to the Backup Exec System Recovery Manager server within a set time interval.
	  A computer is considered not responding if the client computer has an assigned backup job and the server has not heard from the computer at the next scheduled recovery point creation time (which is six times the default Management Control polling interval as set in Client Options). This error is often caused by network connectivity issues, like the computer or laptop not being connected to the network or being turned off.
	  See "Setting client options for computers" on page 153.
	
	See "About monitoring computers" on page 159.

Trends (historical)	Displays a line chart that shows the number of computers that have had Backup Exec System Recovery events for a specified date range.
	Trend data types whose display you can turn on or off include the following: ■ Backup Failures ■ Recovery Failures ■ Conversion Failures ■ Deletion Failures ■ Not Reporting Failures The line chart does not contain any hyperlinks.

Table 3-1   Home page information *(continued)*

Pane name	Description
	You can click the drop-down list button in the upper-right corner of this pane to do the following: ■ Filter the chart data by servers, or desktops, or include all computers. ■ Select chart options, such as the types of data to display, and the date range for confining the data to a specified period of time. ■ Print the chart on the default printer.

Printing a chart on the Home page

You can print each chart on the Home page on the default printer that is already set up.

To print a chart on the Home page

1   On the Home page, do one of the following:

■ On the File menu, click **Print > Status**, **Hot Spots**, **Statistics**, or **Trends**.

■ Click the drop-down list in the upper-right corner of each chart pane, and then click **Print Chart**.

2   Specify the print settings for the chart, and then click **Print**.

Manage page

The Manage page, available as a tab in the left pane of the console, is used to display all the computers, computer groups, backup jobs, and recovery point destinations that the Backup Exec System Recovery Manager server currently manages.

It also serves as a launching point for additional services that may be installed such as Backup Exec Retrieve, and Backup Exec Granular Restore Option.

From the Manage page you can do the following, among other things:

■ Create or edit backup jobs, backup destinations, and groups of computers
See "Creating a backup job" on page 103.
See "About managing recovery point destinations" on page 80.
See "About organizing groups of computers" on page 77.

■ Assign backup jobs to computers and groups
See "Assigning a backup job to computers or groups" on page 123.

■ Run a backup job on all assigned client computers or a single client computer
See "Running an existing backup job immediately" on page 124.

- Set client options such as communication ports and notifications for computers or groups of computers
  See "Setting client options for computers" on page 153.

- Use a previously created recovery point to recover a data drive on a client computer to a new or an existing data drive on the same computer
  See "About recovering a drive" on page 139.

- Convert recovery points to a VMWare Virtual Disk (.vmdk) or a Microsoft Virtual Disk (.vhd)
  See "Converting recovery points to virtual disks" on page 133.

- Delete recovery points on a computer to use hard disk space more efficiently
  See "About managing recovery points" on page 129.

- View the progress of a job on computers as it occurs

- Filter and sort computers, groups of computers, backup jobs, and backup locations according to specific criteria that you select on the Filter bar above the table

- Assign licenses to activate installations of Backup Exec System Recovery on computers, or unassign licenses
  See "About managing licenses" on page 89.

- View a computer's drive details (like the drive's used and free space, and assigned backup jobs), recovery point history, or event details to verify that Backup Exec System Recovery functions properly
  See "Viewing the properties of a computer" on page 165.

- Use the Drag-and-drop Workspace to simplify working with objects and tasks in the multiple workspace environment of the Manage page
  See "Using the Drag-and-drop Workspace" on page 52.

Monitor page

The Monitor page publishes status information regarding any jobs (such as backups, recoveries, and conversions to virtual disks) that are currently running. When a job is completed or cancelled, any computers that are associated with the job are removed from the table on the Monitor page.

You can affect the published progress of a job by specifying a percentage interval. For example, if you specified 10 (the default) in the Management Control panel of Client Options, the job updates the console display after each 10 percent of the job's completion on the client computer. You can also choose to have no job progress published. In such cases, only an entry for the running job appears on the Monitor page. When the job is finished, the entry is removed.

See

From this page you can do the following:

■ Cancel a job in progress. The Progress column in the table displays "Cancel Requested".

■ View any pending jobs for a selected computer.

■ View the number of backup, recovery, deletion, or conversion errors on a computer. When you select an error from the Errors drop-down list on the Tool strip, a corresponding troubleshooting dialog box is displayed to help you solve the problem.

■ Filter and sort computers or jobs according to specific criteria on the Filter bar.

Reports page

The Reports page includes a variety of pre-defined data reports that you can either view in the right pane or export to the following file formats:

■ Microsoft Office Excel 2003 or later (.xls)

■ Comma-separated value (.csv)

■ HTML Web page

■ XML

Shortcuts page

The Shortcuts page lets you add links (or shortcuts) to external programs or Web pages outside of the console.

When you install the console, the following default program shortcut icons are automatically added to the Shortcuts page:

■ Backup Exec 11d

■ Backup Exec 10d

■ LiveUpdate

■ Symantec pcAnywhere

These program shortcuts are active if you have the programs (or any other program from the family of Backup Exec products) installed on the same computer as the console.

See "About the Shortcuts page" on page 169.

Refreshing the console manually

Refreshing the console manually updates the currently displayed page (excluding the Shortcuts page) with new data. All cached backup, computer, group, or recovery point destination information is reread to ensure that any changes are updated in the user interface of the page you are viewing.

You can set up the console to refresh automatically.

See "Editing server and client settings" on page 84.

To refresh the console manually

◆ Do one of the following:

- Press F5.

- On the Home, Manage, Monitor, or Reports page, click **View > Refresh**.

Changing pane details

To help you manage hundreds or thousands of computers, you can use the Filter bar in the upper right pane of the Manage page and other areas of the console to refine or organize the displayed results. For example, you can use the Add Filter drop-down list on the left end of the bar to further refine the results. Or, you can select only those column headings that you want to see or hide in the table. You can also sort columns of information in ascending or descending order. Or, you can rearrange the order of column headings.

Note: The Add Filter drop-down list on the left end of the Filter bar and the View Columns drop-down list on the right end of the Filter bar function independently of each other.

To change pane details

1 On the Manage page, in the right pane, click a tab.

The Filter bar appears directly above the table on the right pane.

2 Select a filter type from the Add Filter drop-down list at the left end of the Filter bar.

Click **All** on the Filter bar to view all of the data for the selected tab. The number next to All is the total number of computers, groups, backups, or destinations that are listed in the table.

3 Do one of the following:

- To sort the information by ascending or descending order, click a column heading in the table.

- To reorganize the information, drag a column heading in the table to a new location within the same bar.

- To check (show) or uncheck (hide) column names in the table, use the Columns view drop-down list on the Filter bar.

- Right-click on any column heading, and then check (show) or uncheck (hide) the column headings that you want.

Using the Drag-and-drop Workspace

The Drag-and-drop Workspace simplifies working with objects and tasks in the multiple workspace environment of the Manage page.

For example, suppose that you wanted to quickly assign three groups of computers to a particular backup job. On the Manage page, you would select three group names in the Groups tab. Then you would select a backup name on the Backup Jobs tab. Notice that the respective icons also identify the number of objects you have selected. Now, in the Drag-and-drop Workspace, drag the Backup icon and drop it onto the Groups icon (or vice versa). The backup job is now assigned to all the computers in the selected groups.

To use the Drag-and-drop Workspace

1   On the Manage page, do one of the following:

- In the right pane, on the Computers tab, select one or more computers.

- In the right pane, on the Groups tab, select one or more group names.

- In the right pane, on the Backup Jobs tab, select one or more backup names.

2   Do one of the following on a different tab from above:

- In the right pane, on the Computers tab, select one or more computers.

- In the right pane, on the Groups tab, select one or more group names.

- In the right pane, on the Backup Jobs tab, select one or more backup names.

Your selection depends on what you want to do. For example, do you want to assign computers to groups, computers to backups, or groups to backups?

3   On the Drag-and-drop Workspace, drag the icon that represents your first selection and drop it onto the icon that represents your second selection (or vice versa).

Changing the location and view of the Drag-and-drop Workspace

You can dock the Drag-and-drop Workspace on the left, right, top, or bottom of the right pane on the Manage page.

You can also pin (continually display) or unpin (temporarily hide) the workspace when it is docked on the left or the right side. When you unpin, you access the workspace by moving your mouse pointer onto the Drag-and-drop Workspace tab.

The workspace objects can be arranged in the following manner:

- Tiles: Large icons with the object name displayed to the side of the icon.

- Icons: Medium icons with the object name displayed under the icon.

- List: Small icons with the object name displayed to the side of the icon.

To change the location and view of the Drag-and-drop Workspace

1   On the Manage page, do one of the following:

- To change the workspace view, on the View menu, click **Drag-and-drop Workspace > Tiles**, **Icons**, or **List**.

- To change the workspace location, on the View menu, click **Drag-and-drop Workspace > Left**, **Top**, **Right**, or **Bottom**.

- Drag the title bar of the Drag-and-drop Workspace to a highlighted location in the right pane area.

2   If the workspace is located on the left or right side of the Manage page, click the pin icon to pin (continually display) or unpin (temporarily hide) the workspace.

Updating the Backup Exec System Recovery Manager console

You can receive software updates that are associated with your version of the Backup Exec System Recovery Manager console by connecting to the Symantec LiveUpdate server. You can select the updates that you want to install.

Run LiveUpdate after you have installed the console and opened it for the first time. After you know that your files are up to date, run LiveUpdate periodically to obtain program updates for the console.

To update the Backup Exec System Recovery Manager console

1   On the Help menu, click **LiveUpdate**.

2   Follow the on-screen instructions.

Sending feedback

Please take a moment to share your feedback and comments with Symantec regarding Backup Exec System Recovery Manager.

To send feedback

1   On the Help menu, click **Send Feedback**.

2   Follow the on-screen instructions.

3   When you are finished, click **Submit**.

Where to go from here

Add computers to the Backup Exec System Recovery Manager console and assign backups to those computers.

See "About adding computers to the console" on page 55.

See "Creating a backup job" on page 103.

See "About working with backup jobs" on page 126.

Configuring Backup Exec System Recovery Manager

This chapter includes the following topics:

- About adding computers to the console
- About adding computers that have existing installations of Backup Exec System Recovery
- Removing computers from the console
- About organizing groups of computers
- About managing recovery point destinations
- Editing server and client settings
- About managing roles-based user accounts
- About managing licenses
- About configuring Backup Exec Retrieve

About adding computers to the console

Before you can begin to manage backups of computers on a network or a remote location, you must first add computers to the server and database so that they show up in the console. Adding computers to the console is a streamlined process that involves the installation of Backup Exec System Recovery and Management Control software on client computers. The following overview describes the tasks and processes that are involved.

- ■ Optionally create packages of products such as LightsOut Restore or Backup Exec Granular Restore. (Packages for Backup Exec System Recovery Manager, Management Control, and Index Server are already created for you.)
  See "Creating packages for an Easy Installer " on page 56.

- ■ Optionally create an Easy Installer that includes one or more packages.
  See "Creating an Easy Installer " on page 58.

- ■ Remote users navigate to the Backup Exec System Recovery Download Center Web page and click the name of the Easy Installer to download and install. Or, you use your existing logon scripts to deploy the Easy Installer onto computers.
  See "Downloading an Easy Installer by end users" on page 66.
  See "Deploying an Easy Installer by administrators" on page 68.

- ■ Management Control reports to the Backup Exec System Recovery Manager server. The Computers tab on the Manage page of the console is automatically updated with detailed information about the computers. Each computer is now integrated and under the management of Backup Exec System Recovery Manager.

After computers are added to the console, you can define and assign backups to those computers.

See "Creating a backup job" on page 103.

Creating packages for an Easy Installer

Backup Exec System Recovery Manager already includes numerous pre-installed packages such as the following:

- ■ Backup Exec System Recovery

- ■ Management Control - A necessary component of Backup Exec System Recovery that must be installed on each computer whose backups you want to manage.

- ■ Indexing Server

You would need to create packages for an Easy Installer if any of the following reasons apply:

- ■ A newer version is released for any of the pre-installed packages.

- ■ You want to install LightsOut Restore on computers that you manage. Backup Exec System Recovery Manager does not ship with a pre-installed package of LightsOut Restore. However, you can use the Symantec Recovery Disk CD (or a Symantec Recovery Disk CD that you have customized) to create a package of LightsOut Restore. The CD comes with Backup Exec System Recovery Manager.

LightsOut Restore gives you the ability to restore servers in remote, unattended environments and distributed locations.

See "About recovering a drive" on page 139.

■ You want to install Backup Exec Granular Restore Option on Exchange servers with Backup Exec System Recovery already installed.
You must purchase Backup Exec Granular Restore Option. You can then use the product's CD to create a package of Backup Exec Granular Restore Option using Backup Exec System Recovery Manager.

See "Creating an Easy Installer " on page 58.

A package contains one software product such as Backup Exec System Recovery or Management Control. You combine one or more packages to create an Easy Installer that users download onto their computers, or you deploy to computers with a logon script. Packages and Easy Installers are stored on the Backup Exec System Recovery Manager server.

Typically, you create packages only once and then use them in an Easy Installer until a new version of the product is released. At that time, you can run the Create Packages wizard again to create the appropriate package and then create a new Easy Installer.

To create packages for an Easy Installer

1   Depending on the package that you want to create, make sure you have one or more of the following product CDs available before you continue:

    ■ Symantec Backup Exec System Recovery 7.0 or 8.0 Server Edition

    ■ Symantec Backup Exec System Recovery 7.0 or 8.0 Windows Small Business Server Edition

    ■ Symantec Backup Exec System Recovery 7.0 or 8.0 Desktop Edition

    ■ Symantec Backup Exec System Recovery Manager 7.0 or 8.0

    ■ Symantec Recovery Disk

    ■ Symantec Backup Exec Granular Restore Option

2   On the Tools menu, click **Create Easy Installer**.

3   Click **Add Package**.

4   Select a product whose package you want to create based on the product CD you have available, and then click **Next**.

5   Click **From product CD**.

6 When prompted, insert the appropriate product CD into the media drive.

The install browser window may appear after you insert the CD. In such cases, click **Exit** to return to the wizard.

7 To begin copying the files from the product CD, click **Next**.

The package is added to the Backup Exec System Recovery Manager server.

When you are finished creating packages, you are ready to combine different packages into an Easy Installer.

See "Creating an Easy Installer " on page 58.

Deleting packages

You can delete those packages that you no longer need or use from the Backup Exec System Recovery Manager server. Deleting a package does not affect any Easy Installers that use that package.

Note: You cannot undo a deleted package. If you delete a package by mistake, you need to recreate it.

See "Creating packages for an Easy Installer " on page 56.

To delete packages

1 On the Tools menu, click **Create Easy Installer**.

2 From the list box, select the package that you want to delete .

3 Click **Delete**.

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

Creating an Easy Installer

An Easy Installer is a single installation that contains one or more packages that you have previously created, and other optional functions that are applied to the installer, such as prompting users to reboot their computer. Easy Installers reside on the Backup Exec System Recovery Manager server.

See "Creating packages for an Easy Installer " on page 56.

Depending on how you created the Easy Installer, you can have the resulting install added to a Web page as a hyperlink so that users can download and install the software onto their computers. Or, you can use your established client computer management software and deployment processes to install the software, by way of an Easy Installer, onto client computers.

See "Downloading an Easy Installer by end users" on page 66.

See "Deploying an Easy Installer by administrators" on page 68.

After the users install the software, their client computer becomes managed (and visible) from the Backup Exec System Recovery Manager console.

Table 4-1 describes the packages that are already available for you to use in Easy Installers.

Table 4-1   Available packages

Package	Description
Backup Exec System Recovery	Provides advanced backup and recovery for client computers.
	Backup Exec System Recovery Manager is necessary if you intend to install Index Server or Backup Exec Granular Restore Option on client computers.
Management Control	A necessary component for managing computers with Backup Exec System Recovery installed.
	Note: You can have multiple versions of Management Control packages available. The Management Control version that you install on the client computer must be compatible with the version of Backup Exec System Recovery that is also installed. For example, Management Control 8.0 is compatible with Backup Exec System Recovery 7.0 and 8.0. You can check versions when you create the Easy Installer.
Indexing Server	Provides the capability for users to retrieve their own files with Backup Exec Retrieve on the Web.
	Note: Backup Exec System Recovery must be installed on client computers prior to installing Indexing Server.
	See "About configuring Backup Exec Retrieve" on page 96.

To create an Easy Installer

1   On the Tools menu, click **Options**.

2   In the left pane, click **Easy Installers**.

3   In the right pane, click **Create**.

4 Check the packages that you want to include in the Easy Installer, and then click **Next**.

If you select multiple packages and one of them is Backup Exec System Recovery, you have the option of including Management Control (a necessary component for managing Backup Exec System Recovery). The Management Control component can also be installed separately, if desired.

Note: The Management Control version that you install on the client computer must be compatible with the version of Backup Exec System Recovery that is also installed. For example, Management Control 8.0 is compatible with Backup Exec System Recovery 7.0 and 8.0. You can check versions when you create the Easy Installer.

5   Depending on the packages that you selected, you may need to set certain options specific to the package.

If you selected the Backup Exec System Recovery package, specify the following options:

Install Backup Exec System Recovery without a user interface	Installs only the Backup Exec System Recovery agent. The agent is the unseen engine that does the actual creation and restoration of recovery points on a computer. Because the agent functions as a service, it does not have a graphical user interface on the client computer.
	The agent does, however, have a tray icon that is available from the Windows system tray to provide feedback of current conditions and to perform common tasks.
	For example, from the tray icon a user can view assigned backups or cancel a job that is currently running.
Install Backup Exec System Recovery with a user interface	Installs the full Backup Exec System Recovery product that includes the agent and the graphical user interface.
	See "Setting client options for computers" on page 153.
Use the default language that is specified in Symantec Recovery Disk	Installs Backup Exec System Recovery based on the default language setting used in Windows.
Choose language	Lets you choose the language version of Backup Exec System Recovery that you want to install, regardless of the default language setting in Windows.

If you selected the LightsOut Restore package, specify the following options:

Time to display boot menu	Specify how long the boot menu is displayed on the client computer. The default is 10 seconds.
Enable Symantec pcAnywhere	Check this option if you want the capability to load the Symantec pcAnywhere thin host on the client computer for recovery environment access. This is useful for troubleshooting a system recovery.
Enable network services	Check this option if you want networking to start when LightsOut Restore is loaded.
Dynamic IP address or Static IP Address	Click the type of IP addresses that you want LightsOut Restore to use for communication with Backup Exec System Recovery Manager.

Let OS determine language	Installs Backup Exec System Recovery that is based on the default language setting used in Windows.
Choose language	Choose the language version of Backup Exec System Recovery that you want to install, regardless of the default language setting in Windows.

Note: The LightsOut Restore feature requires a minimum of 1 GB of memory on the client computer to run.

6   Click **Next**.

7   Select the options that you want the Easy Installer to include.

Easy Installer name	Type the name of the Easy Installer. The name is what users see on the Web page that they visit. It is also the name of the Easy Installer file.
	By default, the package names you selected earlier are combined and represented as the Easy Installer name.

Show Easy Installer on Web Page	This option is checked by default.
	Adds the Easy Installer to the Backup Exec System Recovery Download Center Web page. The Easy Installer is represented as a hyperlinked name on the Web page.
	If you intend to have users download the software, the link is what users click to download and install it. If you intend to deploy the software, the same link is used to download and save the software to your computer. You can then use your existing logon scripts to install the software onto computers.
	Note: Be aware that if your logon script detects that the expected version of Backup Exec System Recovery is already installed on a client computer, it may still run the Easy Installer which would uninstall and then reinstall Backup Exec System Recovery. To prevent this from happening repeatedly at log on, be sure your script first checks for an installation of the expected version of Backup Exec System Recovery and runs accordingly.
	The Backup Exec System Recovery Download Center Web page is located on the Backup Exec System Recovery server and available at the following locations:
	■ On the Tools menu, click **Options**. In the left pane, click **Easy Installers**. The Web hyperlink is displayed in the lower right pane.
	■ Secure port: https://*<server_name or IP_address>*:8443/DownloadCenter
Prompt user to reboot if necessary	This option is checked by default. Prompts the users, where required, to reboot their computer following the installation of the software.
	Warning: If you uncheck this option, the client computers will still reboot (if necessary), but the users will not be prompted.
Show Easy Installer status on client computer	This option is checked by default.
	Displays the status of the installation to the user on the client computer.

Run-as the following user on the client computer.	Specify the user context to run the install on the client computer.
	If you know that users do not have Administrator privileges to download and install the product, select this option.
	Specify the appropriate user credentials so that the user can download and install the software
	You must have an administrator user name and password for the computers that you want to manage. Also, the administrator user name and password must be the same for all the computers that you want to place under management at one time. To accomplish this, all unmanaged computers must be in the same domain. You should also use a domain administrator user name (for example, name@domain.com) and password for authentication. If you add only a few computers, you can specify a local user account.
	For security reasons, you should not use the same user name and password that is used to log on to the Backup Exec System Recovery Manager console.

8   Click **Next**.

9   Select the behavior control options that you want the Easy Installer to include:

Include Files	Check this option to include all of the necessary install files in the Easy Installer. Including install files results in a larger Easy Installer file size to download. However, the installation is faster because the Easy Installer does not need to communicate with the server or download the install files separately.
	Note: If the Easy Installer is being downloaded or deployed over a VPN or a slow network connection, you should check this option.
	If you do not check this option, the Easy Installer downloads the necessary install files from the Backup Exec System Recovery Manager server at the time of installation. The result is a longer installation time.
IP Address	Check this option to specify which IP address on the Backup Exec System Recovery Manager server that the Easy Installers should use when they communicate with the server. This option is useful if the server has multiple NIC cards or, if you assigned a static IP address to the Backup Exec System Recovery Manager server.
Accessibility	Check the role names that are permitted to download the Easy Installer.

10   Click **Next** to review the options you have selected.

11   Click **Finish**.

You are ready to use Easy Installers to add computers to the console.

See "Downloading an Easy Installer by end users" on page 66.

See "Deploying an Easy Installer by administrators" on page 68.

Editing an Easy Installer

You can edit an existing Easy Installer even if is already available from the download center Web page.

To edit an Easy Installer

1   On the Tools menu, click **Options**.

2   In the left pane, click **Easy Installers**.

3   In the right pane, select the name of an Easy Installer that you want to edit.

4 Click **Edit**.

5 Change the options that you want, and then click **OK**.

Deleting an Easy Installer

When you delete an Easy Installer, you remove both the hyperlink from the associated download center Web page and the Install itself from Backup Exec System Recovery Manager. Any packages inside the Easy Installer are still saved in the Backup Exec System Recovery database for future use.

