

Business Continuity Solutions

BUSINESS CONTINUITY

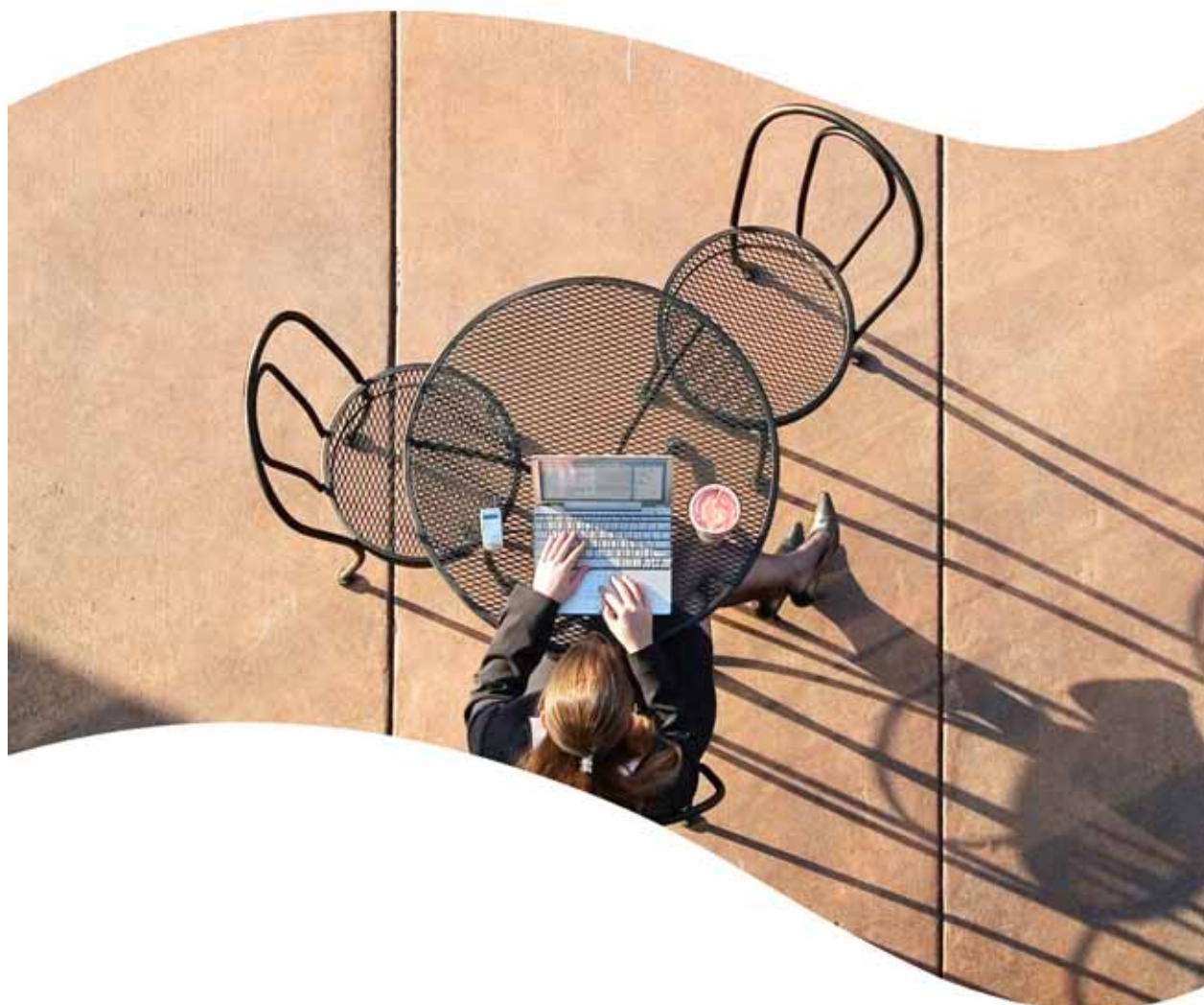
SonicWALL CDP Series

SonicWALL CDP 6.0 **Agent User's Guide**

SonicWALL CDP On-Demand Video:

<http://www.demosondemand.com/clients/sonicwall/001/page/demos.asp#productdemos>





SonicWALL CDP Agent User's Guide

Version 6.0

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SonicWALL CDP Agent User Guide

This User's Guide provides installation procedures and configuration guidelines for deploying the SonicWALL Continuous Data Protection (CDP) Agent. The SonicWALL CDP Agent provides a software interface for backing up files, folders, and application data to a SonicWALL CDP appliance.

The SonicWALL CDP appliance backs up data from the agent computer, saving it first locally and then, if configured, to a secure offsite location*. By combining the advantages of local disk-based backup (fast recovery) with offsite backup, the SonicWALL CDP appliance helps protect your network from threats of data loss.

*Offsite backup is offered as a subscription-based service.

This guide contains the following sections:

- [“Overview of the SonicWALL CDP Agent” section on page 2](#)
- [“Installing the SonicWALL CDP Agent Software” section on page 14](#)
- [“Initializing the SonicWALL CDP Agent” section on page 22](#)
- [“Agent User Interface Overview” section on page 25](#)
- [“Using the Status Interface” section on page 27](#)
- [“Managing Backups” section on page 34](#)
- [“Configuring Client Backup Policies” section on page 37](#)
- [“Restoring Backed Up Client Data” section on page 54](#)
- [“Backing Up Server Applications” section on page 57](#)
- [“Restoring Server Applications” section on page 101](#)
- [“Using Online Help” section on page 126](#)

Overview of the SonicWALL CDP Agent

The SonicWALL CDP 6.0 Agent introduces a new user interface that is closely aligned with the new Web-based management interface for the SonicWALL CDP appliance. The Agent User Interface looks and operates the same on supported Windows, Mac, and Linux clients.

The Agent service is also faster, smarter, and more efficient than previous versions. Initial backup of one million files (of size 1 KB each) takes just a little over 6 hours, and subsequent revisions copy only the modified data blocks, keeping track of all changes internally. This method uses less bandwidth, takes less time, and uses less disk space than earlier versions of SonicWALL CDP.

See the following sections for an overview of various functionality in SonicWALL CDP:

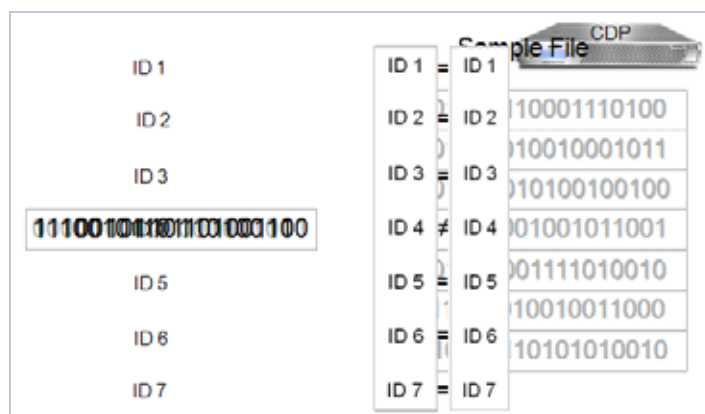
- [“About Data De-Duplication” on page 2](#)
- [“About FileSets” on page 3](#)
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- [“About Scheduling” on page 6](#)
- [“About Application Backup and Restore” on page 9](#)
- [“Example: Creating a Backup Policy” on page 9](#)

About Data De-Duplication

Data de-duplication technology is used on the agent during backups of revisions for both applications and files/folders. This allows all new data to be backed up, while existing data is not rewritten to the appliance. Metadata keeps track of where the changes occur, and is always included with revisions.

[Figure 1](#) shows a graphical representation of the data de-duplication process.

Figure 1 Data De-Duplication



About FileSets

When backing up data, SonicWALL CDP is aware of interdependencies among multiple, related files, called FileSets. Both application backup and backup of files and folders use the concept of FileSets to include all relevant data in backups, so that recovery can provide everything needed for full and seamless operation.

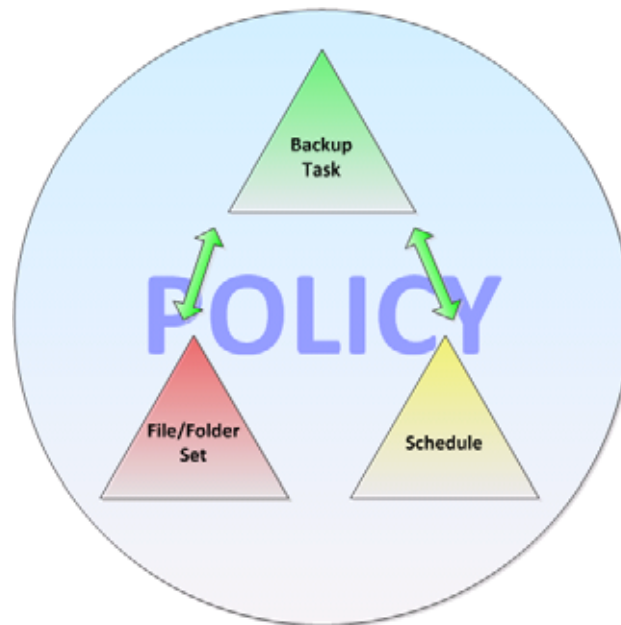
On Windows agents, Microsoft Volume Shadow Copy Service (VSS) is used during backups to take a snapshot of all relevant data, providing a cohesive set of files at a certain point in time. Using the VSS method also eliminates the need to stop services in order to keep files in sync while performing a backup.

About Backup Policies

Data backup in SonicWALL CDP is accomplished via policies. Policies control the backup activities performed by SonicWALL CDP.

Figure 2 illustrates a policy for a files and folders backup.

Figure 2 Policy Contents



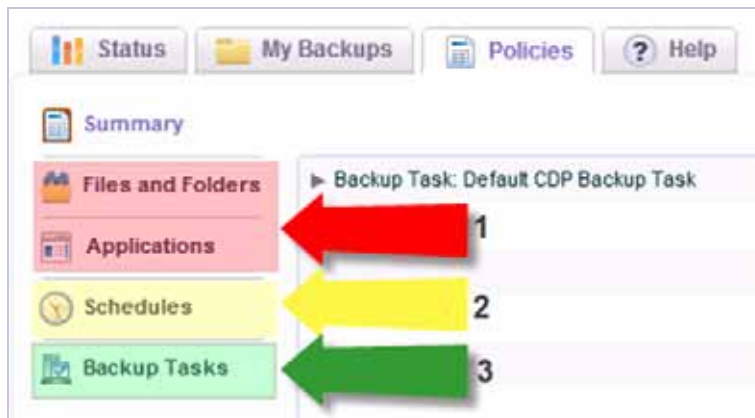
Each backup policy contains one or more backup tasks.

Each backup task consists of two components:

- An Application object or a Files and Folders object that defines what to include in the backup
- A Schedule object that defines when the backups will occur

Figure 3 illustrates the steps for creating a policy.

Figure 3 Creating a Policy



Backup policies are defined both at the administrative level in the Web Management Interface and at the local agent level using the Agent User Interface. Policies can be very granular, even allowing you to create multiple backup tasks in one Files and Folders object, if desired. Such an object can contain more than one folder. You can also define the number of revisions to keep when configuring the backup policy.

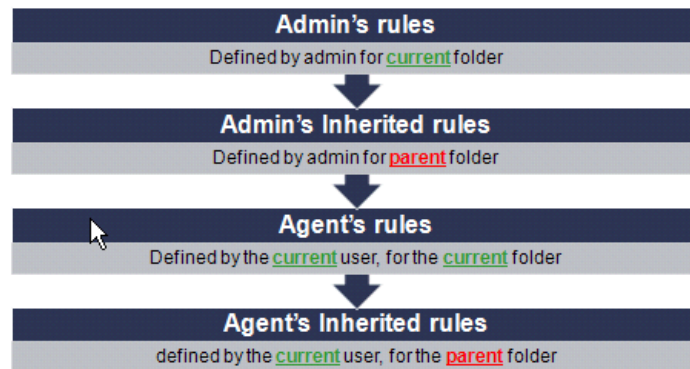
A legacy style CDP policy is defined by default at the administrative level and is inherited by agents connected to the SonicWALL CDP appliance. At the agent level, you can edit this default policy to add files and folders for backup to the CDP object, but you cannot create a new CDP object. A CDP object differs from a Files and Folders or Application object in that the defined files and folders are backed up as separate entities, not as FileSets. CDP policies use Interval scheduling, which back up changed data continuously or at a set interval, rather than Event scheduling in which you can set dates for backups to occur. The default CDP policy accommodates policies from previous versions of SonicWALL CDP after upgrading.

About Rules

The rules within Files and Folders objects are flexible, providing the ability to include or exclude files or folders at any level. Rules are defined at both the administrative level and the agent level, with administrative rules taking precedence over local rules. CDP type objects also provide similar rule functionality. Application objects do not use rules in the same format, but allow you to select the application components to back up, such as individual user mailboxes or system state files.

Figure 4 illustrates the order in which rules are applied when determining what to back up.

Figure 4 Admin vs Agent Rule Precedence

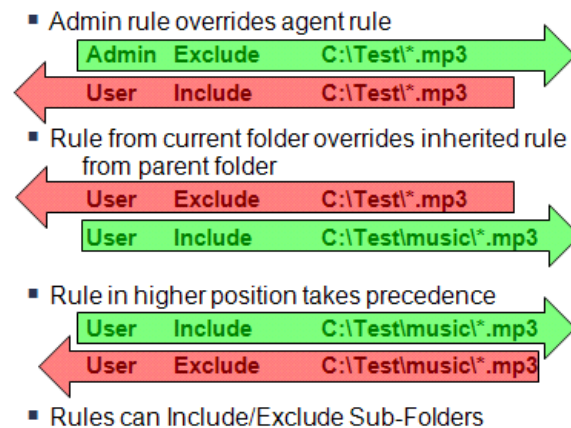


Within the constraints of administrative rule precedence, rules operate as follows:

- Rules from current folder override inherited rules from parent folder
- Rules in higher position take precedence; rule order can be adjusted in the Agent User Interface
- Rules can include or exclude sub-folders

Figure 5 illustrates rule operation and precedence.

Figure 5 Rule Operational Precedence



About Offsite Backup

The SonicWALL CDP Offsite Data Backup Service is an optional offsite backup and recovery solution that stores data in a secure data center, and can be purchased for an additional fee.

The Offsite subscription-based service is configured by the administrator on the System > Settings page of the Web Management Interface. Offsite backup can be selected during policy configuration. This allows you to copy your backups to either the SonicWALL Offsite Portal, or to another, offsite, SonicWALL CDP appliance for safekeeping in the event that your local

appliance becomes unusable. The SonicWALL Offsite Portal provides load balancing, redundancy, and an efficient file system structure for optimal access to and protection of your data.

The SonicWALL CDP Offsite Data Backup provides different services, ranging from 5 to 100 GB of quota. You need to make sure that the total size of all of your backups does not exceed quota limit. If quota is exceeded the consequent backup will fail, the **Quota Exceeded Error** message will be displayed, and the status for the last backup will change to **Quota Exceeded**. You will receive an E-mail notification informing you of the failed backup attempt. You can free up your storage space by removing some of the old backups or you can purchase additional quota.

For more information, see the SonicWALL CDP Offsite Data Backup Service data sheet at: http://www.sonicwall.com/downloads/DS_CDP_Offsite_US_060507.pdf

About Scheduling

Backups are scheduled using a very flexible interface for schedule configuration. You can schedule backups to occur at any interval down to the minute or up to months apart. Custom, specific dates can be configured.

There are two types of scheduling:

- Event – Uses fixed time points, such as Mondays at 5 PM or midnight every evening. Used for Fileset or Application backup tasks.
- Interval – Uses Always On or always on during a specific start and end time, such as Sundays from 4 PM to 8 PM. Used for CDP type backup tasks.

Interval scheduling is used for the default CDP type policy on an agent. Because the Agent User Interface does not provide a way to create a new CDP type backup task, you would not have another opportunity to use interval scheduling.

When creating a backup task in the Web Management Interface, the type of Schedule object available for selection depends on whether you have selected **CDP**, **Fileset**, or **Client Application** in the **Select Data Type** field of the Add Backup Task configuration window.

The scheduling interface provides four tabs for different scheduling options:

- Day Interval
- Days of the Week
- Days of the Month
- Specific Dates

Each tab provides configuration fields and a calendar that displays the selected dates with a darker background, so that you can easily verify your configuration.

Figure 6 illustrates the **Day Interval** tab.

Figure 6 Day Interval Scheduling

Add Schedule

Name:

☒ Day Interval ☐ Days of the Week ☐ Days of the Month ☐ Specific Dates

☒ **Enable Day Interval**

Every: day(s) Start on:

Select Time

Create an **Interval** Schedule Policy for Continuous Data Backup

☐ Always On (during scheduled periods per calendar above)

Or, Continuous Data Backup just during this time interval

☐ Interval

Start at: : End at: :

Or, create an **Event** Schedule Policy for Filesets and Applications

☒ Event

Start at: : Repeat every: minutes until: :

OK Cancel

Figure 7 illustrates the **Days of the Week** tab.

Figure 7 Days of the Week Scheduling

Add Schedule

Name:

☐ Day Interval ☒ Days of the Week ☐ Days of the Month ☐ Specific Dates

☒ **Enable Days of the Week**

A check indicates that the task is scheduled to run on that day of the respective week.

	Sun	Mon	Tue	Wed	Thu	Fri	Sat
1st	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2nd	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3rd	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4th	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5th	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Last	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Select Time

Create an **Interval** Schedule Policy for Continuous Data Backup

☐ Always On (during scheduled periods per calendar above)

Or, Continuous Data Backup just during this time interval

☐ Interval

Start at: : End at: :

Or, create an **Event** Schedule Policy for Filesets and Applications

☒ Event

Start at: : Repeat every: minutes until: :

OK Cancel

Figure 8 illustrates the **Days of the Month** tab.

Figure 8 Days of the Month Scheduling

Add Schedule

Name:

☐ Day Interval ☐ Days of the Week ☒ Days of the Month ☐ Specific Dates

☒ **Enable Days of the Month**

To schedule a specific day of the month, click on each day in the calendar below to include it in the schedule.

Calendar for March 2011: Days 1 through 31 are visible.

Select All Deselect All

Select Time

Create an **Interval** Schedule Policy for Continuous Data Backup

☐ Always On (during scheduled periods per calendar above)

Or, Continuous Data Backup just during this time Interval

☐ Interval

Start at: 00:00 End at: 23:59

Or, create an **Event** Schedule Policy for Filesets and Applications

☒ Event

Start at: 00:00 Repeat every: minutes until: 23:59

OK Cancel

Figure 9 illustrates the **Specific Dates** tab.

Figure 9 Specific Dates Scheduling

Add Schedule

Name:

☐ Day Interval ☐ Days of the Week ☐ Days of the Month ☒ Specific Dates

☒ **Enable Specific Dates**

To schedule a specific date, click the small calendar and then select the date.

04/26/2011

2011-03-14

2011-03-31

2011-04-11

2011-04-26

Select Time

Create an **Interval** Schedule Policy for Continuous Data Backup

☐ Always On (during scheduled periods per calendar above)

Or, Continuous Data Backup just during this time Interval

☐ Interval

Start at: 00:00 End at: 23:59

Or, create an **Event** Schedule Policy for Filesets and Applications

☒ Event

Start at: 00:00 Repeat every: minutes until: 23:59

OK Cancel

The same data can be scheduled for backup with multiple policies using different schedules, allowing you to maintain near-continuous revisions along with daily, weekly, monthly, or custom scheduled versions. The number of revisions to keep is controlled by the settings in each policy.

About Application Backup and Restore

Client applications such as Outlook and Outlook Express are supported for backup and restore, as well as a number of server applications. Supported server applications include Microsoft Exchange, SQL Server, Sharepoint, and Active Directory. Active Directory is backed up and restored as an element of System State, to ensure that all relevant system files are included for a consistent environment.

When configuring an Application object as part of a backup policy, available applications on the agent are automatically discovered by SonicWALL CDP, and their friendly names are presented for selection in a drop-down list. [Figure 10](#) illustrates these application features.

Figure 10 Adding an Application



When restoring an application, SonicWALL CDP automatically uses the proper restore method for the application type. For example, restore on reboot for Active Directory, or stop/restore/start for SQL Server. Restoring is interactive and walks you through the process.

Example: Creating a Backup Policy

Let's say that the Finance Department at SonicWALL needs to backup its data on three different schedules.

Data to back up:

- Administrator requires all users to back up data in the **C:\A123** folder
- Users also need to back up all their SQL queries

Schedules:

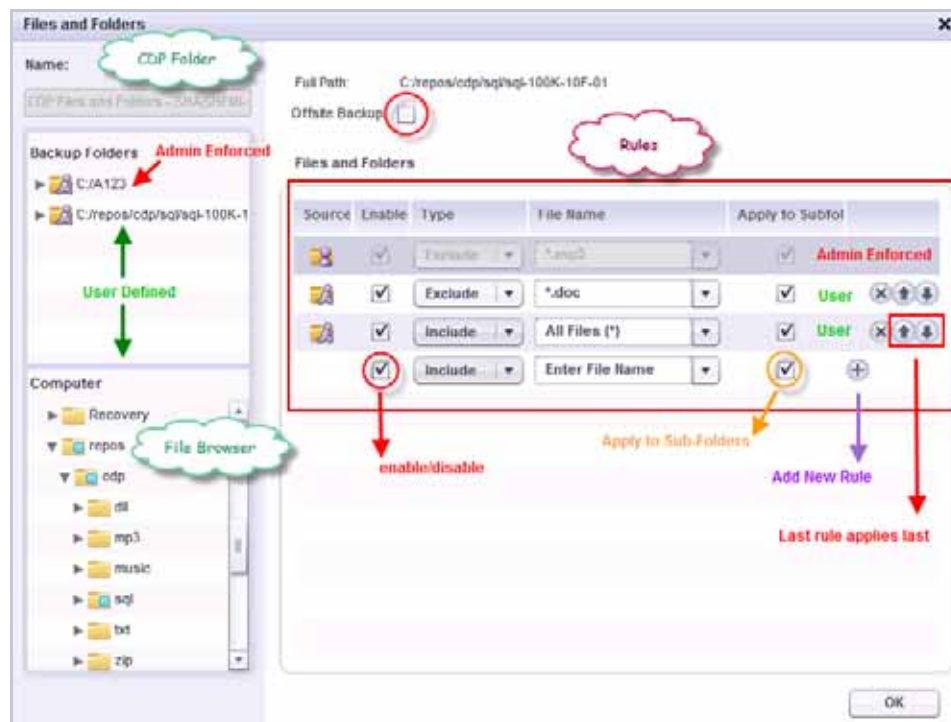
- Every three days, once an hour during business hours
- Every Sunday for weekly backups
- On the 1st & 15th of each month for regulatory purposes

What is the best solution?

First, edit the inherited administrator policy to add files for backup. The Files and Folders object includes the folder required by the administrator, and users can add more files and folders for backup and create rules to include or exclude certain files or file types.

Figure 11 illustrates the modifications to the Files and Folders object.

Figure 11 Selecting Folders for Backup



Next, the schedule is defined on multiple tabs to accommodate the scheduling requirements.

Figure 12 illustrates the schedule configuration.

Figure 12 Configuring the Schedule

The screenshot displays the 'FinanceSchedule' configuration window. It features four tabs: 'Day Interval', 'Days of the Week', 'Days of the Month', and 'Specific Dates'. The 'Day Interval' tab is selected, showing 'Enable Day Interval' checked, 'Every: 3 day(s)', and 'Start on: 0'. The 'Select Time' section is also visible, with options for 'Interval' and 'Event'. The 'Interval' section shows 'Start at: 00:00' and 'End at: 23:00'. The 'Event' section shows 'Start at: 08:00' and 'Repeat every: 120 minutes until: 17:00'. The 'Days of the Week' tab is also shown, with a table for selecting days. The 'Days of the Month' tab is also shown, with a table for selecting days. The 'Specific Dates' tab is also shown, with a table for selecting specific dates.

Next, create a backup task which includes the Files and Folders object and the Schedule object.

Figure 13 illustrates the backup task.

Figure 13 Creating the Backup Task

For the SQL backups, create an Application object to select the SQL databases to back up.

Figure 14 illustrates the SQL Server Application object creation.

Figure 14 Creating an SQL Server Application Object

Finally, create a backup task for the SQL Server backup, using the SQL Server Application object and an appropriate Schedule object.

Figure 15 illustrates the creation of the SQL Server backup task.

Figure 15 *Creating an SQL Server Backup Task*

The screenshot shows a dialog box titled "Add Backup Task" with a close button (X) in the top right corner. The dialog contains the following fields and options:

- Name:** MainServer SQL Backup
- Select Data Type:** Application (dropdown menu)
- Application Data:** MainServer SQL Server (dropdown menu)
- Number of Versions:** 7 (text input) with a green label "User Defined (Full)" next to it.
- Trimming Algorithm:** Delete Oldest (dropdown menu)
- Offsite:** Send all Files Offsite (dropdown menu)
- Schedule:** sch #4 - every 120 (dropdown menu)
- Include this task in Policy:** A checkbox is checked and circled in green.
- Enable Task:** A green text label.
- Buttons:** OK and Cancel buttons at the bottom right.

This completes the configuration needed to accomplish the required backups for the Finance Department.

Installing the SonicWALL CDP Agent Software

This section describes installation of the SonicWALL CDP Agent Software for Windows, Mac OS, and Linux systems. See the following subsections:

- [“Configuration Information” section on page 14](#)
- [“Downloading the Latest SonicWALL CDP Agent Software” section on page 15](#)
- [“SonicWALL CDP Agent Installation on Windows” section on page 17](#)
- [“SonicWALL CDP Agent Installation on Mac OS” section on page 20](#)
- [“SonicWALL CDP Agent Installation on Linux” section on page 21](#)

Configuration Information

Have your network administrator supply you with the following information needed for SonicWALL CDP Agent setup:

Server Name: _____	The name of the SonicWALL CDP appliance you are connecting to.
Password: _____	The password for your SonicWALL CDP appliance (if applicable).
CDP IP Address: _____	The static IP address for your SonicWALL CDP appliance.

Downloading the Latest SonicWALL CDP Agent Software

Perform the following steps to download the SonicWALL CDP Agent software on your computer:

- Step 1** Open a Web browser on the computer you are using as the agent and navigate to <http://www.mysonicwall.com>.

- Step 2** Enter the **Username/Email** and **Password** in the appropriate fields. Select **Download Center** in the drop-down menu located below the password field.

- Step 3** Click the **Submit** button.

- Step 4** In the **Software Type** drop-down menu, located in the **Download Center**, select the **CDP Software** that corresponds to your SonicWALL CDP appliance. A list of available software appears.

Download Center

Select your Language Preference followed by the Type of software.

Language Preference: English

Software Type: CDP Software 110/210/5040/6080

Available Software

For additional SonicWALL technical documentation, please access the [SonicWALL Technical Documentation Online Library](#).

CDP Software

Description	Release Notes	Version	Size	Release Date
CDP Software 110/210/5040/6080	Release Notes	5.1.4.1	40020 K	Jul 20, 2010

[Additional Software Versions](#)

[Add To My Downloads](#)

- Step 5** Select the CDP Agent Software you want to download.

For **Windows**, download one of the following installers (where the x's represent version numbers):

- CDPSetup.x64-6.0.x.xx.exe – For 64 bit Windows operating systems
- CDPSetup.x86-6.0.x.xx.exe – For 32 bit Windows operating systems

For **Mac OS**, download the following installer (where the x's represent version numbers):

- CDPAgentTool_6.0.0.xx.dmg

For **Linux**, download the following installer (where the x's represent version numbers):

- CDPAgentTool_6.0.0.xx.tar.gz

- Step 6** Confirm the CDP Software download. The latest CDP Software is now saved on your computer.

SonicWALL CDP Agent Installation on Windows

This section describes the requirements and installation steps for Windows computers.

Installation Prerequisites for Windows

In order to install the SonicWALL CDP Agent, you must have:

- A computer which meets or exceeds the following requirements:
 - Pentium III 450 MHZ Processor
 - 256 MB of RAM
 - 40 MB of free disk space
 - Windows 7, Vista, XP, or Windows Server 2003, or 2008
- Administrator privileges on the computer you are installing to
- All applications closed before installing

Installing the SonicWALL CDP Windows Agent

Perform the following steps to install the SonicWALL CDP Agent on your Windows computer:

- Step 1** Navigate to the folder where your software was downloaded and double-click the setup file to begin the installation process.



Note

If you are running Windows XP SP2 or use a third-party firewall, you may receive a warning during installation of the SonicWALL CDP software. Select the option to install SonicWALL CDP.

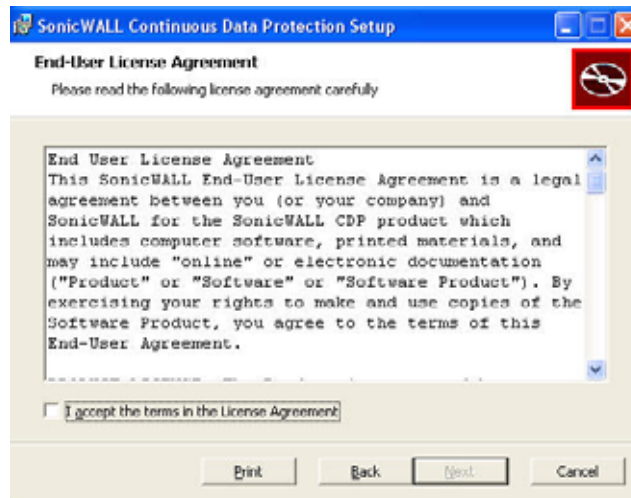
- Step 2** Select your preferred language and click **Next**.



Note

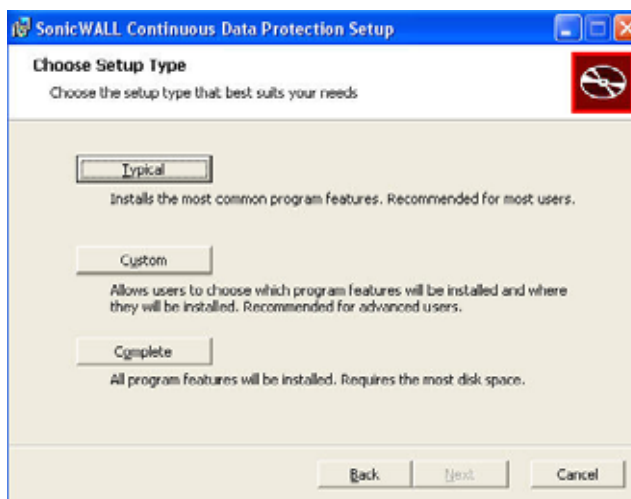
If you wish to change your language in the future, you will need to uninstall and re-install the software.

Step 3 Select the **I accept the terms of the license agreement** option and click the **Next** button.



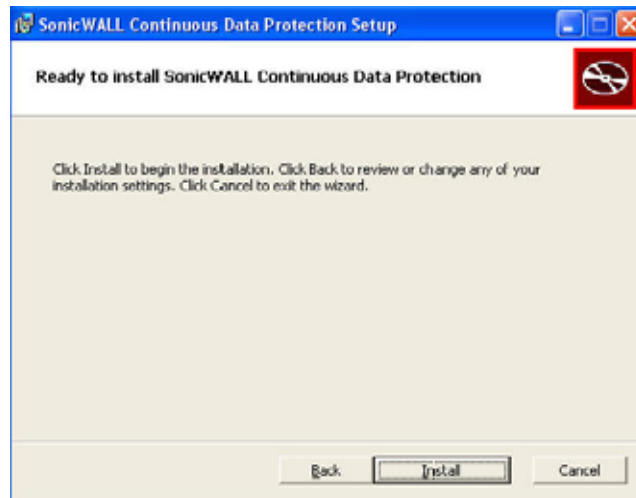
Step 4 Select one of the Setup options available:

- **Typical:** Installs the most common program features. Recommended for most users, unless you want to use the Local Archive feature. See the *SonicWALL CDP 6.0 Administrator's Guide* for more information about Local Archiving.
- **Custom:** Allows users to select which program features are installed and where they are installed. Typically recommended for advanced users.
- **Complete:** All program features are installed, including the Local Archive Manager. This setup choice requires more disk space.