To delete an Easy Installer

1 On the Tools menu, click **Options**.

2 In the left pane, click **Easy Installers**.

3 In the right pane, select the name of an Easy Installer that you want to delete.

4 Click **Delete**.

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

Downloading an Easy Installer by end users

You can add computers to the console by having remote users download and install the Backup Exec System Recovery Easy Installer. The Management Control component publishes information back to the server, which populates the Backup Exec System Recovery Manager console.

Users can also download Easy Installers of LightsOut Restore and Backup Exec Granular Restore Option if you have made them available on the download center Web page.

You may prefer to deploy Easy Installers to client computers with a logon script instead.

See "Deploying an Easy Installer by administrators" on page 68.

See "About adding computers to the console" on page 55.

To have end users download an Easy Installer

1 Navigate to the Backup Exec System Recovery Download Center Web page by doing one of the following:

■ On the Tools menu, click **Options**. In the left pane, click **Easy Installers**, and then in the right pane, click the Web hyperlink.

■ Type the following in a Web browser:

```
https://<server_name or IP_address>:8443/DownloadCenter
```

2   Type the user name and password that is assigned to the role, and associated with the Easy Installer.

For example, if you assigned the Download A role when you created the Easy Installer, you would type the user name and password assigned to that role.

If you did not assign a role to an Easy Installer, the role defaults to Download All with "download" as the default user name and password. It is recommended that you change the default Download All user name and password.

See "Editing a user account" on page 88.

3   Click the email hyperlink to the right of the Easy Installer that you want users to download.

Your default email program opens a new email window. The Web hyperlink to the Easy Installer is added to the body of the email message.

4   Specify the email addresses of all intended users, including any additional instructions, and then click **Send**.

The users open the email, and then type the necessary user name and password to open the Web page. They click the name of the Easy Installer to begin the download and installation of the software.

Note: If Backup Exec System Recovery already exists on a client computer before installation, any backup jobs (including command files) created by the user remain intact. Management Control publishes the user's backup job to the server and updates the console. However, the backup history is deleted.

Following the installation of Backup Exec System Recovery, the computer either reboots automatically after 60 seconds, or it gives the user the option to reboot later. (The reboot option was defined at the time you created the Easy Installer.)

5   The Management Control component publishes information back to the Backup Exec System Recovery Manager server.

The computer appears on the Manage page of the console and is considered manageable. You can now assign backup jobs to the computer to bring it under full backup management.

See "Components of Backup Exec System Recovery Manager" on page 17.

For each installation of Symantec Backup Exec System Recovery on computers, you also need to add a product key (for Backup Exec System Recovery 8.0) or deploy a license file (for Backup Exec System Recovery 7.0) to activate the software.

See "Assigning Backup Exec System Recovery licenses to computers" on page 90.

Deploying an Easy Installer by administrators

You can add computers to the console by using your established client computer management software and deployment processes to install the software, by way of an Easy Installer, onto client computers. The Management Control component publishes information back to the server, which populates the Backup Exec System Recovery Manager console.

You can also deploy Easy Installers of LightsOut Restore and Backup Exec Granular Restore Option if you have made them available.

You may prefer to have remote users download Easy Installers from the download center Web page instead.

See

See

To have administrators deploy an Easy Installer

1 Navigate to the Backup Exec System Recovery Download Center Web page by doing one of the following:

   ■ On the Tools menu, click **Options**. In the left pane, click **Easy Installers**, and then in the right pane, click the Web hyperlink.

   ■ Type the following in a Web browser:
      `https://<Server_name or IP_address>:8443/DownloadCenter`

2 Type the user name and password that is assigned to the role, and associated with the Easy Installer.

   For example, if you assigned the Download A role when you created the Easy Installer, you would type the user name and password assigned to that role.

   If you did not assign a role to an Easy Installer, the role defaults to Download All with "download" as the default user name and password. It is recommended that you change the default Download All user name and password.

   See

3 To download and save the file to a location on your computer, click the name of an Easy Installer.

4 Use your existing logon scripts to deploy the Easy Installer onto computers and install the software. For example, you can integrate the Easy Installer with your domain logon scripts.

Be aware that if your logon script detects that the expected version ofBackup Exec System Recovery is already installed on a client computer, it may still run the Easy Installer which would uninstall and then reinstall Backup Exec System Recovery. To prevent this from happening repeatedly at log on, be sure your script first checks for an installation of the expected version of Backup Exec System Recovery and runs accordingly.

Note: If Backup Exec System Recovery already exists on a client computer before installation, any backup jobs (including command files) created by the user remain intact. Management Control publishes the user's backup job to the server and updates the console. However, the backup history is deleted.

Following the installation of Backup Exec System Recovery, the computer either reboots automatically after 60 seconds, or it gives the user the option to reboot later. (The reboot option is defined at the time you created the Easy Installer.)

5 The Management Control component publishes information back to the Backup Exec System Recovery Manager server.

The computer appears on the Manage page of the console and is considered manageable. You can now assign backup jobs to the computer to bring it under full backup management.

See "Components of Backup Exec System Recovery Manager" on page 17.

For each installation of Symantec Backup Exec System Recovery on computers, you also need to add a product key (for Backup Exec System Recovery 8.0) or deploy a license file (for Backup Exec System Recovery 7.0) to activate the software.

See "Assigning Backup Exec System Recovery licenses to computers" on page 90.

About adding computers that have existing installations of Backup Exec System Recovery

Backup Exec System Recovery Manager 8.0 supports the backup management of existing installations of Symantec Backup Exec System Recovery 8.0 and 7.0 on client computers. To bring such computers under backup management, you need to install Management Control 8.0 using an Easy Installer.

See "Creating an Easy Installer " on page 58.

After Management Control is installed, it publishes information back to the Backup Exec System Recovery Manager server and the following occurs:

- Any user-defined backup jobs on the client computer or existing recovery point information gets imported to the Backup Exec System Recovery Manager server and appears in the console.

  - If the backup job specifies a network destination for saving the recovery points, you must reconcile the destination by specifying the proper network credentials in Backup Exec System Recovery Manager. The backup job will then become functional in Backup Exec System Recovery Manager and continue to store recovery points on the designated network share. Otherwise, you can choose to delete the destination and any backup jobs that are associated with it, and then create or assign a new backup job for the affected computers.
    See "Reconciling a recovery point network destination for an imported backup job" on page 72.

  - If the backup job includes the use of a recovery point password, you must reconcile the job from the console by specifying the correct password. The backup job will then become functional in Backup Exec System Recovery Manager and continue to apply password protection to recovery points. Otherwise, you can choose to delete the backup job, and then assign a new backup job to the affected computers.
    See "Reconciling recovery point passwords or command files for an imported backup job" on page 73.

  - If the imported recovery points were created with password protection, you must reconcile each recovery point in the console by specifying the original password. This ensures that the imported recovery points are accessible from Backup Exec System Recovery Manager and that you can restore a recovery point with the password, if necessary.
    See "Reconciling passwords for imported recovery points" on page 75.

- Any command files that are associated with imported jobs are not copied to the server. Instead, you must edit the backup job and either specify the necessary command files that you want to run or remove the files from the backup job.
  See "Reconciling recovery point passwords or command files for an imported backup job" on page 73.

In the console, you can segregate Backup Exec System Recovery 8.0 and 7.o client computers by turning on the Backup Exec System Recovery Version column on the Manage page.

See "Changing pane details" on page 51.

Reconciling a recovery point network destination for an imported backup job

When you bring existing installations of Backup Exec System Recovery 8.0 or 7.0 under backup management, any user-defined backup jobs on those client computers are automatically imported into the console. If those jobs specified a network destination for recovery points, you must reconcile each destination in the console. This ensures that the backup jobs that use the network share can continue to function as usual and also be able to store the recovery points on the specified network share.

To reconcile a recovery point network destination, you need to specify the correct network credentials. Or, you can choose to delete the destination and any backup jobs that are associated with it, and then assign a new backup job to the client computer.

Any destinations that you need to reconcile are displayed each time you start the console.

See "Reconciling recovery point passwords or command files for an imported backup job" on page 73.

See "Reconciling passwords for imported recovery points" on page 75.

See "About adding computers that have existing installations of Backup Exec System Recovery" on page 70.

To reconcile a recovery point network destination for an imported backup job

1   On the Manage page, in the right pane, click the Destinations tab.

    In the table, network destinations that require reconciliation are listed as Action Required under the column headings Network User and Password.

2   On the Tasks menu, click **Destinations Needing Credentials**.

    You can use the Filter bar above the table to refine or organize the displayed results.

3   Select one or more paths that need credentials.

4   Do one of the following:

    ■ To remove the destination and any backup jobs that are associated with it, click **Delete > Yes**.

    ■ To specify the credentials to the network destination, click **Edit**, and then continue with the next step.

Notice that you cannot edit the path. To edit the path, you need to delete this destination instead, and then define a new one.

5   In the network credentials group box, type the user name and password for logging on to the network storage location.

6   To verify that the specified user name and password to the network location are valid, you can check **Validate network location**.

If you selected two or more destinations in step 3 to edit at the same time, Validate network location is not available.

7   If necessary, edit the Backup Exec Retrieve indexing settings.

If you selected two or more destinations in step 3 to edit at the same time, Backup Exec Retrieve indexing settings are not available.

8   Click **OK**.

Reconciling recovery point passwords or command files for an imported backup job

When you bring existing installations of Backup Exec System Recovery 8.0 or 7.0 under backup management, any user-defined backup jobs on those client computers are imported into the Backup Exec System Recovery Manager server and appear in the console. If those jobs specified the use of a recovery point password or command files, you must reconcile each job in the console. This ensures that the job will continue to function as usual and also create recovery points that are protected with a password.

To reconcile a job, you need to specify a password for the recovery points. Or, you can choose to delete the job, and then assign a new job to the client computer.

Any backup jobs that you need to reconcile are displayed each time you start the console.

See "Reconciling a recovery point network destination for an imported backup job" on page 72.

See "Reconciling passwords for imported recovery points" on page 75.

See "About adding computers that have existing installations of Backup Exec System Recovery" on page 70.

To reconcile recovery point passwords or command files for an imported backup job

1   On the Manage page, in the right pane, click the Backup Jobs tab.

   In the table, backup jobs whose passwords require reconciliation are listed as Action Required under the Password column header. Likewise, backup jobs whose command files require reconciliation are listed as Action Required under the Command Files column header.

2   On the Tasks menu, click **Backup Jobs Needing Attention**.

3   Do one or more of the following:

To reconcile recovery point passwords for an imported backup job	■ Select one or more job names with Action Required status under the Password column header.
	You can use the options on Filter bar above the table to refine the displayed results.
	■ Do one of the following:
	  ■ To remove the backup jobs, click **Delete > Yes**.
	  ■ To specify the recovery point password for the backup job, click **Set Password** and then continue with the next step.
	■ Type the password twice, and then click **OK**.

To reconcile command files for an imported backup job	■ Select one or more job names with Action Required under the Command Files column header You can use the options on Filter bar above the table to refine the displayed results. ■ Click **Edit**. ■ Click **Next** in the Edit Backup Job wizard until the Command Files panel appears. ■ Select a command file (.exe, .bat) from each drop-down list to run during a particular stage in the recovery point creation process, and then specify the amount of time (in seconds) that you want the command to run before it is stopped. To add command files to the drop-down lists, click **Add or Remove Command Files**. Command files are copied and stored on the Backup Exec System Recovery Manager server. See "About running command files during a back up" on page 116. ■ To complete the Edit Backup Job wizard, click **Next** twice, and then click **Finish**.

4   To return to the console, click **Close** in the Backup Jobs Needing Attention.

Reconciling passwords for imported recovery points

When you bring existing installations of Backup Exec System Recovery 8.0 or 7.0 under backup management, any existing recovery points are automatically imported for viewing in the console. If the imported recovery points were created with password protection, you must reconcile each recovery point in the console by specifying the original password. This ensures that the imported recovery points are still accessible from Backup Exec System Recovery Manager and that you can restore a recovery point, if necessary.

See "Reconciling recovery point passwords or command files for an imported backup job" on page 73.

See "Reconciling a recovery point network destination for an imported backup job" on page 72.

See "About adding computers that have existing installations of Backup Exec System Recovery" on page 70.

To reconcile passwords for imported recovery points

1   On the Manage page, in the right pane, do one of the following:

   ■ Click the Computers tab, and then select one or more computer names in the table.

   ■ Click the Groups tab, and then select one or more group names in table.

   ■ Click the Destinations tab, and then select one or more paths in the table.

2   On the Tasks menu, click **Recovery Points > View**.

3   On the Add Filter drop-down list, click **Password > Action Required**.

4   Select all the recovery points for a particular computer, and then click **Specify Original Password**.

5   Type the original password that was assigned to the recovery points, and then click **OK**.

Removing computers from the console

When you remove one or more computers or a group of computers, the following occurs:

■ The computers are removed from all views in the console.

■ Management Control becomes inactive. Computer information is no longer published back to the Backup Exec System Recovery Manager server.

- Backup Exec System Recovery, Management Control, and the Microsoft .NET Framework remain installed on each computer.

- The Backup Exec System Recovery license remains on each computer.
  You can optionally have the license unassigned at the time you remove computers from the console. In such cases, Backup Exec System Recovery returns to a 60-day trial version on the client computer.

- Backup jobs remain on each computer.
  You can optionally have backup jobs unassigned at the time you remove computers from the console.

Note: To add the computers to the console again, you can use an Easy Installer to reinstall Management Control on the client computers.

See "Creating an Easy Installer " on page 58.

See "Downloading an Easy Installer by end users" on page 66.

See "Deploying an Easy Installer by administrators" on page 68.

See "About managing licenses" on page 89.

To remove computers from the console

1 On the Manage page, do one of the following:

   - In the right pane, on the Computers tab, select one or more computer names in the table.

   - In the right pane, on the Groups tab, select one or more group names in the table.

2 Do one of the following:

   - If you selected one or more computers, on the Tasks menu, click **Unmanage Computers**.

   - If you selected one or more groups of computers, on the Tasks menu, click **Unmanage Computers in Groups**.

3 Check **Remove licenses from computers before unmanaging** if you want to unassign all Backup Exec System Recovery licenses from the selected computers. The licenses can be reassigned to other computers that you manage.

4 Check **Unassign backup jobs from computers before unmanaging** if you want to remove backup jobs from the selected computers before the computers are removed from the console.

5 Click **OK** twice to confirm the removal.

About organizing groups of computers

You can organize computers in the console by creating computer groups. Although not a necessary task, computer groups simplify the backup management of large numbers of computers. For example, if you want to back up desktop computers once a month, you can create a group for those computers, regardless of where they reside on the network. You can then assign a monthly backup job for that group.

You can group computers by department, network location, physical location, job schedules, or any other grouping criteria you establish. You can then assign one or more jobs to that group. This method saves you time by not having to create a job for each computer in the console.

Note: Only one incremental job per drive can be assigned on a client computer. If you assign a second incremental job to the same drive, a job error occurs.

You can create any number of groups for the computers that are added to the console, and you can add computers to one or more groups.

Computer groups cannot be nested within other computer groups.

You can organize groups of computers in the following ways:

- Add computer groups to the console
  See "Adding groups to the console" on page 77.

- Edit a computer group name and description
  See "Editing groups" on page 78.

- Remove computer groups from the console
  See "Deleting groups" on page 78.

- Assign computers to groups
  See "Assigning computers to a group" on page 79.

- Remove computers from groups
  See "Unassigning computers from a group" on page 79.

- View computers that are assigned to a group
  See "Viewing the properties of a group" on page 79.

Adding groups to the console

When you create a group for computers, the name is added to the Groups tab on the Manage page.

You can add a computer to more than one group, but you can only assign one incremental job at a time (per drive), on the selected computer (this does not apply to base-only jobs).

See "Assigning computers to a group" on page 79.

To add groups to the console

1   On the Manage page, in the right pane, click the Groups tab.

2   On the Tasks menu, click **Create Group**.

3   In the Computer group name text box, type the name that you want to use to identify the group.

4   Type a description for the computer group.

5   Click **OK**.

    The group appears in the table on the Groups tab.

Editing groups

You can change the name or description of an existing computer group in the console.

To edit groups

1   On the Manage page, in the right pane, click the Groups tab.

2   Select a group name in the table.

3   On the Tasks menu, click **Edit**.

4   Make the changes that you want to the group name and description.

5   Click **OK**.

Deleting groups

When you delete a computer group, the group name is removed from the Groups tab on the Manage page. The computers, however, continue to be managed in their respective tabs on the Manage page.

See "Removing computers from the console" on page 75.

To delete groups

1   On the Manage page, in the right pane, click the Groups tab.

2   Select a group name in the table.

3   On the Tasks menu, click **Delete**.

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

Assigning computers to a group

After you have created a computer group, you can customize the group by adding or removing the computers that exist in the Backup Exec System Recovery Manager database.

You use traditional file selection methods in the console to select one or more computers that you want to add to a computer group.

See "Adding groups to the console" on page 77.

To assign computers to a group

1   On the Manage page, in the right pane, click the Groups tab.

2   Select the group name in the table.

3   On the Tasks menu, click **Assign > Computers**.

    If necessary, you can use the Filter bar in the Assign Group to Computer dialog box to refine the list of computers.

4   Select the computers that you want to assign to the group.

5   Click **OK**.

Unassigning computers from a group

When you remove computers from a group, the computers remain visible on the Computers tab of the Manage page. This situation occurs because the computers are already added to the Backup Exec System Recovery Manager console and server.

See "Removing computers from the console" on page 75.

To unassign computers from a group

1   On the Manage page, in the right pane, click the Groups tab.

2   Select the group name in the table.

3   On the Tasks menu, click **Unassign > Computers**.

    To refine the list of computers, you can use the Filter bar in the Unassign Computers from Groups dialog box.

4   Select the computers that you want to delete from within the group.

5   Click **OK**.

Viewing the properties of a group

You can review all computers that are assigned to a selected group.

To view the properties of a group

1   On the Manage page, in the right pane, click the Groups tab

2   Select a group name in the table.

3   On the Tasks menu, click **Properties**.

4   In the left pane, click a detail or assignment to view the accompanying results on the right pane.

5   Click **Close**.

About managing recovery point destinations

You can manage the destinations of recovery points in the following ways:

■   Define destinations for storing recovery points
     See "Creating recovery point destinations" on page 80.

■   Change a previously defined destination
     See "Editing recovery point destination network credentials" on page 82.

■   Delete a recovery point destination
     See "Deleting recovery point destinations" on page 83.

■   View computers and backup jobs you have assigned to a recovery point destination
     See "Viewing the properties of a recovery point destination" on page 83.

See "About destination options for recovery points" on page 107.

Creating recovery point destinations

On the Manage page of the console, you can define destinations where you want to store recovery points by client computers. A recovery point destination that you define is saved and made available in the Define Backup Wizard, One-time Backup Wizard, and in the Destinations tab on the Manage page.

By defining recovery point destinations that are separate from jobs and computers, you can see how many computers have backed up to a given destination. You can also optimize the network load balance during a job.

You define a recovery point destinations by typing a local folder path, UNC path, or IP address to the location, or by browsing a particular network domain.

Note: When you specify a local folder path as a recovery point destination, the path corresponds to the drive that is found on the managed client computer; it is not the path on the computer where you are running the Backup Exec System Recovery Manager console.

If you use Symantec Backup Exec, you can use the same remote Backup Exec server location defined by Symantec Backup Exec.

See "About managing recovery point destinations" on page 80.

To create recovery point destinations

1   On the Manage page, in the right pane, click the Destinations tab.

2   On the Tasks menu, click **Create Destination**.

3   Do one of the following:

   ■   Type a UNC path to a network share. Make sure the UNC path is preceded with double backslash characters "\\".

   ■   Type the IP address path to a network share. Make sure the IP address path is preceded with double backslash characters "\\".

   ■   Type a local folder path. The local folder path you specify is relative to the managed client computer; it is not the folder path on the computer where you are running the Backup Exec System Recovery Manager console. Go to step 5.
       Local folder paths do not get indexed by the Backup Exec Retrieve Indexing component; only network share paths are indexed.

   ■   Click **Browse** to locate a destination on a network domain.

4 If you typed a path to a network share, set the following options:

Network Credentials	In the Network credentials group box, type the user name and password for logging on to the network storage location.
	Check **Validate network location** (default) to verify that the specified user name and password to the network location are valid.
Enable Backup Exec Retrieve indexing	Check this option to turn on the Indexing Server component of Backup Exec Retrieve. The Indexing Server component indexes all the files inside a recovery point, at the specified network share path. Indexing files allows remote users to search and recover files by name, versions, or recent activity by way of Backup Exec Retrieve's Web-based interface.
	This is an optional feature, and it is available only when you specify a recovery point destination on a network share.
	See "About configuring Backup Exec Retrieve" on page 96.
Index Server	From the drop-down list, select the indexing server that you want to use.
	Note: If you enable Backup Exec Retrieve indexing and there are no Index Servers available from the drop-down list, you need to first install Index Server on a computer.

5 Click **OK**.

The new destination is listed in the Destination tab of the Manage page.

Editing recovery point destination network credentials

You can change an existing recovery point destination's network credentials that you have previously defined. The change takes effect when the existing connection on the client computer is closed (usually by restarting).

Note: To edit the destination path, you must define a new destination.

See "Creating recovery point destinations" on page 80.

To edit recovery point destination network credentials

1 On the Manage page, in the right pane, click the Destinations tab.

2 Select a destination in the table with a network path.

Local folder destination paths are not editable.

3   On the Tasks menu, click **Edit**.

4   In the Network credentials group box, type the new user name and password
    to the destination.

5   If necessary, edit the Backup Exec Retrieve indexing settings.

6   Click **OK**.

Deleting recovery point destinations

You can delete previously defined destinations that you no longer use.

See

See

Note: Any backup jobs (including Backup Exec for Windows Servers jobs that you
created from within Backup Exec System Recovery Manager) that use a recovery
point destination that you intend to delete must be edited to specify a new
destination. You should do this before you delete the old destination. Otherwise,
backup failures will occur.

To delete recovery point destinations

1   On the Manage page, in the right pane, click the Destinations tab.

2   Select a destination path in the table.

3   On the Tasks menu, click **Delete**.

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

Viewing the properties of a recovery point destination

You can review all computers, backup jobs, and Backup Exec for Windows Servers
jobs that are assigned to a selected destination.