Step 5 Click **Next** to proceed.

Step 6 Click **Install** to install the software.



Step 7 Once the software installation is complete, click the **Finish** button.



You have successfully installed the SonicWALL CDP Agent.

Uninstalling the SonicWALL CDP Windows Agent

To uninstall the SonicWALL CDP Agent from your Windows computer, perform the following steps:

Step 1 Open the Control Panel and double-click **Add or Remove Programs**.

Step 2 Select **SonicWALL Continuous Data Protection**.

This will remove both *SonicWALL Continuous Data Protection* and *SonicWALL CDP Agent Tool*.

SonicWALL CDP Agent Installation on Mac OS

This section describes the requirements and installation steps for Mac OS computers.

Supported Platforms

The CDP Mac OS X Agent User Interface is supported on the following operating systems:

- Apple Mac OS X 10.5.x Leopard
- Apple Mac OS X 10.6.x Snow Leopard
- Apple Mac OS X Server Snow Leopard
- Apple Mac OS X Server 10.5

System Requirements

The Mac running the CDP Mac OS X Agent User Interface has the following minimum system requirements:

- 1 GHz Pentium 4 processor or faster
- 512 MB RAM
- Minimum 20 MB hard disk space
- 1024 x 768 video display, High Color 16-bit

Installing the SonicWALL CDP Mac OS Agent

Perform the following steps to install the SonicWALL CDP Agent on your Mac OS computer:

-
- Step 1** Login as as a user with admin privileges.
- Step 2** Copy the SonicWALL **CDPAgentTool_6.0.0.xx.dmg** installer to a location on the Mac OS computer.
- Step 3** Invoke **CDPAgentTool_6.0.0.xx.dmg** from “Finder” to create **CDPMac/Agent_x.x.x.x.pkg**, where x.x.x.x represents the installer version.
- Step 4** Double click the **CDPMac/Agent_x.x.x.x.pkg** icon to start the SonicWALL CDP Agent User Interface Installer.



Step 5 Click the **Install** button to begin installation of the SonicWALL CDP Agent User Interface.



Step 6 When prompted, enter the Admin password to continue the installation. The Agent User Interface will notify you when the software has successfully been installed.



SonicWALL CDP Agent Installation on Linux

This section describes the requirements and installation steps for Linux computers.

Supported Linux Distributions

The SonicWALL CDP Linux Agent is supported on the following Linux distributions:

- Fedora 6, 10, 13 (x32)
- Red Hat Enterprise Linux 5.2 (x32)
- Suse 11.1 (x32)
- Debian 4.0 (x32)
- Ubuntu 9.04 (x32)

Installing the SonicWALL CDP Linux Agent

The Linux Agent can be installed or uninstalled only by the root user. The compressed tar file, **CDPAgentTool_6.0.0.xx.tar.gz**, is used for installation.

Perform the following steps to install the Linux Agent on your Linux computer:

Step 1 Login as **root**.

Step 2 Copy the compressed tar file to a location on the Linux computer.

Step 3 Unzip the file with the command:

```
tar -zxvf CDPAgentTool_6.0.0.xx.tar.gz
```

This command creates the **CDPAgentTool** folder containing the files: **cdpinstall.sh** and **cdpagent.tar.gz**.

Step 4 Change directory to the **CDPAgentTool** folder.

Step 5 Run the install script with the command:

```
./cdpinstall.sh -i -access=all
```

This command installs both the Linux Agent service and Linux Agent User Interface.

The installation process creates a Desktop shortcut that can be double-clicked to launch the Agent. You can also start the Agent by typing **cdpagentool** on the Linux command line.

The following messages are displayed:

```
Installing CDP Agent BackupService...
Starting CDP Agent Daemon process.
CDP Agent BackupService is installed.
Installing CDP Agent Console...
CDP Agent Console is installed.
```

Step 6 Verify that the Linux Agent service is running with the command:

```
ps auxwww | grep cdpagentservice
```

The output should be similar to the following:

```
root    7044  0.1  0.4 17404 1744 ?    Ssl 11:05   0:00 /usr/bin/cdp/cdpagentservice -d
        /usr/bin/cdp/watchdog/cdpagentservice.pid -r /etc/cdp/cdpagent.conf
root    7195  0.0  0.1  3884   668 pts/1  R+   11:05   0:00 grep cdpagentservice
```

Initializing the SonicWALL CDP Agent

The following section provides instructions for launching the SonicWALL CDP Agent and connecting to a SonicWALL CDP appliance. This section contains the following subsections:

- [“Launching the SonicWALL CDP Agent” section on page 23](#)
- [“Troubleshooting the SonicWALL CDP Agent Operation” section on page 24](#)

Launching the SonicWALL CDP Agent

Perform the following steps to login to your SonicWALL CDP Agent for the first time.

- Step 1** Launch the SonicWALL CDP Agent Software by double-clicking the shortcut placed on your computer desktop during the installation process. Windows, Mac, and Linux systems all have a shortcut for launching the Agent.



On Windows, you can also launch the Agent from the Windows Start Menu: **Programs > SonicWALL > SonicWALL Continuous Data Protection > SonicWALL Agent User Interface**.

On Linux, you can also start the Agent by typing **cdpagentool** on the Linux command line.



Note

If you are running Windows XP SP2 or use a third-party firewall, you may receive a warning during initial launch of the SonicWALL CDP software. For more information on configuring your firewall to work with SonicWALL CDP, contact your network administrator.

- Step 2** Double-click the desired SonicWALL CDP Appliance in the **Available Appliances** list. If you are unsure which CDP appliance to connect to, contact your network administrator before continuing.

SonicWALL Continuous Data Protection Agent Tool 6.0		SONICWALL
Available Appliances		
Appliance IP	Appliance Description	
10.0.16.117	Narinder CDP 1440Y	
10.0.15.49	Shunhui6.0.1	
10.0.16.165	1440-165/167	
10.0.92.26	NEVER NEVER LAND	
10.0.16.168	Sharon-210-1T	
10.0.92.25	THE TOY AISLE	
10.0.98.69	jeY69-bee	
10.0.92.5	Unregistered CDP Appliance	
10.0.30.38	RTCDP6.0-US	
10.0.92.6	Unregistered CDP Appliance	
10.0.16.229	Unregistered CDP Appliance	
10.0.15.17	Unregistered CDP Appliance	
10.0.37.161	PM CDP	
10.0.15.187	Unregistered CDP Appliance	
10.0.30.195	Unregistered CDP Appliance	
10.0.15.2	Boris Downstream	
10.0.92.28	BROKEN TOYS	

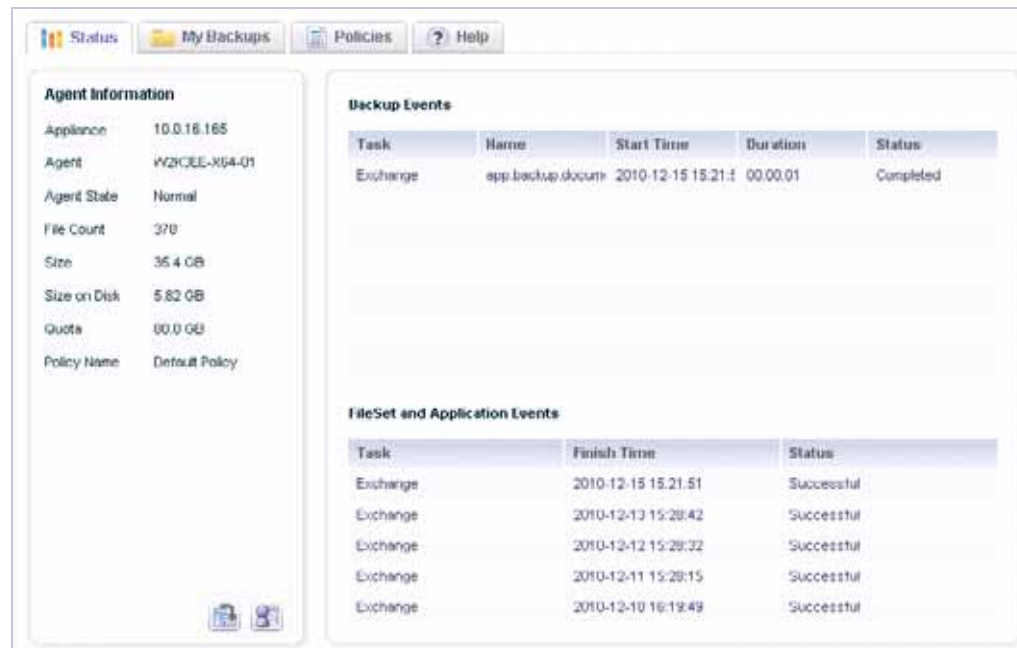
Troubleshooting the SonicWALL CDP Agent Operation

If your SonicWALL CDP Agent User Interface does not start, verify the following:

1. Verify that the software was installed by a user with administrative rights.
2. Verify that the operating system has been upgraded to the latest released service pack.
3. On a Windows Server agent, use the Task Manager to verify that another administrator has not already launched the Agent software.
4. Add exceptions for the following .exe files for your personal firewall:
 - CDPAgentService.exe
 - CDPAutoUpdate.exe
5. Verify that there is no other content filtering or personal firewall software running.
6. Verify the Data Execution Prevention (DEP) configuration on Windows Server 2003:
 - a. Under Windows Services, stop the CDPAgentService.exe service.
 - b. Right click My Computer and select **Properties**, then select the **Advanced** tab,
 - c. Under **Performance**, click **Settings**.
 - d. Select the **DEP** tab.
 - e. Add CDPAgentService.exe and CDPAutoUpdate.exe to the list.
 - f. Click **Apply**.
 - g. Start the Agent Service again.

Agent User Interface Overview

The Agent User Interface provides users with selection tabs and a view panel.



Tab Selection

The Tab Selection allows users to navigate the Agent User Interface. Four selectable tabs are available:

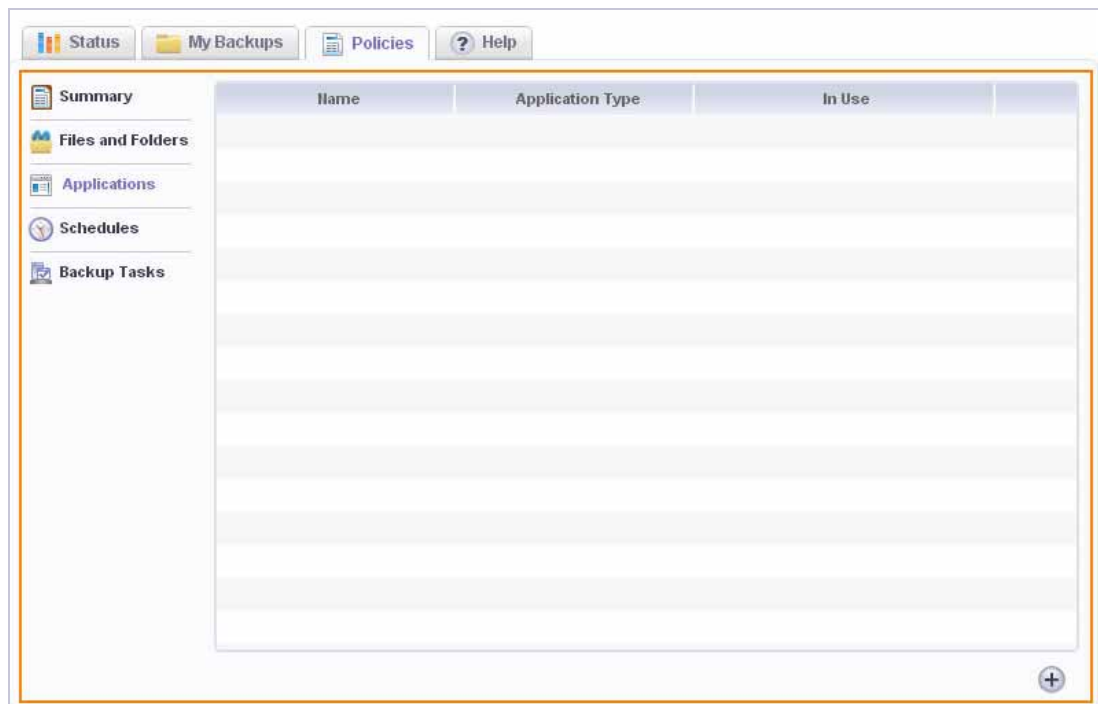


Tab	Description
Status	Displays the connected SonicWALL CDP appliance IP address, the agent name and state, quota information including file count, size, size on disk, quota remaining, and the name of the current backup policy that is defined for agents on the connected SonicWALL CDP appliance. Recent tasks are displayed in right pane with task name, start time, duration, and status.
My Backups	Displays all backed up data, including backups created using the CDP, FileSets, and Applications backup methods. It also provides the ability to enable or disable backups, refresh the display, search by all or part of the file name, restore data, remove items, and remove old file versions.

Tab	Description
Policies	Allows the user to configure Files and Folder objects, Application objects, Schedule objects, and Backup Task objects. Also allows the user to view a summary of backup tasks.
Help	Provides links to online help, the SonicWALL knowledge base, the Agent log file, and Agent version information.

View Panel

The View Panel is located directly below the Tab Selection. The panel refreshes when a tab is selected.



Using the Status Interface

The Status tab allows you to view current agent information, change appliances, log into the Administrator File Browser, and view details about recent backups.

This section contains the following subsections:

- “Current Agent Information” section on page 28
- “Changing Appliances” section on page 29
- “Using the Administrator File Browser” section on page 30
- “Viewing the Status Events Panel” section on page 33

To view the Status window, click the **Status** tab at the top of the Agent User Interface.

Figure 16 provides an image of the Status window, which displays recent Backup Events and FileSet and Application Events.

Figure 16 Status View

The screenshot shows the Status View window with the following sections:

Agent Information

Appliance	10.0.16.165
Agent	SERVER101
Agent State	Normal
File Count	1,727
Size	1.37 GB
Size on Disk	277 MB
Quota	80.0 GB
Policy Name	Default Policy

Backup Events

Task	Name	Start Time	Duration	Status
Programs task	snapapi.dll	2010-12-11 07:02	00:00:01	Completed
Programs task	snapman.sys	2010-12-11 07:02	00:00:01	Completed
Programs task	msvc71.dll	2010-12-11 07:02	00:00:01	Completed
Programs task	msvc71.dll	2010-12-11 07:02	00:00:01	Completed
Programs task	System.Web.UI.Mo	2010-12-11 07:02	00:00:01	Completed
Programs task	System.Web.UI.Mo	2010-12-11 07:02	00:00:01	Completed
Programs task	VsRes_I.dll	2010-12-11 07:02	00:00:01	Completed

FileSet and Application Events

Task	Finish Time	Status
Programs task	2010-12-11 07:02:29	Successful
Programs task	2010-12-11 06:02:30	Successful
Programs task	2010-12-11 05:02:11	Successful
Programs task	2010-12-11 04:01:58	Successful
Programs task	2010-12-11 03:02:43	Successful

Current Agent Information



The **Agent Information** panel displays details about the current agent and about its backups. It also displays the name of the SonicWALL CDP appliance to which the agent is currently connected.



Descriptions of the items in the Agent Information panel are provided below:

Field	Description
Appliance	Displays the IP address of the SonicWALL CDP appliance that the agent is currently accessing.
Agent	Displays the name of the current agent machine.
Agent State	Displays the current state of the agent.
File Count	Displays the number of files backed up on this agent.
Size	Displays the total file size the agent has backed up.
Size on Disk	Displays the total file size on disk that is dedicated to the agent's files.
Quota	Displays the allotted quota that the agent can use for backups.
Policy Name	Displays the name of the administrative policy the agent is using. A single administrative policy can apply to an agent at a time. This policy is defined by the administrator while logged into the SonicWALL CDP appliance, using the Web Management Interface.

Two buttons are located at the bottom of the Agent Information panel:

-  **Change Appliance:** Allows the user to connect to a different SonicWALL CDP appliance. For information about using this feature, see [“Changing Appliances” on page 29](#).
-  **Login to Administrator File Browser:** Allows the administrator to log into the SonicWALL CDP appliance using the Agent User Interface, to manage or restore backed up files for all associated agents. See [“Using the Administrator File Browser” on page 30](#).

Changing Appliances

You can connect to different SonicWALL CDP appliances while using the Agent User Interface.

To connect the SonicWALL CDP Agent User Interface to a different CDP appliance:

- Step 1** Click the Change Appliance button located below the Agent Information in the Status screen.



The Available Appliances window opens, displaying the IP addresses and descriptions of available appliances on the network.

Appliance IP	Appliance Description
10.215.10.32	CDP3440 app2 6.0.0.55
10.215.10.31	Unregistered CDP Appliance
10.215.10.11	cdp 1440 app1
10.215.10.62	cdp_6080_62
10.215.10.63	CDP-6080-M60
10.215.10.43	Unregistered CDP Appliance

- Step 2** To refresh the list of appliances, click the Refresh button.



- Step 3** To manually enter the IP address of an appliance that is not displayed, click the Manual Connect button and then type in the IP address or name of the desired appliance and click **OK** in the dialog box.



- Step 4** To connect to a displayed appliance, either double-click the appliance IP address or select it and click the Connect button.



The Agent Information panel displays the new appliance information.

Using the Administrator File Browser

The Agent software allows Administrators to log into the Agent User Interface to manage and configure agent backups. You can access any appliance, and then view, manage, or restore any files backed up by any agent that is associated with that appliance, when logged in as an administrator in the Agent User Interface.

To use the Administrator File Browser in the Agent User Interface:

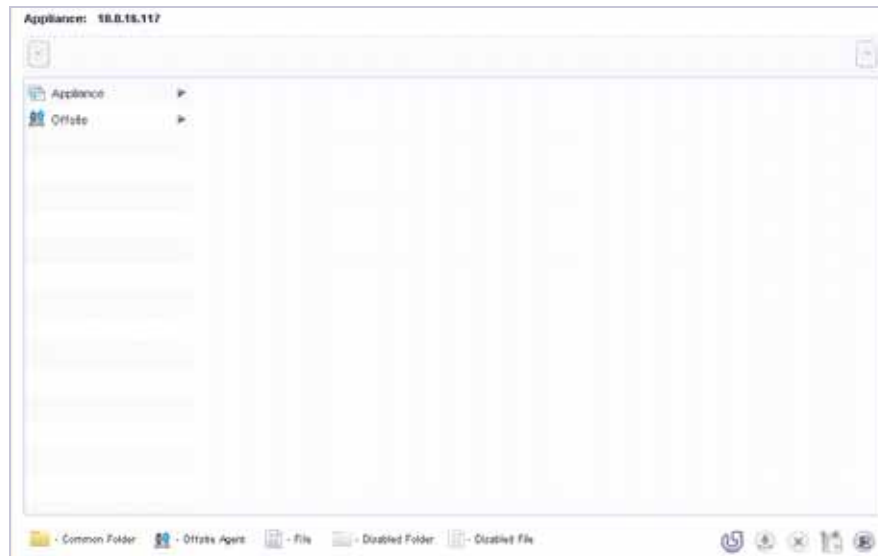
- Step 1** Click on the **Login to Administrator File Browser** button located at the bottom of the agent information panel.



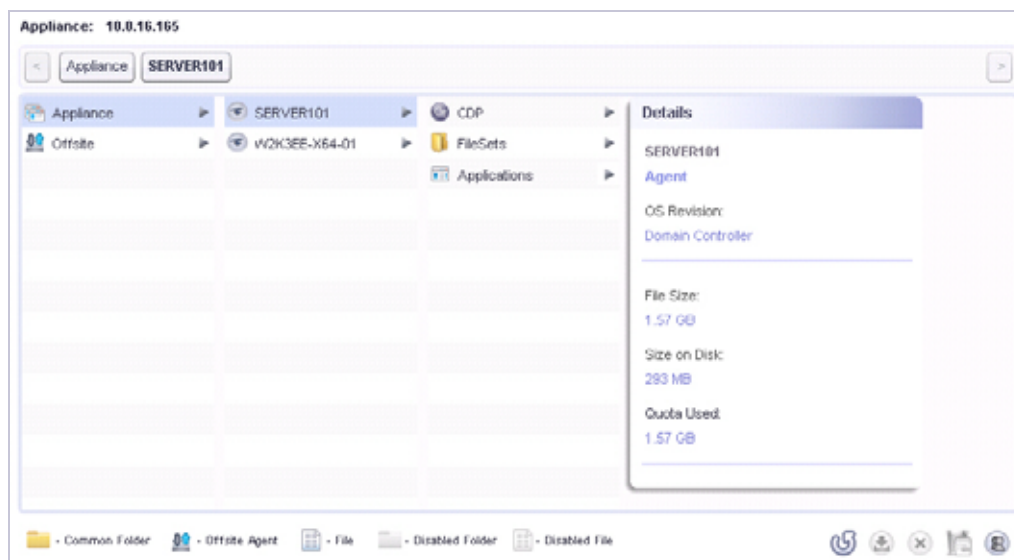
- Step 2** In the login dialog box, type the IP address of the desired appliance into the **Appliance IP** field.

The image shows a dialog box titled "Administrator Login" with a close button (X) in the top right corner. It contains three input fields: "Appliance IP" (empty), "Username" (containing "admin"), and "Password" (empty). Below the fields are two buttons: "Login" and "Cancel".

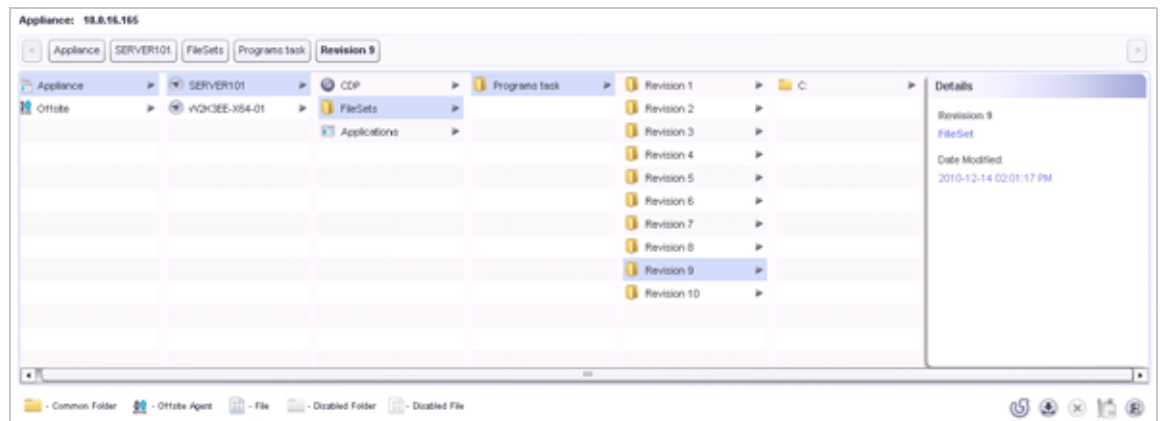
- Step 3** Type in the password for the admin account, and click **Login**. The Agent User Interface displays the starting screen for the appliance.



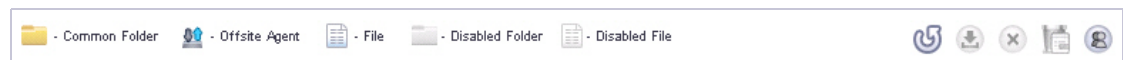
- Step 4** Click the arrow for either **Appliance** or **Offsite** to expand the display to include all associated agents, then click any agent to expand the display further. You can view details about agents that are associated with the appliance.



You can also view specific backups.



The bottom of the window provides controls for your use.



Step 5 On the left, the meanings of the icons are defined. At the right, the following controls are available, from left to right:



- **Refresh** – refreshes the window contents
- **Restore** – restores the selected item
- **Remove Items** – removes the selected items
- **Remove Deleted Items** – removes items that are no longer on the agent machine
- **Logoff from Administrator File Browser** – logs off

Viewing the Status Events Panel

The main Status panel displays information about the recent backup tasks for the agent. There are two sections: **Backup Events** and **FileSet and Application Events**.

Backup Events				
Task	Name	Start Time	Duration	Status
Programs task	snapepi.dll	2010-12-11 07:02	00:00:01	Completed
Programs task	snapepi.sys	2010-12-11 07:02	00:00:01	Completed
Programs task	msvc71.dll	2010-12-11 07:02	00:00:01	Completed
Programs task	msvc71.dll	2010-12-11 07:02	00:00:01	Completed
Programs task	System.Web.UI.Mobile	2010-12-11 07:02	00:00:01	Completed
Programs task	System.Web.UI.Mobile	2010-12-11 07:02	00:00:01	Completed
Programs task	VsRes_I.dll	2010-12-11 07:02	00:00:01	Completed

FileSet and Application Events		
Task	Finish Time	Status
Programs task	2010-12-11 07:02:29	Successful
Programs task	2010-12-11 06:02:30	Successful
Programs task	2010-12-11 05:02:11	Successful
Programs task	2010-12-11 04:01:58	Successful
Programs task	2010-12-11 03:02:43	Successful

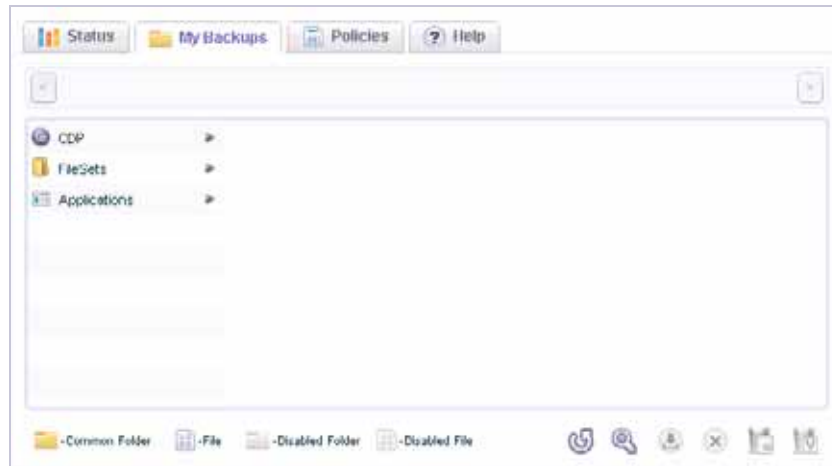
Descriptions of the fields on the Status page are provided below:

Field	Description
Task	Displays the name of the Backup Task.
Name	Displays the names of files that are backed up as part of the task.
Start Time	Displays the start time of each file backup.
Duration	Displays the amount of time required to back up each file.
Finish Time	In the FileSet and Application Events section, displays the time that each backup task finished, for each revision that was executed.
Status	In the Backup Events section, displays the status of each file backup. In the FileSet and Application Events section, displays the status of each backup task, for each revision.

Managing Backups

The **My Backups** tab displays information about recent backups that have been executed by the SonicWALL CDP Agent. You can view the backups at various levels of detail, search for files, remove backed up files, and restore files from this page. [Figure 17](#) shows the initial view of the **My Backups** tab.

Figure 17 *My Backups View*



This section contains the following subsections:

- [“Viewing Backup Details” on page 35](#)
- [“Searching for Files” on page 35](#)
- [“Removing Backed Up Files” on page 37](#)

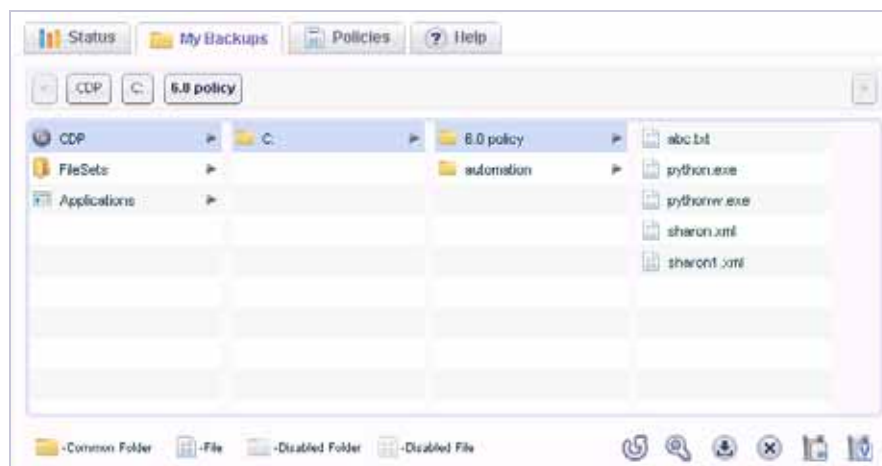
For information about restoring client data, see the [“Restoring Backed Up Client Data” section on page 54](#).

For information about restoring server applications, see the [“Restoring Server Applications” section on page 101](#).

Viewing Backup Details

You can click the arrow next to any of the three backup types to expand the level of detail shown on the My Backups page. For example, [Figure 18](#) shows the page after expanding the CDP selection several times until the actual file names are displayed.


Figure 18 *My Backups Expanded*



A key or legend for the icons next to each file or folder is provided in the lower left area of the window. There are Common Folder, File, Disabled Folder, and Disabled File icons.

To return to a view with fewer details, click the tab for the level you want to display.



You can refresh the page by clicking the Refresh icon  at the lower right.

Searching for Files

You can use the Search function on the My Backups page to search for backed up files stored on the SonicWALL CDP appliance.

To use the Search function:

-
- Step 1** On the **My Backups** page, click the Search icon in the lower right corner.






- Step 2** A Search dialog is displayed in the left pane. In the **All or part of the file name** field, type in the file name or partial file name for which to search.

- Step 3** To specify a folder to search in, enter the folder name in the **Look in** field.
- Step 4** To search by file size range, type numbers for the minimum size and maximum size in bytes under the **What size is it? (Bytes)** header.
- Step 5** To search within a range of revisions, specify the number of the minimum revision and the maximum revision under the **What revision is it?** header.
- Step 6** Click the **Search** button to start your search. The results are displayed in the right pane.

File Name	Path	Revision	Size
sharon1.xml	C:\6.0 policy\	1	1.77 KB
sharon.xml	C:\6.0 policy\	1	1.90 KB

Removing Backed Up Files

The My Backups page provides three ways to remove files stored on the SonicWALL CDP appliance:

-  The **Remove** option deletes the file from the SonicWALL CDP appliance. Future backups might cause it to be backed up again unless you change the related policy.
-  The **Remove Deleted Items** option deletes files from the appliance if they no longer exist on the agent machine.
-  The **Remove Old Versions** option deletes older revisions of the file, leaving only the most recent one on the appliance.

To remove files or data from the appliance:

-
- Step 1** On the **My Backups** page, to remove a specific file, expand the backup to view the file that you want to remove.
 - Step 2** Select the file to be removed and click the **Remove** icon.
 - Step 3** To remove files from the appliance which no longer exist on the agent, select the backup or the revision that contains such files. The **Remove Deleted Items** icon becomes active when files exist on the appliance which no longer exist on the agent. Click the icon to remove the deleted items from the appliance.
 - Step 4** To remove older revisions of a file or a set of files, expand the view to display the revisions, select the oldest revision that you wish to keep, and then click the **Remove Old Versions** icon to remove revisions older than the one selected.

Configuring Client Backup Policies

For file and folder backups, client backup policies include a Files and Folders object, schedule, and task. For client applications such as Outlook or Outlook Express, client backup policies include an Application object, schedule, and task. You can configure objects, schedules, and tasks on the **Policies** tab in the Agent User Interface.

Objects can be defined using one of the following methods:

- **FileSet** – The FileSet method backs up related files as a set. Dependencies between files is considered. This method uses Event scheduling.
- **Application** – The Application method is used for both client and server applications, and also considers dependencies and backs up files as a set. This method also uses Event scheduling.

When using the FileSet or Application methods, Microsoft Volume Shadow Copy Service is used to create a cohesive snapshot for backup on Windows agents. Data de-duplication prevents multiple copies of unchanged data from being backed up.

The Policies window might also display a policy for a **CDP** method backup. The CDP method is folder-based and uses Interval scheduling. In the SonicWALL CDP 6.0 Agent User Interface, existing SonicWALL CDP 5.1 file/folder backups will display as type CDP after upgrading the SonicWALL CDP appliance to 6.0.

To back up files or application data, you must configure a backup object, a schedule, and a backup task that includes both the backup object and the schedule.