See

See

To view the properties of a recovery point destination

1   On the Manage page, in the right pane, click the Destinations tab.

2   Select a destination path in the table.

3   On the Tasks menu, click **Properties**.

4   In the left pane, click an assignment to view the accompanying results on the right pane.

5   Click **Close**.

Editing server and client settings

You can customize certain aspects of the Backup Exec System Recovery Manager console and server to suit your work environment.

Changes to options remain in effect (even after you exit Backup Exec System Recovery Manager) until you change them again.

See "Ports used by Backup Exec System Recovery Manager " on page 173.

Note: You can reconfigure TCP/IP port numbers to enable successful communication with a new installation of Backup Exec System Recovery Manager, or with existing managed computers.

See "Configuring TCP/IP ports for a new installation of Backup Exec System Recovery Manager" on page 175.

See "Configuring TCP/IP ports for an existing managed computer" on page 177.

To edit server and client settings

1   Do one of the following:

   ■   On the Windows Start menu, click **All Programs > Symantec > Backup Exec System Recovery > Symantec Backup Exec System Recovery Manager**, and then click **Settings**. Go to step 4.

   ■   In the Backup Exec System Recovery Manager console, on the Tools menu, click **Options**.

2   In the left pane, click **Connectivity**.

3   In the right pane, click **Edit**.

4 Specify the following connection settings:

Secure Server port	This port uses the console to communicate with Web Services by way of https.
	If you are unable to connect to the secure port, you can set an unsecure server port. The console uses the unsecure port to communicate with Web Services by way of http.
	See "Configuring TCP/IP ports for a new installation of Backup Exec System Recovery Manager" on page 175.
Port for viewing log files	The default is 8080 (unsecure).
	This port is used for viewing the log files created by Backup Exec System Recovery Manager.
Default Management Control port	The default is 763 (unsecure).
	Note: This option is only available when you are logged on to the Backup Exec System Recovery Manager console.
	When a request comes from the Backup Exec System Recovery Manager server (for example, to run a job or update the status of computers), the server uses the client port number to "wake up" the client computer by the Management Control component. The client computer pulls the request from the server and pushes a response back to the server. Any resulting information or status is reflected in the console interface.
	You can change the client port number if the firewall blocks it or if you want to use a different port for selected computers only. Use Client Options to change the client port number for one or more computers, or for entire groups of computers.
	See "Setting client options for computers" on page 153.
Default Indexing Server port	Default is 764 (unsecure).
	Note: This option is only available when you are logged on to the Backup Exec System Recovery Manager console.
	Backup Exec Retrieve uses this port on the Backup Exec System Recovery Manager server to communicate with the Windows Server 2003 computer where Indexing Server is installed.
	Click **Tools > Options > Backup Exec System Recovery**.
	Select a server name and then click **Configure** to change the server's port.

Session time-out in minutes	Specify the number of minutes of inactivity before the current session prompts you to log back on to the server or remain logged off.
Console refresh interval in seconds	Updates the job progress at the specified interval for all computers. If Automatically refresh the console is checked (see below), it updates all objects on the Manage and Home page.
Automatically refresh the console	Check this option to update the job progress on the Manage and Monitor pages at the console refresh interval that is set above.
	If you uncheck this option, job progress is only updated on the Monitor and Home page.

5   Click **OK**.

About managing roles-based user accounts

Backup Exec System Recovery Manager includes ten pre-existing roles with various levels of privileges. You can assign users to one of these roles to specify the level of interaction they can have when they log on to the console.

Assigning different roles to console users provides a more granular method for an administrator to permit or block features and functionality in the product, based on a user's responsibilities.

You must have System Admin privileges to assign roles to users.

Table 4-2 describes the user account roles and privileges.

Table 4-2   User account roles and privileges

Role name	Description
System Admin	This role gives the user full access to all features and functionality in Backup Exec System Recovery Manager.
	Any user assigned to the System Admin role can delete other users including those who are also assigned the System Admin role. However, you cannot deleted currently logged on users until they log off.
	You can change the name of any user including the currently logged on user.
	You can assign multiple user accounts using System Admin privileges. You can manage the accounts for each instance of the Backup Exec System Recovery Manager console.

Table 4-2   User account roles and privileges *(continued)*

Role name	Description
Read-only Access	This role allows the user to view information about various aspects of managed computers. Users have no write access to the server, database, or clients, so they cannot make any configuration changes. Users can view the following: ■ Home, Manage, Reports, and Shortcuts pages ■ Properties of any job, computer, computer group, or backup location ■ Any pending jobs ■ Export data in tables
Execute Access	This role allows the user to run the tasks that affect managed computers. Users have no ability to configure backup jobs, computers, groups of computers, or backup locations. In addition to read-only privileges, this role also allows the user to do the following: ■ Access the Monitor page ■ Run jobs now ■ Remove jobs from computers ■ Troubleshoot ■ Disable or enable jobs ■ Request updated client information for computers or groups ■ Process pending jobs for computers or groups ■ Add licenses to computers
Download All	This role does not allow users to log on to the console. They can, however, log on to the Backup Exec System Recovery Download Center Web page to download any Easy Installers. This role uses "download" as the default user name and password. It is recommended that you change the default user name and password before you assign this role to any Easy Installers. See "Deploying an Easy Installer by administrators" on page 68.
Download A – Download F	There are six roles in this group. A role has restricted download access to Easy Installers that are assigned to a particular download group (for example, Download B).

Creating a user account

When you are logged on to the server through the console with System Admin privileges, you can create user accounts (on the same Backup Exec System Recovery

Manager server) with a user name and password. You can also assign roles to users that best fit their level of responsibility.

To create a user account

1   On the Tools menu, click **Options**.

2   In the left pane, click **Users**.

3   Click **Add**.

4   In the Add User dialog box, do the following:

   ■   Type the user name that you want associated with its assigned roles.

   ■   Type the password twice.

   ■   In the Assigned Roles group box, check the roles that you want to assign to the user.

5   Click **OK**.

   The account is sent to the Backup Exec System Recovery Manager database.

Editing a user account

When you are logged on to the console with System Admin privileges, you can change the user name, password, or assigned role of an existing account.

To edit a user account

1   On the Tools menu, click **Options**.

2   In the left pane, click **Users**.

3   In the Users list box, select a user name that you want to change.

4   Click **Edit**.

5   In the Edit User dialog box, type a new user name, or type a new password twice.

   If you want to change only the user's assigned roles, check the new roles from the list box; you do not need to also change the password or user name.

6   Click **OK**.

   The user account information is updated in the Backup Exec System Recovery Manager database.

Deleting a user account

When you are logged on to the console with System Admin privileges, you can remove user accounts, including other System Admin user accounts. However, you cannot delete your own user account while you are logged on, nor can you delete the accounts of users who are already logged on at other Backup Exec System Recovery Manager consoles.

To delete a user account

1   On the Tools menu, click **Options**.

2   In the left pane, click **Users**.

3   In the Users list box, select a user name.

4   Click **Delete**.

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

6   Click **OK**.

Changing the description of a role

You can edit the description of a role to more accurately reflect the privileges that are assigned to that role. Changing the description helps you to effectively manage and assign roles to console users. The description appears to the right of the role name in the software interface.

To change the description of a role

1   On the Tools menu, click **Options**.

2   In the left pane, click **Roles**.

3   In the Roles list box, select a role name whose description you want to change.

4   Click **Edit**.

5   Type a new description for the role in the Description text box.

6   Click **OK**.

About managing licenses

You can assign or unassign Backup Exec System Recovery licenses to computers or groups of computers. When you assign licenses, you activate Backup Exec System Recovery on the client computers and remove the 60-day trial. Unassigning licenses from client computers returns Backup Exec System Recovery to a 60-day trial version.

Use Client Licensing in Backup Exec System Recovery Manager to manage product licenses and their assignments throughout your organization. Whether you manage Backup Exec System Recovery servers or desktops, you can view and monitor the following license-related information:

- Names of licensed products
- Numbers of purchased and used licenses
- Expiration dates of product keys or license files
- Product keys or serial numbers

You can also do the following:

- Add and remove product licenses
  See "Adding Backup Exec System Recovery licenses to Backup Exec System Recovery Manager" on page 93.
  See "Removing Backup Exec System Recovery licenses from Backup Exec System Recovery Manager" on page 94.
- Purchase additional product licenses

See "Assigning Backup Exec System Recovery licenses to computers" on page 90.

See "Unassigning Backup Exec System Recovery licenses from computers" on page 92.

See "Checking Backup Exec System Recovery license status on client computers" on page 92.

Besides client product licenses, you can also check the Backup Exec System Recovery Manager server license from the console. You can do the following in the Manager Licensing dialog box:

- View the total number of computers that you are able to manage, and the total number of computers you currently manage on the server.
  See "Checking the license status of the Backup Exec System Recovery Manager server" on page 95.
- Add a product key to fully activate a trial version of Backup Exec System Recovery Manager server.
  See "Adding a Backup Exec System Recovery Manager server license " on page 95.
- Purchase additional products.

Assigning Backup Exec System Recovery licenses to computers

Product activation is a technology that protects users from pirated or counterfeit software by limiting the use of a product to those users who have legitimately

acquired the product. Activation of Backup Exec System Recovery requires the addition of a product key (for Backup Exec System Recovery 8.0) or a license file (for Backup Exec System Recovery 7.0) for each installation of Backup Exec System Recovery.

See "About adding computers to the console" on page 55.

You must activate Backup Exec System Recovery within 60 days of installation; otherwise the software stops working. You can activate it after the 60 days have elapsed without having to reinstall the software.

See "Checking Backup Exec System Recovery license status on client computers" on page 92.

See "About managing licenses" on page 89.

The 60-day evaluation of Backup Exec System Recovery lets you create recovery points of system and data drives. You can also recover system and data drives and files.

Depending on the Backup Exec System Recovery version you purchased, you should have received a product key (for Backup Exec System Recovery 8.0) or a Symantec License File (.slf) (for Backup Exec System Recovery 7.0). You add the product key or install the license file on client computers.

To assign Backup Exec System Recovery licenses to computers

1 On the Manage page, do one of the following:

   ■ In the right pane, on the Computers tab, select one or more computer names in the table.
   You may find it helpful to use the Filter bar to sort the computers by operating system. This feature helps you assign licenses to the correct edition of Backup Exec System Recovery.

   ■ In the right pane, on the Groups tab, select one or more group names in the table.

2 On the Tasks menu, click **Assign > Licenses**.

3 In the Available licenses list box, select a license name.

   If you selected computers or groups with a mixture of operating systems (for example, Windows Vista, Windows Server 2008, and Windows XP), you can only select one particular license file for a given operating system and Backup Exec System Recovery version.

4 Click **Assign**.

Unassigning Backup Exec System Recovery licenses from computers

When you unassign (or remove) product licenses from client computers, Backup Exec System Recovery returns to a 60-day trial version. You can continue to manage the computer as usual until the end of the 60-day trial or until you assign a product key or a client license file. Unassigned product keys or license files can be used on other computers that you manage.

See "About managing licenses" on page 89.

To unassign Backup Exec System Recovery licenses from computers

1   On the Manage page, do one of the following:

   ■   In the right pane, on the Computers tab, select one or more computer names in the table.

   ■   In the right pane, on the Groups tab, select one or more group names in the table.

2   On the Tasks menu, click **Unassign > Licenses**.

3   To confirm the unassignment, click **Yes**.

4   Click **OK**.

Checking Backup Exec System Recovery license status on client computers

You can use the Manage page or the Home page to check the license status of Backup Exec System Recovery on all managed computers.

See "Assigning Backup Exec System Recovery licenses to computers" on page 90.

See "About managing licenses" on page 89.

To check Backup Exec System Recovery license status on client computers

◆   Do one of the following:

   ■   On the Home page, from the drop-down list in the Status pane, select **License Status for All Computers**. A pie chart is displayed showing the proportion of all managed computers that have a license, no license, or a trial license.

   ■   On the Manage page, in the right pane, click the Computers tab.
      On the Filter bar, from the Select columns to view drop-down list, make sure **License** is selected. Check the License status column for one of three status messages.

Assigned	A Backup Exec System Recovery license file is installed on the computer.
Not Assigned	A Backup Exec System Recovery license file has not been installed on the computer.
Expires on <date> <time> (<days> remaining)	A Backup Exec System Recovery license file is installed on the computer and expires on the specified date and time.

■ On the Reports page, in the left pane, click **Client Versions** or **Managed Computers**.
You may need to scroll the right pane to view the License status column.

Adding Backup Exec System Recovery licenses to Backup Exec System Recovery Manager

When you add client product keys (for Backup Exec System Recovery 8.0) or client license files (forBackup Exec System Recovery 7.0), the file information is stored in the Backup Exec System Recovery Manager database. The Product Licensing dialog box in the console is also populated with the following information:

■ Name and number of each Backup Exec System Recovery product you are licensed to use

■ Number of currently used product licenses

■ Expiration date of the licenses

■ Product key or serial number of the licenses

See "Removing Backup Exec System Recovery licenses from Backup Exec System Recovery Manager" on page 94.

See "About managing licenses" on page 89.

To add Backup Exec System Recovery licenses to Backup Exec System Recovery Manager

1 On the Tools menu, click **Options**.

2 Do one of the following:

To add Backup Exec System Recovery 8.0 product keys	■ In the left pane, click **Client Product Keys**. ■ Click **Add**. ■ Enter the product key, and then click **OK**.

To import Backup Exec System Recovery 7.0 license files	■ In the left pane, click **Client License Files**. ■ Click **Import**. ■ Navigate to the Symantec License File (.slf) that you want to import, and then click **Open**.

Removing Backup Exec System Recovery licenses from Backup Exec System Recovery Manager

Exporting Backup Exec System Recovery licenses gives you the ability to reassign the licenses to other computers.

When you remove or export a license, the following occurs:

■ All used licenses are removed from the computers that use the file.

■ Backup Exec System Recovery becomes a 60-day trial version on affected computers.

■ The license file information is removed from the Backup Exec System Recovery Manager database.

■ The license file information is removed from the list view in the Licensing dialog box of the console.

■ You can choose to save the file to a new location.

To use the licenses again, you can re-add the product key (or re-import the .slf file) and assign the licenses to computers as usual.

See "Adding Backup Exec System Recovery licenses to Backup Exec System Recovery Manager" on page 93.

See "Assigning Backup Exec System Recovery licenses to computers" on page 90.

See "About managing licenses" on page 89.

To remove Backup Exec System Recovery licenses from Backup Exec System Recovery Manager

1 On the Tools menu, click **Options**.

2 Do one of the following:

To remove Backup Exec System Recovery 8.0 product keys	■ In the left pane, click **Client Product Keys**. ■ In the right pane, select a product name. ■ Click **Remove**. ■ Click **Yes** to confirm the product key removal.

To export Backup Exec System Recovery 7.0 license files	■ In the left pane, click **Client License Files**.
	■ In the right pane, select a product name.
	■ Click **Export**.
	■ Navigate to the location where you want to save the Symantec License File (.slf), and then click **Save**.

Checking the license status of the Backup Exec System Recovery Manager server

You can check the license status of the Backup Exec System Recovery Manager server to which you are currently logged on. This is helpful if you use a trial version of the product and need to see the start of the trial and when it expires.

You can also review the total number of computers that the server can manage and the total number of computers that the server currently manages.

To check the license status of the Backup Exec System Recovery Manager server

1   Do one of the following:

   ■ On the Help menu, click **About**. Select the server name in the list box to review its license status. Go to step 4 below.

   ■ On the Tools menu, click **Options**. Go to step 2 below.

2   In the left pane, click **Manager**.

3   Review the information in the group box.

   This information applies only to the Backup Exec System Recovery Manager server to which you are currently logged on.

4   Click **OK**.

Adding a Backup Exec System Recovery Manager server license

If you use a trial version of the Backup Exec System Recovery Manager server, you can use the console to add a Backup Exec System Recovery server product key and fully activate the software.

See "Starting Backup Exec System Recovery Manager " on page 41.

**To add a product key for the Backup Exec System Recovery Manager server**

1   On the Tools menu, click **Options**.

2   In the left pane, click **Manager**.

3   In the right pane, click **Product Key**.

4   Enter the product key for the Backup Exec System Recovery Manager server, and then click **OK**.

If you do not have a Backup Exec System Recovery Manager server product key, click **Purchase more licenses**.

About configuring Backup Exec Retrieve

Figure 4-1 describes the sequence of tasks and processes that must occur before users can retrieve their own files with Backup Exec Retrieve.

Figure 4-1   Configuring Backup Exec Retrieve
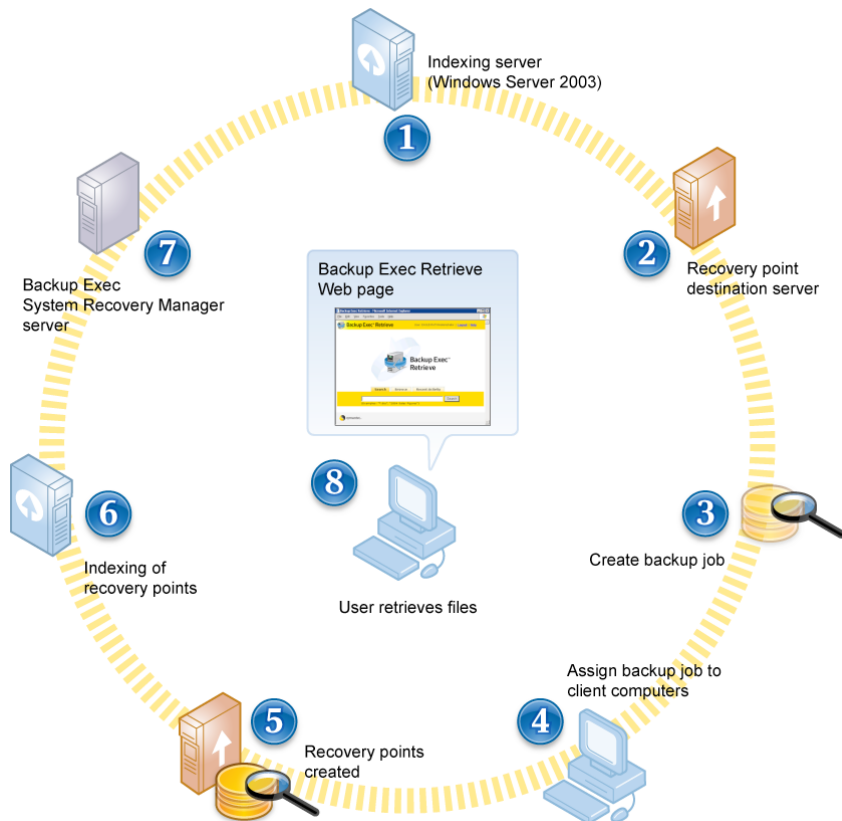
Configuring Backup Exec Retrieve

1   Indexing server: You must install (by way of an Easy Installer) the Indexing Server on Windows Server 2003. The Indexing Server creates a table of contents of all files that are inside the recovery point.

> **Note:** The Indexing Server can only be installed on Windows Server 2003 and Windows Server 2003 R2 editions. You cannot install an index server on Windows 2000, Windows XP, or Windows Vista.

See "Downloading an Easy Installer by end users" on page 66.

See "Deploying an Easy Installer by administrators" on page 68.

2   Recovery point destination server: At the time you create the destination, it is recommended that you specify a location (a network share) other than the server where the Indexing Server is installed to reduce performance impact. In the same dialog box, check Enable Backup Exec Retrieve indexing and specify a computer that has the Indexing Server installed on it.

See "Creating recovery point destinations" on page 80.

Enable indexing for the backup destination as well as for the job. If indexing is not enabled, indexing will not occur, and it will remove entries from the index for all jobs, even if the job setting is to index. To enable indexing, from any page, click Tools > Options. Select the Index Server, and then click Edit.

3   Create backup job: At the time you create the backup job, select the network share that you chose as the destination for the recovery points. In the Options dialog box, make sure you check Enable search engine support for Google Desktop and Backup Exec Retrieve.

See "Creating a backup job" on page 103.

4   Assign backup job to client computers: Assign the backup job to computers and groups with users who can benefit from retrieving their own files from recovery points.

See "Assigning a backup job to computers or groups" on page 123.

5   Recovery points are created: The backup job creates recovery points that are then stored at the chosen destination.

6   Indexing of recovery points: The indexing server creates indexes of the files inside recovery points at the destination.

Note: Indexing is a resource-intensive operation that you should consider when you are planning for deployment. The indexing load will be at its peak while indexing base recovery point images, such as the first time a storage location is indexed, with a relatively smaller load when subsequent incremental recovery points are indexed. It is not feasible to provide precise guidance for the number of client machines that can be indexed by a single server, since the actual impact of indexing on a machine will vary based on the hardware configuration, the amount of data being indexed, and whether the data resides on local storage or a network share. However, until you can examine the actual performance in your specific installation, you should plan for indexing to take minutes for each base image and seconds for each incremental image.

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7   Backup Exec System Recovery Manager server: The indexing results are sent to the Backup Exec System Recovery Manager server. You can view events, logs, and edit your server information. Click Tools > Options. Select a server name to make changes or to view the server's log file.

8   Users retrieve files: When users need to retrieve files, they go to the Backup Exec Retrieve Web page, search for the files, and then download them.

Non-administrator type users will only see files in their Documents and Settings folders for which they are an administrator. They will not see all of the drives and files, such as C$, even if they have file permissions. They would only see files from the root level down if they have shared access to those files. Also, non-administrator type users will only see the Documents and Settings folder if they have ever logged onto the computer that was backed up, and they are administrators on that server.

Managing backups

This chapter includes the following topics:

About backup jobs

You can create backup jobs to automate the creation of recovery points with a schedule. This method is useful if you want to create independent recovery points during off-hours when you are not present, or if you want to create a recovery point set without interrupting the normal flow of work.

You implement a backup job by doing the following:

- Create a backup job
  You specify what to back up, the backup destination where the resulting recovery points are stored, and when to run the backup (scheduled or manually).

- Assign a backup job to computers or groups

You can also specify the compression levels of recovery points, enable security settings (encryption and password protection) and search engine support for Google and Backup Exec Retrieve, and many other options that let you customize each backup according to your business needs.

While the client computer must be turned on to create a recovery point at the scheduled time, the console does not need to be open for the backup to take place, nor does a remote user need to be logged on to the computer. However, Windows must be started on the client computer.

You can temporarily override a backup in Backup Exec System Recovery Manager to create a recovery point immediately.

See "Running an existing backup job immediately" on page 124.

You can backup databases.