Note

Without a backup task, no backups will occur.

This section contains the following subsections:

- [“Adding a Files and Folders Object” section on page 38](#)
- [“Adding a Client Application Object” section on page 41](#)
- [“Editing the Default CDP Files and Folders Object” section on page 42](#)
- [“Configuring Schedule Objects” section on page 45](#)
- [“Configuring a Backup Task for Client Data” section on page 51](#)
- [“Removing Backup Tasks” section on page 53](#)

For information about restoring client data, see the [“Restoring Backed Up Client Data” section on page 54](#).

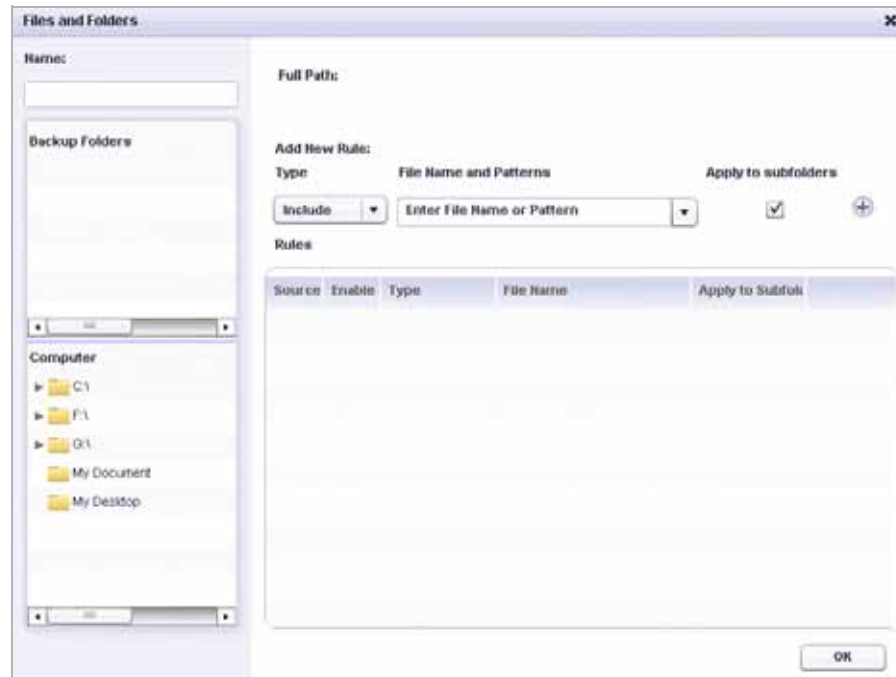
Adding a Files and Folders Object

To create a Files and Folders object, perform the following steps:

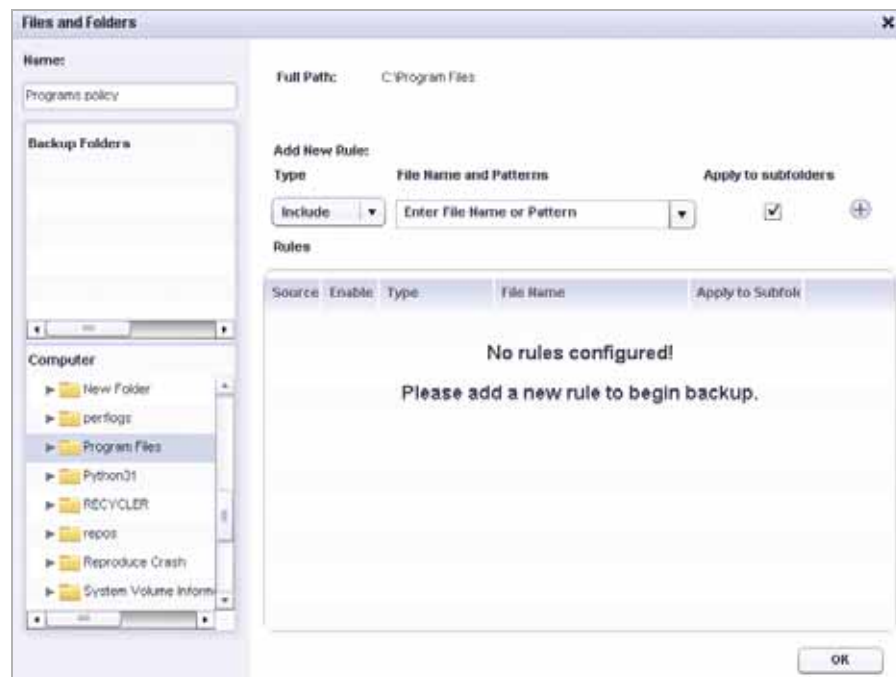
- Step 1** Navigate to the **Policies** tab located in the Agent User Interface and click on the **Files and Folders** link located in the left-side menu.



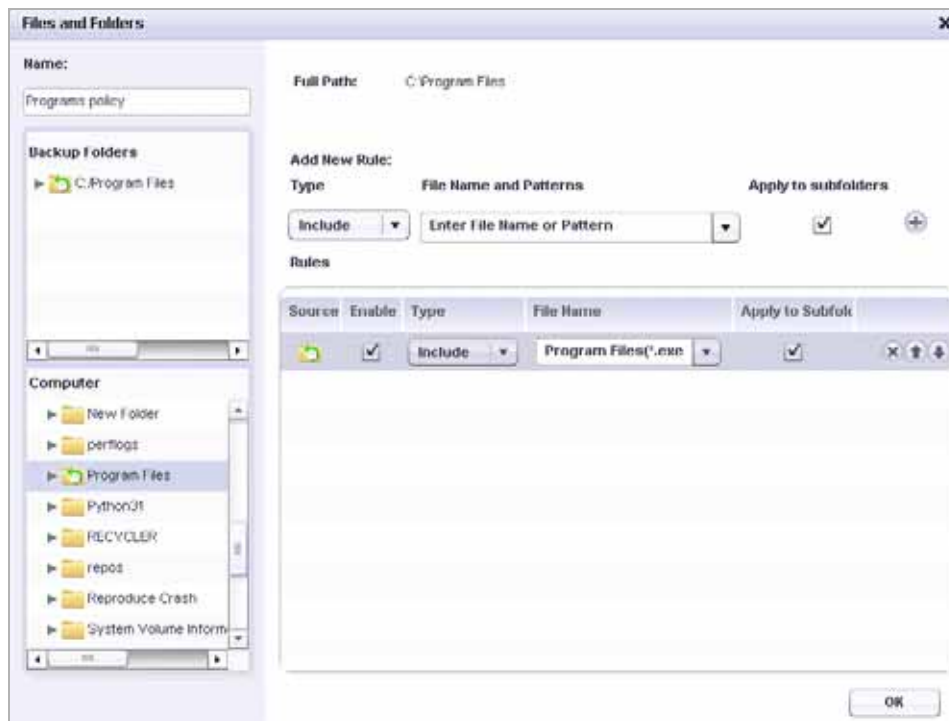
- Step 2** Click the **+** button located in the bottom-right below the Files and Folders table. The **Files and Folders** window appears.



- Step 3** Specify a friendly name for your Files and Folders object in the **Name** field located in the upper-left corner.
- Step 4** Select the desired folder you wish to back up in the **Computer** field. The file path of the backup folders is displayed in the **Full Path** field located at the top of the Files and Folders window.



- Step 5** Define the rules for your Files and Folders object by first determining how to apply the rule by choosing **Include** or **Exclude** under the **Type** drop-down menu.
- **Include:** Includes the specified files or extensions.
 - **Exclude:** Excludes the specified files or extensions.
- Step 6** Define the **File Name** by entering a file name, extension, or select from a predefined list under **File Name and Patterns**.
- Step 7** If desired, check the **Apply to Subfolders** check box to apply the rules to subfolders.
- Step 8** Click the **+** button, located next to the check box, to add the rule to the Files and Folders object.
- After clicking the **+** button, the rule is added to the **Rules** table and the selected folder appears in the **Backup Folders** list.




- Step 9** If desired, repeat [Step 5](#) through [Step 8](#) to create more rules.
- Step 10** Click **OK** after Files and Folders object creation is complete. The new Files and Folders object is visible in the table on the Policies tab.

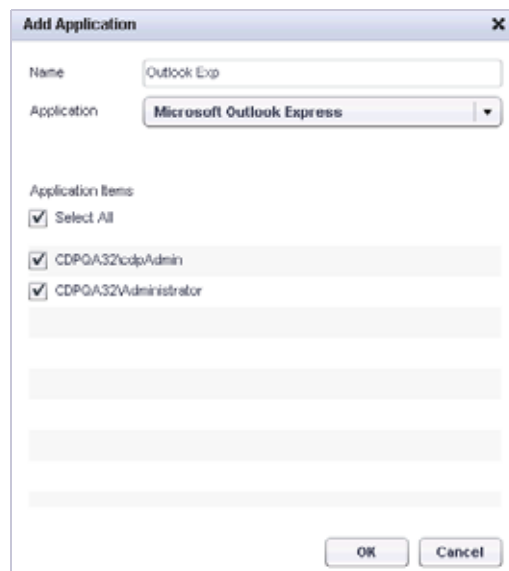


Adding a Client Application Object

To backup a client application such as Outlook or Outlook Express, you must configure an application object, a schedule, and a backup task that includes both the application object and the schedule. This section describes how to create the application object.

To create a client application object, perform the following steps:

- Step 1** In the SonicWALL CDP Agent User Interface, click the **Policies** tab.
- Step 2** In the left pane, click **Applications**.
- Step 3** In the right pane, click the Plus button  at the lower right corner. The Add Application window opens.



- Step 4** Type a descriptive name for the application object into the **Name** field.



Note

With the exception of Outlook and Outlook Express, only applications that are installed on your local computer will display in the Add Application window.

- Step 5** Select the desired application from the **Application** drop-down list. The list of available applications is automatically populated through a discovery process.
- Step 6** Under **Application items**, select the checkboxes for one or more items to back up.
- Step 7** In the Add Application window, click **OK** to add the application object.

The new application object appears in the **Policies** screen of the Agent User Interface. The **In Use** column indicates **No** to show that this application object is not part of an enabled Backup Task.

Name	Application Type	In Use	
Exchange	Microsoft Exchange - InfoStore	Yes	
Outlook Exp	Microsoft Outlook Express	No	


Note

Before the backup will occur, you must configure a schedule for this application object (unless one already exists) and a backup task that includes both the application object and the schedule.


Editing the Default CDP Files and Folders Object

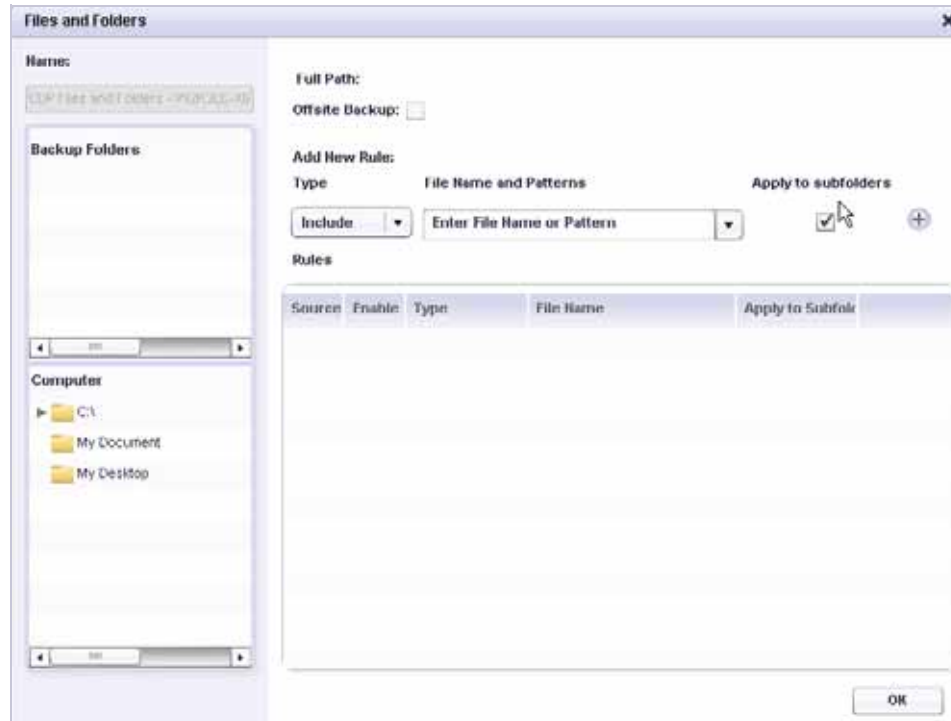
A legacy style CDP policy, including a default CDP Files and Folders object, a default CDP schedule (set to Always On), and a default CDP backup task, is defined by default at the administrative level and is inherited by agents connected to the SonicWALL CDP appliance. At the agent level, you can edit the default CDP Files and Folders object to add files and folders for backup to the CDP object, but you cannot create a new CDP object. A CDP object differs from a Files and Folders or Application object in that the defined files and folders are backed up as separate entities, not as FileSets. CDP schedules use Interval scheduling, which back up changed data continuously when set to Always On, rather than Event scheduling in which you can set dates for backups to occur. The default CDP policy accommodates policies from previous versions of SonicWALL CDP after upgrading.

To edit the default CDP Files and Folders object, perform the following steps:

- Step 1** Navigate to the **Policies** tab located in the Agent User Interface and click on the **Files and Folders** link located in the left-side menu.

Name	In Use	
CDP Files and Folders - SERVER101	Yes	

- Step 2** Click the **Edit** button  to the right of the CDP object name. The **Files and Folders** window appears.

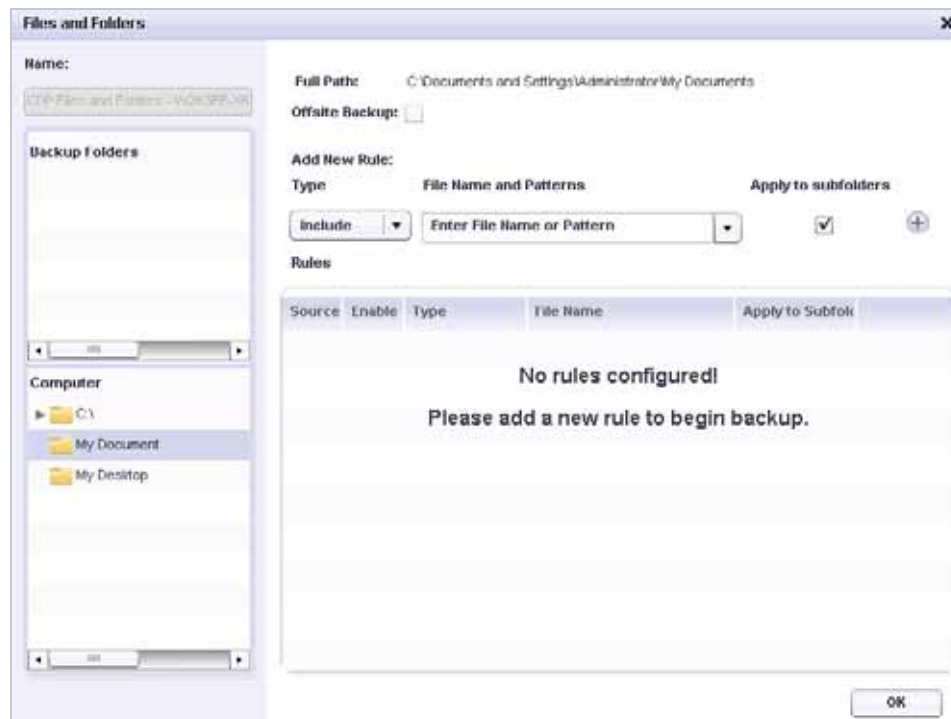


The **Files and Folders** window is shown with the following configuration:

- Name:** CDP Files and Folders - [unclear]
- Full Path:** (empty)
- Offsite Backup:** ☐
- Add New Rule:**
 - Type:** File Name and Patterns
 - Include:** ☐ (dropdown)
 - Enter File Name or Pattern:** (text box)
 - Apply to subfolders:** ☒ (checkbox)
- Rules:** (empty table with headers: Source, Enable, Type, File Name, Apply to Subfol)

The **Computer** section on the left shows a tree view with **C:**, **My Document**, and **My Desktop**.

- Step 3** Select the desired folder you wish to back up in the **Computer** field. The file path of the backup folders is displayed in the **Full Path** field located at the top of the Files and Folders window.



The **Files and Folders** window is shown with the following configuration after selecting a folder:

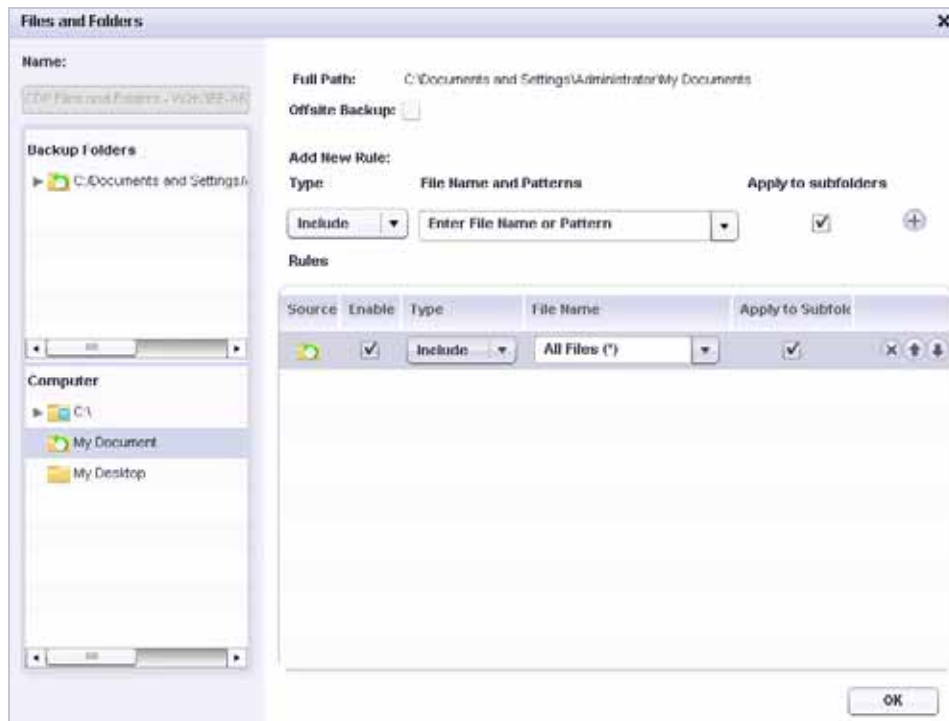
- Name:** CDP Files and Folders - [unclear]
- Full Path:** C:\Documents and Settings\Administrator\My Documents
- Offsite Backup:** ☐
- Add New Rule:**
 - Type:** File Name and Patterns
 - Include:** ☐ (dropdown)
 - Enter File Name or Pattern:** (text box)
 - Apply to subfolders:** ☒ (checkbox)
- Rules:** (empty table with headers: Source, Enable, Type, File Name, Apply to Subfol)

The **Computer** section on the left shows a tree view with **C:**, **My Document**, and **My Desktop**. The **My Document** folder is selected.

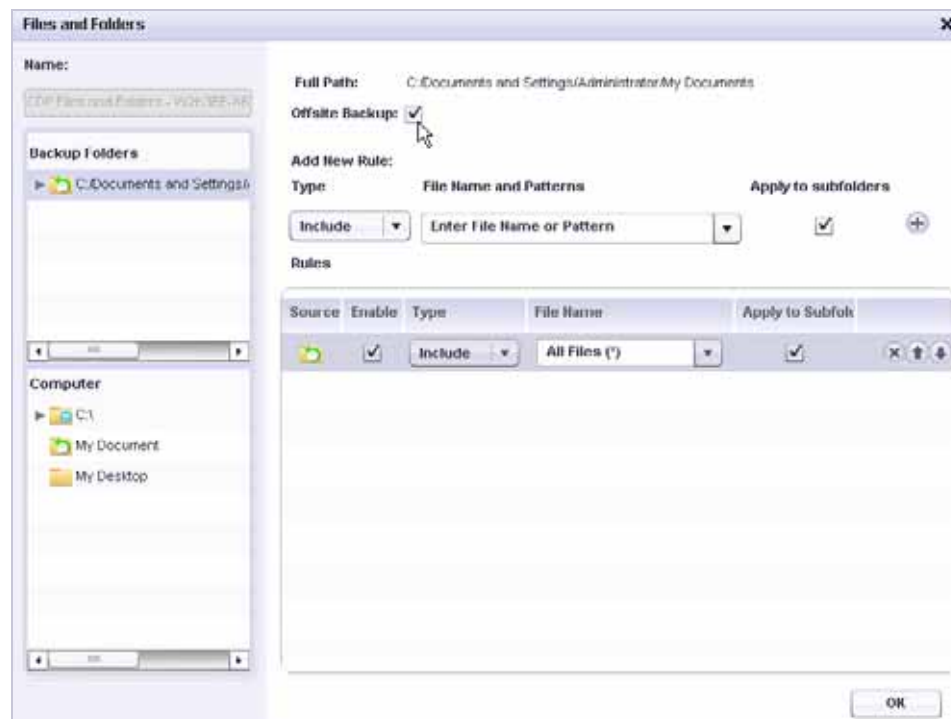
Below the rules table, the following message is displayed:

No rules configured!
Please add a new rule to begin backup.

- Step 4** Define the rules for your Files and Folders object by first determining how to apply the rule by choosing **Include** or **Exclude** under the **Type** drop-down menu.
- **Include:** Includes the specified files or extensions.
 - **Exclude:** Excludes the specified files or extensions.
- Step 5** Define the **File Name** by entering a file name, extension, or select from a predefined list under **File Name and Patterns**.
- Step 6** If desired, check the **Apply to Subfolders** check box to apply the rules to subfolders.
- Step 7** Click the **+** button, located next to the check box, to add the rule to the Files and Folders object.
- After clicking the **+** button, the rule is added to the **Rules** table and the selected folder appears in the **Backup Folders** list.



- Step 8** To send the backed up files to the configured SonicWALL Offsite Portal or offsite CDP appliance, first click on the selected folder in the **Backup Folders** list, and then select the **Offsite Backup** checkbox.



- Step 9** If desired, repeat [Step 5](#) through [Step 8](#) to create more rules.
- Step 10** Click **OK** when finished editing the CDP Files and Folders object.

Configuring Schedule Objects

To backup client data, you must configure a Files and Folders or Application object, a schedule object, and a backup task that includes both the backup object and the schedule. This section describes how to create the schedule object.



Note

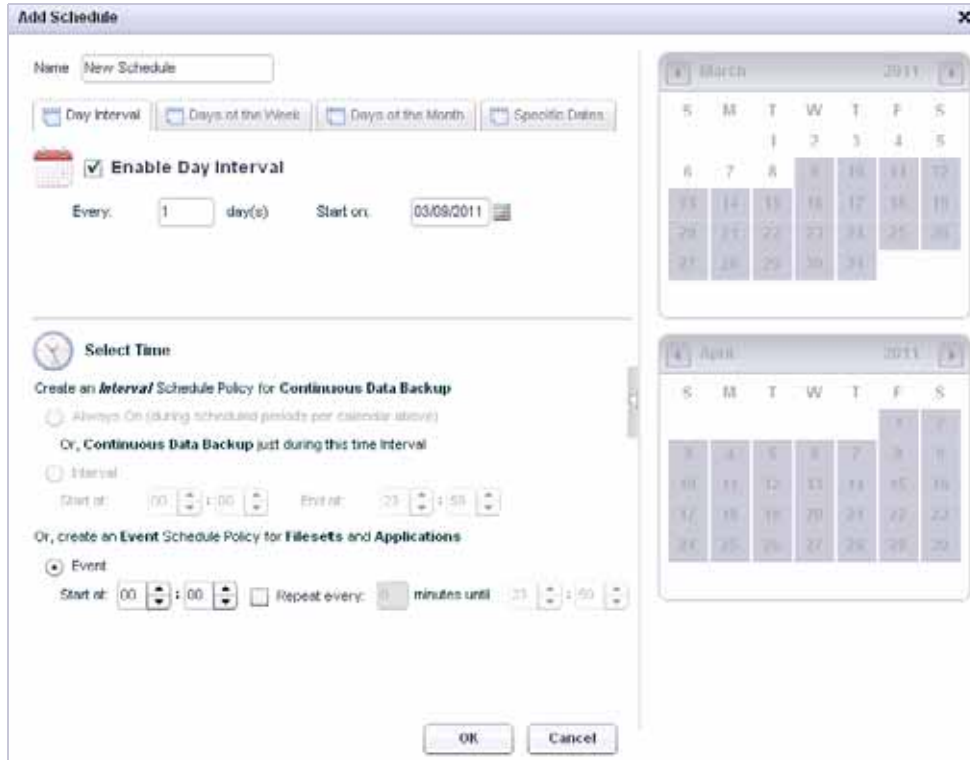
You can use the same schedule object in more than one backup task.

You can create or edit schedule objects for FileSet or Application backup tasks, but not for CDP method tasks. If you see a CDP schedule object, it is inherited from the connected appliance. You can view the settings on the CDP schedule object; see the [“Viewing a CDP Schedule Object” section on page 50](#).

To create a schedule object, perform the following steps:

- Step 1** In the SonicWALL CDP Agent User Interface, click the **Policies** tab.
- Step 2** In the left pane, click **Schedules**.

Step 3 In the right pane, click the Plus button  at the lower right corner. The Add Schedule window opens.



Step 4 Type a descriptive name for the schedule into the **Name** field.

Step 5 Specify the type of schedule and time desired. Four options are available and can be combined to form a schedule policy:

- **Day Interval** – The backup occurs every so many days calculated from a particular date.



- Select the **Enable Day Interval** checkbox.
- Select the number of days for the interval between backups.
- Select a start date. By default, the interval is calculated from the current date.
- Under **Select Time**, to back up the files beginning at a specific time, select the **Event** radio button, then fill in the **Start at** fields by selecting an hour and a minute for the start time. To repeat the backup, type a value into the **Repeat every ... minutes** field, and select an hour and minute for the end time after **until**.
- **Days of the Week** – The backup runs on certain days of the week.

Name:

☒ **Enable Days of the Week**
 A check indicates that the task is scheduled to run on that day of the respective week.

	Sun	Mon	Tue	Wed	Thu	Fri	Sat
1st	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2nd	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3rd	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4th	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5th	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Last	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Select Time

Create an **Interval** Schedule Policy for Continuous Data Backup

☐ Always On (during scheduled periods per calendar above)
 Or, Continuous Data Backup just during this time interval

☐ Interval
 Start at: 00 : 00 End at: 23 : 59

Or, create an **Event** Schedule Policy for Filesets and Applications

☒ Event
 Start at: 10 : 00 Repeat every: 60 minutes until: 23 : 59

OK Cancel

- Select the **Enable Days of the Week** checkbox.
- Select the days of the week, Sunday through Saturday, on which to run the backup.
- Select the time at which to start the backup.
- Under **Select Time**, to back up the files beginning at a specific time, select the **Event** radio button, then fill in the **Start at** fields by selecting an hour and a minute for the start time. To repeat the backup, type a value into the **Repeat every ... minutes** field, and select an hour and minute for the end time after **until**.

- **Days of the Month** – The backup occurs on certain days of the month.

The screenshot shows the 'New Schedule' dialog box in the SonicWALL CDP 6.0 Agent User's Guide. The 'Days of the Month' tab is selected, and the 'Enable Days of the Month' checkbox is checked. The calendar shows March and April 2011. The 'Select Time' section is also visible, showing options for 'Interval' and 'Event' scheduling.

Name: New Schedule

Day Interval **Days of the Week** **Days of the Month** **Specific Dates**

☒ **Enable Days of the Month**

To schedule a specific day of the month, click on each day in the calendar below to include it in the schedule.

1 2 3 4 5 6 7 8
9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24
25 26 27 28 29 30 31 Last

Select All Deselect All

Select Time

Create an **Interval** Schedule Policy for Continuous Data Backup

☐ Always On (during scheduled periods per calendar above)

Or, Continuous Data Backup just during this time interval

☐ Interval

Start at: 00 : 00 End at: 23 : 59

Or, create an **Event** Schedule Policy for Filesets and Applications

☒ Event

Start at: 00 : 00 Repeat every: 0 minutes until 23 : 59

OK Cancel

- Select the **Enable Days of the Month** checkbox.
- Select the days of the month on which to run the backup. Select **Last** for the last day of the month.
- Select the time at which to start the backup.
- Under **Select Time**, to back up the files beginning at a specific time, select the **Event** radio button, then fill in the **Start at** fields by selecting an hour and a minute for the start time. To repeat the backup, type a value into the **Repeat every ... minutes** field, and select an hour and minute for the end time after **until**.

- **Specific Dates** – The backup occurs on the selected dates.

Name:

☒ **Enable Specific Dates**

To schedule a specific date, click the small calendar and then select the date.

2011-04-01

Select Time

Create an **Interval** Schedule Policy for **Continuous Data Backup**

☐ Always On (during scheduled periods per calendar above)
 Or, **Continuous Data Backup** just during this time interval

☒ **Interval**
 Start at: : End at: :

Or, create an **Event** Schedule Policy for **Filesets and Applications**

☒ **Event**
 Start at: : ☐ Repeat every: minutes until :


- Select the **Enable Specific Dates** checkbox.
- Click the small calendar and then select the date(s).
- Select the time at which to start the backup.
- Under **Select Time**, to back up the files beginning at a specific time, select the **Event** radio button, then fill in the **Start at** fields by selecting an hour and a minute for the start time. To repeat the backup, type a value into the **Repeat every ... minutes** field, and select an hour and minute for the end time after **until**.

Step 6 Click **OK** after defining the desired schedule. New schedules are visible in the table on the main Schedules page.

Viewing a CDP Schedule Object

A default CDP schedule object is inherited from the SonicWALL CDP appliance. It uses Interval scheduling rather than Event scheduling. Only the **Day Interval** tab of the Edit Schedule Object interface is used. You can view the default CDP schedule object, but cannot change it.

To view the default CDP schedule object:

- Step 1** In the SonicWALL CDP Agent User Interface, click the **Policies** tab.
- Step 2** In the left pane, click **Schedules**.
- Step 3** In the right pane, click the Edit button  to the right of the CDP schedule object name. The Edit Schedule window opens.
- Step 4** On the **Day Interval** tab under **Enable Day Interval**, the number of days for the interval between backups is defined. For example, if you see **1**, the backups will occur daily; if you see **2**, the backups will occur every other day.
- Step 5** In the **Start on** field, the start date is defined. By default, the interval is calculated from the current date.
- Step 6** Under **Select Time**, to back up the files at any time that a change occurs, the **Always On** radio button is selected. To back up changed files only during a specific time range, the **Interval** radio button is selected and the **Start at** and **End at** fields are set.
- Step 7** Click **Cancel**. The **OK** button is disabled.

Configuring a Backup Task for Client Data

A backup task includes either a Files and Folders or Application object and a schedule for the backup. Without a backup task, no backups will occur.


For offsite backup, you can choose the **Send All Files Offsite** option when adding or editing a backup task.



Note

Before creating a backup task, create the backup object and schedule to be included in the task.

To create a backup task for client data backup, perform the following steps:

- Step 1** In the SonicWALL CDP Agent User Interface, click the **Policies** tab.
- Step 2** In the left pane, select **Backup Tasks**.
- Step 3** In the right pane, click the Plus button  at the lower right corner. The Add Backup Task window opens.

- Step 4** Type a descriptive name for the backup task into the **Name** field.
- Step 5** Select one of the following in the **Select File Type** drop-down list:
 - For a client application backup task, select **Application**.
 - For a FileSet or CDP backup task, select **FileSet**.
- Step 6** For a client application backup task, select the desired application object from the **Application Data** drop-down list.
- Step 7** For a FileSet or CDP backup task, select the desired Files and Folders object from the **Files and Folders** drop-down list.
- Step 8** Type the desired number of backup revisions to keep into the **Number of Versions** field. For client applications, the default is 2. For files and folders, the default is 10.