See "Backing up VSS-aware databases" on page 181.

See "About backing up non-VSS-aware databases" on page 183.

To verify that a backup completed as scheduled, you can use the Home page or Manage page in the console to check the status information, or review the Recovery Points Report in the Reports page.

Note: Backup Exec System Recovery Manager supports recovery point files saved directly to a network hard disk or to a local hard disk on the client computer (including USB or Firewire drives). It also supports saved recovery points that are stored on the network to tape media using the Configure Backup Exec Job wizard. Backup Exec System Recovery Manager does not support saving recovery point files directly to CD or DVD.

See "Configuring a Backup Exec for Windows Servers backup job" on page 135.

Ways to work with recovery points

Table 5-1 describes the advantages and disadvantages of scheduled independent recovery points or recovery point sets as part of your backup job.

Warning: The full recovery point and all associated incremental recovery points that make up the recovery point set must be kept together in the same folder. If files are missing, the recovery point becomes invalid and you cannot restore the data.

Table 5-1   Types of scheduled recovery points

Type	Advantages and disadvantages
Recovery point set	■ A recovery point set is the same as an Independent recovery point except that it has incremental tracking enabled for the selected drive. ■ This type of backup creates a base recovery point with additional recovery points that save only the hard disk sectors that have changed since the creation of the base recovery point or the previous incremental recovery point. ■ Incremental recovery points are created faster than the first (base) recovery point and use less storage space than an independent recovery point. ■ Recovery point sets are ideal when you combine them with a schedule. ■ If you use recovery point sets to protect a hard drive, when you restore to a given point in time, the full recovery point plus all the incrementals up to that point in time are used for the restore. For example, suppose you have a full recovery point with eight incremental recovery points. You decide to restore to the point in time that the fourth incremental was taken. When you restore, the full recovery point and the first four incrementals are used to restore the computer. ■ You can free hard drive space by deleting outdated recovery points and incremental recovery points. See "Deleting recovery points within a set" on page 131. ■ When you create a recovery point set, if you select a hidden drive (partition) and a non-hidden partition in the same backup, the hidden partition is backed up when a full recovery point is specified; no incremental recovery points are created. ■ If Recovery point set option is disabled, it is because you have already assigned a selected drive to an existing backup job and specified Recovery point set as the recovery point type. You can only have one recovery point set defined for each drive. Or, you might have selected an unmounted drive that cannot be part of a recovery point set.
Independent recovery point	■ An independent recovery point creates a complete, independent copy of the entire selected drive. ■ An Independent recovery point is not associated with incremental recovery points or Recovery point sets in any way. As such, Independent recovery points stand on their own and are usually a less complicated method for protecting your computer than are recovery point sets. You can take an Independent recovery point of a drive (using Run Backup) even if that drive is tracked with a Recovery point set. See "Running an existing backup job immediately" on page 124. ■ This backup type typically requires more storage space.

You can convert recovery points of a physical computer to a virtual disk.

Tips for creating recovery points

The following information may help when you create recovery points:

- Because the Backup Exec System Recovery Manager server also includes a database, you should back up the server on a regular basis. You must quiesce the Backup Exec System Recovery Manager database before backing up so you do not lose or corrupt data.
  See "Backing up the Backup Exec System Recovery Manager server and database" on page 185.

- The Backup Exec System Recovery Manager console does not need to be open for a scheduled backup to start or run. Therefore, after you create a backup job and assign it to computers, you can exit the console. The client computer that you manage, however, must be turned on and Windows must be started. To verify that the creation of a recovery point is in progress, check the status information on the Monitor page. To verify that a recovery point was made, you can review the Home page or the Computers tab on the Manage page.

- To test a backup, click the Backup Jobs tab on the Manage page, and then select a backup name in the table. Click Tasks > Run Backups. (Make sure that the backup is assigned to at least one computer. If a backup is assigned to multiple computers, it runs on each computer.)
  See "Running an existing backup job immediately" on page 124.

- All backup jobs (except any backup jobs you created by running One-time Backup) are saved in the Backup Exec System Recovery Manager database so that you can edit or run them later.
  See "Running a one-time backup" on page 125.

- Store recovery points to a network share or to a hard disk on the client computer other than the primary hard disk C. This practice helps ensure that you can recover the system in the event that the client's primary hard disk fails.

- Do not run a disk defragmentation program on the managed client computer when a recovery point is being created. Doing so significantly increases the time it takes to create the recovery point, and it may cause unexpected system resource issues on the client computer.

- If you have two or more drives that are dependent on each other, or they are used as a group by a program like a database service, you should include both drives in the same backup job. With Backup Exec System Recovery Manager, you can back up multiple drives simultaneously by selecting two or more drives in the Define Backup Wizard.

- Include multiple drives in the same backup job to reduce the total number of backups that must be run.

- Use the Performance feature in Client Options to reduce the impact of backups on client computers and network performance.
  See "Setting client options for computers" on page 153.

- You should avoid storing recovery points on the Backup Exec System Recovery Manager server because as the number or size of recovery points grows, you have less disk space available for regular server use. Save recovery points to a network location (preferred), or a separate drive to eliminate this problem.

About backing up dual-boot systems

You can back up dual-boot systems, or systems with more than one operating system, even if you have drives (partitions) that are hidden within the operating system where you run the product.

When you run a backup, everything on the drive is included in the recovery point, so it is bootable later if you restore it. An exception is if you back up a bootstrapped operating system. In such cases, you must back up–and then restore–every drive with operating system boot information for your computer to boot in the same way from a restored system as it did from the original configuration.

Note: You should not create incremental recovery points of shared data drives if Backup Exec System Recovery is installed on both operating systems, and they are both set to manage the shared drive.

You may encounter issues if you try to use Backup Exec System Recovery LightsOut Restore or Backup Exec System Recovery Restore Anyware™ on a dual boot system.

Creating a backup job

You can automate the creation of recovery points with a daily, weekly, or monthly schedule. If you create a recovery point set (instead of an independent recovery point), you can also specify that certain events, like logging on or off of a computer, create incremental recovery points.

See "Ways to work with recovery points" on page 100.

By default, file names for scheduled independent recovery points or recovery point sets are appended with 001.v2i, 002.v2i, and so forth. File names for incremental recovery points within a recovery point set are appended with _i001.iv2i, _i002.iv2i, and so forth. For example, if your base recovery point were

called C_Drive001.v2i, the first incremental recovery point would be called C_Drive001_i001.iv2i.

By default, the name of the computer (where the backup occurs) is appended to the recovery point file name.

Each backup job that you create is added to the Backup Jobs tab on the Manage page.

See "Viewing the properties of a backup job" on page 127.

To create a backup job

1   On the Manage page, do one of the following:

    ■ In the right pane, on the Computers tab, select one computer in the table.

    ■ In the right pane, on the Computers tab, select two or more computers in the table.
      The backup that you create will be automatically assigned to all of the computers that you selected.

    ■ In the right pane, on the Groups tab, select one or more group names in the table.
      The backup that you create is automatically assigned to all of the computers in the groups that you selected.

2   Do one of the following:

    ■ If you selected one or more computers, on the Tasks menu, click **Assign New Backup Job to Computers**.

    ■ If you selected one or more groups, on the Tasks menu, click **Assign New Backup Job to Groups**.

3   Do one of the following:

    ■ If you are defining a backup job for one computer, select one or more drives that you want to back up. If you want to select any hidden and unmounted drives, check **Show Hidden Drives**.

    ■ If you are defining a backup job for two or more computers, click **All Mounted Drives on Selected Computers** to protect all drives that exist on the client computers (excluding hidden and unmounted drives).

    ■ If you are defining a backup job that will backup certain drive letters on the selected client computers, click **By Drive Letter**, and then select the drive letters that you want.
      To view which client computers have the selected drive letters, click **Show Details**.

Sometimes a selected drive letter is not available for backing up on a particular client computer. This is usually because the drive has been deleted or the entire hard disk has been removed from the client computer since Backup Exec System Recovery was installed. In such cases, when the recovery point is created, it does not include the drive.

4   On the Recovery Point Type panel, click the recovery point type that you want to create, and then click **Next**.

5   Select the destination where you want to store the recovery points by doing one of the following:

   ■   From the drop-down list, select a local target folder on the client computer. If a local target folder is not available from the drop-down list, click **Create new destination** to specify the path to the folder.

   ■   From the drop-down list, select a target folder on a network share. If a network share is not available from the drop-down list, click **Create new destination** to specify the UNC path to the folder. You need to specify the user name and password to access the location with create, read, and write privileges.
       If there is not be enough space at the destination where the recovery point is stored, the backup fails and an error is reported in the Home Page view.

   You should avoid storing recovery points on the Backup Exec System Recovery Manager server because as the number or size of recovery points grows, you have less disk space available for regular server use. When you save recovery points to a separate drive or a network location, it eliminates this problem.

   See "About destination options for recovery points" on page 107.

6   On the Options panel, specify the recovery point options that you want.

   See "About general options for creating recovery points" on page 111.

7   Click **Advanced**, specify the advanced options that you want, including any security options, and then click **OK**.

   See "About advanced options for creating recovery points" on page 113.

8   Click **Next**.

9 If appropriate, specify a command file (.exe, .bat) from each drop-down list to run during a particular stage in the recovery point creation process, and then specify the amount of time (in seconds) that you want the command to run before it is stopped.

See "About running command files during a back up" on page 116.

See "Creating a cold recovery point automatically" on page 184.

To add command files to the drop-down lists, click **Add or Remove Command Files**. Command files are copied and stored on the Backup Exec System Recovery Manager server.

10 Click **Next**.

11 Check the scheduling options for how you want the backup job to run when it is assigned to computers. The available scheduling options depend on the backup type you selected at the start of the wizard.

See "About schedule options for creating recovery points " on page 118.

If the backup type is recovery point sets	Specify the frequency and time for creating a new recovery point set, and then continue with next step. The default is a Monthly schedule.
	You can also click **Advanced** if you want to apply progressive scheduling options to the backup job.
	For example, you can do the following:
	■ Use event triggers to automate the creation of incremental recovery points.
	■ Specify the amount of time to distribute the creation of recovery points from all the computers where the backup job is being deployed.
	■ Specify options to have the job run more than once per day.
	When you are finished selecting Advanced scheduling options, click **OK**, and then continue to the next step.
If the backup type is independent recovery points	Select **No schedule** if you intend to run the backup job on assigned computers any time you want using the Run Backups feature.
	See "Running an existing backup job immediately" on page 124.
	Otherwise, select the backup frequency and time for creating new independent recovery points, and then continue to the next step. The default is a Weekly schedule.

12 Click **Next**.

13   In the Completing the Define Backup Wizard dialog box, review the options that you have selected.

14   To add the backup job to the Backup Jobs tab on the Manage page, click **Finish**.

The backup appears in the Backup Jobs tab of the Manage page. If you defined the backup without selecting any computers or groups first, you can now assign the backup.

See "Assigning a backup job to computers or groups" on page 123.

About destination options for recovery points

When you define or schedule a backup job, you can save recovery points to a network share, or to a local drive, USB drive, or FireWire drive on the client computer.

Note: You should avoid storing recovery points on the Backup Exec System Recovery Manager server. As the number or size of recovery points grows, you have less disk space available for regular server use. When you save recovery points to a separate drive or a network location, this problem is eliminated. Also, if you decide to store recovery points on the client computer, store them to a secondary hard disk and not the primary hard disk C. This practice helps ensure that you can recover the system in the event that the client's primary hard disk fails.

Table 5-2 shows the advantages and disadvantages of different storage locations for recovery points.

Table 5-2   Recovery point storage locations

Location	Advantages	Disadvantages
Local hard drive on client computer See "About recovery points stored in a local folder on the client computer" on page 111.	■ Fast recovery point creation ■ Can schedule unattended recovery points ■ Inexpensive because drive space can be repeatedly overwritten ■ Computer laptop users can continue to back up even if they are disconnected from the network.	■ Uses valuable drive space ■ Vulnerable to complete loss if the hard drive fails

Table 5-2   Recovery point storage locations *(continued)*

Location	Advantages	Disadvantages
Network share (recommended) See "About recovery points stored on a network destination" on page 110.	■ Fast recovery point creation ■ Can schedule unattended recovery points ■ Can define and save storage locations for reuse. See "About managing recovery point destinations" on page 80. ■ Inexpensive because drive space can be repeatedly overwritten ■ Protection from local hard drive failure ■ Location can be backed up by Backup Exec Continuous Protection Server. Or, it can be backed up to tape media using the Configure Backup Exec Job wizard, available in Backup Exec System Recovery Manager. ■ Recovery points can be indexed for simplified and quick file retrieval ■ You can choose to distribute the backup evenly across a specified amount of time	■ Must have supported NIC drivers to restore from Symantec Recovery Disk ■ Must understand and assign the appropriate rights for the users who will create recovery points and restorations ■ Computer laptop users cannot continue to back up if they are disconnected from the network.

Table 5-2   Recovery point storage locations *(continued)*

Location	Advantages	Disadvantages
USB or FireWire drive (local on the client computer)	■ Fast recovery point creation ■ Can schedule unattended recovery points ■ Inexpensive because drive space can be repeatedly overwritten ■ Off-site storage is possible ■ Reserves hard drive space for other uses	■ Additional expense for the drive itself ■ May need to recreate the Symantec Recovery Disk to ensure that the correct storage device drivers are available when you do a restore

About recovery points stored on a network destination

You can choose to store recovery points on a selected network destination. To do this, you need to specify the UNC path (\\server\share\folder) to the folder on the network where you want to store the recovery points. Alternatively, you can click Browse to navigate to the appropriate network share.

You also have the option to create a subfolder (checked by default) for each computer's recovery points at the network destination. If you uncheck this option, all recovery points for all computers assigned to the backup job are stored at the root of the network destination.

See "About managing recovery point destinations" on page 80.

Because recovery point file names are unique and include the name of the computer, you can use the same network storage location for multiple computers or for groups of computers you have created in the console.

The user name that you enter needs read-write access to the network folders where the recovery points are stored. The product uses this logon information to access the network when you create a recovery point.

Note: You should avoid storing recovery points on the Backup Exec System Recovery Manager server because as the number or size of backups grows, you have less disk space available for regular server use. When you save recovery points to a separate drive or a network location, the problem is eliminated.

About recovery points stored in a local folder on the client computer

You can store recovery points locally by specifying a drive and folder (for example, E:\Data_RPoints\) on the hard drive of the client computer.

Warning: Saving recovery points to a network share or to a secondary hard disk on the client computer is highly recommended.

While you can save recovery points to the same drive that you are backing up, it is not recommended for the following reasons:

■ If the computer suffers a catastrophic failure, such as the failure of a primary hard drive, you will not be able to restore the recovery point you need. Such occurrences can happen even if you save the recovery point to a different drive on the same hard disk.

■ As the number or size of recovery points grows, you have less disk space available for regular use.

■ The recovery point itself is included in subsequent recovery points of the drive. As a result, the size of recovery points increases exponentially over time.

Recovery points are stored on the computer itself, not on the computer where you are running the Backup Exec System Recovery Manager console.

About general options for creating recovery points

Table 5-3 describes the general options that are available for recovery points.

Table 5-3   General options

Setting	Description
Name	Type a new name in the text box for the backup job. Otherwise, you can use the default name that appears.

Table 5-3   General options *(continued)*

Setting	Description
Compression	When you define a schedule for a backup job, you can choose the compression level for the recovery points.
	When a recovery point of a drive is created, compression results may vary, depending on the types of files on the drive.
	The following compression options are available:
	■ None This is the best choice if storage space is not an issue. However, if the recovery point is saved to a busy network drive, the use of high compression may be faster than no compression because less data needs to be written across the network. ■ Standard (recommended) (Default) Uses low compression for a 40% average data compression ratio on recovery points. ■ Medium Uses medium compression for a 45% average data compression ratio on recovery point files. ■ High Uses high compression for a 50% average data compression ratio on recovery point files. High compression is usually the slowest method. When a high compression recovery point is created, CPU usage may be higher than normal. Other processes on the computer may also be slower. To compensate, you can adjust the operation speed of the backup process. Speed adjustments may improve the performance of other resource intensive applications that you are running at the same time. See "Setting client options for computers" on page 153.
Verify recovery point after creation	Select this option to determine whether a recovery point or recovery point set is valid or corrupt immediately following its creation.
	For steps on how to verify the integrity of a recovery point long after it has been created, refer to the Backup Exec System Recovery product documentation.
	Note: When you verify a recovery point, it can approximately double the time that is required to create the recovery point.

Table 5-3   General options *(continued)*

Setting	Description
Limit the number of recovery point sets saved for this backup (Recovery point sets only) or Limit the number of recovery points saved for this backup (Independent recovery points only)	Select this option to specify the maximum number of recovery points or recovery point sets that are saved for each drive. When this limit is reached, each successive recovery point or set is first created and stored, and then the oldest, previously created recovery point or set is deleted (including all associated incrementals, if applicable) from the same storage location. Be sure you have enough hard disk space to accommodate the number of recovery points or sets you specify, plus one additional recovery point or set. If you run out of hard disk space before the number is reached, the recurring recovery point process cannot complete successfully, and a current recovery point or set is not created.
Enable search engine support for Google Desktop and Backup Exec Retrieve	Check this option to let your search engine software index all of the file name that are contained in each recovery point. By indexing file names, you can then use a search engine of choice to locate the files that you want to retrieve. Client computers can have a search engine already installed on their computer, such as Google Desktop, to search their recovery points. Or, as a System Admin, you must configure Backup Exec Retrieve in Backup Exec System Recovery Manager. See "About configuring Backup Exec Retrieve" on page 96. See *Appendix A: Using a search engine to search recovery points* in the *Symantec Backup Exec System Recovery User's Guide* for information about using Google Desktop to retrieve files.
Include system and temporary files	Check this option to include indexing support for the operating system and temporary files when a recovery point is created on the client computer.
Description (included in each recovery point)	Type a description of what is included in the backup to help you further identify the recovery point's contents.

About advanced options for creating recovery points

When you define or schedule a backup job, you can set the advanced options for the recovery points.

Table 5-4 describes the advanced options that are available for recovery points.

Table 5-4   Advanced options

Option	Description
Divide into smaller files to simplify archiving	You can split a recovery point into two or more smaller files. This feature is useful if you create or export a recovery point that you want to copy to removable media later for safekeeping. The recovery point is split into smaller, more manageable files. You can then copy the files onto separate, removable media, such as a DVD or CD.
	Note: If Symantec Backup Exec System Recovery creates an .sv2i file in addition to the .v2i files, you need to save the .sv2i file on the same media as the first .v2i file.
	If you create a recovery point of volumes with thousands of files on a computer that has low memory, by splitting the recovery point into smaller segments, it may help speed the process.
	If a recovery point is divided into multiple files, the file names for subsequent files are appended with _S01, _S02, and so forth. For example, if the default file name were Dev-RBrough_C_Drive.v2i, the second file name would be Dev-RBrough_C_Drive_S01.v2i, and so on.
Disable SmartSector Copying	SmartSector technology speeds up the copying process by copying only hard disk sectors with data. However, in some cases, it may be desirable to copy all sectors in their original layout, whether or not they contain data.
	If you want to copy both used and unused hard disk sectors, select Disable SmartSector Copying.
	Note: When you select this option, it increases the process time, and usually results in a larger recovery point file size.
Ignore bad sectors during copy	Select this option to create a recovery point even if there are bad sectors on the hard drive. Although most drives do not have bad sectors, the potential for problems increases during the lifetime of the hard drive.

Table 5-4   Advanced options *(continued)*

Option	Description
Use password	Check this option to set a password on the recovery point that is created.
	Passwords can only use standard characters, not extended characters or symbols. (Use characters with an ASCII value of 128 or lower.)
	Warning: Store the password in a secure place. When you access or restore a password-encrypted recovery point, the product prompts you for the case-sensitive password. If you do not enter the correct password or you forget the password, you cannot open the recovery point.
	Warning: Symantec has no method for opening encrypted recovery points.
	Users must type this password before they can restore a backup, delete recovery points within a recovery point set, or convert recovery points to virtual disks.
	For greatest security, recovery point passwords should adhere to the following general rules:
	■ Avoid the use of consecutive characters that repeat (for example, BBB or 88).
	■ Avoid the use of common words you would find in a dictionary.
	■ Use at least one number.
	■ Use both uppercase and lowercase alpha characters.
	■ Use at least one special character like ({}[],.<>;:'"?/|`~!@#$%^&*()_-+=).
	■ Change the password of an existing encrypted recovery point file after a set period of time with the Archive Recovery Point File feature in the Recovery Point Browser. See the Backup Exec System Recovery product documentation for more information about the Recovery Point Browser.

Table 5-4   Advanced options *(continued)*

Option	Description
Use AES encryption	You can enhance the security of your data by using AES (Advanced Encryption Standard) to encrypt recovery points that you create or archive. This encryption level is especially useful if you store recovery points on a network share and need a high level of security protection against unauthorized access and use. You must enter the correct password before you can access or restore an encrypted recovery point, delete recovery points within a recovery point set, or convert a recovery point to a virtual disk. Besides bit strength, the makeup of the password can improve the security of your data. Encryption strengths are available for the following levels: ■ Standard (password length is 8 characters or longer) ■ Medium (password length is 16 characters or longer) ■ High (password length is 32 characters or longer) While higher strengths require longer passwords, the result is greater security for your data. You can view the encryption strength of a recovery point at any time by viewing the properties of a selected backup on the Backup Jobs tab on the Manage page.

About running command files during a back up

You can use command files (.exe programs with no user interface, .cmd, .bat) and configure them to run during all phases of a backup. Command files can be used to integrate with any backup routines that you may be running on the client computer or to integrate with the applications that may use a drive on the client computer. These command files can run in the following three different stages during the creation of a recovery point:

■ Before data capture

■ After data capture

■ After recovery point creation

You can also specify the amount of time (in seconds) that a command file should be allowed to run.

The most common use for running command files is to stop and restart non-VSS-aware databases (such as Windows 2000) that you want to back up with Backup Exec System Recovery.

See "About backing up non-VSS-aware databases" on page 183.

Note: Any command files that you specify in the Command Files dialog of the wizard are copied to the Backup Exec System Recovery Manager server (the default path is \Program Files\Symantec\Backup Exec System Recovery\Manager\Services\tomcat\webapps\axis\depot\commands\commandFiles.) When you assign the backup job to client computers, any command files you specified are also assigned to the backup. Be sure you have the necessary rights to run each command file.