- Step 9** The **Trimming Algorithm** field is not configurable. The field displays the type of trimming algorithm in use.
- Step 10** In the **Offsite** drop-down list, select one of the following options:
- **Send all Files Offsite** – Files will be backed up on the configured Offsite appliance.
 - **Do Not Send Files Offsite** – Files will be backed up on the SonicWALL CDP appliance that is connected to the agent.
- Step 11** Select the desired schedule from the **Schedule** drop-down list.
- Step 12** To activate this backup task, select the **Enable this task in Policy** checkbox. To disable this backup task without deleting it, you can clear this checkbox.
- Step 13** Click **OK** when finished configuring the backup task.

A backup task for the Outlook Express client application is shown below:

The screenshot shows the 'Add Backup Task' dialog box with the following configuration:

- Name:** OutlookExp Task
- Select Data Type:** Application
- Application Data:** Outlook Exp
- Number of Versions:** 2
- Trimming Algorithm:** Delete Oldest
- Offsite:** Send all Files Offsite
- Schedule:** Exchange Schedule
- Enable this task in Policy:** ☒

Buttons: OK, Cancel

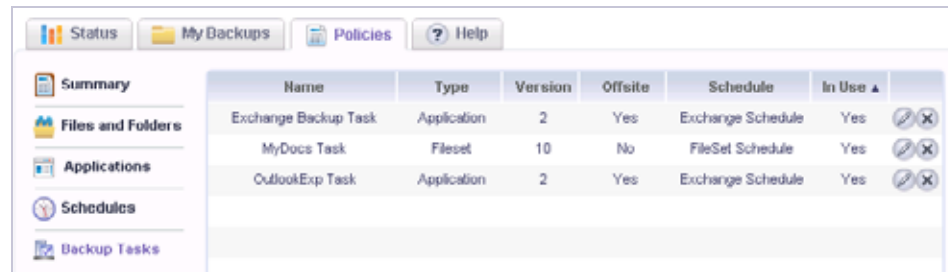
A backup task for a FileSet backup is shown below:

The screenshot shows the 'Add Backup Task' dialog box with the following configuration:

- Name:** MyDocs Task
- Select Data Type:** Fileset
- Files and Folders:** MyDocs
- Number of Versions:** 10
- Trimming Algorithm:** Delete Oldest
- Offsite:** Don't send any files Offs
- Schedule:** FileSet Schedule
- Enable this task in Policy:** ☒

Buttons: OK, Cancel

After clicking **OK**, the new tasks appear in the **Policies** tab window:




Removing Backup Tasks

You can temporarily disable a backup task, or completely remove it along with the associated backup rules or application object. See the following sections:

- [“Disabling a Backup Task” section on page 53](#)
- [“Removing a Backup Task” section on page 53](#)

Disabling a Backup Task

You can temporarily disable any backup task with removing its configuration by performing the following steps:

-
- Step 1** In the SonicWALL CDP Agent User Interface, click the **Policies** tab.
 - Step 2** In the left pane, click **Backup Tasks**.
 - Step 3** Click the Edit button  located to the right of the backup task you want to disable.
 - Step 4** In the Edit Backup Task window, clear the **Enable this task in Policy** checkbox.
 - Step 5** Click **OK**.

Removing a Backup Task

To completely remove a backup task and the associated Files and Folders or Application object rules, perform the following steps:

-
- Step 1** In the SonicWALL CDP Agent User Interface, click the **Policies** tab.
 - Step 2** In the left pane, click **Backup Tasks**.
 - Step 3** Click the **X** button located to the right of the backup task you want to remove.
 - Step 4** Click **Yes** in the confirmation dialog.
 - Step 5** In the left pane, click either **Files and Folders** or **Applications**.
 - Step 6** Click the **X** button located to the right of the object name.
 - Step 7** Click **Yes** in the confirmation dialog.

Restoring Backed Up Client Data

See the following sections for instructions about restoring backed up files, folders, and client applications:


- [“Restoring Files and Folders” section on page 54](#)
- [“Restoring a Client Application” section on page 56](#)

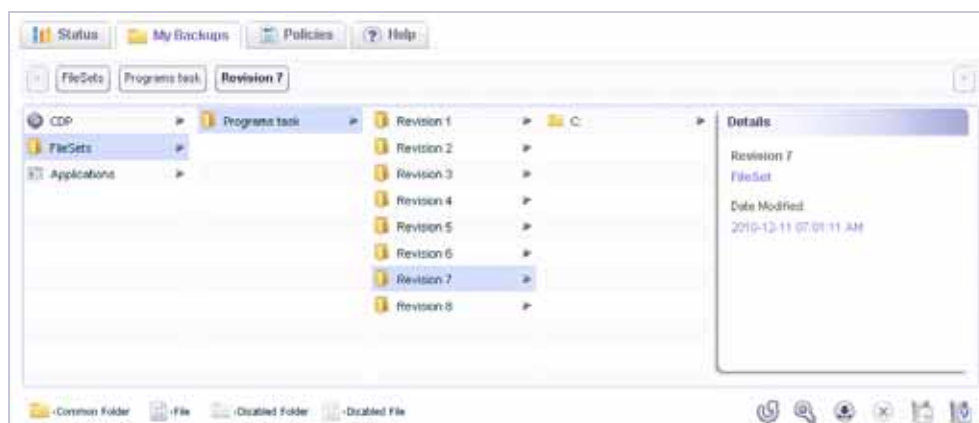
Restoring Files and Folders


SonicWALL CDP allows you to recover lost data directly from the appliance. Recovery can be performed to replace a file set that has been deleted, or to restore a previous version of a file or folder that has been changed or otherwise damaged. Recovery can be performed on any agent and recovered files are restored directly from the appliance.

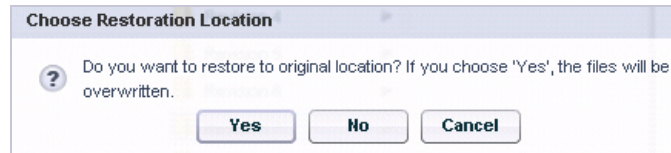
If necessary, before restoring a file set, first follow the prescribed restore procedures of the system which may include the re-installation of the operating system, applications or replacement of hardware.

To recover files and folders from the SonicWALL CDP appliance, perform the following steps:

- Step 1** Launch the **SonicWALL CDP Agent** software on the agent machine on which you want to recover the file set.
- Step 2** If necessary, click the Change Appliance icon  to change the SonicWALL CDP appliance to the one with the files you need.
- Step 3** Click the **My Backups** tab.
- Step 4** In the left pane, click **FileSets**. The display expands to show available backup tasks.
- Step 5** Click the desired backup task. The available revisions are displayed.
- Step 6** Click the desired revision. The root folder and details about the revision are displayed, including the date and time.

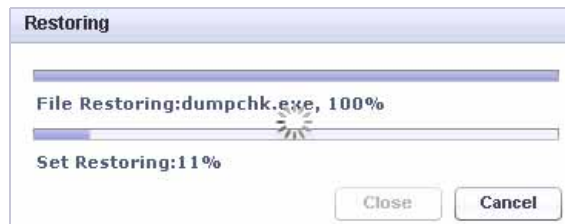


- Step 7** At the bottom right corner, click the Restore icon . The Choose Restoration Location dialog opens.

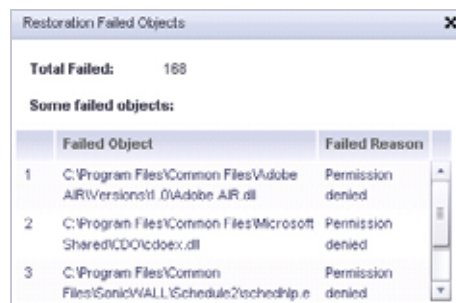


Click **Yes** to restore the files on top of the original files. Click **No** to save the files to another location on disk. Click **Cancel** to exit the restoration process without restoring the files at all.

The Restoring window displays the progress of the restore.



- Step 8** If any files cannot be restored, the Restoration Failed Objects window displays a list of files and the reasons for their failure to restore. Click the **X** to close the window.




- Step 9** When the restore process is finished, the Restoring window changes to Done. Click the **Close** button to close the window.



Restoring a Client Application

You can restore any revision of a client application that is available on the SonicWALL CDP appliance to an agent machine. The restore can be made directly to the application installation on the agent, or to another location on the hard drive. If restored to another location on disk, the files can be copied to the application later by stopping the application, doing the copy, and restarting the application.

To restore a backed up client application from a revision on the SonicWALL CDP appliance, perform the following steps.

-
- Step 1** In the SonicWALL CDP Agent User Interface, click the **My Backups** tab.
 - Step 2** In the left pane, click **Applications**. The display expands to show available backup tasks.
 - Step 3** Click the desired backup task. The available revisions are displayed.
 - Step 4** Click the desired revision. The root folder and details about the revision are displayed, including the date and time.
 - Step 5** At the bottom right corner, click the Restore icon .
 - Step 6** In the **Restore** dialog box, select the backup that you want to restore. The Application Restoration window opens.
 - Step 7** In the **Options** drop-down list, select one of the following:
 - **Restore to original location** – This option restores the files to the client application location.
 - **Restore to alternate location** – This option restores the files to the disk of the agent machine.
 - Step 8** Under **Components**, select the checkboxes for the items you want to restore.
 - Step 9** Click **OK**. The Application Restoration Details window appears.
 - Step 10** The restoration steps are listed, along with a **Start Time** column, a **Duration** column, and an in-progress indicator. The steps are:
 - **Download files from appliance**
 - **Stop service**
 - **Restore <application>**
 - **Start Service**

To start the restore process, click **Start**. To exit without restoring any files, click **Cancel**.

The in-progress indicators become active for each step as it is executed, and the **Start Time** and **Duration** values are updated.
 - Step 11** When the restore is finished, click **Close**.

Backing Up Server Applications

Server applications, including Microsoft Exchange, Active Directory, and SQL Server can be configured for backup or recovery using the SonicWALL CDP User Interface.

Refer to the following sections for information about backing up server applications:

- [“Creating Schedules for Application Backups” section on page 57](#)
- [“Microsoft Exchange Prerequisites” section on page 59](#)
- [“Backing Up Exchange 2010 User Mailboxes” section on page 62](#)
- [“Backing Up Exchange 2010 InfoStore” section on page 70](#)
- [“Backing Up Exchange 2007/2003 User Mailboxes” section on page 76](#)
- [“Backing Up Exchange 2007/2003 Storage Groups” section on page 81](#)
- [“Backing Up SharePoint” section on page 86](#)
- [“Backing up System State and Active Directory” section on page 90](#)
- [“Backing up Microsoft SQL Server” section on page 95](#)

Creating Schedules for Application Backups

To backup an application, you must configure an application object, a schedule, and a backup task that includes both the application object and the schedule. This section describes how to create the schedule object.



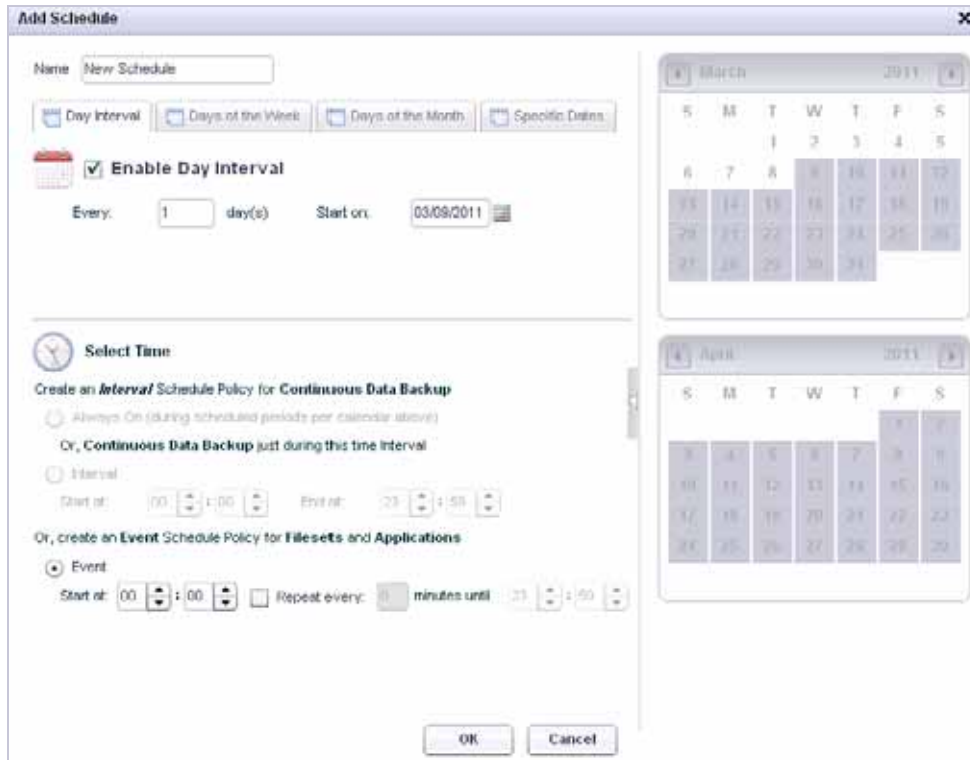
Note

You can use the same schedule object in more than one backup task.

To configure a schedule for application backups, perform the following steps:

-
- Step 1** In the SonicWALL CDP Agent User Interface, click the **Policies** tab.
- Step 2** In the left pane, select **Schedules**.

Step 3 In the right pane, click the Plus button  at the lower right corner. The Add Schedule window opens.



Step 4 Type a descriptive name for the schedule into the **Name** field.

Step 5 Select one or more of the following tabs to configure a schedule that meets your requirements:

- **Day Interval** – The backup occurs every so many days calculated from a particular date.
 - Select the **Enable Day Interval** checkbox.
 - Select the number of days for the interval between backups.
 - Select a start date. By default, the interval is calculated from the current date.
 - Select the **Event** radio button.
 - Fill in the **Start at** fields by selecting an hour and a minute for the start time on the selected days.
 - To repeat the backup at intervals during the selected days, select the **Repeat** checkbox and type a value into the **Repeat every ... minutes** field, then select an hour and minute for the end time after **until**.
- **Days of the Week** – The backup runs on certain days of the week.
 - Select the **Enable Days of the Week** checkbox.
 - Select the days of the week, Sunday through Saturday, on which to run the backup.
 - Select the **Event** radio button.

- Fill in the **Start at** fields by selecting an hour and a minute for the start time on the selected days.
- To repeat the backup at intervals during the selected days, select the **Repeat** checkbox and type a value into the **Repeat every ... minutes** field, then select an hour and minute for the end time after **until**.
- **Days of the Month** – The backup occurs on certain days of the month.
 - Select the **Enable Days of the Month** checkbox.
 - Select the days of the month on which to run the backup. Select **Last** for the last day of the month.
 - Select the **Event** radio button.
 - Fill in the **Start at** fields by selecting an hour and a minute for the start time on the selected days.
 - To repeat the backup at intervals during the selected days, select the **Repeat** checkbox and type a value into the **Repeat every ... minutes** field, then select an hour and minute for the end time after **until**.
- **Specific Dates** – The backup occurs on the selected dates.
 - Select the **Enable Specific Dates** checkbox.
 - Click the small calendar and then select the date(s).
 - Select the **Event** radio button.
 - Fill in the **Start at** fields by selecting an hour and a minute for the start time on the selected days.
 - To repeat the backup at intervals during the selected days, select the **Repeat** checkbox and type a value into the **Repeat every ... minutes** field, then select an hour and minute for the end time after **until**.

Step 6 Click **OK**.

Microsoft Exchange Prerequisites

This section lists the necessary prerequisites for successful operation of the SonicWALL CDP Agent User Interface with the User Mailbox and InfoStore Microsoft Exchange features.



Note

The SonicWALL CDP appliance must be licensed for server applications.

Microsoft Exchange Versions Supported

The following versions of Microsoft Exchange are supported:

- Exchange 2010 (Service Pack 1)
- Exchange 2007
- Exchange 2003

Windows Server Versions Supported

Microsoft Exchange runs on the following versions of Windows Server:

- Windows Server 2008 64-bit / 32-bit
- Windows Server 2003 64-bit / 32-bit



Note

Refer to the latest *SonicWALL CDP Release Notes*, available on www.sonicwall.com, for the location of the full support matrix and compatibility information.

Proper Configuration of Exchange 2007/2003 Admin User on Agent

Follow the instructions below to allow mailbox access for proper user mailbox backup/restore in Microsoft Exchange 2003(32bit) and Microsoft Exchange 2007(64bit). On your Agent system, create an Exchange user account for *cdpAdmin*, make *cdpAdmin* a member of the “Administrators” group, and login to the Exchange system as *cdpAdmin*.

See the following subsections for specific instructions:

- [Configuration on a 32-bit Machine, page 60](#)
- [Configuration on a 64-bit Machine, page 61](#)

See the following Microsoft Knowledge Base articles for more information:

<http://support.microsoft.com/kb/556045>

<http://support.microsoft.com/kb/821897>

Configuration on a 32-bit Machine

To configure the Exchange admin user on a 32-bit machine (MS Windows SBS 2003 and MS Exchange 2003), perform the following steps:

- Step 1** Create a user in ‘Active Directory User and Computer’ in the Domain Controller (DC) computer (such as **cdpAdmin**).
- Step 2** Add this user (cdpAdmin) to the group ‘Backup Operator’.
- Step 3** On the Exchange server, launch the Exchange system manager console and navigate to **Servers**.
- Step 4** Expand **Servers**, right-click on the server name and then click **Properties**.
- Step 5** On the **Security** tab, add the **cdpAdmin** user to the **Group or user names** list.
- Step 6** Make sure this user has **Full control** permissions.
- Step 7** Logout of the MS Exchange server machine and then log back in as the **cdpAdmin** user.
- Step 8** Open SonicWALL CDP Agent User Interface, select the **Application** tab, and add **MS Exchange – User Mailbox**.
- Step 9** Click the **Configure Authentication** button. Enter the user credentials in the authentication dialog box:
 - User: Domain\user (yourDomain\cdpAdmin)
 - Password: password for user cdpAdmin

Configuration on a 64-bit Machine

To configure the Exchange admin user on a 64-bit machine: (MS Windows 2003/2008 and MS Exchange 2007), perform the following steps:

-
- Step 1** Create a user in 'Active Directory User and Computer' in the Domain Controller (DC) computer (such as **cdpAdmin**).
- Step 2** Add this user (cdpAdmin) to the group 'Backup Operator'.
- Step 3** On the MS Exchange machine, access the Microsoft Exchange Shell by going to **Start > Programs > Microsoft Exchange Server 2007 > Exchange Management Shell**.
- Step 4** To set the **Exchange View Only Administrator** role, type the command in the following format:

```
add-exchangeadministrator <service_account_name> -role ViewOnlyAdmin
```

An example of this command is:

```
add-exchangeadministrator cdpAdmin -role ViewOnlyAdmin
```

- Step 5** To set the Send As, Receive As, and Administer Information Store permissions, type the following command:

```
get-mailboxserver <server_name> | add-adpermission -user  
  <service_account_name> -accessrights GenericRead, GenericWrite  
  -extendedrights Send-As, Receive-As, ms-Exch-Store-Admin
```

Where:

- **<server_name>** is the Microsoft Exchange 2007 server name
- **<service_account_name>** is the user account created in step 1 (cdpAdmin)

An example of this command is:

```
get-mailboxserver win2k3ee | add-adpermission -user cdpAdmin -accessrights  
  GenericRead, GenericWrite -extendedrights Send-As, Receive-As,  
  ms-Exch-Store-Admin
```

- Step 6** This step only applies if your MS Exchange server is installed on a non-Domain Controller server. On the MS Exchange server machine, to give login access to the **cdpAdmin** user, add the **cdpAdmin** user to the local **Backup Operators** group by performing the following steps:
- Navigate to **Administrative Tools > Computer Management > Local Users and Groups**, and right-click on the **Backup Operators** group.
 - Select **Add to Group** and click on the domain user **cdpAdmin**.
- Step 7** Log out of the MS Exchange server machine and then log back in as the **cdpAdmin** user.
- Step 8** Open the SonicWALL CDP Agent User Interface and configure authentication for **MS Exchange – User Mailbox** with the following credentials:
- User: Domain\user (yourDomain\cdpAdmin)
- Password: password for user cdpAdmin

ExOLEDB / ADO / CDO Requirements for Exchange 2007/2003

SonicWALL CDP uses **ExOLEDB** to access Microsoft Exchange 2007 and 2003. The **Exchange OLE DB Provider** should be installed along with Microsoft Exchange, and must be accessible by the SonicWALL CDP Web Management Interface and Agent User Interface.

The ADO (ActiveX Data Objects) and CDO (Collaboration Data Objects) APIs are also required by this feature. These are application programming interfaces provided by Microsoft that allow applications to access data stores in a uniform manner. These APIs are included with the Microsoft Exchange installation.



Note

This requirement does not apply to Exchange 2010.

ESE Backup Client DLL/ CDOEXM Requirements for Legacy Exchange

SonicWALL CDP uses the Exchange Backup and Restore API to access Microsoft Exchange. The Microsoft ESE Backup Client DLL (EsEbCli2.dll) should be installed along with Microsoft Exchange, and must be accessible by SonicWALL CDP Web Management Interface and Agent User Interface. The Collaboration Data Objects for Exchange Management (CDOEXM) APIs are also used to automate the restore procedure, but not required by this feature.



Note

This requirement only applies for Exchange backups created on SonicWALL CDP 5.1 or earlier.

Backing Up Exchange 2010 User Mailboxes

You can backup individual user mailboxes by using the Microsoft Exchange User Mailbox Backup and Restore server application in the SonicWALL CDP Agent User Interface. The user mailbox is backed up onto your SonicWALL CDP appliance.

For Microsoft Exchange 2010 on Windows Server 2008, SonicWALL CDP supports backup and restore on a multi-application, single server deployment, in which the same server has several applications installed, such as Exchange, SQL, and Active Directory.

In the Agent User Interface, you can create a **Microsoft Exchange - User Mailbox** application object for one or more user mailboxes, input the login credentials for the Exchange server, configure a backup schedule, create a backup task, optionally select offsite backup, and restore individual user mailboxes to the Exchange server. For information about restoring a user mailbox, see the [“Restoring Exchange 2010 User Mailboxes” section on page 101](#).

The User Mailbox Backup and Restore feature includes the following capabilities:

- Convenient interface for adding user mailboxes to or deleting them from the backup process
- Ability to set the backup schedule for a group of mailboxes or for individual user mailboxes
- Secure login using credentials to the Microsoft Exchange server
- Optional automatic backup of user mailboxes to an offsite location
- Retention of multiple backups for each user mailbox

User Mailbox Backup and Restore backs up and restores messages in the user's Outlook Mailbox, including the Inbox, Drafts, Deleted Items, and Sent Items, as well as messages within all other folders with custom names.

It does not back up the Outlook Calendar, Notes, Contacts, Tasks, Meeting Requests, and Public Folders. It also does not back up locally archived folders.

See the following sections:

- [“How Does User Mailbox Backup and Restore Work?” section on page 63](#)
- [“Adding User Mailboxes to an Application Object” section on page 63](#)
- [“Scheduling Backups for User Mailboxes” section on page 65](#)
- [“Configuring a Backup Task for User Mailbox Backups” section on page 65](#)
- [“Configuring Authentication on the Exchange Server” section on page 66](#)
- [“Removing User Mailboxes from the Backup Task” section on page 68](#)
- [“Verifying User Mailbox Backup Activity” section on page 69](#)

How Does User Mailbox Backup and Restore Work?

The SonicWALL CDP Microsoft Exchange User Mailbox Backup and Restore feature is implemented as a server application that is automatically discovered by the SonicWALL CDP Agent User Interface. To get started using the feature, select the **Policies** tab and then select **Applications** in the left pane of the Agent User Interface. To backup user mailboxes, you must configure an application object, a schedule, and a backup task that includes both the application object and the schedule.

The User Mailbox application allows you to add or delete individual user mailboxes for backup, set backup schedules, restore specific backups of individual mailboxes, enter credentials for accessing the Exchange server, and configure offsite backup. You can view log entries in the SonicWALL CDP Agent User Interface on the **Status** tab to verify that backups are successful.



Note

The SonicWALL CDP appliance must be licensed for server applications. On models that do not support server application licenses, such as the generation 3 SonicWALL CDP 110 and 210, you can still use the User Mailbox Backup and Restore feature.


Adding User Mailboxes to an Application Object

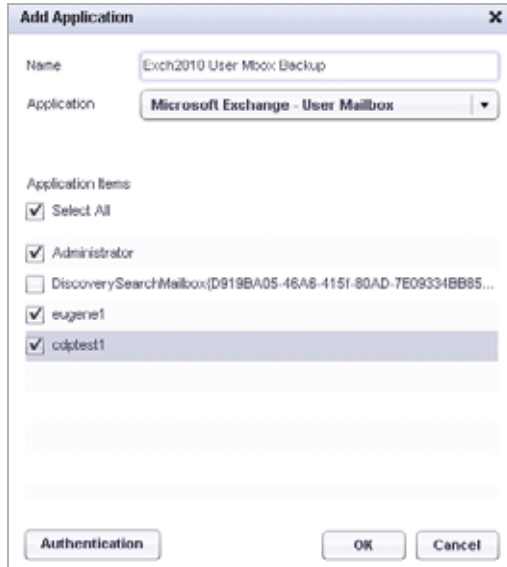
To backup user mailboxes, you must configure an application object, a schedule, and a backup task that includes both the application object and the schedule. This section describes how to create the application object.

You can test the connection to the Exchange Server by clicking the **Authentication** button while adding or editing an application object. It is not necessary to enter any authentication credentials to test the connection.

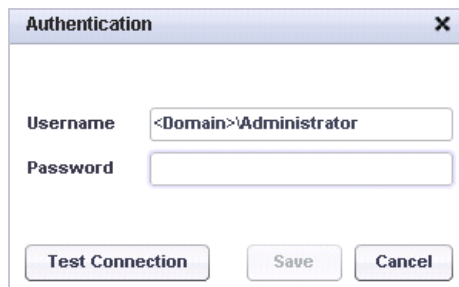
To create an application object with individual user mailboxes for backup, perform the following steps:

- Step 1** In the SonicWALL CDP Agent User Interface, click the **Policies** tab.
- Step 2** In the left pane, click **Applications**.

- Step 3** In the right pane, click the Plus button  at the lower right corner. The Add Application window opens.



- Step 4** Type a descriptive name for the application object into the **Name** field.
- Step 5** Select **Microsoft Exchange - User Mailbox** in the **Application** drop-down list. The list of available applications is automatically populated through a discovery process. For proper discovery, the Microsoft Volume Shadow Copy service must not be disabled.
- Step 6** Under **Application items**, select the checkboxes for one or more user mailboxes to back up.
- Step 7** If authentication credentials are required to access the Exchange server, or to test the connections to the Exchange server, click the **Authentication** button. The Authentication dialog box opens.



- Step 8** In the Authentication dialog box, type the domain\username into the **Username** field and type the password into the **Password** field.



Note

For Exchange 2010, configure Authentication with **<your_domain>\Administrator**. When ready to restore a backed up user mailbox, login to the server agent as *Administrator*. For more information, see [“Configuring Authentication on the Exchange Server” on page 66](#).

- Step 9** To test the connection between the User Mailbox application and the Exchange server, either with or without credentials, click the **Test Connection** button. If successful, the dialog box displays the message “Connection succeeded.”

Step 10 When finished entering the authentication credentials, click **Save**. Click **Cancel** to close the dialog box without saving anything.

Step 11 In the Add Application window, click **OK** to add the application object.

The new application object appears in the **Policies** screen of the Agent User Interface.



Note

Before the backup will occur, you must also configure a schedule for this application object, and a backup task that includes both the application object and the schedule.

Scheduling Backups for User Mailboxes

A schedule is required when creating an Application backup task to backup user mailboxes. You can use the same schedule object in more than one backup task.

For instructions on creating a schedule object, see the [“Creating Schedules for Application Backups” section on page 57](#).

Configuring a Backup Task for User Mailbox Backups

A backup task includes both an application object and a schedule for the backup. Without a backup task, no backups will occur.

For offsite backup, you can choose the **Send All Files Offsite** option when adding or editing a backup task.




Note

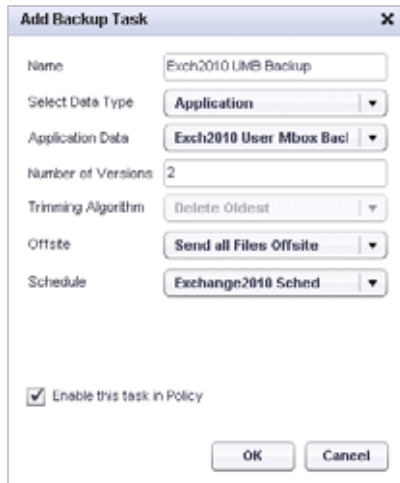
Before creating a backup task, create the application object and schedule to be included in the task.

To create a backup task for a user mailbox backup, perform the following steps:

Step 1 In the SonicWALL CDP Agent User Interface, click the **Policies** tab.

Step 2 In the left pane, select **Backup Tasks**.

Step 3 In the right pane, click the Plus button  at the lower right corner. The Add Backup Task window opens.



- Step 4** Type a descriptive name for the backup task into the **Name** field.
- Step 5** Select **Application** from the **Select File Type** drop-down list.
- Step 6** Select the desired application object from the **Application Data** drop-down list.
- Step 7** Type the desired number of backup revisions to keep into the **Number of Versions** field. The default is 2.
- Step 8** The **Trimming Algorithm** field is not configurable for Application policies. The field displays the type of trimming algorithm in use.
- Step 9** In the **Offsite** drop-down list, select one of the following options:
- **Send all Files Offsite**
 - **Do Not Send Files Offsite**
- Step 10** Select the desired schedule from the **Schedule** drop-down list.
- Step 11** To activate this backup task, select the **Enable this task in Policy** checkbox. To disable this backup task without deleting it, you can clear this checkbox.
- Step 12** Click **OK**.

Configuring Authentication on the Exchange Server

Access between the SonicWALL CDP appliance and the Exchange server where the user mailboxes reside can be configured to require authentication credentials or not. When you add an application object for a user mailbox backup, you can choose to add authentication credentials if required by the Exchange server. In either case, you can use the Authentication dialog box to test the connection between the SonicWALL CDP appliance and the Exchange server.



Note

If no authentication credentials are entered, the actual backup process uses the local SYSTEM account to access the Microsoft Exchange database.

Before configuring a User Mailbox application object to use credentials when accessing the Exchange server, you must first configure the credentials on the Exchange server. The user name must have appropriate privileges to access user mailbox data on the Exchange server.



Note

For Exchange 2010, configure authentication with **<your_domain>\Administrator**. When ready to restore a backed up user mailbox, login to the server agent as *Administrator*.

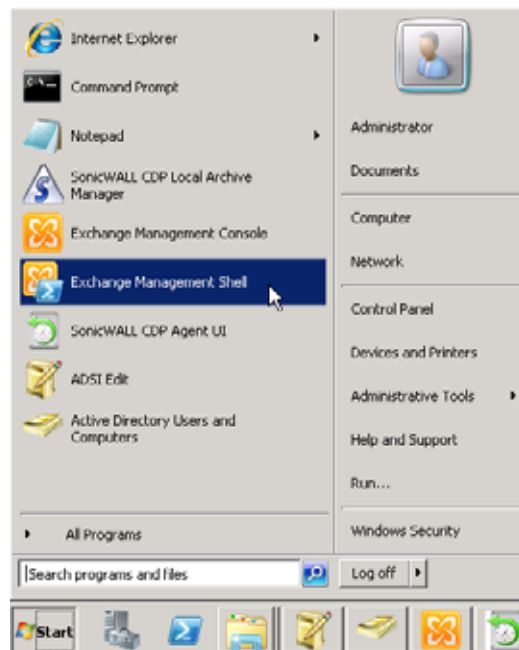
The procedure below provides basic instructions for configuring authentication with the Administrator user. For more information about configuring users and access privileges on Microsoft Exchange, see the following Microsoft knowledge base articles:

<http://support.microsoft.com/kb/821897>

<http://support.microsoft.com/kb/556045>

To configure the Administrator account for authentication, perform the following steps:

Step 1 Open the Exchange Management Shell on the server.



The welcome screen displays, followed by a command prompt.

Step 2 Type the following at the prompt:


New-ManagementRoleAssignment -Role "Mailbox Import Export" -User "Administrator"

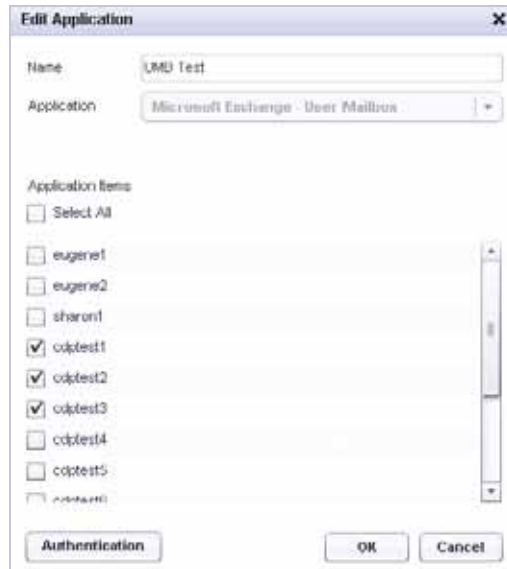
Removing User Mailboxes from the Backup Task

This section describes how to remove a user mailbox from the list of mailboxes scheduled for backup.

To remove a user mailbox from the backup task, perform the following steps:

- Step 1** In the SonicWALL CDP Agent User Interface, click the **Policies** tab.
- Step 2** In the left pane, select **Applications**.

- Step 3** In the right pane, click the Edit button  for the application object you wish to edit. The Edit Application window opens.



- Step 4** Clear the checkbox for the mailbox you wish to delete.
- Step 5** Click **OK**.

Verifying User Mailbox Backup Activity

This section describes how to tell if your user mailbox backups are working correctly. You can view log entries showing the backups in the **Status** page of the SonicWALL CDP Agent User Interface.

You should see log entries showing backups right after the first scheduled backup after creating a backup task for one or more user mailboxes, and then after each scheduled backup.

If you are watching the **Status** page during the backup, you will first see the backup task appear multiple times (for each mailbox) in the **Backup Events** table. When all individual backup events are finished, the backup task appears in the **FileSet and Application Events** table as completed.

The screenshot shows the SonicWALL Continuous Data Protection Agent Tool interface. The top bar includes the SonicWALL logo and version 6.0. The main interface has a left sidebar with tabs: Status, My Backups, Policies, and Help. The Status tab is selected, showing Agent Information on the left and two event tables on the right.

Agent Information

Appliance	10.0.16.166
Agent	VMAN2KREF-R2-01
Agent State	Normal
File Count	33
Size	521 MB
Size on Disk	37.9 MB
Quota	80.0 GB
Policy Name	Default Policy


Backup Events

Task	Name	Start Time	Duration	Status
Exch2010 UMB Backup	75E380CE-73C6-4AB0-9	2011-02-22 17:01:53	00:00:23	Completed
Exch2010 UMB Backup	75E380CE-73C6-4AB0-9	2011-02-22 17:01:20	00:00:33	Completed
Exch2010 UMB Backup	75E380CE-73C6-4AB0-9	2011-02-22 17:00:26	00:00:53	Completed
Exch2010 Backup Task	app (75f1eac4-15f7-4bc	2011-02-22 16:50:35	00:00:01	Completed
Exch2010 Backup Task	app backup document.s	2011-02-22 16:50:35	00:00:01	Completed
Exch2010 Backup Task	BD1.chk	2011-02-22 16:50:35	00:00:01	Completed
Exch2010 Backup Task	BD1tmp.log	2011-02-22 16:50:35	00:00:01	Completed
Exch2010 Backup Task	BD1000001BD.log	2011-02-22 16:50:35	00:00:01	Completed

FileSet and Application Events

Task	Finish Time	Status
Exch2010 UMB Backup	2011-02-22 17:02:16	Successful
Exch2010 Backup Task	2011-02-22 16:50:35	Successful
Exch2010 Backup Task	2011-02-22 16:36:50	Successful
Exchange InfoStore	2011-02-22 15:45:41	Successful
Exchange InfoStore	2011-02-22 15:31:20	Successful

To verify user mailbox backups:

- Step 1** In the SonicWALL CDP Agent User Interface, click the **Status** tab.
- Step 2** Optionally, to view backup status on a different appliance, click the change appliance button  in the left pane.
- Step 3** View the backup status in the right pane.

Backing Up Exchange 2010 InfoStore

You can backup and restore Microsoft Exchange InfoStore databases by using the SonicWALL CDP Microsoft Exchange InfoStore Backup and Restore server application in the SonicWALL CDP Agent User Interface. The InfoStore databases are backed up onto your SonicWALL CDP appliance.

For Microsoft Exchange 2010 on Windows Server 2008, SonicWALL CDP supports backup and restore on a multi-application, single server deployment, in which the same server has several applications installed, such as Exchange, SQL, and Active Directory.

In the Agent User Interface, you can create a **Microsoft Exchange - InfoStore** application object for one or more databases, input the login credentials for the Exchange server, configure a backup schedule, create a backup task, optionally select offsite backup, and restore databases back to the Exchange server. For information about restoring InfoStore databases, see the [“Restoring Exchange 2010 InfoStore” section on page 104](#).

**Note**

The SonicWALL CDP appliance must be licensed for server applications. On the SonicWALL CDP 110, 210, and 220 platforms, this feature requires the purchase of the SonicWALL CDP 5 Server Applications License upgrade. This license allows you to back up five applications that are installed on your server, such as Exchange, SQL, Active Directory, and others.

The SonicWALL CDP Microsoft Exchange InfoStore Backup and Restore feature includes the following capabilities:

- Ability to set and manage the backup schedule
- Optional automatic backup to an offsite location
- Retention of multiple backup versions

How Does InfoStore Backup and Restore Work?

The SonicWALL CDP Microsoft Exchange InfoStore Backup and Restore feature is implemented as a server application that is automatically discovered by the SonicWALL CDP Agent User Interface. To get started using the feature, select the **Policies** tab and then select **Applications** in the left pane of the Agent User Interface. To backup Microsoft Exchange databases, you must configure an application object, a schedule, and a backup task that includes both the application object and the schedule.

**Note**

Exchange 2010 InfoStore does not use storage groups, as are used with Exchange 2007/2003 InfoStore, but provides direct access to the databases for backup and restore.


The InfoStore application allows you to add or remove individual Microsoft Exchange databases for backup, set backup schedules, restore specific backups of the Exchange server, and configure offsite backup. You can view log entries in the SonicWALL CDP Agent User Interface on the **Status** tab to verify that backups are successful.

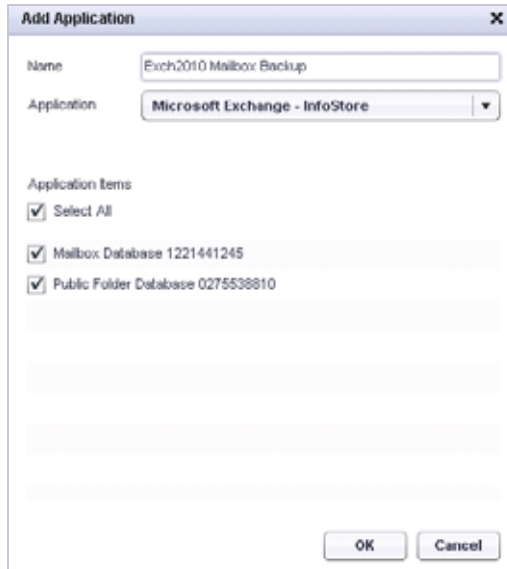
Adding an InfoStore Application Object

To backup InfoStore databases, you must configure an application object, a schedule, and a backup task that includes both the application object and the schedule. This section describes how to create the application object.

To create an application object for Microsoft Exchange InfoStore backup, perform the following steps:

-
- Step 1** In the SonicWALL CDP Agent User Interface, click the **Policies** tab.
- Step 2** In the left pane, click **Applications**.

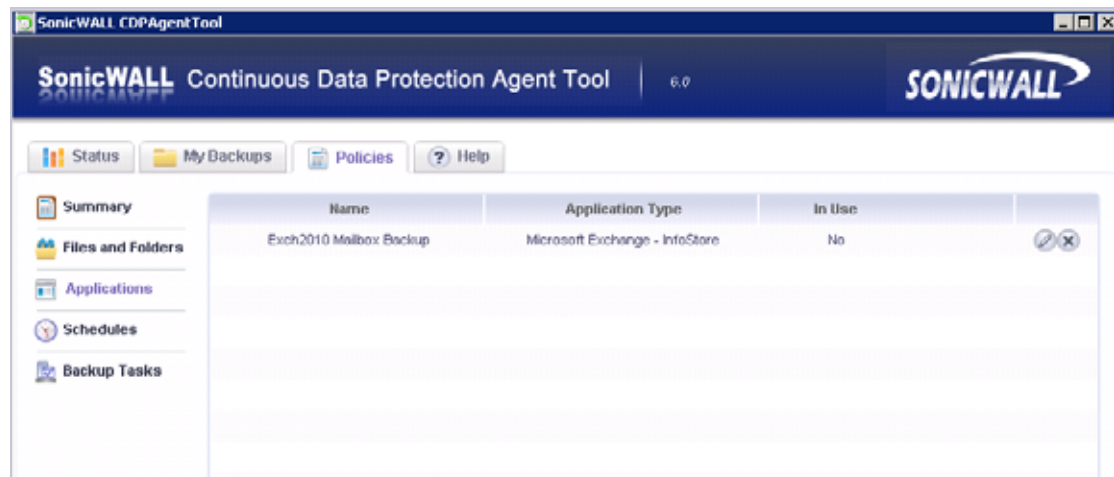
- Step 3** In the right pane, click the Plus button  at the lower right corner. The Add Application window opens.



The 'Add Application' dialog box contains the following fields and options:

- Name:** Exch2010 Mailbox Backup
- Application:** Microsoft Exchange - InfoStore (selected from a dropdown menu)
- Application Items:**
 - ☒ Select All
 - ☒ Mailbox Database 1221441245
 - ☒ Public Folder Database 0275538810
- Buttons:** OK, Cancel

- Step 4** Type a descriptive name for the application object into the **Name** field.
- Step 5** Select **Microsoft Exchange - InfoStore** in the **Application** drop-down list. The list of available applications is automatically populated through a discovery process. For proper discovery, the Microsoft Volume Shadow Copy and VSS Writer services must not be disabled.
- Step 6** Under **Application items**, select the checkboxes for one or more databases to back up. It is not required to back up all databases with the same backup task. For large databases, you might want to schedule separate backups at different times.
- Step 7** In the Add Application window, click **OK** to add the application object.
- The new application object appears in the **Policies** screen of the Agent User Interface.



Note

Before the backup will occur, you must also configure a schedule for this application object, and a backup task that includes both the application object and the schedule.

Scheduling Backups for InfoStore

A schedule is required when creating an Application backup task to backup Exchange InfoStore databases. You can use the same schedule object in more than one backup task.

For instructions on creating a schedule object, see the [“Creating Schedules for Application Backups” section on page 57](#).

Configuring a Backup Task for InfoStore Backups

A backup task includes both an application object and a schedule for the backup. Without a backup task, no backups will occur.


For offsite backup, you can choose the **Send All Files Offsite** option when adding or editing a backup task.



Note

Before creating a backup task, create the application object and schedule to be included in the task.

To create a backup task for an InfoStore backup, perform the following steps:


- Step 1** In the SonicWALL CDP Agent User Interface, click the **Policies** tab.
- Step 2** In the left pane, select **Backup Tasks**.
- Step 3** In the right pane, click the Plus button  at the lower right corner. The Add Backup Task window opens.

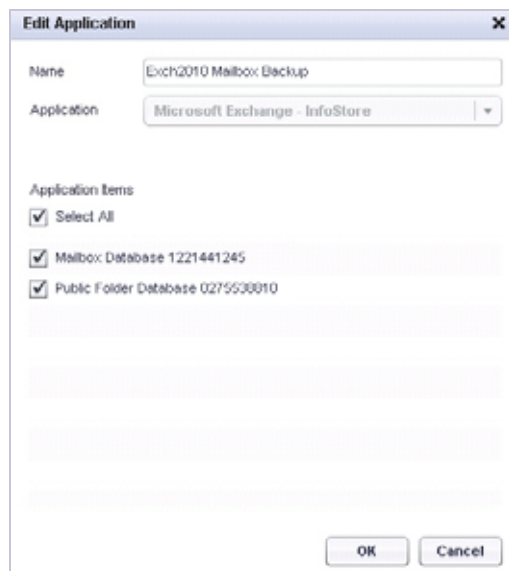
- Step 4** Type a descriptive name for the backup task into the **Name** field.
- Step 5** Select **Application** from the **Select File Type** drop-down list.
- Step 6** Select the desired application object from the **Application Data** drop-down list.
- Step 7** Type the desired number of backup revisions to keep into the **Number of Versions** field. The default is 2.
- Step 8** The **Trimming Algorithm** field is not configurable for Application policies. The field displays the type of trimming algorithm in use.

- Step 9** In the **Offsite** drop-down list, select one of the following options:
- **Send all Files Offsite** – Offsite backup settings must already be configured in the SonicWALL CDP Web Management Interface, and the offsite appliance must be available.
 - **Do Not Send Files Offsite** – No files will be sent offsite.
- Step 10** Select the desired schedule from the **Schedule** drop-down list.
- Step 11** To activate this backup task, select the **Enable this task in Policy** checkbox. To disable this backup task without deleting it, you can clear this checkbox.
- Step 12** Click **OK**.

Removing a Database from the Backup Task

To remove a storage group from the list of groups scheduled for backup, perform the following steps:

- Step 1** In the SonicWALL CDP Agent User Interface, click the **Policies** tab.
- Step 2** In the left pane, select **Applications**.
- Step 3** In the right pane, click the Edit button  for the application object you wish to edit. The Edit Application window opens.



- Step 4** Clear the checkbox for the database you wish to delete.
- Step 5** Click **OK**.

Verifying InfoStore Backup Activity

This section describes how to tell if your Microsoft Exchange backups are working correctly. You can view log entries showing the backups in the **Status** page of the SonicWALL CDP Agent User Interface.

You should see log entries showing backups after each scheduled backup after creating a backup task for one or more InfoStore databases. If you are watching the **Status** page during the backup, you will first see the backup task appear multiple times in the **Backup Events** table. When all individual backup events are finished, the backup task appears in the **FileSet and Application Events** table as completed.

Agent Information

Appliance	10.0.16.166
Agent	VM-VZKDEE-R2-01
Agent State	Normal
File Count	22
Size	325 MB
Size on Disk	27.2 MB
Quota	80.0 GB
Policy Name	Default Policy


Backup Events

Task	Name	Start Time	Duration	Status
Exch2010 Backup Task	app.(76fe1ac4-15f7-4bc	2011-02-22 16:36:49	00:00:01	Completed
Exch2010 Backup Task	app.backup.document.xn	2011-02-22 16:36:49	00:00:01	Completed
Exch2010 Backup Task	E01.chk	2011-02-22 16:36:49	00:00:01	Completed
Exch2010 Backup Task	E01tmp.log	2011-02-22 16:36:49	00:00:01	Completed
Exch2010 Backup Task	E0100000189.log	2011-02-22 16:36:48	00:00:01	Completed
Exch2010 Backup Task	E0100000189.log	2011-02-22 16:36:48	00:00:01	Completed
Exch2010 Backup Task	E0100000187.log	2011-02-22 16:36:47	00:00:01	Completed

FileSet and Application Events

Task	Finish Time	Status
Exchange InfoStore	2011-02-22 15:45:41	Successful
Exchange InfoStore	2011-02-22 15:31:20	Successful
Exchange InfoStore	2011-02-22 15:16:03	Successful
Exchange InfoStore	2011-02-22 15:00:33	Successful
Exchange InfoStore	2011-02-22 14:48:12	Successful

To verify an InfoStore backup:

- Step 1** In the SonicWALL CDP Agent User Interface, click the **Status** tab.
- Step 2** Optionally, to view backup status on a different appliance, click the change appliance button  in the left pane. This only applies if the agent has previously backed up files on a different appliance.
- Step 3** View the backup status in the right pane.

Backing Up Exchange 2007/2003 User Mailboxes

You can backup individual user mailboxes by using the Microsoft Exchange User Mailbox Backup and Restore server application in the SonicWALL CDP Agent User Interface. The user mailbox is backed up onto your SonicWALL CDP appliance.

For Microsoft Exchange 2010 on Windows Server 2008, SonicWALL CDP supports backup and restore on a multi-application, single server deployment, in which the same server has several applications installed, such as Exchange, SQL Server, and Active Directory.

In the Agent User Interface, you can create a **Microsoft Exchange - User Mailbox** application object for one or more user mailboxes, input the login credentials for the Exchange server, configure a backup schedule, create a backup task, optionally select offsite backup, and restore individual user mailboxes to the Exchange server. For information about restoring a user mailbox, see the [“Restoring an Exchange 2007/2003 User Mailbox” section on page 107](#).

The User Mailbox Backup and Restore feature includes the following capabilities:

- Convenient interface for adding user mailboxes to or deleting them from the backup process
- Ability to set the backup schedule for a group of mailboxes or for individual user mailboxes
- Secure login using credentials to the Microsoft Exchange server
- Optional automatic backup of user mailboxes to an offsite location
- Retention of multiple backups for each user mailbox

User Mailbox Backup and Restore backs up and restores messages in the user's Outlook Mailbox, including the Inbox, Drafts, Deleted Items, and Sent Items, as well as messages within all other folders with custom names.

It does not back up the Outlook Calendar, Notes, Contacts, Tasks, Meeting Requests, and Public Folders. It also does not back up locally archived folders.

See the following sections:

- [“How Does User Mailbox Backup and Restore Work?” section on page 76](#)
- [“Adding User Mailboxes to an Application Object” section on page 77](#)
- [“Scheduling Backups for User Mailboxes” section on page 78](#)
- [“Configuring a Backup Task for User Mailbox Backups” section on page 78](#)
- [“Configuring and Testing Access to the Exchange Server” section on page 79](#)
- [“Removing User Mailboxes from the Backup Task” section on page 80](#)
- [“Verifying User Mailbox Backup Activity” section on page 80](#)

How Does User Mailbox Backup and Restore Work?

The SonicWALL CDP Microsoft Exchange User Mailbox Backup and Restore feature is implemented as a server application that is automatically discovered by the SonicWALL CDP Agent User Interface. To get started using the feature, select the **Policies** tab and then select **Applications** in the left pane of the Agent User Interface. To backup user mailboxes, you must configure an application object, a schedule, and a backup task that includes both the application object and the schedule.


The User Mailbox application allows you to add or delete individual user mailboxes for backup, set backup schedules, restore specific backups of individual mailboxes, enter credentials for accessing the Exchange server, and select offsite backup. You can view log entries in the SonicWALL CDP Agent User Interface on the **Status** tab to verify that backups are successful.

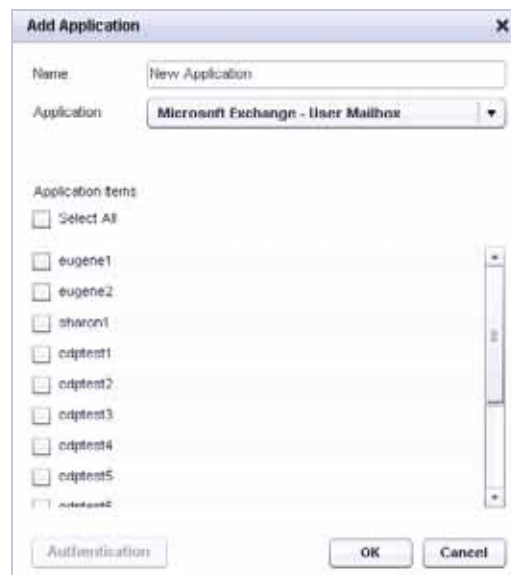
Adding User Mailboxes to an Application Object

To backup user mailboxes, you must configure an application object, a schedule, and a backup task that includes both the application object and the schedule. This section describes how to create the application object.

You can test the connection to the Exchange Server by clicking the **Authentication** button while adding or editing an application object. It is not necessary to enter any authentication credentials to test the connection.

To create an application object with individual user mailboxes for backup, perform the following steps:

-
- Step 1** In the SonicWALL CDP Agent User Interface, click the **Policies** tab.
 - Step 2** In the left pane, click **Applications**.
 - Step 3** In the right pane, click the Plus button  at the lower right corner. The Add Application window opens.



- Step 4** Type a descriptive name for the application object into the **Name** field.
- Step 5** Select **Microsoft Exchange - User Mailbox** in the **Application** drop-down list. The list of available applications is automatically populated through a discovery process. For proper discovery, the Microsoft Volume Shadow Copy service must not be disabled. See the 'Backup and Recovery Troubleshooting' section in the *SonicWALL CDP Administrator's Guide* for more information.
- Step 6** Under **Application items**, select the checkboxes for one or more user mailboxes to back up.

- Step 7** If authentication credentials are required to access the Exchange server, or to test the connections to the Exchange server, click the **Authentication** button. The Authentication dialog box opens.



- Step 8** In the Authentication dialog box, type the domain\username into the **Username** field and type the password into the **Password** field.
- Step 9** To test the connection between the User Mailbox application and the Exchange server, either with or without credentials, click the **Test Connection** button.
- Step 10** When finished entering the authentication credentials, click **Save**. Click **Cancel** to close the dialog box without saving anything.
- Step 11** In the Add Application window, click **OK** to add the application object.
The new application object appears in the **Policies** screen of the Agent User Interface.



Note

Before the backup will occur, you must also configure a schedule for this application object, and a backup task that includes both the application object and the schedule.

Scheduling Backups for User Mailboxes

A schedule is required when creating an Application backup task to backup user mailboxes. You can use the same schedule object in more than one backup task.

For instructions on creating a schedule object, see the [“Creating Schedules for Application Backups” section on page 57](#).

Configuring a Backup Task for User Mailbox Backups

A backup task includes both an application object and a schedule for the backup. Without a backup task, no backups will occur.

For offsite backup, you can choose the **Send All Files Offsite** option when adding or editing a backup task.




Note

Before creating a backup task, create the application object and schedule to be included in the task.

To create a backup task for a user mailbox backup, perform the following steps:

- Step 1** In the SonicWALL CDP Agent User Interface, click the **Policies** tab.
- Step 2** In the left pane, select **Backup Tasks**.

- Step 3** In the right pane, click the Plus button  at the lower right corner. The Add Backup Task window opens.



- Step 4** Type a descriptive name for the backup task into the **Name** field.
- Step 5** Select **Application** from the **Select File Type** drop-down list.
- Step 6** Select the desired application object from the **Application Data** drop-down list.
- Step 7** Type the desired number of backup revisions to keep into the **Number of Versions** field. The default is 2.
- Step 8** The **Trimming Algorithm** field is not configurable for Application policies. The field displays the type of trimming algorithm in use.
- Step 9** In the **Offsite** drop-down list, select one of the following options:
- **Send all Files Offsite** – Offsite backup settings must already be configured in the SonicWALL CDP Web Management Interface, and the offsite appliance must be available.
 - **Do Not Send Files Offsite** – No files will be sent offsite.
- Step 10** Select the desired schedule from the **Schedule** drop-down list.
- Step 11** To activate this backup task, select the **Enable this task in Policy** checkbox. To disable this backup task without deleting it, you can clear this checkbox.
- Step 12** Click **OK**.

Configuring and Testing Access to the Exchange Server

Access between the SonicWALL CDP appliance and the Exchange server where the user mailboxes reside can be configured to require authentication credentials or not. When you add an application object for a user mailbox backup, you can choose to add authentication credentials if required by the Exchange server. In either case, you can use the Authentication dialog box to test the connection between the SonicWALL CDP appliance and the Exchange server.



Note

If no authentication credentials are entered, the actual backup process uses the local SYSTEM account to access the Microsoft Exchange database.

Before configuring a User Mailbox application object to use credentials when accessing the Exchange server, you must first configure the credentials on the Exchange server. The user name must have appropriate privileges to access user mailbox data on the Exchange server. For more information about configuring users and access privileges on Microsoft Exchange, see the following Microsoft knowledge base articles:


<http://support.microsoft.com/kb/821897>

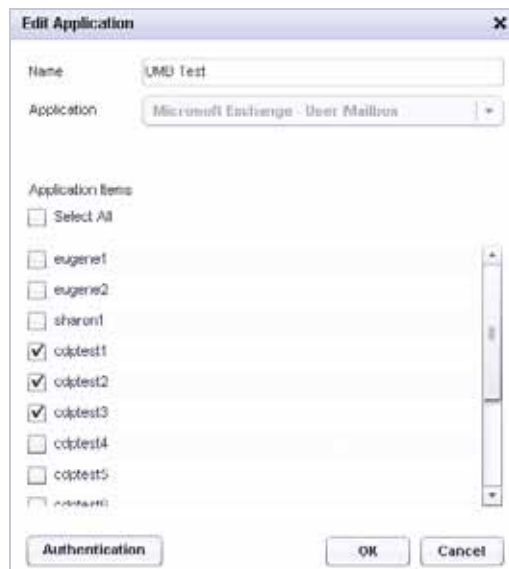
<http://support.microsoft.com/kb/556045>

Removing User Mailboxes from the Backup Task

This section describes how to remove a user mailbox from the list of mailboxes scheduled for backup.

To remove a user mailbox from the backup task, perform the following steps:

- Step 1** In the SonicWALL CDP Agent User Interface, click the **Policies** tab.
- Step 2** In the left pane, select **Applications**.
- Step 3** In the right pane, click the Edit button  for the application object you wish to edit. The Edit Application window opens.




- Step 4** Clear the checkbox for the mailbox you wish to delete.
- Step 5** Click **OK**.

Verifying User Mailbox Backup Activity

This section describes how to tell if your user mailbox backups are working correctly by viewing log entries showing the backups in the **Status** page of the SonicWALL CDP Agent User Interface.

You should see log entries showing backups right after the first scheduled backup after creating a backup task for one or more user mailboxes, and then after each scheduled backup.

-
- Step 1** In the SonicWALL CDP Agent User Interface, click the **Status** tab.
- Step 2** Optionally, to view backup status on a different appliance, click the change appliance button  in the left pane.
- Step 3** View the backup status in the right pane.

Backing Up Exchange 2007/2003 Storage Groups

You can backup and restore a Microsoft Exchange Storage Group by using the SonicWALL CDP Microsoft Exchange InfoStore Backup and Restore server application in the SonicWALL CDP Agent User Interface. The Storage Group, or InfoStore, is backed up onto your SonicWALL CDP appliance.

For Microsoft Exchange 2010 on Windows Server 2008, SonicWALL CDP supports backup and restore on a multi-application, single server deployment, in which the same server has several applications installed, such as Exchange, SQL Server, and Active Directory.

In the Agent User Interface, you can create a **Microsoft Exchange - InfoStore** application object for one or more storage groups, input the login credentials for the Exchange server, configure a backup schedule, create a backup task, optionally select offsite backup, and restore storage groups back to the Exchange server. For information about restoring a Storage Group, see the [“Restoring an Exchange 2007/2003 Storage Group” section on page 110](#).



Note

The SonicWALL CDP appliance must be licensed for server applications. On the SonicWALL CDP 110 and 210 platforms, this feature requires the purchase of the SonicWALL CDP 110/210 5 Server Applications License upgrade. This license allows you to back up five applications that are installed on your server, such as Exchange, SQL Server, Active Directory, and others.

The SonicWALL CDP Microsoft Exchange InfoStore Backup and Restore feature includes the following capabilities:

- Ability to set and manage the backup schedule
- Optional automatic backup to an offsite location
- Retention of multiple backup versions

See the following sections:

- [“How Does InfoStore Backup and Restore Work?” section on page 82](#)
- [“Installation Prerequisites” section on page 82](#)
- [“Adding a Storage Group Application Object” section on page 82](#)
- [“Scheduling Backups for Storage Groups” section on page 83](#)
- [“Configuring a Backup Task for Storage Group Backups” section on page 83](#)
- [“Removing a Storage Group from the Backup Task” section on page 85](#)
- [“Verifying InfoStore Backup Activity” section on page 85](#)

How Does InfoStore Backup and Restore Work?

The SonicWALL CDP Microsoft Exchange InfoStore Backup and Restore feature is implemented as a server application that is automatically discovered by the SonicWALL CDP Agent User Interface. To get started using the feature, select the **Policies** tab and then select **Applications** in the left pane of the Agent User Interface. To backup a storage group, you must configure an application object, a schedule, and a backup task that includes both the application object and the schedule.

The InfoStore application allows you to add or remove individual Microsoft Exchange Storage Groups for backup, set backup schedules, restore specific backups of the Exchange server, and configure offsite backup. You can view log entries in the SonicWALL CDP Agent User Interface on the **Status** tab to verify that backups are successful.

Installation Prerequisites

This section lists the necessary prerequisites for successful operation of the **Microsoft Exchange - InfoStore** server application on the SonicWALL CDP Agent User Interface.

ESE Backup Client DLL/ CDOEXM Requirements

SonicWALL CDP uses the Exchange Backup and Restore API to access Microsoft Exchange. The Microsoft ESE Backup Client DLL (EsEbCli2.dll) should be installed along with Microsoft Exchange, and must be accessible by SonicWALL CDP Web Management Interface and Agent User Interface. The Collaboration Data Objects for Exchange Management (CDOEXM) APIs are also used to automate the restore procedure, but not required by this feature.

You can copy the EsEbCli2.dll file from your Microsoft installation disk, or download it from Microsoft, or copy it manually from another location into the SonicWALL Continuous Data Protection folder where the Agent client was installed. The default program installation folder location is:

C:\Program Files\SonicWALL\SonicWALL Continuous Data Protection



Note


Version 8.1.240.3 of EsEbcli2.dll is required by SonicWALL CDP.

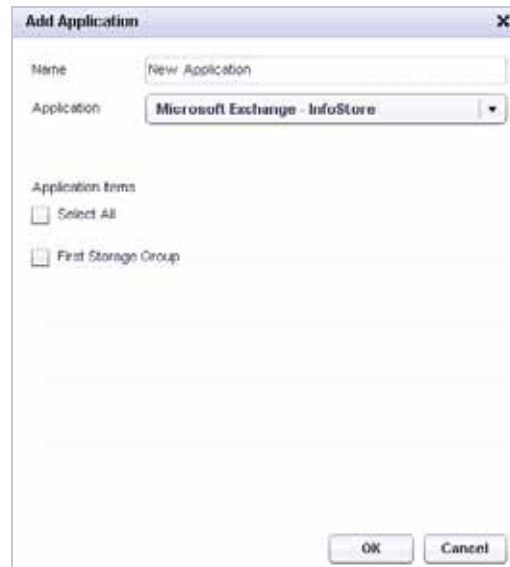
Adding a Storage Group Application Object

To backup a storage group, you must configure an application object, a schedule, and a backup task that includes both the application object and the schedule. This section describes how to create the application object.

To create an application object for Microsoft Exchange Storage Group backup, perform the following steps:

- Step 1** In the SonicWALL CDP Agent User Interface, click the **Policies** tab.
- Step 2** In the left pane, click **Applications**.

- Step 3** In the right pane, click the Plus button  at the lower right corner. The Add Application window opens.



- Step 4** Type a descriptive name for the application object into the **Name** field.
- Step 5** Select **Microsoft Exchange - InfoStore** in the **Application** drop-down list. The list of available applications is automatically populated through a discovery process. For proper discovery, the Microsoft Volume Shadow Copy and VSS Writer services must not be disabled. See the 'Backup and Recovery Troubleshooting' section in the *SonicWALL CDP Administrator's Guide* for more information.
- Step 6** Under **Application items**, select the checkboxes for one or more storage groups to back up.
- Step 7** In the Add Application window, click **OK** to add the application object.
- The new application object appears in the **Policies** screen of the Agent User Interface.

**Note**

Before the backup will occur, you must also configure a schedule for this application object, and a backup task that includes both the application object and the schedule.

Scheduling Backups for Storage Groups

A schedule is required when creating an Application backup task to backup Exchange storage groups. You can use the same schedule object in more than one backup task.

For instructions on creating a schedule object, see the [“Creating Schedules for Application Backups” section on page 57](#).