To use a Visual Basic script file (.vbs) during a backup, you can create a batch file (.bat) that runs the script. For example, you can create a batch file called stop.bat that contains the following syntax:

```
Cscript script_filename.vbs
```

Make sure that Cscript precedes the Visual Basic script filename.

Warning: The command files that you install and use (such as an .exe) cannot depend on any user interaction or have a visible user interface while they are running during a backup. You should test all of the command files you intend to use, outside of Backup Exec System Recovery, before using them during a backup.

When the backup begins, the command file runs during the specified stage. If an error occurs while a command file is running, or the command file does not finish in the time you specified (regardless of the stage), the entire backup is stopped, the command file is ended (if necessary), and the error information is logged and displayed.

Table 5-5 describes the three stages of recovery point creation.

Table 5-5 Recovery point creation stages

Stage	Description
Before data capture	This stage occurs after a backup has started and before the recovery point is created. When you run a command during this stage, it lets you prepare for the recovery point creation process by stopping (or notifying) any open applications that the drive uses. **Note:** If you use this stage option, be sure that the command file has an error recovery mechanism that is built into it. If the computer has one or more services that must be stopped at this stage (such as stopping a non-VSS aware database or a resource intensive application), and the command file does not contain any form of error recovery, one or more of the stopped services may not be restarted. An error in the command file can cause the entire recovery point creation process to end immediately; no other command files can run.
After data capture	This stage occurs after the "virtual disk snapshot" is created. When you run a command during this stage, you can allow services to safely resume normal activity on the drive while continuing the recovery point creation process. Because the virtual disk snapshot takes only a few seconds to create, the database is in the backup state momentarily, and results in a minimal number of created log files.
After recovery point creation	This stage occurs after the actual recovery point file is created. When you run a command during this stage, it lets you act on the recovery point, itself, by copying it to an offline location.

About schedule options for creating recovery points

Table 5-6 describes the schedule options that are available.

Table 5-6   Recovery point schedule options

Setting	Description
Backup Time	If you selected Recovery point set as the backup type, you can specify how frequently a new recovery point set should be started. Such frequency lets you control the size of a recovery point set. If you specify Monthly and the backup is scheduled to run daily, more recovery points are created. However, the amount of required disk space depends on the amount of data that is written to the hard drive during that time. You can customize these options further by clicking Advanced on the Backup Time panel of the wizard.
	Your options for starting new recovery point sets include the following:
	■ Start new recovery set (base) ■ Weekly A new recovery point set is created on the first scheduled or manual backup of the week. Or, if you clicked Custom, a new recovery point set is created at the specified time on each day of the week that you checked. ■ Monthly A new recovery point set is created on the first scheduled or manual back of the month. Or, if you clicked Custom, a new recovery point set is created at the specified time on each day of the month that you checked. ■ Quarterly A new recovery point set is created on the first scheduled or manual backup every three months from the date when you selected this option. ■ Yearly A new recovery point set is created on the first scheduled or manual backup of the year, once a year on the date that you selected this option.
	■ Distribute strategy evenly across (minutes) (This option is available when you click Advanced on the Backup Time panel in the wizard.) If you are saving recovery points to a network destination, you have the option to distribute the job evenly across a specified number of minutes (0-1440) to all computers assigned to the job. For example, suppose you want to distribute a backup in 60 minutes to 120 computers. The backup would begin on two computers at the indicated start time, and then two more computers would begin the backup one minute later, and so forth. The last two computers would begin backing up 60 minutes after the first two computers began their backup. This option helps you avoid having to run the job at the same start time for all computers which can sometimes cause a denial of service condition on the network, the recovery point destination, or both.
	Note: If you choose to archive recovery points, you might consider creating recovery point sets more frequently to keep the size of your recovery point sets smaller.

Table 5-6   Recovery point schedule options *(continued)*

Setting	Description
Advanced options	If you selected Recovery point set as the backup type, your options include the following: ■ Run more than once per day Check this option if you want to protect a system or data that changes frequently. 　■ Time between backups 　Select the maximum amount of time to elapse before the next backup. 　■ Number of times 　Specify the number of times that you want the backup to occur, beginning from the start time. 　■ Automatically optimize 　This option helps you manage the hard disk of the backup destination. This is useful if you chose to create more than one incremental recovery point per day. Recovery points, especially independent recovery points, can use up disk space. Automatic optimization is a way to minimize the use of disk space. 　Never 　No deletion of incremental recovery points is performed. 　Every twelve hours 　A deletion of incremental recovery points that are 12 hours old (or older) is performed every 12 hours. Also, after the first incremental of the day is taken, all incremental files from two days previous are consolidated to a single file. 　Every four hours 　A deletion of incremental recovery points that are four hours old (or older) is performed every four hours. Also, after the first incremental of the day is taken, all incremental files from two days previous are consolidated to a single file. ■ Distribute strategy evenly across (minutes) See the description in the first row (Backup Time) of this table.

Table 5-6   Recovery point schedule options *(continued)*

Setting	Description

Event Triggers-General	If you selected Recovery point set as the backup type, you can select the events that can trigger the automatic creation of incremental recovery points. For example, at the time you log off of a client computer or install an application, you can have Backup Exec System Recovery create an incremental recovery point.
	
	You can specify when a backup occurs for the following types of events:
	
	■ Any application is installed
	  Creates an incremental recovery point at the time users begin to install a software application on their computer.
	■ Specified applications are launched
	  Creates an incremental recovery point at the time users run a specified software application on their computer.
	■ Any user logs on to the computer
	  Creates an incremental recovery point when users log on to Windows on their computer.
	■ Any user logs off from the computer
	  Creates an incremental recovery point at the moment users log off from Windows on their computer (but does not shut down Windows).
	■ Data added to the drive exceeds
	  Creates an incremental recovery point when the added data on a drive exceeds an amount (in megabytes) that you specify.

Table 5-6   Recovery point schedule options *(continued)*

Setting	Description
Event Triggers—ThreatCon Response	Symantec ThreatCon is Symantec's early threat warning system that gives people and systems adequate warning in order to protect data and systems against attack.

You can configure a trigger in a backup job to detect a change in the threat level whenever client computers are connected to the Internet. When the threat level meets or exceeds the level you specify, Backup Exec System Recovery automatically starts a backup job. You can specify a different ThreatCon level for each backup job.

- Do Not Monitor – Disable
  The backup job will not start when a change in the ThreatCon level is detected
- Level 4 – Extreme
  Extreme global security threats are in progress
- Level 3 – High
  An isolated security threat is in progress
- Level 2 – Elevated
  Security threats could occur, although no specific threats have been known to occur

If client computers are not connected to the Internet, then they are not susceptible to online threats. When they are connected to the Internet at any time, they become vulnerable. You do not have to enable or disable ThreatCon Response when client computers go online or offline.

The Symantec Web site includes more information about ThreatCon.

http://www.symantec.com

Table 5-6   Recovery point schedule options *(continued)*

Setting	Description
Backup Time	If you selected Independent recovery point as the backup type, your scheduling options include the following:
	■ No Schedule This option saves all of the backup job settings except a schedule. You can later run the backup job at your convenience using Run Backups or assign a schedule by editing the backup job.
	■ Weekly (Default) This option creates a new, independent recovery point on each day of the week that you check, and at the specified time. When you create independent recovery points one or more times per week, it can require large amounts of disk storage space.
	■ Monthly This option creates a new, independent recovery point on each day of the month that you check, and at the specified time.
	■ Only run once This option creates a single, independent recovery point once. The job does not run again unless you change the date and the time settings by selecting a new date and time in the future. See "Running an existing backup job immediately" on page 124.
	■ Distribute strategy evenly across (minutes) See the description in the first row (Backup Time) of this table.

Assigning a backup job to computers or groups

You can assign backup jobs to computers that have Backup Exec System Recovery installed.

See "Unassigning a backup job from computers or groups" on page 124.

See "Creating a backup job" on page 103.

When you assign backups to a computer group. all of the computers within that group have the same backup schedule.

Note: Make sure that any backups you assign to a computer or group do not overlap in time; otherwise an error occurs. Also, only one recovery point set per drive can be assigned on a client computer. If you assign a second recovery point set to the same drive, an error occurs.

To assign a backup job to computers or groups

1   On the Manage page, in the right pane, click the Backup Jobs tab.

2   Select a backup name in the table.

3   Do one of the following:

- On the Tasks menu, click **Assign > Computers**, and then select one or more computer names from the table. Click **OK**.

- On the Computers tab, select one or more computers in the table. In the Drag-and-drop Workspace of the console, drag the Backups icon and drop it onto the Computers icon within the same work space.

- On the Tasks menu, click **Assign > Groups**, and then select one or more group names from the table. Click **OK**.

- On the Groups tab, select one or more group names in the table. In the Drag-and-drop Workspace of the console, drag the Backups icon and drop it onto the Groups icon within the same work space.

Unassigning a backup job from computers or groups

You can unassign (or remove) one or more backups at once from one or more selected computers.

To unassign a backup job from computers or groups

1   On the Manage page, in the right pane, click the Backup Jobs tab.

2   Select a backup name in the table.

3   Do one of the following:

- On the Tasks menu, click **Unassign > Computers**, and then select one or more computer names from the table. Click **OK**.

- On the Tasks menu, click **Unassign > Groups**, and then select one or more group names from the table. Click **OK**.

Running an existing backup job immediately

After you assign one or more backup jobs to computers, you can use Run Backups to create–on demand–an independent recovery point, a recovery point set, or an incremental recovery point of the drive's most recent changes. A manual backup starts immediately.

See "Ways to work with recovery points" on page 100.

Note: To use Run Backups, you must have already created a backup and assigned it to at least one computer.

To run an existing backup job immediately

1   On the Manage page, do one of the following:

   ■ In the right pane, on the Computers tab, select a computer name in the table.

   ■ In the left pane, on the Backup Jobs tab, select one or more backup job names that are assigned.
   Check the Status column in the table to determine if a selected backup job is assigned.

2   On the Tasks menu, click **Run Backups**.

3   Do one of the following:

If you selected a computer name	Select the backup jobs that you want to run on the selected computer, and then click **Run Backups**. Click **Yes** to run the selected backup jobs.
If you selected one or more assigned backup job names	Click **Yes** to run the selected backup jobs on all assigned computers.

4   Click **OK**.

Running a one-time backup

You can use One-time Backup to create an independent recovery point. A One-time backup job is not scheduled. Instead, it is run only once on the computers or groups that you have selected (it is run immediately after you finish the wizard).

The backup appears on the Backup Jobs tab on the Manage page until the last client computer finishes running it.

To run a one-time backup

1   On the Manage page, do one of the following:

   ■ In the right pane, on the Computers tab, select one or more computers in the table.

■ In the right pane, on the Groups tab, select one or more group names in the table.

2 On the Tasks menu, click **One-Time Backup**.

3 Followed the steps in the Define Backup Wizard, and then click **Finish** to begin creating the recovery point.

About working with backup jobs

You can assign a backup to multiple computers, or you can assign multiple backups (recovery point sets excluded) to a single computer or to groups of computers.

Note: Make sure that any backups you assign to computers or groups do not overlap in time; otherwise an error occurs. Also, only one recovery point set per drive can be assigned on a client computer. If you assign a second recovery point set to the same drive, an error occurs.

After a backup is assigned, the computers create recovery points according to the schedule in the backup.

After you have defined a backup job, you can organize the backups in the following ways:

■ Add backup jobs to computers and groups of computers.
See "Assigning a backup job to computers or groups" on page 123.

■ Remove backup jobs from one or more computers.
See "Unassigning a backup job from computers or groups" on page 124.

■ Review the details and settings of an existing backup job.
See "Viewing the properties of a backup job" on page 127.

■ Make changes to an existing backup job.
See "Editing a backup job" on page 127.
See "Editing the schedule of a backup job" on page 127.

■ Change the name of an existing backup job.
See "Renaming a backup job" on page 128.

■ Disable backup jobs on computers.
See "Disabling a backup job on computers" on page 128.

■ Disable backup job schedules on computers.
See "Disabling a backup schedule on computers" on page 129.

■ Delete a backup job.

Viewing the properties of a backup job

You can use Properties for a selected backup job to do the following:

- View a summary of the options, settings, and the assigned schedule of the backup job.

- View the status of the backup job on assigned computers.

- View a list of all computers that are assigned to the backup job.

To view the properties of a backup job

1   On the Manage page, in the right pane, click the Backup Jobs tab.

2   Select a backup name, in the table.

3   On the Tasks menu, click **Properties**.

4   In the left pane, click a detail or assignment to view the accompanying results on the right pane.

5   Click **Close**.

Editing a backup job

You can edit any of the properties and options of a backup job, except the selected drives that are backed up. The resulting backup job is updated on any computers that are assigned to it.

To edit a backup job

1   On the Manage page, in the right pane, click the Backup Jobs tab.

2   Select a backup name in the table.

3   On the Tasks menu, click **Edit**.

4   Use the Edit backup job Wizard to make any changes that you want to the backup properties and options.

Editing the schedule of a backup job

Depending on the recovery point type that you create, you can edit the schedule settings of a backup. The settings include the following:

- Check (enable) or uncheck (disable) the schedule

- Backup schedule

- Recovery point set schedule

■ Event triggers that automate the creation of recovery points (for recovery point set backup jobs only)

The resulting schedule is updated on any computers that are assigned to the backup job.

To edit the schedule of a backup job

1   On the Manage page, in the right pane, click the Backup Jobs tab.

2   Select a backup name in the table.

3   On the Tasks menu, click **Change Schedule**.

4   Use the Edit Schedule dialog box to set the options and properties that you want.

Renaming a backup job

You can change the name of any backup job you have created.

To rename a backup job

1   On the Manage page, in the right pane, click the Backup Jobs tab.

2   Select a backup name in the table.

3   On the Tasks menu, click **Rename**.

4   Type a new name for the backup.

5   Click **OK**.

Disabling a backup job on computers

You can temporarily disable a backup job. The creation of recovery points is "turned off" on the computers that are assigned to the backup. You enable or "turn on" the backup later when you want recovery point creation to resume.

To disable a backup job on computers

1   On the Manage page, in the right pane, click the Backup Jobs tab.

2   Select a backup name in table.

3   On the Tasks menu, click **Disable**.

    To enable the backup job repeat the steps above, but make sure **Enable** is selected in step 3.

Disabling a backup schedule on computers

You can temporarily disable the schedule of a backup so that the creation of recovery points is reduced on the computers that are assigned to the backup. For example, any event triggers associated with the backup can still cause the creation of recovery points despite the schedule being disabled. Also, when a backup schedule is disabled, you can run the backup manually with the Run Backups feature.

To disable a backup schedule on computers

1   On the Manage page, in the right pane, click the Backup Jobs tab.

2   Select a backup name in table.

3   On the Tasks menu, click **Change Schedule**.

4   In the Backup Time dialog box, uncheck **Schedule**, and then click **OK**.

   To enable the backup schedule repeat the steps above, but make sure Schedule is checked in step 4.

Deleting a backup job

Deleting a backup job removes it from the console and all client computers to which you have it assigned. Any recovery points there were created by the backup job will remain.

To delete a backup job

1   On the Manage page, in the right pane, click the Backup Jobs tab, and then select a backup name in the table.

2   On the Tasks menu, click **Delete**.

3   Click **Yes**.

About managing recovery points

Backup Exec System Recovery includes features to help you manage your backup data. For example, you can delete recovery points and recovery point sets to prevent an accumulation of obsolete backup data at the destination. You can also convert recovery points of a single drive or multiple drives to a VMware Virtual Disk (.vmdk) or a Microsoft Virtual Disk (.vhd).

See "Viewing existing recovery points" on page 130.

See "Deleting a recovery point set" on page 130.

See "Deleting recovery points within a set" on page 131.

See "Converting recovery points to virtual disks" on page 133.

Viewing existing recovery points

You can view all recovery points that have been created for computers, groups of computers, or backup destinations.

See "About managing recovery points" on page 129.

To view existing recovery points

1   On the Manage page, do one of the following:

■   In the right pane, on the Computers tab, select one or more computer names in the table.

■   In the right pane, on the Groups tab, select one or more group names in the table.

■   In the right pane, on the Destinations tab, select one or more destination paths in the table.

2   On the Tasks menu, click **Recovery Points > View**.

3   From the drop-down list, select the backup destination where the recovery points reside.

4   To further organize and refine the results, use the options on the Filter bar above the table.

Deleting a recovery point set

If you no longer want a particular recovery point set, you can delete it at any time.

After you delete a recovery point set, access to files or system recovery from that point in time is no longer available.

See "About managing recovery points" on page 129.

You can also delete recovery points within a set.

See "Deleting recovery points within a set" on page 131.

To delete a recovery point set

1   On the Manage page, do one of the following:

■   In the right pane, on the Computers tab, select one or more computer names in the table.

■   In the right pane, on the Groups tab, select one or more group names in the table.

- ■ In the right pane, on the Destinations tab, select one or more destination paths in the table.

2   On the Tasks menu, click **Recovery Points > Delete**.

3   From the drop-down list, select the backup destination where the recovery points reside.

   This step is only necessary if you selected multiple names or paths from a tab in Step 1.

4   Do one of the following:

- ■ In the list box, select a recovery point set that contains one or two recovery points.

- ■ In the list box, select a computer name that contains one or two recovery points.

5   Click **Delete** on the toolbar.

6   To confirm the deletion of the set, click **Yes**, and then click **OK**.

Deleting recovery points within a set

The base recovery point and all of its incrementals that are taken up to a point-in-time are required whenever you want restore to a specific point in time. Depending on the duration of the backup, there can be a large accumulation of incremental recovery points. You can reduce the amount of needed storage space for the recovery point set by deleting multiple incremental recovery points within a set. (The base recovery point and the first and last incremental recovery points are required for a restore and cannot be deleted.) Deleting recovery points within a set consolidates the data only, it does not delete data.

If the backup you defined includes the assignment of a password (as specified in the Advanced Options dialog box of the Assign a New Backup Job Wizard), you may be prompted to type the password to complete the operation.

See "Creating a backup job" on page 103.

Depending on the number of incremental recovery points that you delete, additional memory may be required to restore or browse a consolidated incremental recovery point. Additionally, when you delete recovery points over the network, it may significantly increase network traffic.

Note: Be careful about which recovery points you choose to delete. For example, suppose a user created a new document that was captured in the third recovery point in your recovery points list. The remote user deletes the file accidentally, at which time the fourth recovery point captures the deletion. The user could lose the file permanently if you delete the third recovery point.

See "About managing recovery points" on page 129.

You can also delete an entire recovery point set.

See "Deleting a recovery point set" on page 130.

To delete recovery points within a set

1   On the Manage page, do one of the following:

   ■ In the right pane, on the Computers tab, select one or more computer names in the table.

   ■ In the right pane, on the Groups tab, select one or more group names in the table.

   ■ In the right pane, on the Destinations tab, select one or more destination paths in the table.

2   On the Tasks menu, click **Recovery Points > Delete**.

3   From the drop-down list, select the backup destination where the recovery points reside.

   This step is only necessary if you selected multiple names or paths from a tab in Step 1.

4   In the list box, select a computer that has three or more recovery points in the list box.

5   On the toolbar, click **Delete Points**.

6   Do one of the following:

   ■ In the list box, select a recovery point set that contains three or more recovery points.

   ■ In the list box, select a computer name that contains three or more recovery points.

7   Do one of the following:

   ■ To delete all but the first and the last recovery point in the set, click **Automatic**, and then click **OK**.

   ■ Click **Manual**, and then click **OK**. Select the recovery points that you want to delete from the list, and then click **Delete**.

The first and the last recovery points in the set cannot be deleted.

- Click **Delete all recovery points in the set**, and then click **OK**. To confirm the deletion, click **Yes**.

Converting recovery points to virtual disks

You can use Backup Exec System Recovery Manager to convert the recovery points of a physical computer to a VMWare Virtual Disk (.vmdk) or a Microsoft Virtual Disk (.vhd). When you convert recovery points to virtual disks, it has the following benefits:

- It is useful in the event that the physical hardware on the client computer fails.

- You avoid losing the services on the physical computer (for example, performing a hot swap of a service from a physical to virtual environment).

- It is excellent for testing and evaluation purposes.

Virtual disks that are created from recovery points are supported by the following platforms:

- VMware GSX Server 3.1 and 3.2

- VMware Server 1.0

- VMware ESX Server 2.5 and 3.0

- VMware Infrastructure 3

- Microsoft Virtual Server 2005 R2

See

To convert recovery points to virtual disks

1 On the Manage page, in the right pane, click the Computers tab.

2 Select a computer name in the table.

3 On the Tasks menu, click **Convert to Virtual**.

4 Do one of the following:

- Click **Convert recovery points for an entire computer to virtual disks**. From the date drop-down list, select the date of a recovery point. Based off of the recovery point date, check the drives that you want to convert.

- Click **Convert a single recovery point to a virtual disk**. From the list box, select a recovery point for a single drive that is based on the date or size when it was created.

5 Click **Next**.

6   From the Virtual disk format drop-down list, select the virtual disk file format that you want to use.

7   Do one of the following:

To define a new destination for the resulting virtual disk	Click **Create new destination**. ■ Type a UNC path to a network share. ■ Type the IP address path to a network share. ■ Type a local folder path. The local folder path you specify is relative to the managed computer; it is not the folder path on the computer where you are running the Backup Exec System Recovery Manager console. Local folder paths do not get indexed by the Backup Exec Retrieve indexing server; only network share paths. If you typed a path to a network share, set the proper network credentials, and then click **OK**.
To use an existing destination for the resulting virtual disk	From the drop-down list of predefined locations, select the location where you want to save the virtual disk, and then click **OK**.
Split into 2GB files	Check this option if you want to divide the virtual disk file into smaller files. For example, you can use this option if you need to copy the virtual disk to a FAT32 hard drive, or if you want to copy the virtual disk files to a DVD but the size is larger than the DVD allows.

8   To change the file name of the virtual disk, click **Rename**, and then type a new file name.

You do not need to add the file extension. The extension is automatically appended to the file name, based on the virtual disk format you selected. (The virtual file name is based on the physical disk that the drive was a part of.)

9   Click **Next**.

10   Review the options you have selected for the conversion, and then click **Finish**.

Configuring a Backup Exec for Windows Servers backup job

Using Backup Exec System Recovery Manager, you can create backup jobs that back up client computers, and then store the resulting recovery points on a network share (the recovery point storage location). You can then back up (to tape, for example) the recovery point location using the Configure Backup Exec Job Wizard within Backup Exec System Recovery Manager. This wizard is a finite version of the full Symantec Backup Exec for Windows Servers command line applet.

For complete documentation on the various script file switches and entries that are used in the wizard, refer to the Backup Exec for Windows Servers Command Line Applet User's Guide for the version you have installed (10d or 11d).

Symantec Backup Exec for Windows Servers must already be installed and started before you can create a backup using the Configure Backup Exec Job Wizard in Backup Exec System Recovery Manager.

The first time you configure a Backup Exec for Windows Servers job, certain files must be imported onto the Backup Exec System Recovery Manager server. These files are necessary to integrate Backup Exec System Recovery Manager with the version of Symantec Backup Exec for Windows Servers that you have installed.

See "Importing Backup Exec for Windows Servers files" on page 137.

When you are finished with the wizard, the resulting job is stored on the Backup Exec for Windows Servers server and appears in the Backup Exec for Windows Servers Administration Console. You can use the Backup Exec System Recovery Manager console to view existing Backup Exec for Windows Servers backup jobs that you have created.

See "Viewing existing Backup Exec for Windows Servers backup jobs" on page 136.

To edit the job, use the Backup Exec for Windows Servers Administration Console.

Note: Backup Exec 11d for Windows Servers files are backward compatible with Backup Exec 10d for Windows Servers. Therefore, you can configure, run, and delete backup jobs on either version. However, Backup Exec 10d for Windows Servers files are compatible with version 10d only.

To configure a Backup Exec for Windows Servers backup job

1   On the Manage page, in the right pane, click the Destinations tab.

2   Do one of the following:

   ■ On the Tasks menu, click **Backup Exec for Windows Servers > Configure**.

- ■ Select a network destination path in the table, and then click **Backup Exec for Windows Servers > Configure**.
  See "Creating recovery point destinations" on page 80.

3 If the Import Backup Exec for Windows Servers files dialog box appears, select the product version whose files you want to upload to the Backup Exec System Recovery Manager server.

If you have already imported the necessary files for the version you are running, you can go to Step 5.

4 In the Location text box, specify the folder path to the requested Backup Exec for Windows Servers files, and then click **Next**.

5 Do one of the following:

- ■ To make changes to your selections, click **Back**.

- ■ Review the listed product and files, and then click **Finish** to copy the files to the server.
  The Backup Exec Definition Properties dialog box appears.

6 Specify the source, destination, and settings options.

7 When you finish, click **Run Now**.

Viewing existing Backup Exec for Windows Servers backup jobs

You can view all of the current Backup Exec for Windows Servers jobs that you configured using the Backup Exec System Recovery Manager console. You can review the job names, when they were last updated, and the details of a selected job. To edit the details of a job, use the Backup Exec for Windows Servers Administration Console.

You can also delete selected jobs from the job view.

To view existing Backup Exec for Windows Servers backup jobs

1 On the Manage page, in the right pane, click the Destinations tab.

2 Select a destination path in the table.

3 On the Tasks menu, click **Backup Exec for Windows Servers > View**.

4 Select a job name to review its associated job details.

5 Click **Close**.

Deleting a Backup Exec for Windows Servers backup job

When you delete a Backup Exec for Windows Servers job, it is removed from the Backup Exec Windows server, and from the Backup Exec System Recovery Manager server. Also, the network destination for the recovery points is no longer backed up by that particular job.

To delete a Backup Exec for Windows Servers backup job

1   On the Manage page, in the right pane, click the Destinations tab.

2   Select a Backup Exec for Windows Servers destination path in the table.

    To identify Backup Exec for Windows Servers jobs, check the Status column in the table.

3   On the Tasks menu, click **Backup Exec for Windows Servers > Delete**.

4   If you selected a destination path in Step 2 that contained two or more jobs, select a job name that you want to delete, and then click **Delete Job**. Otherwise, go to the next step.

5   Specify the following settings.

Server name	Specify the IP address or UNC path (for example, *server_name**share_name*) where the Backup Exec for Windows server is located.
User name	Type the user name for an account that has administrative rights on the Backup Exec for Windows server.
Password	Type the password for an account that has administrative rights on the Backup Exec for Windows server.

6   Click **OK**.

Importing Backup Exec for Windows Servers files

The first time you configure a Backup Exec for Windows Servers job, certain files must be imported onto the Backup Exec System Recovery Manager server. These files are necessary to integrate Backup Exec System Recovery Manager with the version of Backup Exec for Windows Servers that you have installed. However, if you upgrade from Backup Exec 10d for Windows Servers to version 11d, you can import the necessary files.

> **Note:** Backup Exec 11d for Windows Servers files are backward compatible with Backup Exec 10d for Windows Servers. Therefore, you can configure, run, and delete backup jobs on either version. However, Backup Exec 10d for Windows Servers files are compatible with version 10d only.

To import Backup Exec for Windows Servers files

1   On the Manage page, in the right pane, click the Destinations tab.

2   On the Tasks menu, click **Backup Exec for Windows Servers > Import Backup Exec for Windows Servers files**.

3   In the Location text box, specify the folder path to the requested Backup Exec for Windows Servers files, and then click **Next**.

4   Do one of the following:

   ■   To make changes to your selections, click **Back**.

   ■   Review the listed product and files, and then click **Finish** to copy the files to the server.

Deleting Backup Exec for Windows Servers files

If you no longer need or use them, you can delete imported Backup Exec for Windows Servers files from the Backup Exec System Recovery Manager server.

To delete Backup Exec for Windows Servers files

1   On the Manage page, in the right pane, click the Destinations tab.

2   On the Tasks menu, click **Backup Exec for Windows Servers > Delete Backup Exec for Windows Servers files**.

3   To confirm the deletion, click **Yes**.

Recovering files, folders, or entire drives

This chapter includes the following topics:

- About recovering a drive
- About Symantec Backup Exec Retrieve
- About recovering files or disks using Symantec pcAnywhere

About recovering a drive

You can use Recover Drive to remotely recover a selected partition on the client computer's hard disk.

For example, if a client computer loses data on a secondary drive (a drive other than the system drive where the Windows operating system is installed), you can use an existing recovery point of that drive to restore the data.

Additionally, you can use LightsOut Restore to recover an entire system (or primary) drive as long as its file system is intact and the computer is still running. Otherwise, you must manually boot the computer into the Symantec Recovery Environment to recover the drive (or manually boot the computer using the Symantec Recovery Disk).

When LightsOut Restore is installed on client computers, a customized version of the Symantec recovery environment is installed directly to the file system on the system partition. When a system recovery is initiated from the Backup Exec System Recovery Manager console (using the Recover Drive feature), the client computer reboots directly into the Symantec recovery environment using the files that are installed on its system partition. The recovery of the system drive occurs, and the results are reported back to the console.

See "About installing LightsOut Restore on client computers" on page 140.

Note: LightsOut Restore does not work on a multi-boot client computer (booting multiple operating systems from the same partition). It only works on the primary operating system. Also, if the file system becomes corrupt and you are not able to access the boot menu, LightsOut Restore will not work (you must boot the computer from the Symantec Recovery Disk CD).

As an additional option, when the recovery environment boots as part of LightsOut Restore, you can have it can automatically start a pcAnywhere thin host (to enable or disable this feature, you must edit the Easy Installer that is associated with the LightsOut Restore package). You can then use pcAnywhere to connect to the thin host and remotely use the recovery environment to assist you with troubleshooting or other issues.

About installing LightsOut Restore on client computers

You must install LightsOut Restore (using an Easy Installer, or through the use of a logon script) before you can perform a remote recovery of a system drive using the LightsOut Restore capability.

Note: To run the LightsOut Restore feature requires a minimum of 1 GB of memory on the client computer.

The following is an overview on how to install LightsOut Restore on client computers.

- Create a package of LightsOut Restore.
  See "Creating packages for an Easy Installer " on page 56.

- Create an Easy Installer of the LightsOut Restore package.
  See "Creating an Easy Installer " on page 58.

- Deploy the LightsOut Restore Easy Installer to client computers.
  See "Downloading an Easy Installer by end users" on page 66.
  See "Deploying an Easy Installer by administrators" on page 68.

Recovering a drive

To remotely recover a data drive, a current recovery point that includes the drive to be recovered, must already exist.

Note: Before proceeding, you may want to inform the user of the client computer to close any applications and files that may be running or open on the drive that you are recovering.

Warning: When you recover a remote drive, all of the current data on that drive is replaced by the data that is contained in the recovery point you use for the recovery. This means that if a user makes changes to data on the drive after the date of the recovery point you use for the recovery, such as the creation of a new file, those changes are lost.

To recover a drive

1   On the Manage page, in the right pane, click the Computers tab, and then select a computer name whose drive you want to recover.

2   On the Tasks menu, click **Recover Drive**.

3   Select a recovery point, and then click **Next**.

    Use the Date, Recovery Point, and Size columns in the table to refine your choice.

4   Select the target drive (the drive to recover), and then click **Next**.

    If there is not enough free space to restore the recovery point, you can press the Shift key, and then select multiple, contiguous destinations that exist on the same hard disk.

5   If the recovery point is password protected, type the password in the Password text box, and then click **OK**.

6   Specify the options that you want the recovery to perform.

Verify recovery point before restore	Determines whether a recovery point is valid or corrupt before restoring it. If the recovery point is corrupt, the recovery process is discontinued. This option is set by default and significantly increases the time that is required for the recovery to complete. However, it ensures that the recovery point being restored is valid.
Check for file system errors	Checks the recovered drive for errors after restoring the recovery point.

Resize restored drive	Automatically expands the drive to occupy the destination drive's remaining unallocated space.
Set drive active (for booting OS)	Makes the recovered drive the active partition (the drive the client computer boots from). Only one drive can be active at a time. If you recover a secondary drive–a drive other than the one where the Windows operating system is installed–do not check this option.
Restore original disk signature	Restores the original disk signature of the hard drive. This option is recommended for advanced users.
Partition type	Click one of the following options: ■ Primary partition: Restore the recovery point as a primary partition. ■ Logical partition: Restore the recovery point as a logical partition within an extended partition. This option is unavailable when you recover a non-system drive.
Drive letter	Select a drive letter that you want assigned to the partition. This option is unavailable when you recover a non-system drive.

The actual options that are available are dependent on the target drive you selected earlier.

7 Click **Next** to review the recovery options you have selected.

8 Click **Finish > Yes** to restore the remote drive.

If the Wizard cannot lock the remote data drive to perform the recovery under Windows (typically, because the drive is in use by a program), it starts the recovery environment to complete the recovery.

LightsOut Restore must already be installed on the client computer if you intend to recover a system drive. If LightsOut Restore is not installed on the client computer at the time you restore the system drive, the recovery fails and reports the error back to the Backup Exec System Recovery Manager console.

When the recovery is finished, the computer is restarted automatically.

See "About installing LightsOut Restore on client computers" on page 140.

About Symantec Backup Exec Retrieve

Symantec Backup Exec Retrieve lets end users quickly retrieve their own documents from recovery points. End users can locate files by doing the following:

■ Searching by filename

■ Browsing to the file by using a path

■ Viewing a list of recently modified or recently deleted files
Files that are modified or deleted since the previous backup are not included in this list because changes to such files are only identified in subsequent recovery points.

Downloading selected files restores the selected copy to the end user's computer. You can link to Backup Exec Retrieve in the Backup Exec System Recovery Manager console, and on the desktop of each managed Symantec Backup Exec System Recovery computer. The URL for this link is https://*manager computer*:8443/BERetrieve

Before you use Backup Exec Retrieve, you must configure it so that end users can retrieve their own files.

See "About configuring Backup Exec Retrieve" on page 96.

Features of Backup Exec Retrieve

Table 6-1 describes the features that are available in Backup Exec Retrieve.

Table 6-1   Backup Exec Retrieve features

Feature	Description
Search	Find folders and files by name. Use standard Windows-like search capabilities to find a file when the folder or file name is unknown or only partially known.
Browse	Navigate through shared folders to which you have permissions, and view any of the files that were backed up. When a file is located, you can view all stored versions of that file. Review the date, time, and file size to determine the version of the file that you want to retrieve.
Recent Activity	View a list of files that were recently modified or deleted. Recent activity includes files from the earliest through the latest snapshot on record. The file list is sorted in order by files from today, yesterday, earlier this week, last week, and two weeks ago. The Recent Activity list does not show any files that have been modified or deleted after the last snapshot was taken.
Retrieve List	View the items you have selected for retrieval. Remove selected items, unselected items, select all, or unselect all to make the appropriate modifications. Unless specified otherwise, retrieved files are saved to `My Documents\My Recovered Files`.

File types and retrieval ability

Due to the nature of download files from the Web, some file types are limited in their ability to be retrieved using Backup Exec Retrieve.

File type	Limitations
■ Windows Encrypted File (EFS) ■ Reparse points	Downloading and retrieving these file types will result in garbled or unuseable data, or an access denied error.

File type	Limitations
■ Compressed ■ Sparse ■ Read-only ■ Customized security permissions	These file types can be retrieved using Backup Exec Retrieve, but the end result is a file that is no longer compressed, sparse, read-only, or has custom security permissions set on it.

System requirements for using Backup Exec Retrieve

Backup Exec Retrieve is designed to work with Microsoft Internet Explorer 6.0 or later. Other browsers should also be compatible, but certain features and user interface layouts may vary.

How file access is secured

When using Backup Exec Retrieve, end users log in with their domain credentials, and then the system restricts their access so that they can only retrieve the files to which they originally had access. For example, if a file server is protected, end users likely will only have access to the files that are located inside shared folders. If an end user's desktop is protected, and the end user is a local administrator on the computer or has access as the administrator, then the end user can retrieve any file on that computer.

Some end users might not be administrators on their own computers, but still need to retrieve files. Backup Exec Retrieve makes this possible by generating a virtual share of the Documents and Settings folder on each computer, and then restricts access so that only end users who have ever logged on to that computer can access the share. Thus, non-administrator users can retrieve files out of their profile directories, but only if they could originally access those files.

About workgroup environments

In workgroup environments, there are no domain accounts for end users to log in with. To use Backup Exec Retrieve in a workgroup environment, set the permissions on every share to allow the Everyone group read access (at a minimum), and then on the Backup Exec Retrieve computer, create a local computer account for each end user.

Retrieving files using Backup Exec Retrieve

When an end user has located a file to retrieve, simply clicking the name of the file opens the most recent backup. To view previous revisions of the file, the end

user can click the View all versions link, and then open the desired version by clicking on it.

The process of retrieving directories or multiple files functions like a shopping cart. An end user can select the needed files from the relevant directories, and then use the interface to add those files to a list of items for retrieval. When all of the needed files have been selected, the end user simply "checks out" by clicking a button to retrieve the items. To accomplish the retrieval, a download manager program is downloaded to the end user's computer, which then retrieves each file.

Note: There are two versions of the download manager program that are used to retrieve files. One requires the Microsoft .NET 2.0 framework, while the other one does not. The .NET 2.0 version provides a more seamless retrieve experience, and will be used when it is available on the end user's computer, but the system will use the non-.NET version when necessary.

To retrieve files using Backup Exec Retrieve

1   From the Manage page, in the left pane under Services, click **Retrieve Files and Folders**.

    The Backup Exec Retrieve Web page is displayed.

    Note: You can link to Backup Exec Retrieve in the Backup Exec System Recovery Manager console, and on the desktop of each managed Symantec Backup Exec System Recovery computer. The URL for this link is https://*manager computer*:8443/BERetrieve

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2   If the standard Windows security alert screens are displayed, click **Yes** or **OK** to continue.

3   If a message is displayed with information about the security certificate, it is related to SSL. Click **Continue to this website (not recommended)**.

4   In Backup Exec Retrieve the logon screen, enter the user name, password, and domain (or computer name if in a workgroup), and then click **Log on**.

5   In the Backup Exec Retrieve screen, select one of the following options to locate and specify the data that you want to retrieve:

    ■   The Search tab lets you search for the data by file name.

    ■   The Browse tab lets you browse the backup data.

- The Recent Activity tab lets you select the data from files that were recently modified or deleted.

6   To display the folders that have been backed up, click the computer name.

Subsequent clicks on the folder name let you navigate deeper into subdirectories. At any level, you can use the check box to select that folder and subordinate folders and files.

7   To view recently modified or deleted files, on the Recent Activity tab, do one of the following:

- To view modified files, click **Recently Modified**.

- To view deleted files, click **Recently Deleted**.

8   To add the file to your list of data to be retrieved, select the file, and then click **Add to Retrieve List**.

9   If necessary, add more files to the retrieve list by using the Browse tab and then locating the files. To add the files to the retrieve list, select the desired files, and then click **Add to Retrieve List**.

10   To view a list of all of the files you selected, click the Retrieve List tab.

11   On the Internet Explorer File Download screen, click **Open** (or **Run**) to download a small executable file (downloadmanager.exe) that restores the selected files.

12   On the File Restore screen, select the default `<user>`\My Documents\Restored Files, or browse to the chosen restore location.

13   To begin the file retrieval, click **Next**.

14   Verify that the selected files were retrieved.

Integrating with Backup Exec 11d

You can use Backup Exec Retrieve to connect to existing Backup Exec 11d installations, and include files and folders from those sources to provide a unified view of all Backup Exec System Recovery and Backup Exec 11d data.

To enable this feature, on the Backup Exec System Recovery Manager console, at the Options dialog, in the Backup Exec 11d CPS Servers section, add each Backup Exec 11d Continuous Protection Server or Backup Exec 11d DLO Administration Server. You need to provide administrator credentials to connect to each host – these are used to read configuration information only; the end user's credentials will always be used to restrict the files that are viewable in Backup Exec Retrieve.

To provide a unified view of all Backup Exec System Recovery Manager and Backup Exec 11d data

1   From any page on the Backup Exec System Recovery Manager console, click **Tools** > **Options**.

2   On the left pane, click **Backup Exec 11d CPS**.

3   On the right pane, click **Add**, and then enter the CPS or DLO administration server name and credentials.

4   To automatically redirect the end user to the unified Backup Exec Retrieve Web site, under Redirection, select the check box. This modifies the existing Backup Exec 11d pages on the 11d server.

5   Click **OK**.

Note: You can have multiple Backup Exec System Recovery managers sharing the same 11d servers, but be sure to only have the 11d server redirected to one of them. Otherwise, the redirection may bounce back and forth between the two different Backup Exec System Recovery Manager servers that are attached to it.

Integrating with the Backup Exec 11d Desktop and Laptop Option

When properly configured, Backup Exec 11d Retrieve included data from Backup Exec's Desktop and Laptop Option (DLO). If you previously configured the DLO integration, the DLO data will automatically be included. If you did not include DLO data in Backup Exec 11d, you can manually include it in Backup Exec Retrieve.

To manually include DLO data in Backup Exec Retrieve

1   From any page on the Backup Exec System Recovery Manager console, click **Tools** > **Options**.

2   On the left pane, click **Backup Exec 11d CPS**.

3   On the right pane, click **Add**, and then enter the DLO administration server name and credentials.

4   Click **OK**.

Troubleshooting Backup Exec Retrieve

For help with resolving problems that you might encounter with Backup Exec Retrieve, you can check the following information.

■   Clicking on a file causes an error in the application that launches for viewing the file

- I cannot log in with a local account

- I cannot see all of my data (indexing is taking too long)

Clicking on a file causes an error in the application that launches for viewing the file

When you click on a file in Microsoft Internet Explorer, it first saves the file to the Internet cache, and then launches the associated program to open it. If the Do not save encrypted pages to disk option is selected in Internet Explorer (which is the default on Windows 2003, but not Windows XP), then Internet Explorer does not write this file to the Internet cache. However, it still launches the associated application, which consequently cannot open the file. To fix this issue, deselect the option in Internet Explorer.

To deselect the option to save encrypted pages to disk

1   In Internet Explorer, click the Tools menu, and then click **Internet Options**.

2   Click **Advanced**, and then scroll down to the Security section.

3   Uncheck the Do not save encrypted pages to disk checkbox.

4   Click **Apply** > **OK**.

I cannot log in with a local account

Backup Exec Retrieve nearly always runs on a different computer than the original computer that was backed up. The only authority for local accounts and passwords is the original computer, which might not be available when using Backup Exec Retrieve. You will need to use a domain account to login and retrieve files using Backup Exec Retrieve. Backup Exec Retrieve makes every effort to capture domain users and groups that are part of local groups, so if your domain account is a member of the Local Administrators group on your computer, you can retrieve your files.

I cannot see all of my data (indexing is taking too long)

Indexing is a resource-intensive process. Performance expectations will vary significantly, depending on your hardware, network configuration, and data change rate. Initial indexing for a new storage location that contains many base recovery points will be the most intense load, in the range of minutes per image, while a smaller load for subsequent incremental recovery points will be in the range of seconds per incremental. Images that are not indexed will not display in search results, so if you find that indexing is taking too long, you might need to distribute the load across additional indexing servers.

About recovering files or disks using Symantec pcAnywhere

You can start Symantec pcAnywhere (if installed) on the Shortcuts page and connect to a managed client computer that also has pcAnywhere installed and running. This connection lets you restore files on a remote computer using the Recovery Point Browser, or restore an entire drive using Backup Exec System Recovery with a user interface.

Table 6-2 describes the locations where software must be installed.

Table 6-2   Recovery on remote computer

Location	Software that must be installed at the location
Backup Exec System Recovery Manager console	Symantec pcAnywhere (ships on a separate CD with Backup Exec System Recovery Manager)
Remote computer	■ Symantec pcAnywhere host ■ Backup Exec System Recovery - full product **Note:** The remote computer cannot be a pcAnywhere host if it is currently under Windows XP Remote Desktop (or Terminal Services) control.

If you connect to a remote computer that has Backup Exec System Recovery without a user interface installed (as opposed to Backup Exec System Recovery with a user interface), you must use Symantec Recovery Disk to restore files or disks. See the Backup Exec System Recovery product documentation for more information about Symantec Recovery Disk.

After pcAnywhere is installed, you can launch the program directly from the console. You can deploy pcAnywhere hosts to all managed computers that you want to connect to for recovery tasks using Backup Exec System Recovery. For more information about using pcAnywhere and deploying hosts, see the Symantec pcAnywhere product documentation.

Starting Symantec pcAnywhere from the console

To start Symantec pcAnywhere from the console, make sure that you have installed the product on the same computer on which you are running the Backup Exec System Recovery Manager console.

Note: The pcAnywhere host needs to be installed and running on the remote computer before you can remotely recover files or disks.

After you connect to the remote computer through pcAnywhere, you can either open the Recovery Point Browser to recover files or folders, or you can open Backup Exec System Recovery to recover disks.

To start Symantec pcAnywhere from the console

◆   On the Shortcuts page, in the right pane, click Symantec pcAnywhere.