Configuring a Backup Task for Storage Group Backups


A backup task includes both an application object and a schedule for the backup. Without a backup task, no backups will occur.

For offsite backup, you can choose the **Send All Files Offsite** option when adding or editing a backup task.



Note Before creating a backup task, create the application object and schedule to be included in the task.

To create a backup task for a storage group backup, perform the following steps:


- Step 1** In the SonicWALL CDP Agent User Interface, click the **Policies** tab.
- Step 2** In the left pane, select **Backup Tasks**.
- Step 3** In the right pane, click the Plus button  at the lower right corner. The Add Backup Task window opens.

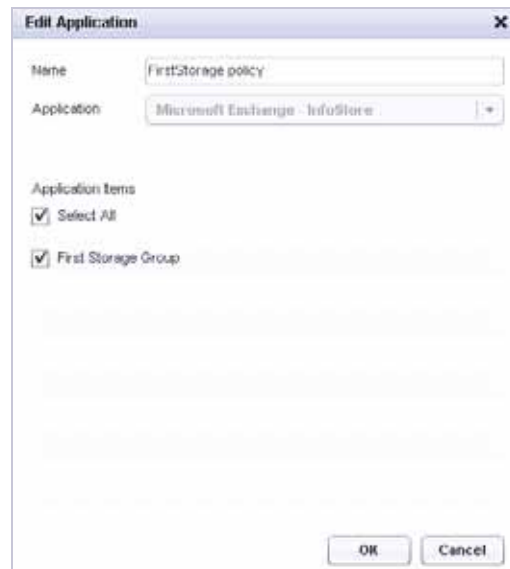


- Step 4** Type a descriptive name for the backup task into the **Name** field.
- Step 5** Select **Application** from the **Select File Type** drop-down list.
- Step 6** Select the desired application object from the **Application Data** drop-down list.
- Step 7** Type the desired number of backup revisions to keep into the **Number of Versions** field. The default is 2.
- Step 8** The **Trimming Algorithm** field is not configurable for Application policies. The field displays the type of trimming algorithm in use.
- Step 9** In the **Offsite** drop-down list, select one of the following options:
 - **Send all Files Offsite** – Offsite backup settings must already be configured in the SonicWALL CDP Web Management Interface, and the offsite appliance must be available.
 - **Do Not Send Files Offsite** – No files will be sent offsite.
- Step 10** Select the desired schedule from the **Schedule** drop-down list.
- Step 11** To activate this backup task, select the **Enable this task in Policy** checkbox. To disable this backup task without deleting it, you can clear this checkbox.
- Step 12** Click **OK**.

Removing a Storage Group from the Backup Task

To remove a storage group from the list of groups scheduled for backup, perform the following steps:

- Step 1** In the SonicWALL CDP Agent User Interface, click the **Policies** tab.
- Step 2** In the left pane, select **Applications**.
- Step 3** In the right pane, click the Edit button  for the application object you wish to edit. The Edit Application window opens.




- Step 4** Clear the checkbox for the storage group you wish to delete.
- Step 5** Click **OK**.

Verifying InfoStore Backup Activity

This section describes how to tell if your Microsoft Exchange backups are working correctly. You can view log entries showing the backups in the **Status** page of the SonicWALL CDP Agent User Interface.

You should see log entries showing backups after each scheduled backup after creating a backup task for one or more storage groups.

- Step 1** In the SonicWALL CDP Agent User Interface, click the **Status** tab.
- Step 2** Optionally, to view backup status on a different appliance, click the change appliance button  in the left pane. This only applies if the agent has previously backed up files on a different appliance.
- Step 3** View the backup status in the right pane.

Backing Up SharePoint

Backing up Microsoft SharePoint using SonicWALL CDP allows users to store and retrieve SharePoint database revisions from an agent machine. SharePoint databases are configured for backup using the SonicWALL CDP Agent User Interface.



Note

SharePoint backup can only be configured using the Agent User Interface.

The application used for SharePoint backup is **Microsoft SQL Server/SharePoint**, as SharePoint uses Microsoft SQL databases. The default SQL master, model, and msdb databases are required for SharePoint, and SharePoint creates other SQL databases as well. Microsoft SQL can be installed on the same or on another Windows Server machine.

Name	Size	Type	Date Modified	Attributes
master.mdf	4,096 KB	SQL Server Database	2/17/2011 2:20 PM	A
mastlog.ldf	2,016 KB	SQL Server Database	2/17/2011 2:20 PM	A
model.mdf	1,216 KB	SQL Server Database	2/17/2011 2:20 PM	A
modellog.ldf	512 KB	SQL Server Database	2/17/2011 2:20 PM	A
msdbdata.mdf	60,160 KB	SQL Server Database	2/19/2011 6:11 PM	A
msdblog.ldf	6,272 KB	SQL Server Database	2/17/2011 2:20 PM	A
SharedServices1_DB_5a7ce8...	8,384 KB	SQL Server Database	2/17/2011 2:20 PM	A
SharedServices1_DB_5a7ce8...	4,224 KB	SQL Server Database	2/17/2011 2:20 PM	A
SharedServices1_Search_DB...	24,768 KB	SQL Server Database	2/17/2011 2:22 PM	A
SharedServices1_Search_DB...	3,840 KB	SQL Server Database	2/17/2011 2:22 PM	A
SharedServicesContent_fd9b...	14,520 KB	SQL Server Database	2/17/2011 2:20 PM	A
SharedServicesContent_fd9b...	3,840 KB	SQL Server Database	2/17/2011 2:20 PM	A
SharePoint_AdminContent_83...	63,680 KB	SQL Server Database	2/17/2011 2:20 PM	A
SharePoint_AdminContent_83...	4,672 KB	SQL Server Database	2/17/2011 2:20 PM	A
SharePoint_Config_32127ad9...	8,384 KB	SQL Server Database	2/17/2011 2:20 PM	A
SharePoint_Config_32127ad9...	1,536 KB	SQL Server Database	2/17/2011 2:20 PM	A
WSS_Content.mdf	22,720 KB	SQL Server Database	2/17/2011 2:20 PM	A
WSS_Content_log.LDF	11,200 KB	SQL Server Database	2/17/2011 2:20 PM	A
WSS_Search_VM-W2K3SE-R2...	52,416 KB	SQL Server Database	2/17/2011 2:20 PM	A
WSS_Search_VM-W2K3SE-R2...	26,016 KB	SQL Server Database	2/17/2011 2:20 PM	A

SonicWALL recommends backing up all SharePoint databases together, rather than backing up individual databases separately.

For information about restoring SharePoint databases, see the [“Restoring SharePoint” section on page 114](#).


See the following sections for SharePoint backup procedures:

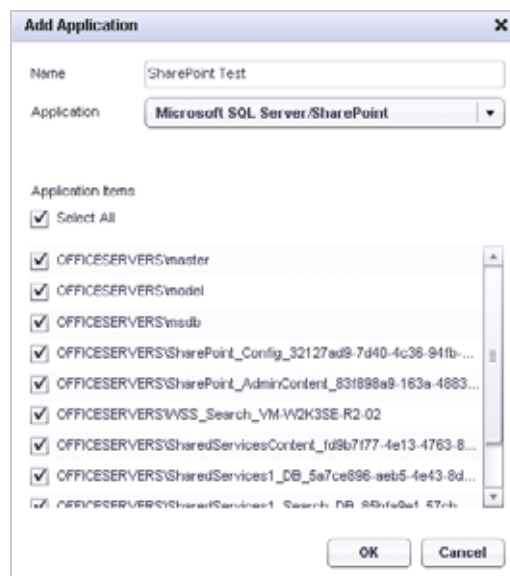
- [“Creating an Application Object for SharePoint” section on page 87](#)
- [“Scheduling Backups for SharePoint” section on page 88](#)
- [“Configuring a Backup Task for SharePoint” section on page 88](#)
- [“Verifying SharePoint Backup Activity” section on page 89](#)

Creating an Application Object for SharePoint

To backup Microsoft SharePoint, you must configure an application object, a schedule, and a backup task that includes both the application object and the schedule. This section describes how to create the application object.

To backup SharePoint using the Agent User Interface, perform the following steps:

- Step 1** Open the **SonicWALL Agent User Interface** on the SharePoint server.
- Step 2** In the SonicWALL CDP Agent User Interface, click the **Policies** tab.
- Step 3** In the left pane, click **Applications**.
- Step 4** In the right pane, click the Plus button  at the lower right corner. The Add Application window opens.



- Step 5** Type a descriptive name for the application object into the **Name** field.
- Step 6** Select **Microsoft SQL Server/SharePoint** in the **Application** drop-down list. The list of available applications is automatically populated through a discovery process. For proper discovery, the Microsoft Volume Shadow Copy service must not be disabled.
- Step 7** Under **Application items**, select the checkboxes for one or more SharePoint databases to back up. SonicWALL recommends selecting the **Select All** checkbox to ensure that all associated files are backed up for SharePoint.
- Step 8** In the Add Application window, click **OK** to add the application object.

The new application object appears in the **Policies** screen of the Agent User Interface.



Note

Before the backup will occur, you must also configure a schedule for this application object, and a backup task that includes both the application object and the schedule.

Scheduling Backups for SharePoint

A schedule is required when creating an Application backup task to backup Microsoft SharePoint. You can use the same schedule object in more than one backup task.

For instructions on creating a schedule object, see the [“Creating Schedules for Application Backups” section on page 57](#).

Configuring a Backup Task for SharePoint

A backup task includes both an application object and a schedule for the backup. Without a backup task, no backups will occur.


For offsite backup, you can choose the **Send All Files Offsite** option when adding or editing a backup task.



Note

Before creating a backup task, create the application object and schedule to be included in the task.

To create a backup task for a SharePoint backup, perform the following steps:

- Step 1** In the SonicWALL CDP Agent User Interface, click the **Policies** tab.
- Step 2** In the left pane, select **Backup Tasks**.
- Step 3** In the right pane, click the Plus button  at the lower right corner. The Add Backup Task window opens.


- Step 4** Type a descriptive name for the backup task into the **Name** field.
- Step 5** Select **Application** from the **Select File Type** drop-down list.
- Step 6** Select the desired application object from the **Application Data** drop-down list.
- Step 7** Type the desired number of backup revisions to keep into the **Number of Versions** field. The default is 2.
- Step 8** The **Trimming Algorithm** field is not configurable for Application policies. The field displays the type of trimming algorithm in use.

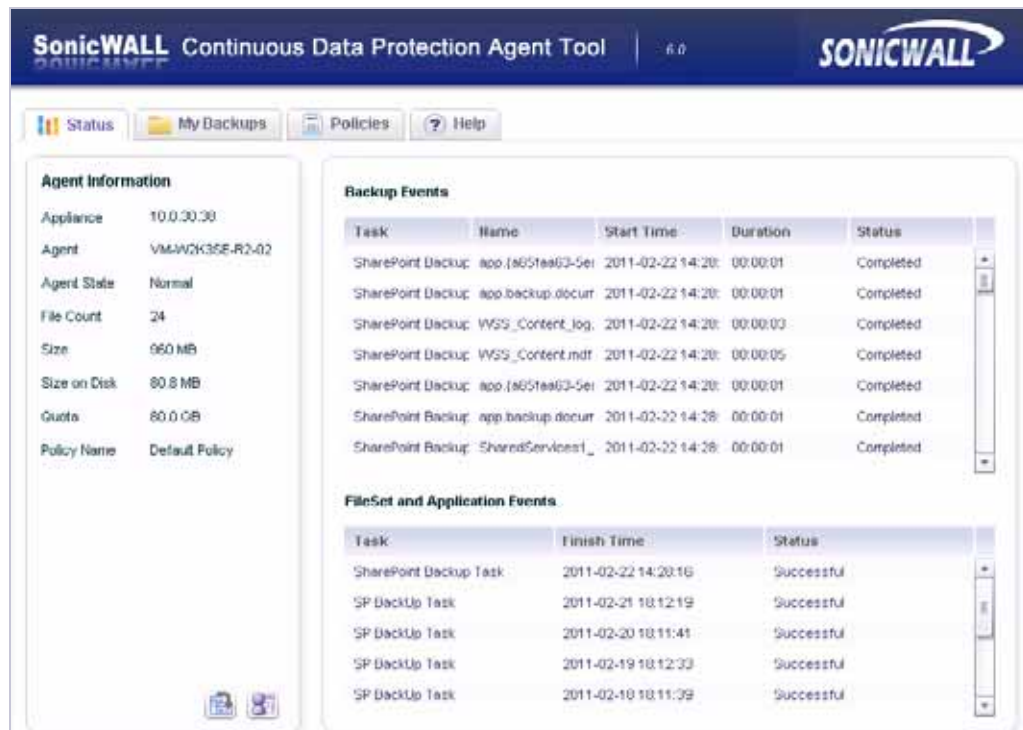
- Step 9** In the **Offsite** drop-down list, select one of the following options:
- **Send all Files Offsite** – Offsite backup settings must already be configured in the SonicWALL CDP Web Management Interface, and the offsite appliance must be available.
 - **Do Not Send Files Offsite** – No files will be sent offsite.
- Step 10** Select the desired schedule from the **Schedule** drop-down list.
- Step 11** To activate this backup task, select the **Enable this task in Policy** checkbox. To disable this backup task without deleting it, you can clear this checkbox.
- Step 12** Click **OK**.

Verifying SharePoint Backup Activity

This section describes how to tell if your Microsoft SharePoint backups are working correctly. You can view log entries showing the backups in the **Status** page of the SonicWALL CDP Agent User Interface.

You should see log entries showing backups after each scheduled backup after creating a backup task for SharePoint.

- Step 1** In the SonicWALL CDP Agent User Interface, click the **Status** tab.
- Step 2** Optionally, to view backup status on a different appliance, click the change appliance button  in the left pane.
- Step 3** View the backup status in the right pane.



SonicWALL Continuous Data Protection Agent Tool | 6.0

Status | My Backups | Policies | Help

Agent Information

Appliance	10.0.0.30
Agent	VMWACK35E-R2-02
Agent State	Normal
File Count	24
Size	960 MB
Size on Disk	80.8 MB
Quota	80.0 GB
Policy Name	Default Policy

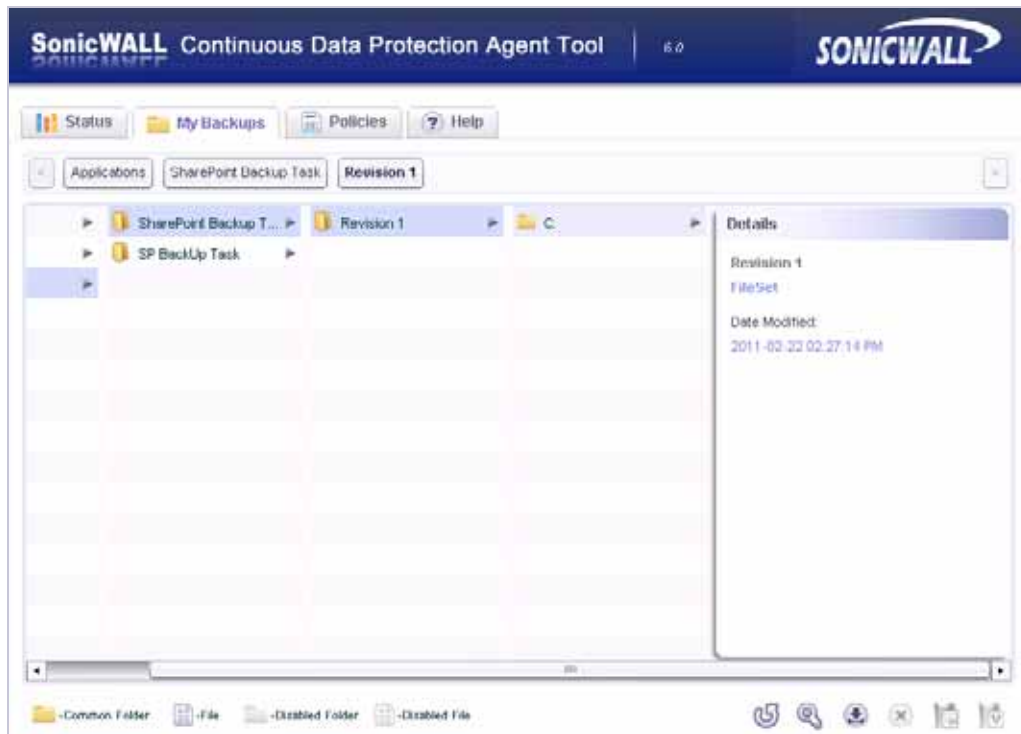
Backup Events

Task	Name	Start Time	Duration	Status
SharePoint Backup	app.(a65f6a63-5e)	2011-02-22 14:20	00:00:01	Completed
SharePoint Backup	app.backup.docurr	2011-02-22 14:20	00:00:01	Completed
SharePoint Backup	WSS_Content_log	2011-02-22 14:20	00:00:03	Completed
SharePoint Backup	WSS_Content.mdf	2011-02-22 14:20	00:00:05	Completed
SharePoint Backup	app.(a65f6a63-5e)	2011-02-22 14:20	00:00:01	Completed
SharePoint Backup	app.backup.docurr	2011-02-22 14:28	00:00:01	Completed
SharePoint Backup	SharedServices1_	2011-02-22 14:28	00:00:01	Completed

FileSet and Application Events

Task	Finish Time	Status
SharePoint Backup Task	2011-02-22 14:20:16	Successful
SP Backup Task	2011-02-21 10:12:19	Successful
SP Backup Task	2011-02-20 10:11:41	Successful
SP Backup Task	2011-02-19 10:12:33	Successful
SP Backup Task	2011-02-19 10:11:39	Successful

Step 4 Click the **My Backups** tab and view the list of backup revisions.



Backing up System State and Active Directory

Active Directory is included within the System State application object in SonicWALL CDP 6.0 and higher. When creating a System State application object, you can select components, including Active Directory, to back up. This allows you to backup and recover Active Directory revisions from agent machines together with interdependent system files to provide a consistent environment.


See the following sections:

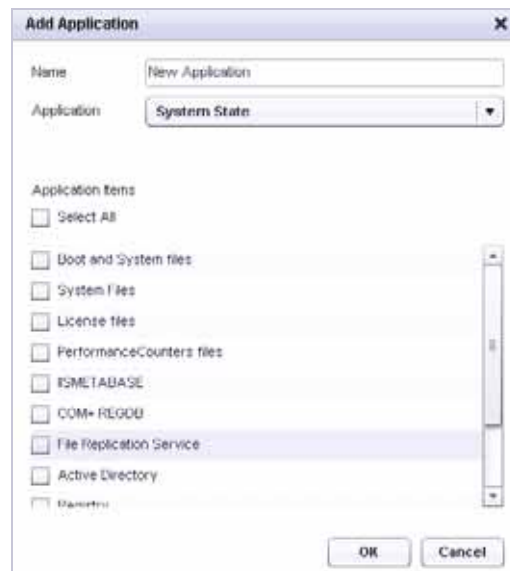
- [“Creating an Application Object for System State and Active Directory” section on page 91](#)
- [“Scheduling Backups for System State and Active Directory” section on page 92](#)
- [“Configuring a Backup Task for System State and Active Directory” section on page 92](#)
- [“Verifying System State and Active Directory Backup Activity” section on page 93](#)

Creating an Application Object for System State and Active Directory

To backup System State and Active Directory, you must configure an application object, a schedule, and a backup task that includes both the application object and the schedule. This section describes how to create the application object.

To backup System State and Active Directory using the Agent User Interface, perform the following steps:

- Step 1** Open the **SonicWALL Agent User Interface** on the Domain Controller.
- Step 2** In the SonicWALL CDP Agent User Interface, click the **Policies** tab.
- Step 3** In the left pane, click **Applications**.
- Step 4** In the right pane, click the Plus button  at the lower right corner. The Add Application window opens.



- Step 5** Type a descriptive name for the application object into the **Name** field.
- Step 6** Select **System State** in the **Application** drop-down list. The list of available applications is automatically populated through a discovery process. For proper discovery, the Microsoft Volume Shadow Copy service must not be disabled. See the 'Backup and Recovery Troubleshooting' section in the *SonicWALL CDP Administrator's Guide* for more information.
- Step 7** Under **Application items**, select the checkboxes for one or more System State components to back up. You can select **Active Directory** in this screen. SonicWALL recommends selecting the **Select All** checkbox to ensure that all associated System State files are backed up along with Active Directory.

The exact list of system components that make up your computer's System State data depend on the computer's operating system and configuration. For example, on a Windows Server you might see the following:

- Boot and System files
- System files
- License files
- PerformanceCounters files

- IISMETASBASE
- COM+REGDB
- File Replication Service
- Active Directory
- Registry
- Windows Management Instrumentation
- Event Logs

Step 8 In the Add Application window, click **OK** to add the application object.

The new application object appears in the **Policies** screen of the Agent User Interface.



Note

Before the backup will occur, you must also configure a schedule for this application object, and a backup task that includes both the application object and the schedule.

Scheduling Backups for System State and Active Directory

A schedule is required when creating an Application backup task to backup System State and Active Directory. You can use the same schedule object in more than one backup task.

For instructions on creating a schedule object, see the [“Creating Schedules for Application Backups” section on page 57](#).

Configuring a Backup Task for System State and Active Directory

A backup task includes both an application object and a schedule for the backup. Without a backup task, no backups will occur.

For offsite backup, you can choose the **Send All Files Offsite** option when adding or editing a backup task.




Note

Before creating a backup task, create the application object and schedule to be included in the task.

To create a backup task for a System State and Active Directory backup, perform the following steps:

Step 1 In the SonicWALL CDP Agent User Interface, click the **Policies** tab.

Step 2 In the left pane, select **Backup Tasks**.

- Step 3** In the right pane, click the Plus button  at the lower right corner. The Add Backup Task window opens.




- Step 4** Type a descriptive name for the backup task into the **Name** field.
- Step 5** Select **Application** from the **Select File Type** drop-down list.
- Step 6** Select the desired application object from the **Application Data** drop-down list.
- Step 7** Type the desired number of backup revisions to keep into the **Number of Versions** field. The default is 2.
- Step 8** The **Trimming Algorithm** field is not configurable for Application policies. The field displays the type of trimming algorithm in use.
- Step 9** In the **Offsite** drop-down list, select one of the following options:
- **Send all Files Offsite** – Offsite backup settings must already be configured in the SonicWALL CDP Web Management Interface, and the offsite appliance must be available.
 - **Do Not Send Files Offsite** – No files will be sent offsite.
- Step 10** Select the desired schedule from the **Schedule** drop-down list.
- Step 11** To activate this backup task, select the **Enable this task in Policy** checkbox. To disable this backup task without deleting it, you can clear this checkbox.
- Step 12** Click **OK**.

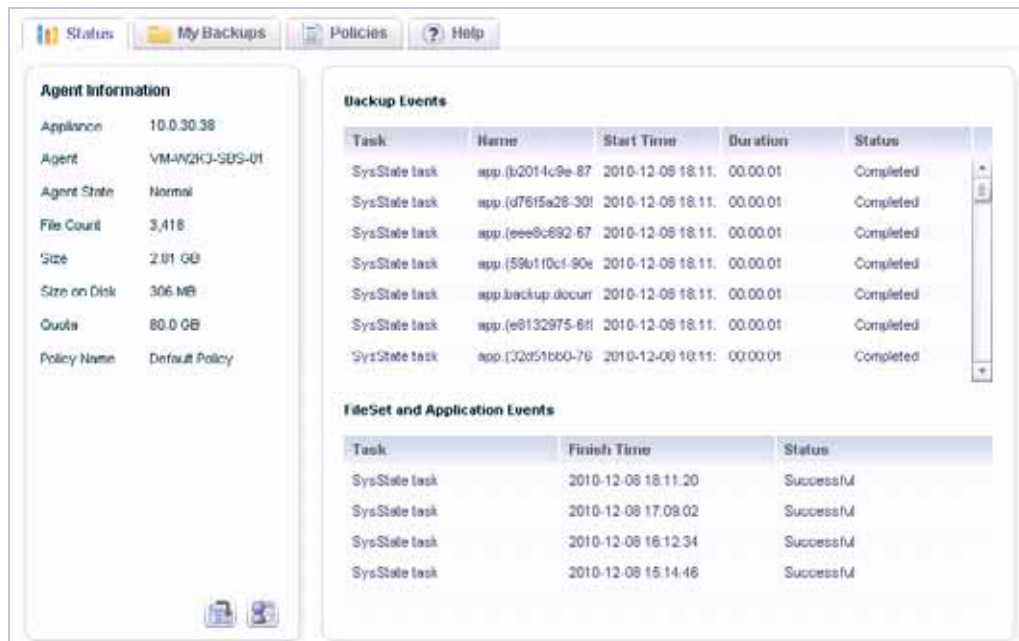
Verifying System State and Active Directory Backup Activity

This section describes how to tell if your System State backups are working correctly. You can view log entries showing the backups in the **Status** page of the SonicWALL CDP Agent User Interface.

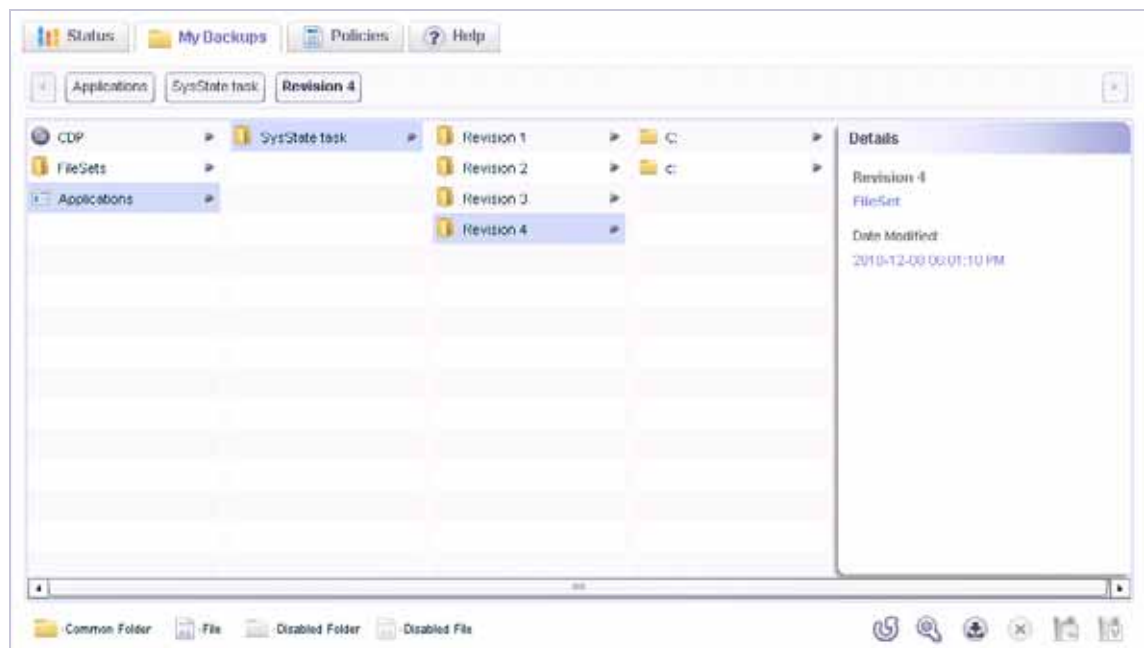
You should see log entries showing backups after each scheduled backup after creating a backup task for System State and Active Directory.

- Step 1** In the SonicWALL CDP Agent User Interface, click the **Status** tab.
- Step 2** Optionally, to view backup status on a different appliance, click the change appliance button  in the left pane.

Step 3 View the backup status in the right pane.



Step 4 Click the **My Backups** tab and view the list of backup revisions.



Backing up Microsoft SQL Server

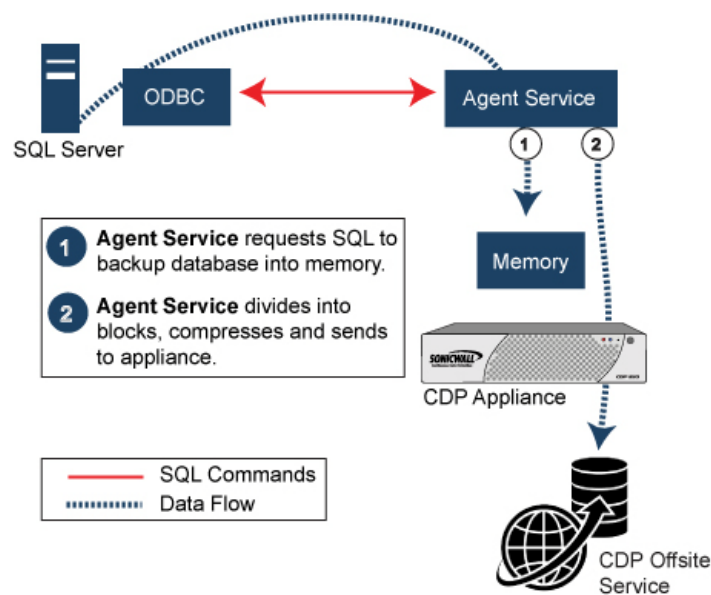
Backing up Microsoft SQL Server using SonicWALL CDP allows users to store and retrieve Microsoft SQL Server revisions from an agent machine. Microsoft SQL Server databases are configured for backup using the SonicWALL CDP Agent User Interface.



Note

Microsoft SQL Server backup can only be configured using the Agent User Interface.

During SQL Server backup and restore using CDP, the Agent Service directly interfaces with the server through the Open Database Connectivity (ODBC) API, using an SQL-ODBC driver that is installed with SQL Server. By ODBC, the Agent service communicates to the SQL server through transactional SQL commands.



When the SonicWALL CDP Agent Service backs up an SQL database, it instructs SQL to place the data in a certain location in memory. The Agent Service will then process the data one block at a time, compressing it and sending to the appliance.

The Agent Service first needs to connect to the database and authenticate, typically by using Windows user account credentials.

For more information about SQL backup and restore, see the *SonicWALL CDP Administrator's Guide*.


This section contains the following subsections:

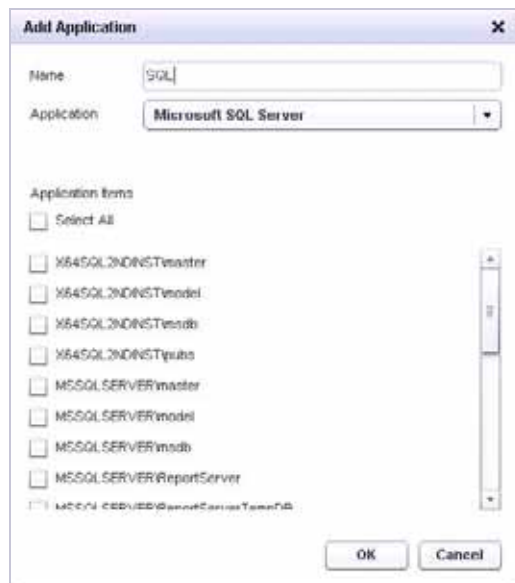
- [“Adding a SQL Server Backup Application Object” section on page 96](#)
- [“Scheduling Backups for Microsoft SQL Server” section on page 97](#)
- [“Configuring a Backup Task for Microsoft SQL Server Database Backups” section on page 97](#)
- [“Verifying Microsoft SQL Server Backup Activity” section on page 99](#)

Adding a SQL Server Backup Application Object

To backup Microsoft SQL Server databases, you must configure an application object, a schedule, and a backup task that includes both the application object and the schedule. This section describes how to create the application object.

To create an application object for Microsoft SQL Server database backup, perform the following steps:

- Step 1** Open the **SonicWALL Agent User Interface** on the SQL server.
- Step 2** In the SonicWALL CDP Agent User Interface, click the **Policies** tab.
- Step 3** In the left pane, click **Applications**.
- Step 4** In the right pane, click the Plus button  at the lower right corner. The Add Application window opens.



- Step 5** Type a descriptive name for the application object into the **Name** field.
- Step 6** Select either **Microsoft SQL Server** or **Microsoft SQL Server Desktop Engine (MSDE)** in the **Application** drop-down list. The list of available applications is automatically populated through a discovery process. For proper discovery, the Microsoft Volume Shadow Copy and VSS Writer services must not be disabled. See the 'Backup and Recovery Troubleshooting' section in the *SonicWALL CDP Administrator's Guide* for more information.
- Step 7** Under **Application items**, select the checkboxes for one or more databases to back up.
- Step 8** In the Add Application window, click **OK** to add the application object.
The new application object appears in the **Policies** screen of the Agent User Interface.