Monitoring computers and processes

This chapter includes the following topics:

- Setting client options for computers
- Refreshing client computer information in the console
- Changing how a computer reports backup status
- Exporting a console table to a file
- About monitoring computers

Setting client options for computers

You can set a variety of options that affect one computer or entire groups of computers.

Warning: If you select multiple computers or one or more computer groups, all of the client options that are currently set in the Client Options dialog box are default settings only. Unlike when you select one computer, these settings do not reflect the current state of the multiple computers or groups. Any changes you make to these settings affect all of the computers or computer groups that you have selected. Changes are made on a page-by-page basis only.

To set client options for computers

1   On the Manage page, do one of the following:

- In the right pane, on the Computers tab, select one computer name in the table.

- In the right pane, on the Computers tab, select two or more computer names in the table.

- In the right pane, on the Groups tab, select one or more group names in the table.

2 On the Tasks menu, click **Client Options**.

3 To edit the setting, in the left pane, click the name of the option.

Performance   Adjust the operation speed of Backup Exec System Recovery during the creation of a recovery point by dragging the slider bar to the left or to the right. By reducing the operation speed of Backup Exec System Recovery, you can improve the performance of other software programs that may be running on the client computer. When Backup Exec System Recovery (with a user interface) is installed, the throttle value that you set in Backup Exec System Recovery Manager takes precedence over the throttle value that a remote user may set..

If you save recovery points to a network storage location, you can also set a network throttle value by specifying the maximum number of kilobytes per second (200-1048576) of recovery point data that is transferred over the network. If your network has limited bandwidth, you can enable network throttling during a recovery point to help reduce network traffic.

Tray Icon   Choose to show or hide the Backup Exec System Recovery system tray icon on client computers. Hiding the tray icon is useful for the following reasons:

- You want the actions of the Backup Exec System Recovery to remain invisible to the user
- You do not want to add another icon to the system tray of the client computer
- You want users to avoid having any intervention with Backup Exec System Recovery on critical computers such as production servers

Backup Exec System Recovery and Management Control must already be installed on the computer.

You can choose the level of messages that you want the remote user to see, regardless of whether the system tray icon is visible or hidden.

Management
Control

Choose how you want the Backup Exec System Recovery Manager server
to communicate securely with client computers with one of the
following methods:

- Specify the secure Management Control port (checked by default)
  The default port is 763. This is the default secure port used by
  Backup Exec System Recovery Manager to ask the Management
  Control component to communicate with the server regarding
  backup jobs, the status of recovery points, and each computer's
  current state.
  To specify an alternate port for Management Control other than
  the default 763, the following must occur:
  - On the console, you configure the alternate port value as outlined
    above.
  - On the client computer, you configure the same alternate port
    value in the client firewall software that is running.
    See "Configuring an alternate port for Management Control in
    client firewall software" on page 179.

- Client polling interval
  The default value is 60 minutes. The client computer contacts the
  Backup Exec System Recovery server at recurring intervals for job
  information or status updates.

- Specify the IP address that Management Control uses to contact
  the server
  Check this option if the server computer has two or more network
  interface controllers (NICs), and then select the IP address that you
  want to use from the drop-down list.

- Publish progress
  The default interval is 5 percent. Check this option to publish the
  progress of a job at a specified percentage interval. For example, if
  you specified 10 (the default), the job updates the console display
  after each 10 percent of the job's completion on the client computer.
  Specifying a higher percentage does not update the job progress as
  frequently in the console, but it may improve performance in the
  console interface.
  If Publish progress is unchecked, no job progress is published to
  the console. Instead, an entry for the job appears on the Monitor
  page. When the job finishes, the entry is removed.

■ Upload log files

If you are logged on in the role of System Admin, you can check this option to upload Backup Exec System Recovery and Management Control log files for availability and viewing from the console. If you uncheck this option, no log files are published. This may improve the performance of the Backup Exec System Recovery Manager server and network on which it is running.

■ Verbose logging

This option is unchecked by default. Verbose logging is a client computer logging mode that records very detailed information not found in a traditional logging mode. A verbose log tracks all low-level job changes and settings applied to the client computer by Backup Exec System Recovery Manager and also from Backup Exec System Recovery as jobs are run.

Because verbose logging increases the size of the log file, it takes more time to upload it to the Backup Exec System Recovery Manager server for viewing in the console. Verbose logging may also impact client computer performance. You should only check this option if you need further assistance with diagnosing or troubleshooting an error.

See "Editing server and client settings" on page 84.

Log File   Choose from the following log file options:

■ Priority Level

Choose the minimum priority level and error message types that you want logged to a file regarding Backup Exec System Recovery on the client computer.

■ Log file location

Specify the path that you want to use for storing log files.

■ Maximum file size

You can also specify the maximum file size of the log file. When the maximum file size is reached, the log file is renamed (*.old). A new log is started and the original file name is used.

Event Log   Choose the minimum priority level and error message types that you want added to the Windows application log regarding Backup Exec System Recovery on the client computer.

SMTP E-mail	You can configure a user to receive SMTP email notification messages.
	Choose the minimum priority level and error message types that you want sent regarding Backup Exec System Recovery on the client computer.
	In the From text box, type the email address of the user from whom the notification message is sent.
	In the To text box, type the email address of the recipient to whom the notification message is sent. For example, name@comany.com
	Type the name of an SMTP mail server (for example, smtpserver.domain.com or server1) on which you have a valid user account. Backup Exec System Recovery Manager does not check the server name or the email address for validity.
	You can increase the security of the email being sent by specifying an authentication level (Basic or NTLM), and a user name and password. Anonymous authentication does not require a user name and password.
	You must have an SMTP-compliant email system, such as a POP3 mail server, to receive notification messages.
SNMP Trap	SNMP (Simple Network Management Protocol) is a method by which a network can be monitored from a central location. SNMP-enabled network applications (like Backup Exec System Recovery) report to an SNMP Console. (By default, Backup Exec System Recovery is not enabled to send traps to NMS managers). The console receives messages (traps) from Backup Exec System Recovery regarding specified status and error conditions.
	In order to receive SNMP traps from Backup Exec System Recovery, you must install and configure the Windows SNMP system service.
	Choose the minimum priority level and error message types that you want trapped regarding Backup Exec System Recovery on the client computer. You can also select the version of SNMP traps to be sent (V1 or V2).

4   Click **OK**.

Refreshing client computer information in the console

When you use the Refresh Client option, the Management Control checks the server for any queued jobs such as backups or recoveries. If jobs are found, they are immediately processed.

See

Note: Backup Exec System Recovery and Management Control must already be installed on client computers to use Refresh Client.

To refresh client computer information in the console

1   On the Manage page, do one of the following:

- In the right pane, on the Computers tab, select one or more computer names in the table.

- In the right pane, on the Groups tab, select one or more group names in the table.

2   On the Tasks menu, click **Refresh Client**.

3   To approve the refresh, click **Yes**.

Changing how a computer reports backup status

You can change how Backup Exec System Recovery Manager reports the status of a particular drive on a client computer.

For example, if drive D contains unimportant data and you have chosen not to include it in a backup job, the backup status on the Home page reports that the computer is at risk. You can configure Backup Exec System Recovery Manager to ignore drive D so that it does not calculate the status of drive D in the Status panel on the Home page. Or, you can specify that only errors, such as missed or failed backups, are included in the status report.

Note: The backup status of each drive on a computer is reported throughout the software, wherever the drive is listed. When you customize status reporting for a drive, the status is reflected anywhere that the drive is listed in Backup Exec System Recovery Manager.

You should first determine how important the data is on a particular drive before deciding on the level of status reporting to assign to it.

See "Viewing the backup status of a computer" on page 160.

To change how a computer reports backup status

1   On the Manage page, in the right pane, click the Computers tab.

2   Select a computer in the table.

3   On the Tasks menu, click **Backup Status**.

4   Click **Drive Status**.

5   Select one or more drives.

6   Click **Status Reporting**.

7   Click the status reporting level that you want for the selected drives.

Full status reporting	Shows the current status of the selected drive backups on the Home and Status pages. Click this option if the data is critical.
Errors only status reporting	Shows the current status of the selected drive backups only when errors occur. Click this option if the data is important, but you only want the status to report errors when they occur.
No status reporting	Does not show any status for the selected drive or file and folder backups. Click this option if the data is unimportant and missed or failed backups do not need to be reported.

8   Click **OK**.

Exporting a console table to a file

You can export the tables of information on any Manage page to the following formats:

- Text file (.csv)

- Web page (.html)

- Excel spreadsheet (.xls)

- XML data (.xml)

To export a console table to a file

1   From any tab on the Manage page, do one of the following:

- Select one or more items in the table, and then click **Tasks > Save Selected**.

- Click **Tasks > Save All** .

2   In the Save As dialog box, specify the name and location of the file.

3   Click **OK**.

A displayed message tells you how many rows were exported.

About monitoring computers

You can use the Backup Exec System Recovery Manager console to do any of the following:

■ View the backup protection status of a selected computer.
See "Viewing the backup status of a computer" on page 160.

■ View the progress of currently running jobs.
See "Viewing the progress of jobs" on page 161.

■ View all jobs that are waiting to run.
See "Viewing pending backup jobs" on page 162.

■ View errors for all jobs.
See "Viewing job failures" on page 163.

■ View predefined reports.
See "Viewing reports" on page 163.

■ View the properties of a selected computer.
See "Viewing the properties of a computer" on page 165.

■ View client computer and Backup Exec System Recovery Manager server log files.
See "Viewing a client computer log" on page 167.
See "Viewing the Backup Exec System Recovery Manager server log" on page 167.

Viewing the backup status of a computer

You can use Backup Status to view details about which drives on a selected computer are protected. For example, if one or more drives on a computer are not included in a backup job, the background color and status icon change to reflect the level of backup protection. The Status Details pane provides recommendations on what actions you can take.

See "Changing how a computer reports backup status" on page 158.

Table 7-1 describes each of the levels of backup protection that are available.

Table 7-1   Backup protection levels

Backup status	Description
Backed Up	The computer has made a recovery point of all drives in the last 30 days and has not missed the last scheduled back up. A computer can be considered "Backed Up" without having an assigned backup job as long as one or more recovery points have been created within the last 30 days. This status indicates that all drives, files, and folders can be fully recovered, if necessary.

Table 7-1   Backup protection levels *(continued)*

Backup status	Description
Needs Attention	The computer has a backup job assigned but it has not been run for a long time, or it has missed the last scheduled backup (meaning that existing recovery points are probably old).
	A computer drive that needs attention can be recovered, but if the recovery points are older, it will not contain the latest versions of files or folders.
At risk	No recovery points are available from which to recover the drives.
	A computer at risk cannot be recovered.
Status unknown	The status is not yet calculated, or you have not assigned a license to Backup Exec System Recovery on the client computer. Either wait a few seconds for the status to update, or make sure that you have assigned a Backup Exec System Recovery license to the client computer.

To view the backup status of a computer

1   On the Manage page, in the right pane, click the Computers tab.

2   Select a computer in the table.

3   On the Tasks menu, click **Backup Status**.

    Review the status details.

4   If the backup status indicates that a client computer is at risk or needs attention, do one of the following:

    ■   To create a recovery point for selected drives, click **Fix Now**.

    ■   To create a backup job for the selected drives, run a backup job that is already assigned to a drive, or change how backup status is reported for a selected drive, click **Drive Status**.

Viewing the progress of jobs

You can use the Monitor page to display real-time status information regarding the following types of jobs as they occur:

■   Backups

■   Deletion of recovery points

■   Recovery of a data drive on a client computer

■   Conversion of recovery points to virtual disks

Note: Status information regarding the progress of jobs is updated when the Monitor page in the console is displayed in the console.

You can affect the published progress of a job in the console by specifying a percentage interval. For example, if you specified 10 (the default) in the Management Control panel of Client Options, the job updates the console display after each 10 percent of the job's completion on the client computer. You can also choose to have no job progress published. In such cases, only an entry for the running job appears on the Monitor page. When the job is finished, the entry is removed.

See "Setting client options for computers" on page 153.

To view the progress of jobs

1   On the View menu, click **Monitor**.

2   Do one of the following:

■   To stop a job, select the job you want, and then on the toolbar, click **Cancel**.

■   To troubleshoot computers with job errors, on the toolbar, click **Errors**.

■   To view a list of computers with jobs waiting to be run, on the toolbar, click **Pending jobs**.

■   To further refine the progress of each job, use the options on the Filter bar.

■   To reorganize information, drag column headings in the table to another column header.

Viewing pending backup jobs

You can view a list of computers with backup jobs waiting to be run.

To view pending backup jobs

1   On the Manage page, in the right pane, click the Computers tab.

2   Select a computer in the table.

3   On the Tasks menu, click **View Pending Jobs**.

4   Select a job name in the table.

5   Do one of the following:

■   To view job settings, click **Backup Details**.

■   To stop the job from running, click **Cancel Job**.

6   Click **Close**.

Viewing job failures

Different conditions can cause failures. To troubleshoot these failures, you can use View Failures to narrow the possibilities and solve the more problems quickly.

View Failures provides error information for the following types of jobs on a selected computer.

- Backups

- Remote recovery of a computer

- Conversion of recovery points to virtual disks

- Deletion of recovery points

From the View Failures dialog box, you can do the following:

- View the client computer's event log

- View the details of the failed job

- Retry the failed job

- Clear the job failure

To view job failures

1   On the Manage page, in the right pane, click the Computers tab.

2   Select a computer in the table.

3   On the Tasks menu, click **View Failures**.

4   If the computer has more than one type of job failure, select the job type that you want to view.

5   Do one of the following:

- To view the event log associated with the job failure, on the toolbar, click **Show Event Log**.

- To view detailed information regarding the job failure, on the toolbar, click **Backup Details**.

- To try running the job again, on the toolbar, click **Retry**.

- To remove the failure, on the toolbar, click **Clear Failure**.

Viewing reports

You can use the Reports tool to generate 12 different predefined reports that show detailed information about your backup management system.

Table 7-2 describes the predefined reports that you can generate.

Table 7-2   Available reports

Report	Description
Executive Summary	Displays a high-level summary regarding the status of managed servers and desktop computers that are running Backup Exec System Recovery.
Trends	Displays trend data, such as errors and recovery point failures, for all managed computers within a specified date range. This report provides similar information to the trends line chart on the Home page.
Backup Definitions	Displays a detailed overview of all backup jobs that are available in Backup Exec System Recovery Manager.
Managed Computers	Displays a detailed list of all managed computers, including their current group assignment, if any.
Managed Computer Details	Displays detailed information about the hard drive of a selected computer that Backup Exec System Recovery Manager manages.
Recovery Points	Displays detailed information about available recovery points, failed recovery points and, optionally, recovery points that were deleted.
Recovery Protection	Displays all managed computers and the number of days since the last backup occurred.
Backup Schedules	Displays a list of all managed computers and their assigned backup schedule. If any computers do not have an assigned backup scheduled, the report includes this information.
Disk Usage	Displays a list of all managed (and reporting) computers and detailed information about each partition on its hard disk.
Client Versions	Displays a list of all managed (and reporting) computers and the version of Backup Exec System Recovery and Management Control that is installed on them.
Managed Computer Events	Displays a list of one or more managed (and reporting) computers with errors, warnings, and other events, within a specified date range.
Computers Not Reporting	Displays a list of all managed computers that are reporting or not reporting to the Backup Exec System Recovery Manager server.

You can save a report as a text file, Web page, Excel spreadsheet, or an XML data file. You can also print each report directly from the console.

Some reports, such as Backup Exec System Recovery Event or Trend let you specify filter parameters or a date range to refine further the displayed results.

To view reports

1   On the View menu, click **Reports**.

2   Click the name of a report in the sidebar.

The results are displayed in the right pane.

Depending on the report that you have selected, you may need to specify a date range. Or, you may be able to use the Filter bar to refine further the resulting displayed results.

The report results are displayed on the right pane.

3   Do one of the following:

- To save the results to a file, in the right pane, click **Save** above the displayed report.

- In the right pane, above the displayed report, click **Print**.
  You can either preview the report before printing it, or you can print the report with the default printer that is set up on the computer where the console is running.

Viewing the properties of a computer

Computer properties are details about a selected client computer that you manage. Property details including the following:

- Drives that are on the computer

- A backup history of the computer

- An event log that identifies errors, information, and warnings

- Backups that are currently assigned to the computer

- Computers that are assigned to groups

See "Refreshing client computer information in the console" on page 157.

To view the properties of a computer

1   On the Manage page, in the right pane, click the Computers tab.

2   Select a computer name in the table.

3   Do one of the following:.

- On the Tasks menu, click **Properties**.

- Double-click the computer name.

4 In the left pane, click the name of the property that you want to view.

Drives

View specific information about the computer's hard drive (like the file system that is used and storage capacity), the storage location for recovery points, and when the last recovery point occurred.

In the Drives window, in the Last Backup column, notice that any unprotected drives (that is, any drives that have not yet had a backup job run on them) are blank. Each drive's protection status is also displayed in the Status column.

Backup History

View the backup history of a computer and general status information, such as the recovery point type, size, and destination.

You can also view a chronological history of all of the recovery points that are taken of selected drives (even if the recovery point has been deleted from the storage location).

The picture icon next to each drive letter gives you a quick visual indication about the type of recovery point that is created (a recovery point set, or an independent recovery point).

See "Deleting recovery points within a set" on page 131.

Events

View information, errors, or warnings for the selected computer.

You can also use the Windows Event Viewer on the client computer to view events from the application logs.

Backup Jobs

View the backup jobs that are currently assigned to the selected computer.

In the right pane, use the Filter bar above the table to refine the view.

Groups

View the computers that are currently assigned to the selected group.

In the right pane, use the Filter bar above the table to refine the view.

License

View Backup Exec System Recovery licensing details for the selected computer.

5 Click **Close**.

Viewing a client computer log

You can use View Computer Logs to open a selected computer's log for Management Control or Backup Exec System Recovery.

Note: To view client computer log files, make sure you have checked the option to upload log files to the Backup Exec System Recovery server (as set in the Management Control panel of Client Options). Otherwise, you will get an error message telling you to first publish the log files before you attempt to view them.

See "Setting client options for computers" on page 153.

To view a client computer log

1   On the Manage page, in the right pane, click the Computers tab.

2   Select a computer name in the table.

3   On the Tasks menu, click **View Computer Logs > Management Control Log** or **Backup Exec System Recovery Log**.

    To perform log file tasks, use the Menu bar options in the log window.

Viewing the Backup Exec System Recovery Manager server log

You can use View Server Log to open the Backup Exec System Recovery Manager server log in the default browser window.

To view the Backup Exec System Recovery Manager server log

◆   On the Manage page, click **Tools > View Server Log**.

    To perform log file tasks, use the Menu bar options in the log window.

Using the Shortcuts page

This chapter includes the following topics:

- About the Shortcuts page
- Adding a link to the Shortcuts page
- Editing a link on the Shortcuts page
- Deleting a link from the Shortcuts page

About the Shortcuts page

You can use the Shortcuts page to add links to external programs, full URLs, or to files. You double-click the link to launch the program or open the associated file.

When you installed the console, default program shortcut icons for certain Symantec programs were automatically added to the Shortcuts page. These program shortcuts are active if you have installed the respective program on the same computer as the console. You cannot edit or remove the default program shortcuts.

Shortcuts are displayed in alphabetical order by name.

Adding a link to the Shortcuts page

You can add tool links to external program, URLs, or files, and then launch the link from the Shortcuts page in the console. On the Shortcuts page, you can display links with a graphical icon of your choice and the link's name. When you hover the mouse pointer on a link, the name, link location, and description are displayed in a pop-up window.

To add a tool link to the Shortcuts page

1   Do one of the following:

   ■ Drag a shortcut from the Windows desktop and drop it onto the right pane
      of the Shortcuts page.

   ■ On the Shortcuts page, on the toolbar, click **Add**, and then continue with
      the steps below.

2   Specify the following options:

Name	Type the name that you want displayed with the link's graphical icon. A display name is optional. However, if you do not specify a name, the Target path is used instead.
Path	Do one of the following: ■ Specify the full path to a program file (.exe) that exists on the computer. If necessary, click **Browse** to locate the file. ■ Specify the full path to a Web link. The Web link path must begin with http:// or https://, so that it can open correctly using the installed browser.
Start In	Specify a path to the folder that contains the files that the program may need to use. If this text box is left empty, the path to the program file in the Path text box is used. Or, if a Web link was specified as the path, this text box remains empty.
Change Image	Click **Change Image**, and then specify a path to a graphic image file that you want to represent the link. Valid graphic image file formats include the following file extensions: ■ .jpg or .jpeg ■ .gif ■ .bmp Icon files (.ico) are not supported. If you do not specify an image file (or the file is invalid or unavailable), Backup Exec System Recovery Manager supplies a default image. The image that is used is based on the type of link you created (an executable or Web link).

3   Click **OK**.

Editing a link on the Shortcuts page

You can edit links to tools that you have added. However, default tool links that were installed with Backup Exec System Recovery Manager cannot be edited.

To edit a link on the Shortcuts page

1   On the Shortcuts page, select a link that you have added.

2   On the toolbar, click **Edit**.

3   In the Edit Shortcuts dialog box, make the changes that you want.

4   Click **OK**.

Deleting a link from the Shortcuts page

You can remove links that you no longer use from the Shortcuts page. However, default tool links that were installed with Backup Exec System Recovery Manager cannot be deleted.

To delete a link from the Shortcuts page

1   On the Shortcuts page, select a link that you have added.

2   On the toolbar, click **Delete**.

3   To confirm the deletion, click **Yes**.

Configuring TCP/IP ports for network communication

This appendix includes the following topics:

■ Ports used by Backup Exec System Recovery Manager

■ Configuring TCP/IP ports for a new installation of Backup Exec System Recovery Manager

■ Configuring TCP/IP ports for an existing managed computer

■ Configuring an alternate port for Management Control in client firewall software

Ports used by Backup Exec System Recovery Manager

If you are running the Backup Exec System Recovery Manager console with client computers behind a local firewall, or using Windows XP Service Pack 2, you may need to configure certain ports so that Backup Exec System Recovery Manager can communicate with the client computers.

You cannot configure these ports remotely from Backup Exec System Recovery Manager because the ports must be open in order for the console and server to communicate with the client computer.

See "Editing server and client settings" on page 84.

Table A-1 identifies the various ports and protocols that Backup Exec System Recovery Manager uses.

Table A-1   Ports used by Backup Exec System Recovery Manager

Communication path	Port
Bidirectional between remote managed computers and the Backup Exec System Recovery Manager server	■ TCP 8080 (unsecure): Used for viewing log files. See "Editing server and client settings" on page 84. ■ TCP 8443 (secure): Used by Management Control to communicate with the server. See "Configuring TCP/IP ports for a new installation of Backup Exec System Recovery Manager" on page 175. See "Configuring TCP/IP ports for an existing managed computer" on page 177.
From remote managed computers to the Backup Exec System Recovery Manager server	■ TCP 8443 (secure): Used by Management Control to communicate with the server. See "Editing server and client settings" on page 84. ■ TCP 763 (unsecure): Used by Backup Exec System Recovery Manager to ask Management Control to communicate with the server. You can configure this port to use an alternate address other than the default. See "Configuring an alternate port for Management Control in client firewall software" on page 179.
From the Backup Exec System Recovery Manager console to the Backup Exec System Recovery Manager server	TCP 8443 (secure): Used by Management Control to communicate with the server. See "Editing server and client settings" on page 84.
From remote managed computers to the backup location on the network.	■ UDP 138 ■ TCP 139 Used with NetBIOS over default TCP/IP. These are the ports that are used by the File and Printer Sharing service that is located in the Exceptions tab of Windows Firewall (Windows XP SP2 only).

Table A-1 Ports used by Backup Exec System Recovery Manager *(continued)*

Communication path	Port
Viewing log files	TCP 8080 (unsecure): Used for viewing the log files created by Backup Exec System Recovery Manager.
From the Backup Exec System Recovery Manager server to the Indexing Server.	TCP 764 (unsecure): Backup Exec Retrieve uses this port on the Backup Exec System Recovery Manager server to communicate with the Windows Server 2003 computer where Indexing Server is installed. See "Editing server and client settings" on page 84.

Configuring TCP/IP ports for a new installation of Backup Exec System Recovery Manager

Use the following method to configure a new installation of Backup Exec System Recovery Manager for communication using port numbers other than the default 8080 and 8443. This method of configuration may also be necessary if you experience problems when you log on to the Backup Exec System Recovery Manager server and you have an installation of Backup Exec 10d or Backup Exec 11d for Windows Servers.

See "Configuring TCP/IP ports for an existing managed computer" on page 177.

See "Ports used by Backup Exec System Recovery Manager " on page 173.

To configure the TCP/IP ports for a new installation of Backup Exec System Recovery Manager, you must complete the following tasks:

■ Stop the Backup Exec System Recovery Manager Web services.

■ Configure server.xml.

■ Restart Backup Exec System Recovery Manager Web services.

■ Configure the Backup Exec System Recovery Manager console to communicate with the server.

To configure TCP/IP ports for a new installation of Backup Exec System Recovery Manager

◆ Install the Backup Exec System Recovery Manager 8.0 server. You must install the Backup Exec System Recovery Manager 8.0 console later in this process.

Be sure that you remember the folder where you installed the product. The default installation path is C:\Program Files\Symantec\Backup Exec System Recovery.

Stopping Backup Exec System Recovery Manager Web Services

1 On the Windows taskbar of the Backup Exec System Recovery Manager server, click **Start > Run**.

2 In the Open text box, type `services.msc`, and then click **OK**.

3 Under the Name column, click **Backup Exec System Recovery Manager Web Services**.

4 Click **Action > Stop**.

The Backup Exec System Recovery Manager Web Services are stopped. Leave the Services window open so you can return to it to restart the Web services later.

Now you must configure the server.xml file.

Configuring server.xml

1 Open server.xml in Notepad.

The default path to the file is C:\Program Files\Symantec\Backup Exec System Recovery\Services\tomcat\conf\.

2 Search for the following line in the file:

```
<!-- Define a non-SSL HTTP/1.1 Connector on port 8080 -->
<Connector port="8080"
```

3 Change the connector port number "8080" to the port number that you want to use for unsecure communication.

4 Search for the following line in the file:

```
<!-- Define a SSL HTTP/1.1 Connector on port 8443 --> <Connector
port="8443"
```

5   Change the connector port number "8443" to the number that you want to use for secure communication.

6   Save server.xml with the new port numbers.

Now you must restart the Backup Exec System Recovery Manager Web services.

Restarting the Backup Exec System Recovery Manager Web Services

1   Return to the Services window that you opened earlier.

2   Under the Name column, click **Backup Exec System Recovery Manager Web Services**.

3   Click **Action > Start**.

Backup Exec System Recovery Manager uses the new ports for secure and insecure communication.

Now you must configure the Backup Exec System Recovery Manager console to communicate with the server.

Configuring the Backup Exec System Recovery Manager console

1   Make sure the Backup Exec System Recovery Manager 8.0 console is installed.

2   Click **All Programs > Symantec > Backup Exec System Recovery > Symantec Backup Exec System Recovery Manager**.

Do not log on to the console. If you log on before you finish the configuration of the console, the console does not function correctly.

3   In the Log on dialog box, click **Settings**.

4   Type the new secure port number that you specified earlier.

5   Click **OK**.

6   Finish logging on to the Backup Exec System Recovery Manager console.

If you are unable to log on to the console (due to a "Connection refused" error), be sure you check that the secure port number used to configure the Backup Exec System Recovery Manager Web services matches the port number that you used to configure the Backup Exec System Recovery Manager console.

Configuring TCP/IP ports for an existing managed computer

If you have already installed Backup Exec System Recovery Manager, you need to configure each managed computer that you have added to the server. You can view all managed computers on the Manage page in the console.

See

See

To configure the TCP/IP ports for an existing managed computer, you must complete the following tasks:

■ Configure the TCP/IP port in the registry of a managed computer

■ Configure the TCP/IP port in PublisherUI on the same managed computer

To configure the TCP/IP port in the registry of a managed computer

1 On the Windows taskbar of the managed client computer, click **Start > Run**.

2 Type services.msc in the text box, and then click **OK**.

3 Stop the Backup Exec System Recovery service.

4 On the Windows taskbar of the managed client computer, click **Start > Run**.

5 Type regedit in the text box, and then click **OK**.

6 In the registry entry, HKLM/SOFTWARE/Symantec/Backup Exec System Recovery Manager/8.0/Publisher, change the "WebServiceAddress" entry value to the secure port number that you use.

 Use "https://*<server_name>*:*<port_number>*/axis/services/Publisher where *<server_name>* is the name of the server where the Backup Exec System Recovery Manager 8.0 server is installed and *<port_number>* is the secure port number that you are using.

7 On the File menu, click **Exit**.

8 Restart the Backup Exec System Recovery service.

9 On the File menu, click **Exit**.

 Now you must configure the port in PublisherUI, on the same managed computer, to use the same port that you specified in step 6 above.

To configure the TCP/IP port in PublisherUI

1 On the same managed computer as above, navigate to \Program Files\Symantec\Backup Exec System Recovery\Manager\Management Control.

2 Double-click the file **PublisherUI**.

3 In the Web Service Address field, change the existing port number that is specified in the address path to the port number you that you specified above in step 6.

4 Click **Save**.

5 Click **Publish Now**.

Repeat the two tasks above for each managed client computer.

Configuring an alternate port for Management Control in client firewall software

To specify an alternate port for Management Control other than the default 763, the following must occur:

■ On the console, you specify the alternate port value using the Management Control panel in the Client Options dialog box.
See "Setting client options for computers" on page 153.

■ On the client computer, you configure the same alternate port value for Management Control in the client firewall software that is running.

To configure an alternate port value for Management Control in Symantec Client Firewall

1   On the client computer, open Symantec Client Firewall.

2   On the tool bar, click **Options**.

3   Click the Secure Port tab.

4   In the Protocol group box, make sure TCP is selected.

5   In the Port Number box, type the alternate port value that is specified in the Management Control panel of Client Options in the Backup Exec System Recovery Manager console.

6   Click **OK**.

7   Close Symantec Client Firewall.

    The client computer status in the Backup Exec System Recovery Manager console is updated to reflect the change.

To configure an alternate port value for Management Control in Windows Firewall

1   On the client computer, open Windows Firewall.

2   Click the Exceptions tab.

3   Click **Add Port**.

4   In the Name box, type **Management Control Port**.

5   In Port number box, type the alternate port value that is specified in the Management Control panel of Client Options in the Backup Exec System Recovery Manager console.

6 Make sure TCP is selected.

7 Click **OK** twice.

The client computer status in the Backup Exec System Recovery Manager console is updated to reflect the change.

About backing up databases

This appendix includes the following topics:

■ Backing up VSS-aware databases

■ About backing up non-VSS-aware databases

■ Backing up the Backup Exec System Recovery Manager server and database

Backing up VSS-aware databases

Backup Exec System Recovery Manager can co-exist with Microsoft VSS (Volume Shadow Copy Service) to automate the process of backing up VSS-aware databases like production Exchange 2003 and SQL 2005 databases, transaction logs on Windows Server 2003, Active Directory, and the latest versions of Oracle. VSS-aware databases are auto-enabled and cannot be turned off.

Note: Licensing Backup Exec System Recovery on client computers does not give users any rights to use VSS. VSS must be licensed separately from Microsoft, and users must conform to any license agreement or documentation that accompanies VSS.

See "About backing up non-VSS-aware databases" on page 183.

VSS lets IT administrators create a shadow copy backup of drives on a server. The shadow copy includes all files (including open files).

When a backup job starts, Backup Exec System Recovery alerts the VSS that a recovery point is about to be created. VSS then communicates this information to the VSS-aware databases and puts them into a quiesced (sleep) state. (Backup

Exec System Recovery always attempts to communicate with VSS if it is installed on a desktop or server and tries to provide VSS with information to quiesce databases.)

While in this quiesced state, the databases continue to write to transaction logs, and Backup Exec System Recovery takes an instantaneous snapshot that also includes any open files. When the snapshot is complete, VSS is notified, the databases are activated, and the transaction logs continue writing to the database. (To verify that there are no errors and that VSS is running, you should check the Microsoft error logs.)

While the recovery point is being created from the snapshot, the databases and applications return to an active state and continue to write data.

This kind of integration means that you can back up business-critical databases at anytime during the day without affecting productivity.

Additional points for backing up and restoring VSS-aware databases include the following:

■ Backup Exec System Recovery supports VSS Exchange Server 2003, which implements VSS technology. If the database load is heavy, the VSS request might be ignored.

■ Run backups during the lightest load time.

■ Additional backup applications are not needed to run Backup Exec System Recovery with Exchange databases.

■ There are known VSS issues that are resolved in 2003 Service Pack 1, and also the Exchange 2003 Service Pack 1.

■ Backup Exec System Recovery prevents VSS snapshots from occurring during the time the Backup Exec System Recovery is creating a recovery point.

■ If a full system restore is done from a recovery point, individual files can be restored from a VSS snapshot. However, the recommended restore process is to use Backup Exec System Recovery to mount the recovery point file as a virtual drive (using the Recovery Point Browser). Or, if you enabled file indexing when you defined the backup job, you can use Backup Exec Retrieve to quickly restore the files you need.

■ After a full system restore from a Backup Exec System Recovery recovery point, a VSS snapshot that was taken prior to the date and time of the Backup Exec System Recovery snapshot can no longer be used to restore the entire system.

Warning: Database corruption may occur if the computer is low on hard disk space when you are rebuilding a database at the same time you are running a backup. To avoid database corruption, you should quiesce the database before backing it up, and you should not rebuild or restore the database at the same time that you are backing it up. Finally, to avoid possible conflict, Backup Exec System Recovery does not let you take VSS snapshots and Backup Exec System Recovery snapshots at the same time.

About backing up non-VSS-aware databases

With Symantec Backup Exec System Recovery, you can create manual or automatic cold recovery points or hot recovery points of non-VSS-aware databases.

Because the Backup Exec System Recovery Manager server also includes a database, you should back up the server on a regular basis. You must stop the Backup Exec System Recovery Manager Web Services before backing up so you do not lose or corrupt data. To do this, you can use Backup Exec System Recovery Manager to create a cold recovery point automatically.

See "Creating a cold recovery point manually" on page 183.

See "Creating a cold recovery point automatically" on page 184.

See "Creating a hot recovery point" on page 185.

See "Backing up the Backup Exec System Recovery Manager server and database" on page 185.

Creating a cold recovery point manually

A manual cold (or offline) recovery point ensures that all database transactions are committed to the hard disk. You can then use Backup Exec System Recovery to create the recovery point, and then restart the database.

To create a cold recovery point manually

1   Stop the database manually.

2   Use Backup Exec System Recovery Manager to run a backup immediately
    using the Run Backup or One-time Backup feature.

    See "Running a one-time backup" on page 125.

    Backup Exec System Recovery instantaneously snaps a "virtual volume
    recovery point" of the database.

3   Manually restart the database anytime after the recovery point progress bar
    appears on the Monitor page of the console.

    While the database is restarted, the actual recovery point is already being
    created from the virtual volume recovery point.

Creating a cold recovery point automatically

When you automate the creation of a cold recovery point of a non-VSS-aware
database, you run a command file in the backup job, before data capture, to stop
(quiesce) the database momentarily and commit all transaction logs to the hard
disk. Backup Exec System Recovery will then instantaneously snap a "virtual
volume recovery point." A second command file is run in the backup to
automatically restart the database while the recovery point is created from the
virtual volume recovery point.

Because the virtual volume snapshot takes only a few seconds to create, the
database is in the recovery point state momentarily, resulting in a minimal number
of created log files.

Note: In cases where the domain controller is running on a Windows 2000 server
without VSS support, the Active Directory database must first be backed up using
NTbackup prior to using Backup Exec System Recovery to protect the full system.
This process can be automated by running command files in the backup.

See "Backing up the Backup Exec System Recovery Manager server and database"
on page 185.

To create a cold recovery point automatically

1   Define a backup that includes the command files that you have created for the following stages of the recovery point:

Before data capture	A command file that stops the database.
After data capture	A command file that restarts the database.

2   Use Backup Exec System Recovery to run the backup job that includes the command files.

Creating a hot recovery point

If a cold recovery point is not possible in your organization, the next available option for backing up non-VSS-aware databases is a hot (or online) recovery point.

Backup Exec System Recovery takes a "crash-consistent" recovery point. Such a recovery point is equivalent to the state of a system that was running when the power failed. A database that can recover from this type of failure can be recovered from a "crash-consistent" recovery point.

To create a hot recovery point

◆   Use Backup Exec System Recovery to create a recovery point without stopping or restarting the database.

Backup Exec System Recovery instantaneously snaps a "virtual volume recovery point" from which the recovery point is created.

Backing up the Backup Exec System Recovery Manager server and database

Because the Backup Exec System Recovery Manager server also includes a database, you should back up the server on a regular basis. This requires you to stop the Backup Exec System Recovery Manager Web Services before backing up so you do not lose or corrupt data. To automate such a backup process, you can use Backup Exec System Recovery Manager to create a "cold" recovery point.

See

To backup the Backup Exec System Recovery Manager server and database

1 Install Backup Exec System Recovery and Management Control on the Backup Exec System Recovery Manager server.

2 Create a backup job exclusively for the Backup Exec System Recovery server. No other computers should be assigned to this backup job.

   ■ The backup job needs to run two command files: One command file to stop the Backup Exec System Recovery Manager Web Services before the snapshot is taken of the computer, and the other command file to restart the Web Services immediately after the snapshot.
   Backup Exec System Recovery Manager ships with two pre-defined command files (StopServices.bat and StartServices.bat) that you can use during the backup of the server and database. The two command files are located at the following path on the Backup Exec System Recovery Manager product CD:
   \\Support\Utilities\StopServices.bat and StartServices.bat
   See "About running command files during a back up" on page 116.

   ■ Make sure that the backup job will run at a time when backup jobs for other managed computers are not running. For example, if most of your backup jobs are scheduled to run at 2:00 A.M., the backup job for the Backup Exec System Recovery Manager server should run earlier than 2:00 A.M. (or later if you prefer).
   See "About schedule options for creating recovery points " on page 118.

3 Make sure that the Backup Exec System Recovery Manager server computer is not assigned to any Groups that you may have defined in the console. This ensures that backup jobs, intended for other computers, do not get assigned to the server.

About Active Directory

This appendix includes the following topics:

- The role of Active Directory

The role of Active Directory

When you protect a domain controller with Backup Exec System Recovery, be aware of the following:

- If your domain controller is Windows Server 2003, it supports VSS. Backup Exec System Recovery automatically calls VSS to prepare the Active Directory database for backup. Windows 2000 Domain Controllers do not support VSS. In cases where the domain controller is running on a Windows 2000 server, the Active Directory database must be backed up using NTbackup before using Backup Exec System Recovery to protect the full system. This process can be automated with an external command that Backup Exec System Recovery calls. When you create a backup job, you have the option to enter external commands. This provides a simple process for protecting domain controllers that do not support VSS.

- In order to participate on a domain, every domain computer must negotiate a trust token with a domain controller. This token is refreshed every 30 days by default. This time frame can be changed, and is referred to as a secure channel trust. But a trust token contained in a recovery point cannot be automatically updated by the domain controller. Therefore, when a computer is recovered with a recovery point that contains an outdated token, the recovered computer cannot participate in the domain until it has been added to the domain by someone with the proper credentials.
  In Backup Exec System Recovery, this trust token can be re-established automatically if the computer currently participates in the domain at the time the recovery process is started.

■ In most cases, domain controllers should be restored non-authoritatively. This prevents outdated objects in the Active Directory from being restored. Outdated objects are referred to as tombstones. Active Directory does not restore data older than the limits it sets. Restoring a valid recovery point of a domain controller is the equivalent of a non-authoritative restore. Refer to the Microsoft documentation to determine which type of restore that you want to perform. A non-authoritative restore prevents tombstone conflicts.

For additional details about protecting non-VSS aware domain controllers, see the white paper *Protecting Active Directory* at the following Symantec Web site:

http://evalveritas.com/mktginfo/enterprise/white_papers/ent-whitepaper_protecting_active_directory.pdf

Troubleshooting Backup Exec System Recovery Manager

This appendix includes the following topics:

- Troubleshooting Symantec Backup Exec System Recovery

Troubleshooting Symantec Backup Exec System Recovery

Use the troubleshooting information to find solutions to problems that might occur when using Backup Exec System Recovery Manager.

For additional troubleshooting information, see the Readme.txt file on the product CD, or refer to the Symantec Web site.

- See "Improving performance when many computers are downloading an Easy Installer at the same time" on page 190.

- See "How results of Run Backups are displayed in the console" on page 191.

- See "Adding the server to the console" on page 192.

- See "Deploying a backup to a computer with an expired license of Backup Exec System Recovery" on page 192.

Improving performance when many computers are downloading an Easy Installer at the same time

You can improve Backup Exec System Recovery Manager performance when many computers are downloading an Easy Installer at the same time by doing any of the following:

- Use a phased approach to deploy or download an Easy Installer. That is, if 150 computers need to download an Easy Installer, only have 15 computers download at a time.

- Avoid having the console open at the same time that an Easy Installer is being downloaded by many computers.

- Edit `web.xml` to use a smaller value for the parameter `maxsetupbundlethreads`. This will reduce the console unresponsiveness time.

To edit web.xml

1   On the computer that run the Backup Exec System Recovery Manager server, navigate to the following path:

    \Program Files\Symantec\Backup Exec System Recovery\Manager\Services\tomcat\webapps\axis\WEB-INF\web.xml

2   Open `web.xml` in an XML editor.

3   Navigate to the parameter name `maxsetupbundlethreads`.

4   In the parameter value field (directly below the parameter name), change the value 1000 to 10.

5   Save the web.xml file and exit the editor.

    Now you must restart the Backup Exec System Recovery Manager Web services.

6   On the Windows taskbar of the Backup Exec System Recovery Manager server, click **Start > Run**.

7   In the Open text box, type `services.msc`, and then click **OK**.

8   Under the Name column, click **Backup Exec System Recovery Manager Web Services**.

9   Click **Action > Restart**.

10 Click **File > Exit**.

Adjusting the memory allocation for the tomcat server

If you experience out of memory errors for the tomcat server (the Backup Exec System Recovery Manager server software that works with the Backup Exec System Recovery Manager database), you can adjust the allocated memory.

To adjust the memory allocation for the tomcat server

1   On the Windows taskbar of the client computer, select **Start > Run**.

2   Type regedit in the text box, and then click **OK**.

3   Open the registry key HKEY_LOCAL_MACHINE\SOFTWARE\Apache Software Foundation\Procrun 2.0\SBESRMWEB\Parameters\Java.

4   In the right pane, double-click the name **Options** to open the Edit Multi-string dialog box.

5   Locate the value -Xmx in the Value data list box.

    This value specifies the maximum Java heap size in megabytes.

6   Specify the new memory value that you want the tomcat server to use.

    For example, if the current value is -Xmx256m, you can set it to a higher value such as -Xmx1024m.

7   On the File menu, click **Exit**.

    Now you must restart the Backup Exec System Recovery Manager Web services.

Restarting the Backup Exec System Recovery Manager Web services

1   On the Windows taskbar of the Backup Exec System Recovery Manager server, click **Start > Run**.

2   In the Open text box, type services.msc, and then click **OK**.

3   Under the Name column, click **Backup Exec System Recovery Manager Web Services**.

4   Click **Action > Restart**.

5   Click **File > Exit**.

How results of Run Backups are displayed in the console

When you use the Run Backups feature on a managed computer (a desktop computer, for example) that does not have an assigned backup, the recovery point status of the computer indicates that it was successful. However, on the Home page, the Desktop pie chart categorizes the computer as "At Risk" instead of "Backed Up" or "Needs Attention". This status is accurate.

For a computer to appear in the Backed Up or Needs Attention category of the pie chart, it must have a recovery point of all drives. If the client computer has an assigned backup job, that job is used to determine if the computer needs attention because the last scheduled backup job was missed.

Adding the server to the console

If you add to the Backup Exec System Recovery Manager console the computer where the Backup Exec System Recovery Manager server is installed , you may need to reboot the server manually after adding the computer. This is true if the option "Reboot client computer if necessary after install" is unchecked in the Easy Installer of Backup Exec System Recovery.

Following the manual reboot of the server, the computer appears on the Manage page of the console.

Deploying a backup to a computer with an expired license of Backup Exec System Recovery

When you deploy a backup to a computer that has an expired license of Backup Exec System Recovery, the status in the console indicates that the backup is in a perpetual state of being assigned to the computer. This information is accurate. You can check the Backup Exec System Recovery license status on client computers by checking the License column on the Manage page. Or, you can check the license status for all computers in the Status pie chart of the Home page. Click a pie slice to get detailed license status for the affected computers.

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