Note

Before the backup will occur, you must also configure a schedule for this application object, and a backup task that includes both the application object and the schedule.

Scheduling Backups for Microsoft SQL Server

A schedule is required when creating an Application backup task to backup Microsoft SQL Server databases. You can use the same schedule object in more than one backup task.

For instructions on creating a schedule object, see the [“Creating Schedules for Application Backups” section on page 57](#).

Configuring a Backup Task for Microsoft SQL Server Database Backups

A backup task includes both an application object and a schedule for the backup. Without a backup task, no backups will occur.


For offsite backup, you can choose the **Send All Files Offsite** option when adding or editing a backup task.



Note

Before creating a backup task, create the application object and schedule to be included in the task.

To create a backup task for Microsoft SQL Server database backup, perform the following steps:


- Step 1** In the SonicWALL CDP Agent User Interface, click the **Policies** tab.
- Step 2** In the left pane, select **Backup Tasks**.
- Step 3** In the right pane, click the Plus button  at the lower right corner. The Add Backup Task window opens.

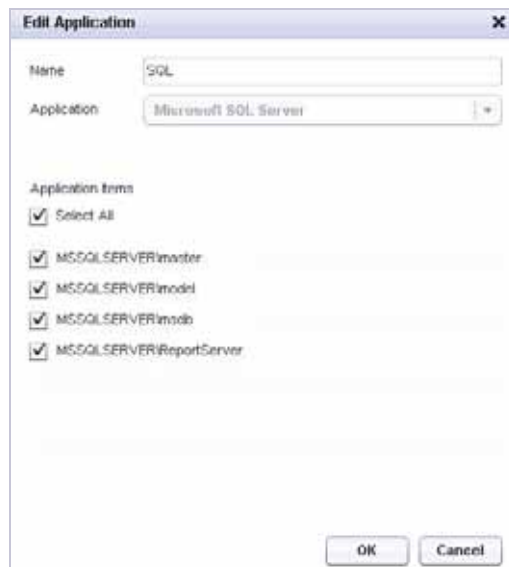
- Step 4** Type a descriptive name for the backup task into the **Name** field.
- Step 5** Select **Application** from the **Select File Type** drop-down list.
- Step 6** Select the desired application object from the **Application Data** drop-down list.
- Step 7** Type the desired number of backup revisions to keep into the **Number of Versions** field. The default is 2.

- Step 8** The **Trimming Algorithm** field is not configurable for Application policies. The field displays the type of trimming algorithm in use.
- Step 9** In the **Offsite** drop-down list, select one of the following options:
- **Send all Files Offsite** – Offsite backup settings must already be configured in the SonicWALL CDP Web Management Interface, and the offsite appliance must be available.
 - **Do Not Send Files Offsite** – No files will be sent offsite.
- Step 10** Select the desired schedule from the **Schedule** drop-down list.
- Step 11** To activate this backup task, select the **Enable this task in Policy** checkbox. To disable this backup task without deleting it, you can clear this checkbox.
- Step 12** Click **OK**.

Removing a SQL Database from the Backup Task

To remove a database from the list of SQL databases scheduled for backup, perform the following steps:

- Step 1** In the SonicWALL CDP Agent User Interface, click the **Policies** tab.
- Step 2** In the left pane, select **Applications**.
- Step 3** In the right pane, click the Edit button  for the application object you wish to edit. The Edit Application window opens.




- Step 4** Clear the checkbox for the database you wish to delete.
- Step 5** Click **OK**.

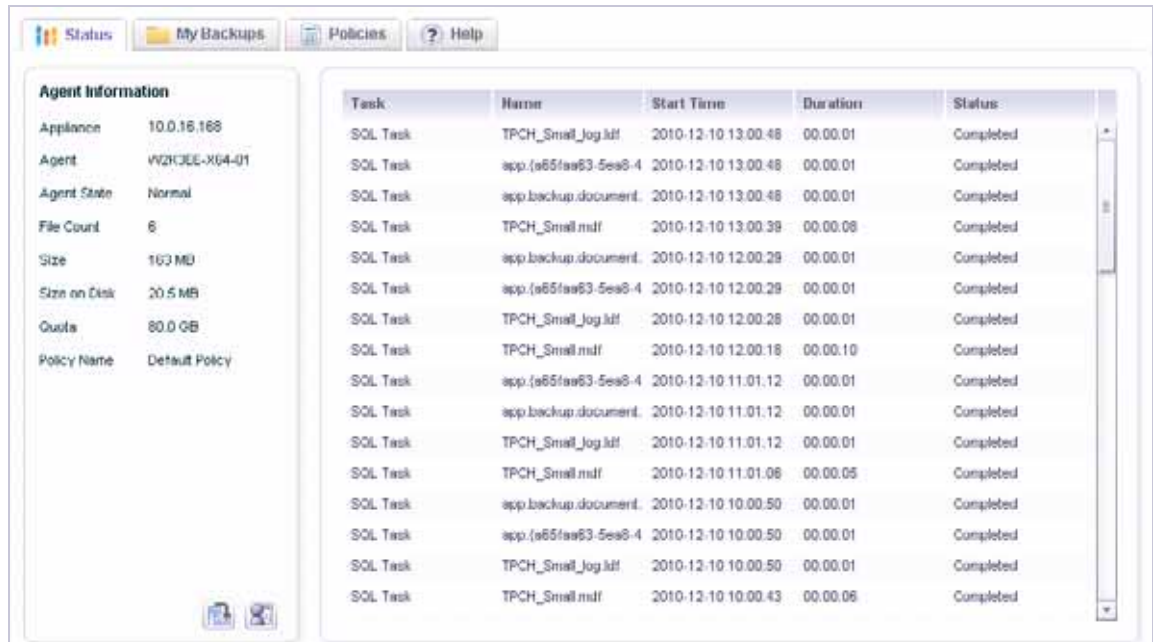
Verifying Microsoft SQL Server Backup Activity

This section describes how to tell if your Microsoft SQL Server backups are working correctly. You can view log entries showing the backups on the **Status** page of the SonicWALL CDP Agent User Interface.

You should see log entries showing backups after each scheduled backup after creating a backup task for SQL Server.

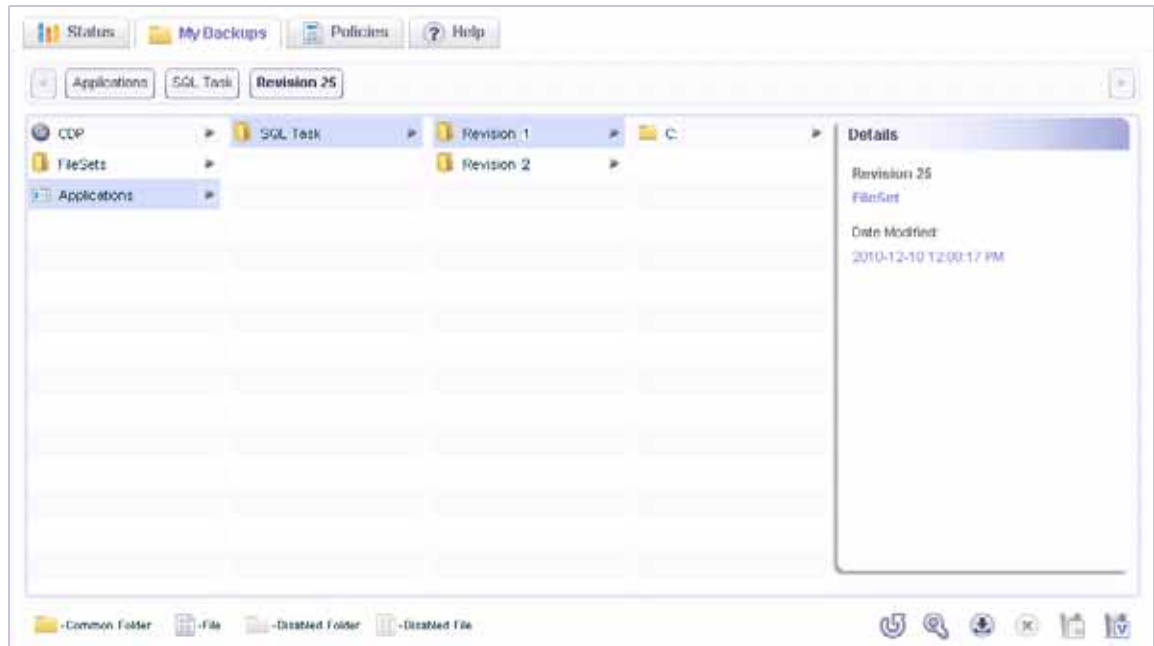
To view the status of SQL Server backups:

- Step 1** In the SonicWALL CDP Agent User Interface, click the **Status** tab.
- Step 2** Optionally, to view backup status on a different appliance, click the change appliance button  in the left pane.
- Step 3** View the backup status in the right pane.



Task	Name	Start Time	Duration	Status
SQL Task	TPCH_Small_log.ldf	2010-12-10 13:00:48	00:00:01	Completed
SQL Task	app.(a65faa63-5ea8-4	2010-12-10 13:00:48	00:00:01	Completed
SQL Task	app.backup.document.	2010-12-10 13:00:48	00:00:01	Completed
SQL Task	TPCH_Small.mdf	2010-12-10 13:00:39	00:00:08	Completed
SQL Task	app.backup.document.	2010-12-10 12:00:29	00:00:01	Completed
SQL Task	app.(a65faa63-5ea8-4	2010-12-10 12:00:29	00:00:01	Completed
SQL Task	TPCH_Small_log.ldf	2010-12-10 12:00:28	00:00:01	Completed
SQL Task	TPCH_Small.mdf	2010-12-10 12:00:18	00:00:10	Completed
SQL Task	app.(a65faa63-5ea8-4	2010-12-10 11:01:12	00:00:01	Completed
SQL Task	app.backup.document.	2010-12-10 11:01:12	00:00:01	Completed
SQL Task	TPCH_Small_log.ldf	2010-12-10 11:01:12	00:00:01	Completed
SQL Task	TPCH_Small.mdf	2010-12-10 11:01:06	00:00:05	Completed
SQL Task	app.backup.document.	2010-12-10 10:00:50	00:00:01	Completed
SQL Task	app.(a65faa63-5ea8-4	2010-12-10 10:00:50	00:00:01	Completed
SQL Task	TPCH_Small_log.ldf	2010-12-10 10:00:50	00:00:01	Completed
SQL Task	TPCH_Small.mdf	2010-12-10 10:00:43	00:00:06	Completed

Step 4 Click the **My Backups** tab and view the list of backup revisions.



Offsite Backup of SQL Server

Offsite Service backup of CDP can be selected at the agent level when configuring the backup task. This implies that all SQL Server instances and databases selected on the agent will be backed up to the Offsite Service.

You can view files backed up offsite by expanding the **Offsite** option while logged into the Agent as Administrator. For information about this, see the [“Using the Administrator File Browser” section on page 30](#).

Restoring Server Applications

When using SonicWALL CDP, if an agent should experience an event that results in data loss, you will be able to recover any data that you had defined for backup. In the event of agent data loss, data can be recovered directly from the SonicWALL CDP appliance.

In the event of a disaster that has rendered local data corrupted or destroyed, data can be recovered from the Offsite Service while logged into the Agent as Administrator. For information about this, see the [“Using the Administrator File Browser” section on page 30](#).

See the following sections:

- [“Restoring Data from Exchange 2010” section on page 101](#)
- [“Restoring Data from Exchange 2007/2003” section on page 107](#)
- [“Restoring SharePoint” section on page 114](#)
- [“Restoring System State and Active Directory” section on page 116](#)
- [“Restoring Data from Microsoft SQL Server” section on page 121](#)

Restoring Data from Exchange 2010

Recovery of data from Microsoft Exchange 2010 using SonicWALL CDP allows users to retrieve Microsoft Exchange revisions from an agent machine previously configured to backup that data.

See the following sections:

- [“Restoring Exchange 2010 User Mailboxes” section on page 101](#)
- [“Restoring Exchange 2010 InfoStore” section on page 104](#)

Restoring Exchange 2010 User Mailboxes

This section describes how to restore an individual user mailbox backup to the Exchange 2010 server, by using the Microsoft Exchange User Mailbox Backup and Restore server application in the SonicWALL CDP Agent User Interface.



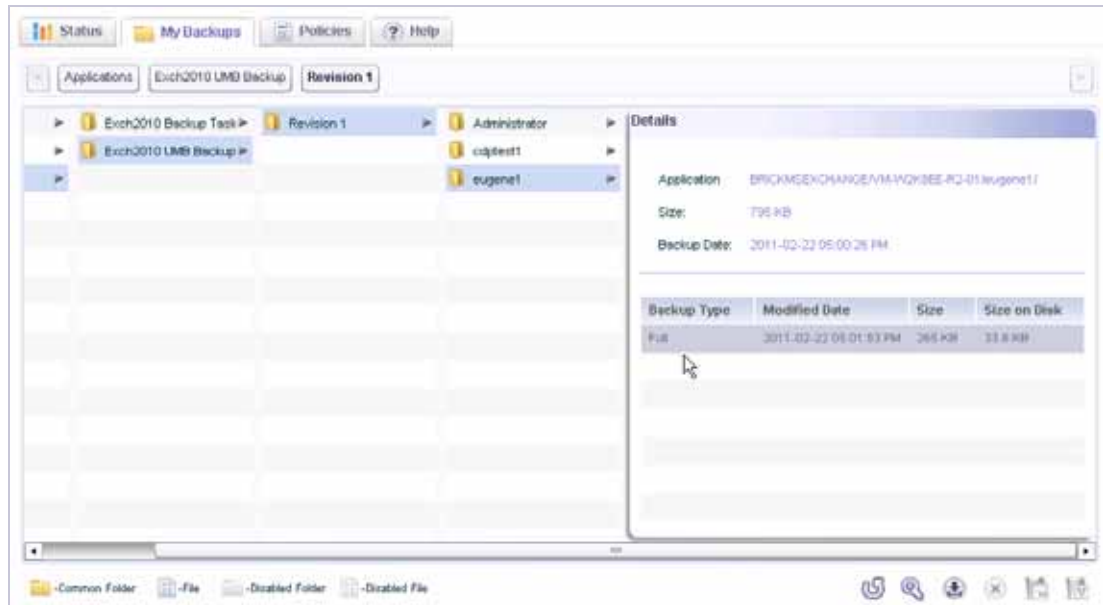
Note

You must log into the agent machine as **Administrator** before restoring a User Mailbox. For information about configuring the Administrator account for Exchange authentication, see [“Configuring Authentication on the Exchange Server” on page 66](#). For more information about account privileges to access the Exchange server, see [KB821897](#).

A mailbox must exist in Exchange in order for the restore to work properly. To restore an individual user mailbox to the Exchange server, perform the following steps:

-
- Step 1** In the SonicWALL CDP Agent User Interface, click the **My Backups** tab.

Step 2 In the left pane, click **Applications**. The display expands to show available backup tasks.



Step 3 Click the desired backup task. The available revisions are displayed.

Step 4 Click the desired revision. The root folder and details about the revision are displayed, including the date and time.



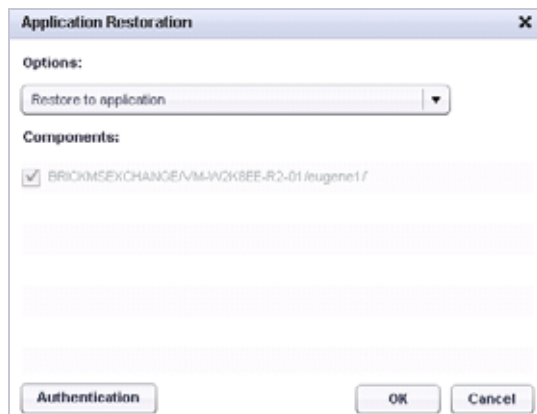
Note

To restore all user mailboxes contained in the revision, click the Restore icon and skip the next two steps.

Step 5 To restore a single user mailbox, click the desired user mailbox to restore. The Details are displayed.

Step 6 In the **Details** section, click to select the desired backup in the table in the lower area of the Details section, such as the **Full** backup of the mailbox.

Step 7 At the bottom right corner, click the Restore icon . The Application Restoration window opens.



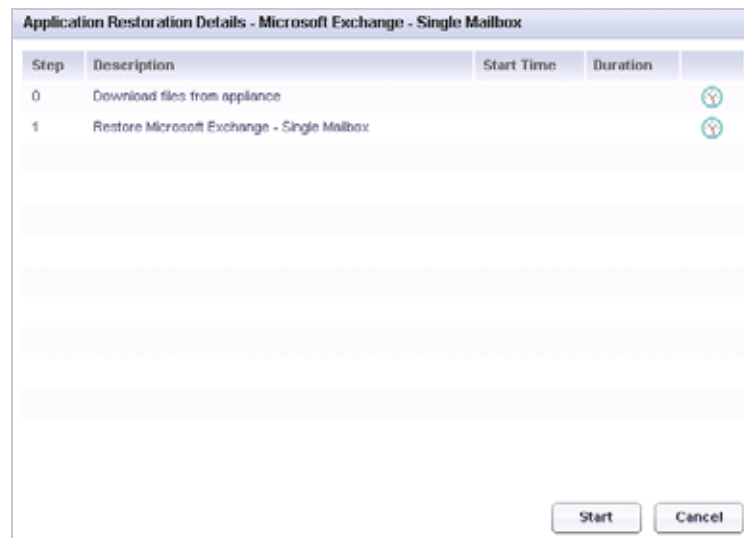
Step 8 For a *single user mailbox restoration*, select **Restore to application** from the **Options** drop-down list. No other option is available in this case.

When *restoring all mailboxes in a Revision*, select one of the following from the **Options** drop-down list:

- **Restore to original location** – This option restores the files to the Microsoft Exchange application location.
- **Restore to alternate location** – This option restores the files to the disk of the agent machine.

Step 9 Under **Components**, select the checkboxes for the user mailbox databases you want to restore. Select all databases to maintain consistency.

Step 10 Click **OK**. The Application Restoration Details window appears.



Step 11 The restoration steps are listed, along with a **Start Time** column, a **Duration** column, and an in-progress indicator. The steps are:

- **Download files from appliance**
- **Restore Microsoft Exchange - Single Mailbox**

To start the restore process, click **Start**. To exit without restoring any files, click **Cancel**.

The in-progress indicators become active for each step as it is executed, and the **Start Time** and **Duration** values are updated.

Application Restoration Details - Microsoft Exchange - Single Mailbox				
Step	Description	Start Time	Duration	
0	Download files from appliance	17:12:02	1 s	
1	Restore Microsoft Exchange - Single Mailbox	17:12:03	2 s	

Step 12 When the restore is finished, click **Close**.



Note

After the data is restored to the Exchange server, you may need to synchronize your local mail client (Outlook) in order to see restored emails.

Restoring Exchange 2010 InfoStore

You can restore Exchange 2010 InfoStore databases by using the SonicWALL CDP Microsoft Exchange InfoStore Backup and Restore server application in the SonicWALL CDP Agent User Interface.

This section describes how to restore an individual Storage Group. You can restore the Storage Group in two ways:

- Restore to Application - Copies the data directly to the Exchange database
- Restore to Disk - Copies the data to a folder on the local disk, then you can copy it to the Exchange database

A storage group must exist in Exchange in order for the restore to work properly.

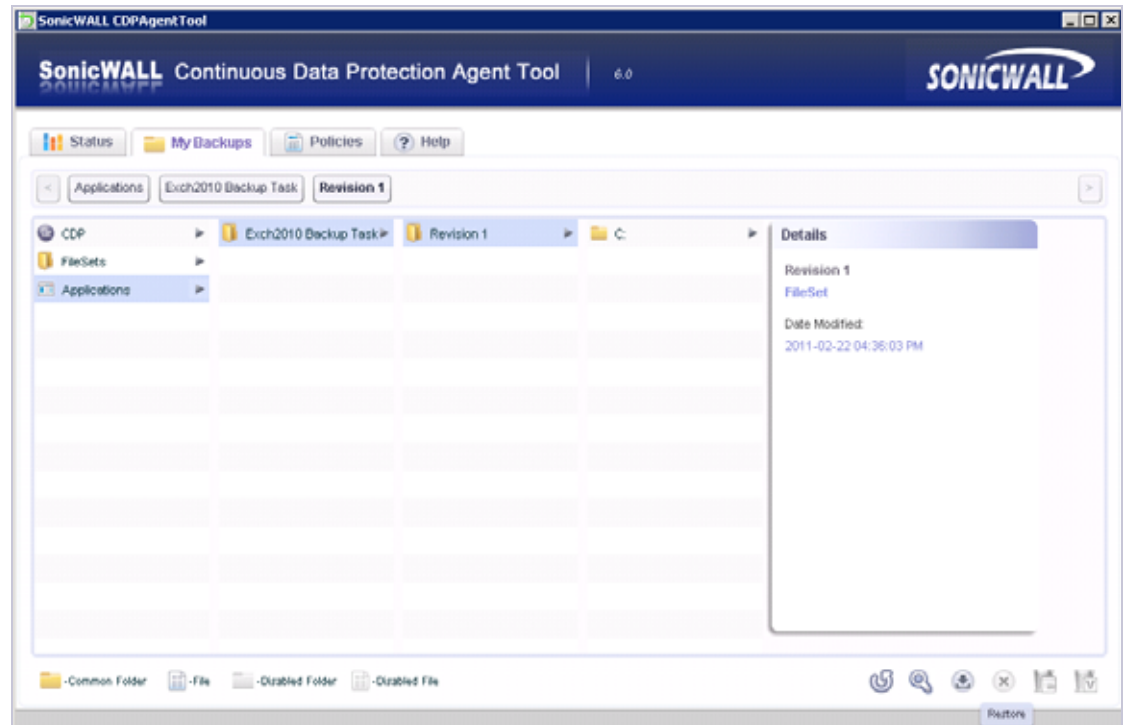
**Note**


The current account must have privileges to access the Exchange server. If authentication is configured for the Administrator account, login as Administrator to do the restore. For information about configuring the Administrator account for Exchange authentication, see [“Configuring Authentication on the Exchange Server” on page 66](#). See also [KB867704](#) and [KB824126](#).

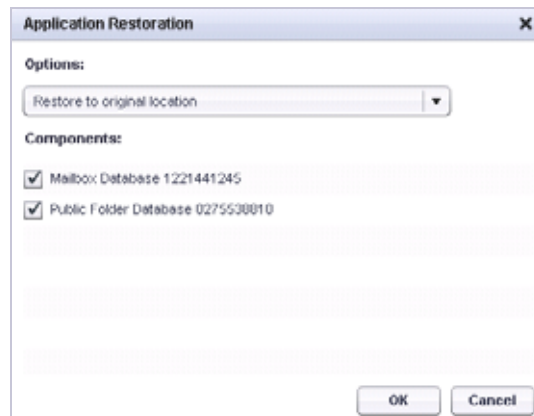
To restore InfoStore data using the SonicWALL CDP Agent User Interface, perform the following steps:

-
- Step 1** In the SonicWALL CDP Agent User Interface, click the **My Backups** tab.
 - Step 2** In the left pane, click **Applications**. The display expands to show available backup tasks.
 - Step 3** Click the desired backup task. The available revisions are displayed.

- Step 4** Click the desired revision. The root folder and details about the revision are displayed, including the date and time.

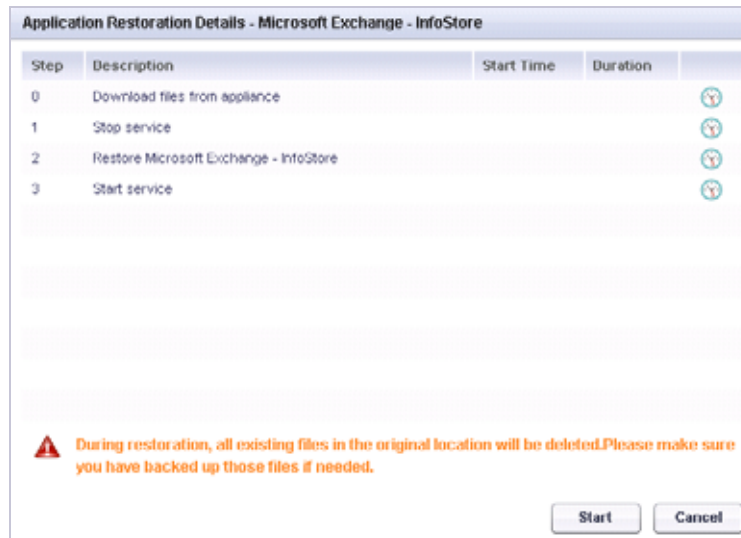


- Step 5** At the bottom right corner, click the Restore icon . The Application Restoration window opens.



- Step 6** In the **Options** drop-down list, select one of the following:
- **Restore to original location** – This option restores the files to the application in their original location in Microsoft Exchange.
 - **Restore to alternate location** – This option restores the files to the disk of the agent machine.
- Step 7** Under **Components**, select the checkboxes for the databases you want to restore.

Step 8 Click **OK**. The Application Restoration Details window appears.



Step 9 The restoration steps are listed, along with a **Start Time** column, a **Duration** column, and an in-progress indicator. The steps are:

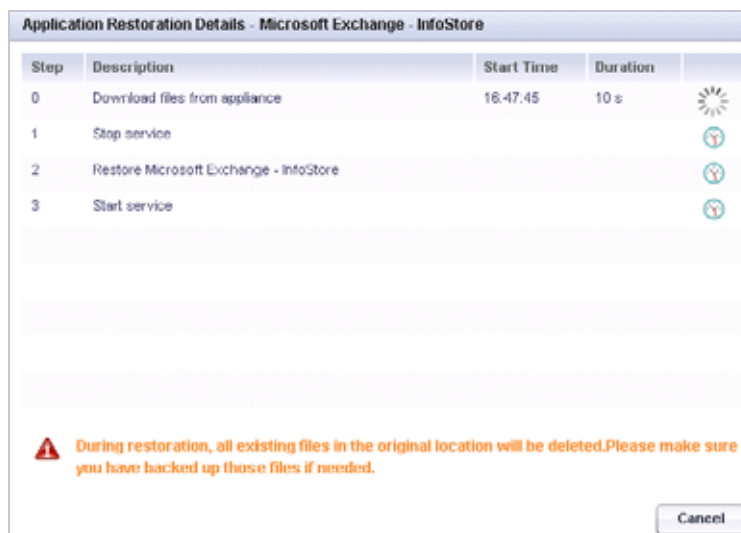
- **Download files from appliance**
- **Stop service**
- **Restore Microsoft Exchange - InfoStore**
- **Start Service**

A warning is also displayed:

During restoration, all existing files in the original location will be deleted. Please make sure you have backed up those files if needed.

To start the restore process, click **Start**. To exit without restoring any files, click **Cancel**.

The in-progress indicators become active for each step as it is executed, and the **Start Time** and **Duration** values are updated.



Step 10 When the restore is finished, click **Close**.

Application Restoration Details - Microsoft Exchange - InfoStore				
Step	Description	Start Time	Duration	
0	Download files from appliance	16:47:45	12 s	✓
1	Stop service	16:47:57	7 s	✓
2	Restore Microsoft Exchange - InfoStore	16:48:04	1 s	✓
3	Start service	16:48:05	1 s	✓

⚠ During restoration, all existing files in the original location will be deleted. Please make sure you have backed up those files if needed.

Close



Note

After the data is restored to the Exchange server, you may need to synchronize your local mail client (Outlook) in order to see restored emails.

Restoring Data from Exchange 2007/2003

Recovery of data from Microsoft Exchange 2007 or 2003 using SonicWALL CDP allows users to retrieve Microsoft Exchange revisions from an agent machine previously configured to backup that data.

See the following sections:

- “Restoring an Exchange 2007/2003 User Mailbox” section on page 107
- “Restoring an Exchange 2007/2003 Storage Group” section on page 110

Restoring an Exchange 2007/2003 User Mailbox

This section describes how to restore an individual user mailbox backup to the Exchange server, by using the Microsoft Exchange User Mailbox Backup and Restore server application in the SonicWALL CDP Agent User Interface.



Note

You must log into the agent machine as **cdpadmin** before restoring a User Mailbox. For more information about account privileges to access the Exchange server, see [KB821897](#).


A mailbox must exist in Exchange in order for the restore to work properly. For cases in which the mailbox has been deleted from Exchange, special procedures are necessary.

See the following sections:

- [“Restoring the Contents of an Existing Mailbox” on page 108](#)
- [“Restoring Deleted Mailboxes in Exchange 2003” on page 109](#)
- [“Restoring Deleted Mailboxes in Exchange 2007” on page 109](#)

Restoring the Contents of an Existing Mailbox

To restore an individual user mailbox to the Exchange server, perform the following steps:

-
- Step 1** In the SonicWALL CDP Agent User Interface, click the **My Backups** tab.
- Step 2** In the left pane, click **Applications**. The display expands to show available backup tasks.
- Step 3** Click the desired backup task. The available revisions are displayed.
- Step 4** Click the desired revision. The root folder and details about the revision are displayed, including the date and time.
- Step 5** At the bottom right corner, click the Restore icon .
- Step 6** In the **Restore Mailbox** dialog box, select the backup that you want to restore. The Application Restoration window opens.
- Step 7** In the **Options** drop-down list, select one of the following:
- **Restore to original location** – This option restores the files to the Microsoft Exchange application location.
 - **Restore to alternate location** – This option restores the files to the disk of the agent machine.
- Step 8** Under **Components**, select the checkboxes for the user mailboxes you want to restore.
- Step 9** Click **OK**. The Application Restoration Details window appears.
- Step 10** The restoration steps are listed, along with a **Start Time** column, a **Duration** column, and an in-progress indicator. The steps are:
- **Download files from appliance**
 - **Stop service**
 - **Restore Microsoft Exchange User Mailbox**
 - **Start Service**

A warning is also displayed:

During restoration, all existing files in the original location will be deleted. Please make sure you have backed up those files if needed.

To start the restore process, click **Start**. To exit without restoring any files, click **Cancel**.

The in-progress indicators become active for each step as it is executed, and the **Start Time** and **Duration** values are updated.

- Step 11** When the restore is finished, click **Close**.



Note

After the data is restored to the Exchange server, you may need to synchronize your local mail client (Outlook) in order to see restored emails.

Restoring Deleted Mailboxes in Exchange 2003

Once a mailbox is deleted from Exchange, there is no container to hold the emails, even though SonicWALL CDP has a copy of the mailbox backup. This container (in our case an empty mailbox) must be created prior to restoring the mailbox.

In Exchange 2003, you can either “purge” or “delete” a user mailbox. Mailbox deletion leaves the user account in Exchange, but purging a mailbox removes the user account from Exchange. In either case, the user account in Active Directory still exists (unless removed separately). See the following procedures for each case:

- [“Restoring a Deleted Mailbox in Exchange 2003” on page 109](#)
- [“Restoring a Purged Mailbox in Exchange 2003” on page 109](#)

Restoring a Deleted Mailbox in Exchange 2003

- Step 1** Log in as administrator to the Exchange server.
- Step 2** In Exchange, right-click the user mailbox and select **Reconnect**. This reconnects the mailbox to the Active Directory account.
- Step 3** Follow the instructions in the procedure [“Restoring the Contents of an Existing Mailbox” on page 108](#) to restore the mailbox.

Restoring a Purged Mailbox in Exchange 2003

- Step 1** Obtain the user account information from Active Directory.
- Step 2** Use this information to create a new user mailbox in Exchange.
- Step 3** Log into the new mailbox via Outlook or Webmail as the user, or have the user log in.
- Step 4** Follow the instructions in the procedure [“Restoring the Contents of an Existing Mailbox” on page 108](#) to restore the mailbox.

Restoring Deleted Mailboxes in Exchange 2007

Once a mailbox is deleted from Exchange, there is no container to hold the emails, even though SonicWALL CDP has a copy of the mailbox backup. This container (in our case an empty mailbox) must be created prior to restoring the mailbox.

In Exchange 2007, deleting a user mailbox removes the user account from both Exchange and Active Directory. In this case, there are two methods that can be used to restore a user mailbox. See the following procedures for each case:

- [“Restoring a Deleted Mailbox by First Restoring Active Directory” on page 109](#)
- [“Restoring a Deleted Mailbox by Creating a New Active Directory Account” on page 110](#)

Restoring a Deleted Mailbox by First Restoring Active Directory

- Step 1** Use SonicWALL CDP to restore Active Directory to a version containing the user account.
- Step 2** Follow the instructions in the procedure [“Restoring the Contents of an Existing Mailbox” on page 108](#) to restore the mailbox.

Restoring a Deleted Mailbox by Creating a New Active Directory Account

-
- Step 1** Create a new Active Directory user account using the same user name as the deleted account.
- Step 2** Create a new user mailbox in Exchange using the same account name and connect to the Active Directory account.
- Step 3** Follow the instructions in the procedure [“Restoring the Contents of an Existing Mailbox” on page 108](#) to restore the mailbox.



Note

This process might take a long time to complete due to the recovery procedure between Active Directory and Exchange.

Restoring an Exchange 2007/2003 Storage Group

You can restore an Exchange Storage Group by using the SonicWALL CDP Microsoft Exchange InfoStore Backup and Restore server application in the SonicWALL CDP Agent User Interface.

This section describes how to restore an individual Storage Group. You can restore the Storage Group in two ways:

- Restore to Application - Copies the data directly to the Exchange database
- Restore to Disk - Copies the data to a folder on the local disk, then you can copy it to the Exchange database

A storage group must exist in Exchange in order for the restore to work properly. For cases in which the storage group has been deleted from Exchange, special procedures are necessary.



Note

The current account must have privileges to access the Exchange server. See [KB867704](#) and [KB824126](#)

See the following sections:

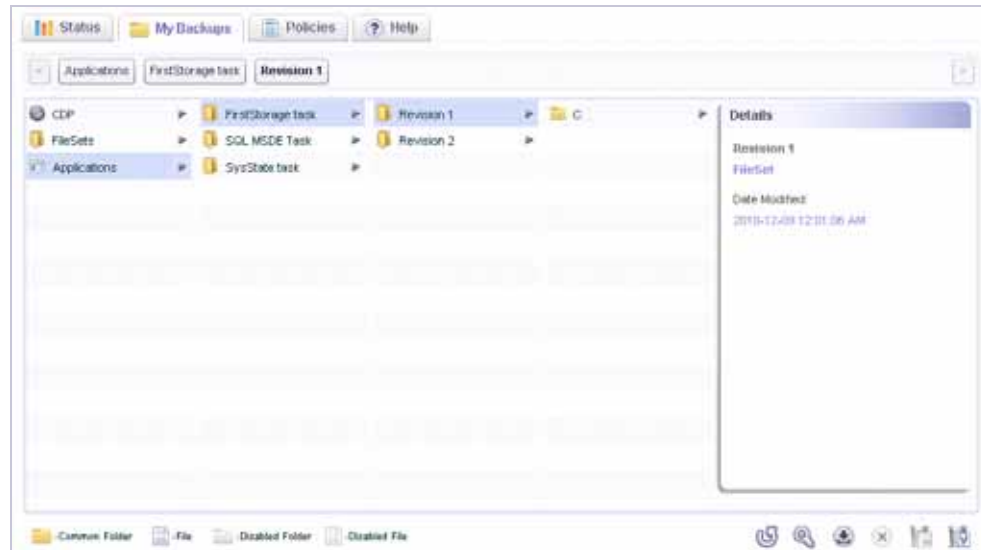
- [“Restoring a Storage Group” on page 110](#)
- [“Restoring Deleted Storage Groups” on page 113](#)


Restoring a Storage Group

To restore a Storage Group using the SonicWALL CDP Agent User Interface, perform the following steps:

-
- Step 1** In the SonicWALL CDP Agent User Interface, click the **My Backups** tab.
- Step 2** In the left pane, click **Applications**. The display expands to show available backup tasks.
- Step 3** Click the desired backup task. The available revisions are displayed.

- Step 4** Click the desired revision. The root folder and details about the revision are displayed, including the date and time.

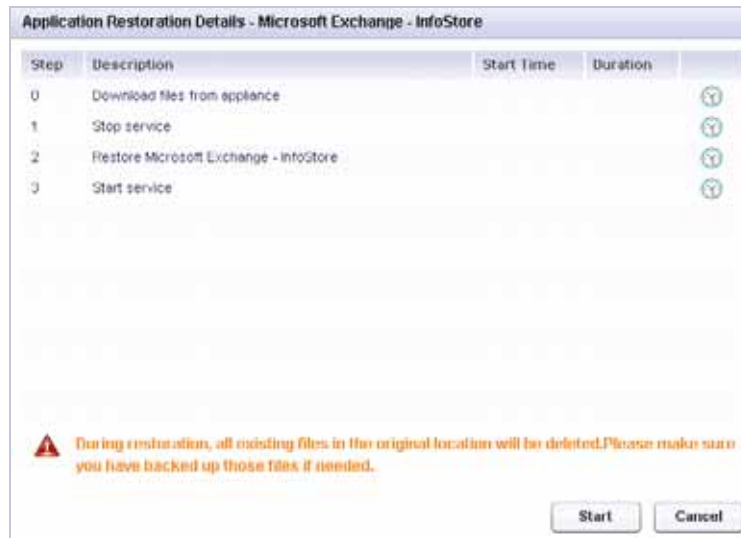


- Step 5** At the bottom right corner, click the Restore icon . The Application Restoration window opens.



- Step 6** In the **Options** drop-down list, select one of the following:
- **Restore to original location** – This option restores the files to the application in their original location in Microsoft Exchange.
 - **Restore to alternate location** – This option restores the files to the disk of the agent machine.
- Step 7** Under **Components**, select the checkboxes for the storage groups you want to restore.

Step 8 Click **OK**. The Application Restoration Details window appears.



Step 9 The restoration steps are listed, along with a **Start Time** column, a **Duration** column, and an in-progress indicator. The steps are:

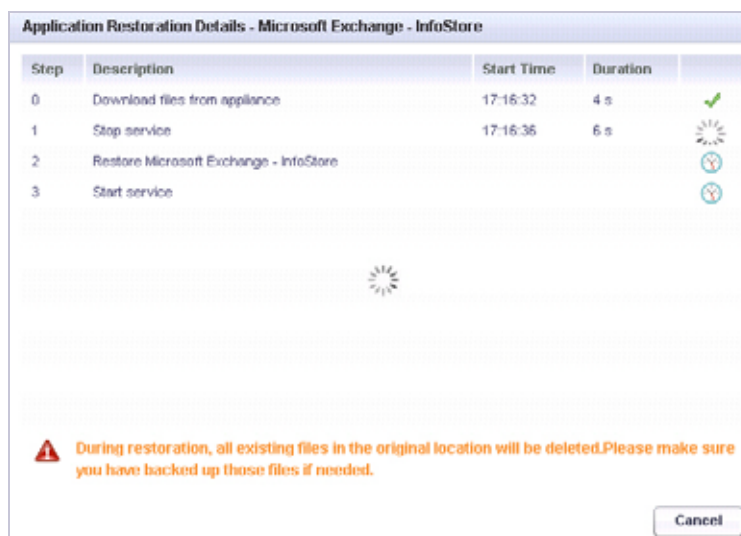
- **Download files from appliance**
- **Stop service**
- **Restore Microsoft Exchange InfoStore**
- **Start Service**

A warning is also displayed:

During restoration, all existing files in the original location will be deleted. Please make sure you have backed up those files if needed.


To start the restore process, click **Start**. To exit without restoring any files, click **Cancel**.

The in-progress indicators become active for each step as it is executed, and the **Start Time** and **Duration** values are updated.



Step 10 When the restore is finished, click **Close**.

Application Restoration Details - Microsoft Exchange - InfoStore				
Step	Description	Start Time	Duration	
0	Download files from appliance	17:05:10	8 s	✓
1	Stop service	17:05:18	46 s	✓
2	Restore Microsoft Exchange - InfoStore	17:06:04	<1 s	✓
3	Start service	17:06:04	2 s	✓

 During restoration, all existing files in the original location will be deleted. Please make sure you have backed up those files if needed.

Close



Note

After the data is restored to the Exchange server, you may need to synchronize your local mail client (Outlook) in order to see restored emails.

Restoring Deleted Storage Groups

Once a storage group is deleted from Exchange, there is no container to hold the contents, even though SonicWALL CDP has a copy of the storage group backup. This container (an empty storage group) must be created prior to restoring the storage group.

For both Exchange 2003 and 2007, the recommended way to recover deleted storage groups is to restore Active Directory first and then restore the InfoStore storage group and the user mailboxes. This is because Exchange relies on the Active Directory directory service for its directory operations. Active Directory provides all mailbox information, address list services, and other recipient-related information. Active Directory also stores most Exchange configuration information.

Restoring a Deleted Storage Group, Recommended Method

The recommended method to recover deleted storage groups is to restore Active Directory first and then restore the storage group. This is recommended for both Exchange 2003 and 2007.

-
- Step 1** Use SonicWALL CDP to restore Active Directory to a version containing the storage group. See the [“Restoring System State and Active Directory”](#) section on page 116.
- Step 2** Follow the normal steps to restore the storage group with SonicWALL CDP, by using **Restore to original location** to restore files to the application. See [“Restoring a Storage Group”](#) on page 110.

Restoring a Deleted Storage Group in Exchange 2003, Alternate Method

This method does not involve restoring Active Directory first, and is available as an alternate method for Exchange 2003, but not for Exchange 2007. In Exchange 2007, when you delete a user mailbox from the Exchange Management Console, the user is also deleted from Active Directory.

If you restore a deleted storage group with this method, there will be two instances of **SMTP** and **SystemMailbox** under <Storage Group>/<Mailbox Store>/Mailboxes after the restore.

One instance of **SMTP** and **SystemMailbox** is created when you re-create the Mailbox store. This pair has a new ID number. The other instance is from the SonicWALL CDP restore of the storage group. This pair has the original ID number.

Despite the duplicate mailbox pair, there are no problems when sending or receiving emails or when backing up or restoring the original (restored) storage group.

-
- Step 1** Log in as administrator to the Exchange server.
 - Step 2** Select one backup revision of your deleted storage group, then choose **Restore to alternate location** to restore the files to disk.
 - Step 3** Browse to the restored folder **Backup0001**, find the *.**edb** files.
 - Step 4** Create a new storage group with the same name as the one backed up in SonicWALL CDP.
 - Step 5** Create a new mailbox database for each **.edb** file.
For example, if there are two .edb files:
 - Mailbox Database1.edb
 - Mailbox Database2.edb
 Then create two new mailbox databases using these same names ("Mailbox Database1.edb" and "Mailbox Database2.edb") under the newly created storage group.
 - Step 6** Follow the normal steps to restore an InfoStore storage group by using **Restore to original location** to restore the files to the application. See ["Restoring a Storage Group" on page 110](#).
 - Step 7** After the storage group is restored, open the Exchange system manager and **Reconnect** the user mailboxes.

Restoring SharePoint

Recovery of data from Microsoft SharePoint using SonicWALL CDP allows users to retrieve SharePoint SQL database revisions from agent machines previously configured to backup those databases. When restoring SharePoint databases from a SonicWALL CDP backup, you need to restore all databases in the backup revision to provide a consistent environment. SharePoint data cannot be restored from the Web Management Interface.




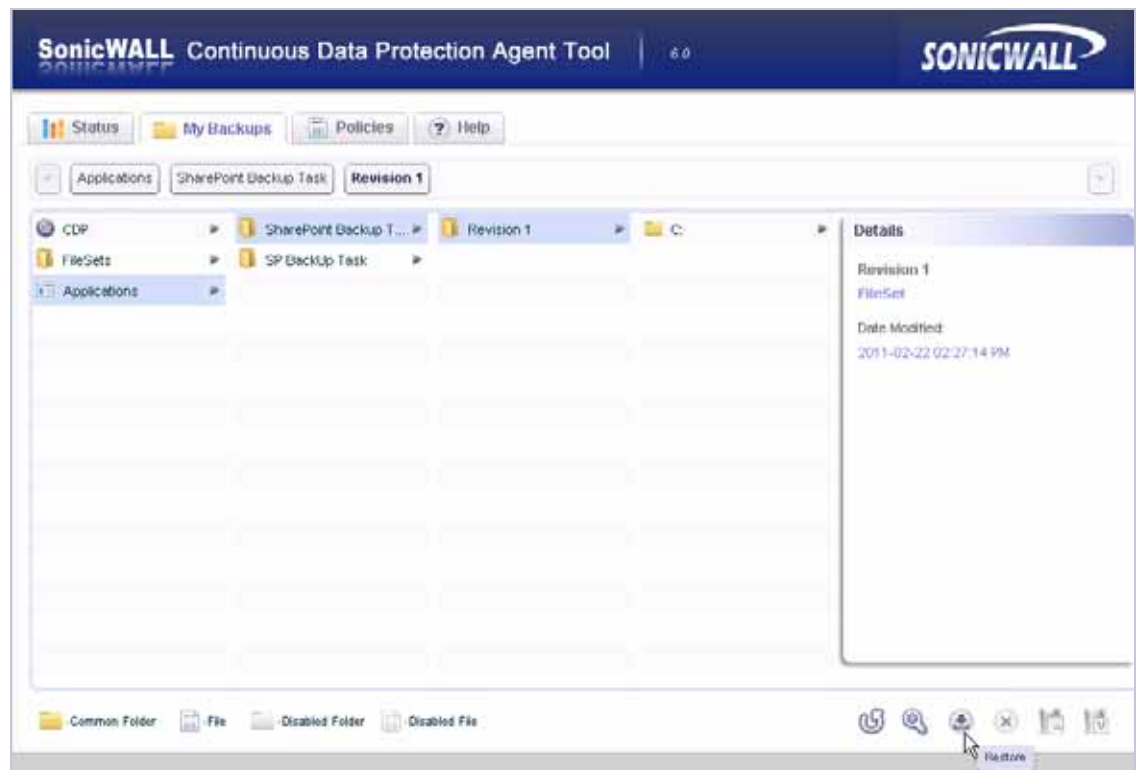
Note


SharePoint data can only be restored using the Agent User Interface.

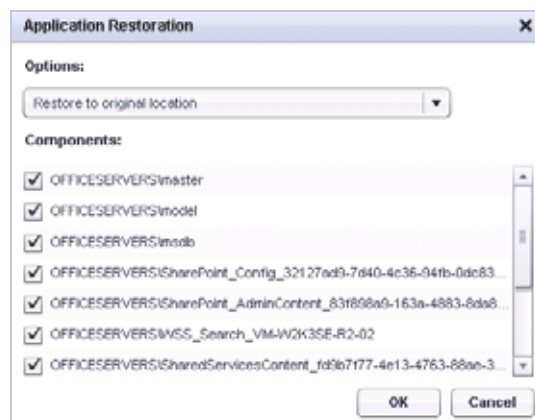
To recover SharePoint data from the SonicWALL CDP appliance, perform the following steps:

-
- Step 1** Launch the **SonicWALL CDP Agent** software on the agent machine on which you want to recover the SharePoint data.

- Step 2** If necessary, click the Change Appliance icon  to change the SonicWALL CDP appliance to the one with the files you need.
- Step 3** Click the **My Backups** tab.
- Step 4** In the left pane, click **Applications**. The display expands to show available backup tasks.
- Step 5** Click the desired backup task. The available revisions are displayed.
- Step 6** Click the desired revision. The root folder and details about the revision are displayed, including the date and time.



- Step 7** At the bottom right corner, click the Restore icon . The Application Restoration window opens.

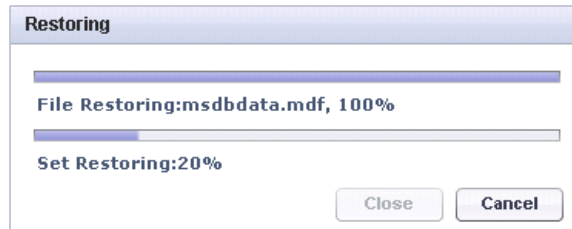


Step 8 In the **Options** drop-down list, select one of the following:

- **Restore to original location** – restore the database files on top of the original files
- **Restore to alternate location** – restore the database files to another location on disk
Use this option if you want to verify the files, then copy them to the original location either manually or by using a separate tool or application. You can browse to the folder where you want the data restored, or create a new folder.

Step 9 Click **OK** to begin the restoration. Click **Cancel** to exit without restoring the files.

The Restoring window displays the progress of the restore.



Step 10 When the restore process is finished, the Restoring window changes to Done. Click the **Close** button to close the window.



Restoring System State and Active Directory

Recovery of data from System State and Active Directory using SonicWALL CDP allows users to retrieve Active Directory revisions from agent machines previously configured to backup that data. When restoring Active Directory from a SonicWALL CDP backup, you need to restore all associated, interdependent System State files to provide a consistent environment. Active Directory data cannot be restored from the Web Management Interface.



Note

Active Directory data can only be restored using the Agent User Interface.

This section contains the following subsections:

- [“Restarting the Domain Controller in Safe Mode” section on page 117](#)
- [“Restoring Active Directory and System State” section on page 117](#)

Restarting the Domain Controller in Safe Mode

With the exception of Active Directory on Windows Server 2008, you cannot restore Active Directory in normal Windows mode. This is because the service is already active. Before restoring Active Directory on Windows Server 2003, you must boot your computer into safe mode. Once in safe mode, you can restore the Active Directory as an application. This is because in safe mode the Active Directory is disabled.

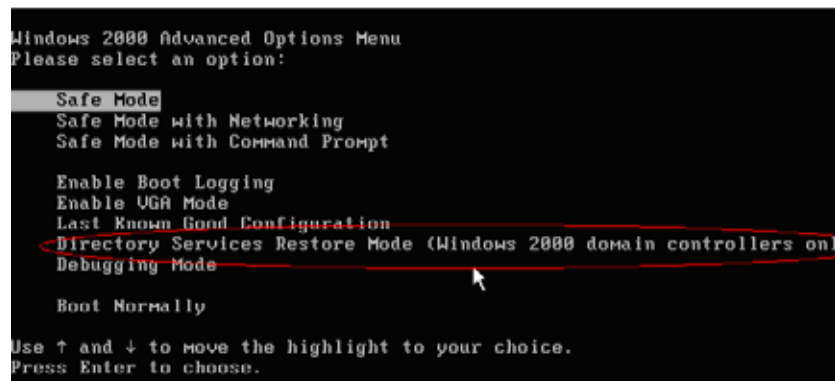


Note

Do not boot your computer into safe mode when restoring Active Directory on Windows Server 2008 or higher.

To boot your computer into safe mode, perform the following steps:

- Step 1** Boot your computer and press **F5** or **F8** after POST/BIOS and before the Windows splash-screen, depending on hardware specs of the server.
- Step 2** Select the **Directory Services Restore Mode (DSRM)**.



- Step 3** Login as Restore Mode Administrator.

Restoring Active Directory and System State

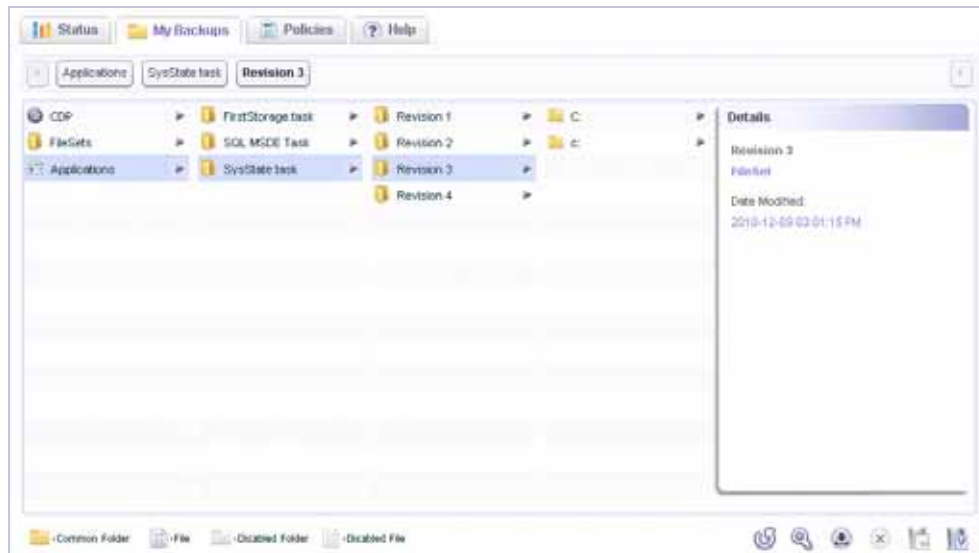
Restoring Active Directory will cause the loss of any changes to Active Directory since the date of the backup that is being restored.


SonicWALL recommends the use of redundant Active Directory domain controllers. In the case of mirrored Active Directory domain controllers, you can optionally restore a small part of the database rather than the entire database (for example, because some people were deleted by mistake by the administrator or a script/program), keeping the remainder of the database up to date. In this case, the administrator selects the old data that needs to be pushed on top of the latest data during replication, after the server (2003 only) is rebooted out of Recovery Mode.

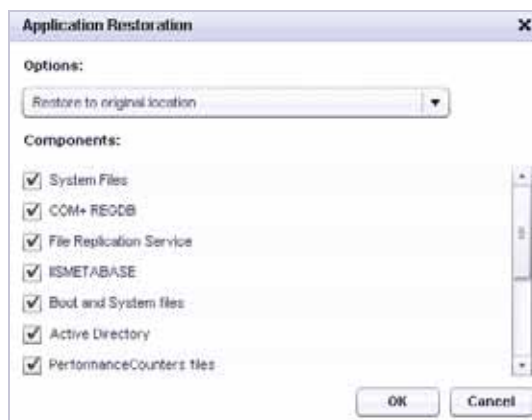
Restoration steps can be different depending on the computer's operating system and configuration.

To restore System State and Active Directory using the SonicWALL CDP Agent User Interface, perform the following steps:

- Step 1** In the SonicWALL CDP Agent User Interface, click the **My Backups** tab.
- Step 2** In the left pane, click **Applications**. The display expands to show available backup tasks.
- Step 3** Click the desired backup task. The available revisions are displayed.
- Step 4** Click the desired revision. The root folder and details about the revision are displayed, including the date and time.



- Step 5** At the bottom right corner, click the Restore icon . The Application Restoration window opens.



- Step 6** In the **Options** drop-down list, select one of the following:
 - **Restore to original location** – This option restores the files to the application in their original location, and to original System State file locations.
 - **Restore to alternate location** – This option restores the files to the disk of the agent machine.

Step 7 Under **Components**, select the checkboxes for the files you want to restore. To ensure a consistent environment after the restore, select all files.

It is not recommended to restore certain System State subcomponents individually (like Certificate Services database, and COM+ Class Registration database) due to dependencies. For more information, see:

<http://technet.microsoft.com/en-us/library/cc785306%28WS.10%29.aspx>

Step 8 Click **OK**. The Application Restoration Details window appears.



Step 9 The restoration steps are listed, along with a **Start Time** column, a **Duration** column, and an in-progress indicator. The steps are:

- **Download files from appliance**
- **Restore Windows Boot Files**
- **Restore Windows System Files**
- **Restore Windows Performance Counters Files**
- **Restore Windows Internet Information Services Metabase**
- **Reboot Windows with Active Directory Repair Mode**
- **Restore Windows COM+ Class Registration Database**
- **Restore Windows File Replication Service**
- **Restore Windows Active Directory Domain Services (NTDS)**
- **Restore Windows Registry**
- **Reboot Windows with Normal Mode**
- **Restore Windows Management Instrumentation (WMI)**
- **Restore Windows Event Log**
- **Reboot Windows**

To start the restore process, click **Start**. To exit without restoring any files, click **Cancel**.

The in-progress indicators become active for each step as it is executed, and the **Start Time** and **Duration** values are updated.

Step	Description	Start Time	Duration	
0	Download files from appliance	08:57:55	463 s	✓
1	Restore Windows Boot Files	09:05:38	<1 s	✓
2	Restore Windows System Files	09:05:38	35 s	⌚
3	Restore Windows Performance Counters Files			⌚
4	Restore Windows Internet Information Services Metabase			⌚
5	Reboot Windows with Active Directory Repair Mode			⌚
6	Restore Windows COM+ Class Registration Database			⌚
7	Restore Windows File Replication Service			⌚
8	Restore Windows Active Directory Domain Services (NTDS)			⌚
9	Restore Windows Registry			⌚
10	Reboot Windows with Normal Mode			⌚

Step 10 When the **Reboot Windows with Active Directory Repair Mode** step is reached, the restore process pauses and prompts you to select one of the following options:

- **Run MSConfig** – Click this button to continue with the reboot. The SonicWALL CDP Agent exits and must be restarted.

MSConfig is a utility that is configured by SonicWALL CDP to perform a diagnostic startup. It can also be used to modify which programs run at startup, edit certain configuration files, and control Windows services.

- **Run Later** – Click this button to stop the restore process and return to the previous screen in the SonicWALL CDP Agent User Interface.

Step	Description	Start Time	Duration	
0	Download files from appliance	08:57:55	463 s	✓
1	Restore Windows Boot Files	09:05:38	<1 s	✓
2	Restore Windows System Files	09:05:38	42 s	✓
3	Restore Windows Performance Counters Files	09:06:20	<1 s	✓
4	Restore Windows Internet Information Services Metabase	09:06:20	<1 s	✓
5	Reboot Windows with Active Directory Repair Mode	09:06:20	1 s	⚠
6	Restore Windows COM+ Class Registration Database			⌚
7	Restore Windows File Replication Service			⌚
8	Restore Windows Active Directory Domain Services (NTDS)			⌚
9	Restore Windows Registry			⌚
10	Reboot Windows with Normal Mode			⌚

Step 11 When the restore is finished, click **Close**.

Using Authoritative Restore

An authoritative restore is most commonly used to restore corrupt or deleted objects. For example, a deleted user account can be recovered from an Active Directory backup that precedes the deletion of the user account. An authoritative restore should not be used to restore an entire domain controller, nor should it be used as part of a change-control infrastructure.

Proper delegation of administration and change enforcement will optimize data consistency, integrity, and security.

MSDN Web links:

- <http://support.microsoft.com/?kbid=258062>
- <http://support.microsoft.com/default.aspx?scid=kb;en-us;240655>
- <http://support.microsoft.com/default.aspx?scid=kb;en-us;830574>
- <http://support.microsoft.com/default.aspx?scid=kb;en-us;314980>
- <http://support.microsoft.com/default.aspx?scid=kb;en-us;265089>
- <http://www.microsoft.com/technet/prodtechnol/windowsserver2003/library/Operations/f66ee9e4-96d7-4f74-a2fe-d669194bf5a2.mspx>

MSDN Engineering recommends the following as the most helpful to see what is happening:

- <http://support.microsoft.com/default.aspx?scid=kb;en-us;840001>
- <http://support.microsoft.com/kb/239803/>

Restoring Data from Microsoft SQL Server

Recovery of data from Microsoft SQL Server using SonicWALL CDP allows users to retrieve Microsoft SQL Server revisions from an agent machine previously configured to backup that data. Microsoft SQL Server recovery can be made directly to the SQL database.

Restoring the database can be done in two ways. The database can be either restored to disk or to application. When restoring the database to disk, the database is downloaded as a set of files from the SonicWALL CDP Appliance.

Restoring to application, on the other hand, applies the database directly to the same SQL server.

If an SQL database system fails, the first step is to recover all databases and transaction log files from the server. These databases contain the latest information, up to the point of failure. Next, the SQL system should be brought up on the same server or a different server. Having spare hardware will speed up database recovery.

Each recovered database should be run through a data consistency check (using “DBCC CHECKDB”) because it is possible that these are corrupted databases and may have been the reason for failure. If the databases are corrupted, these could either be fixed, which normally includes data loss, or the latest backed up database (from CDP) could be used instead.

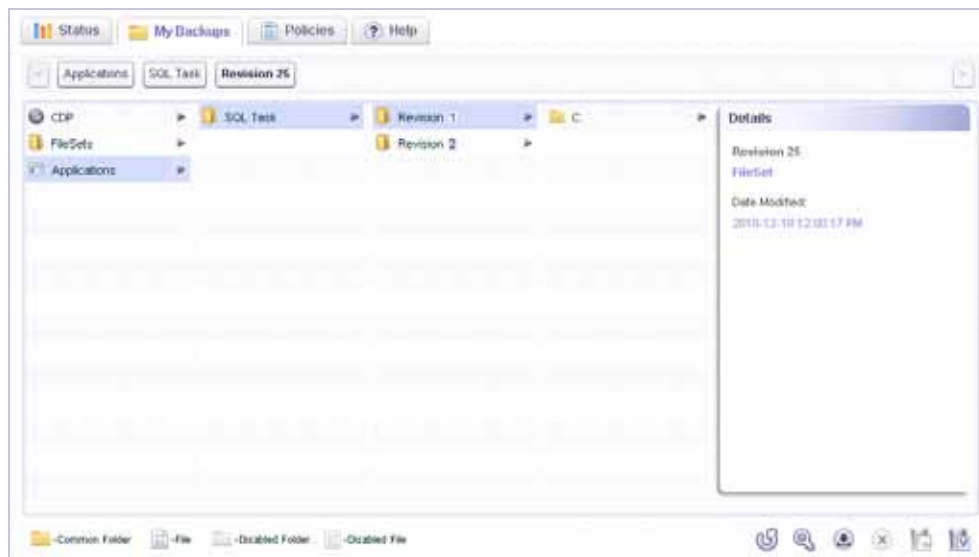
See the following sections:


- “Restoring SQL Server Using the Agent User Interface” section on page 122
- “Additional Information” section on page 124

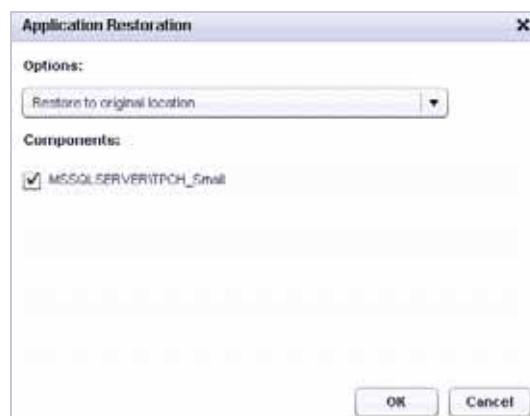
Restoring SQL Server Using the Agent User Interface

To restore Microsoft SQL Server databases using the SonicWALL CDP Agent User Interface, perform the following steps:

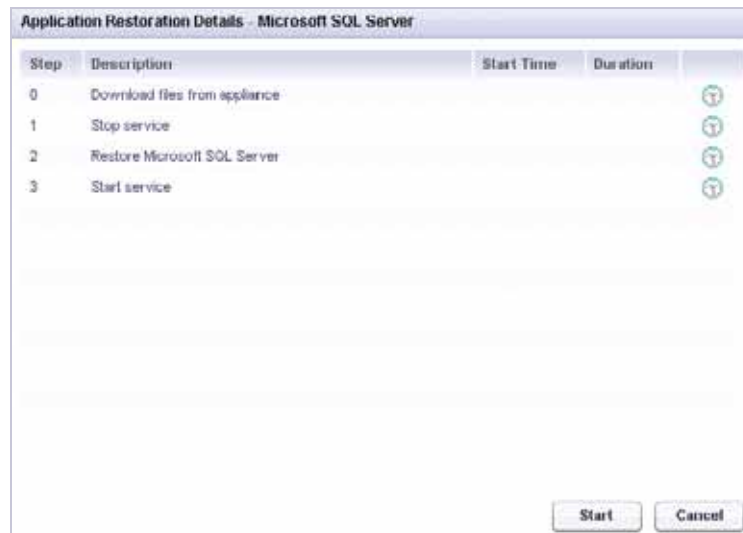
- Step 1** In the SonicWALL CDP Agent User Interface, click the **My Backups** tab.
- Step 2** In the left pane, click **Applications**. The display expands to show available backup tasks.
- Step 3** Click the desired backup task. The available revisions are displayed.
- Step 4** Click the desired revision. The root folder and details about the revision are displayed, including the date and time.



- Step 5** At the bottom right corner, click the Restore icon . The Application Restoration window opens.

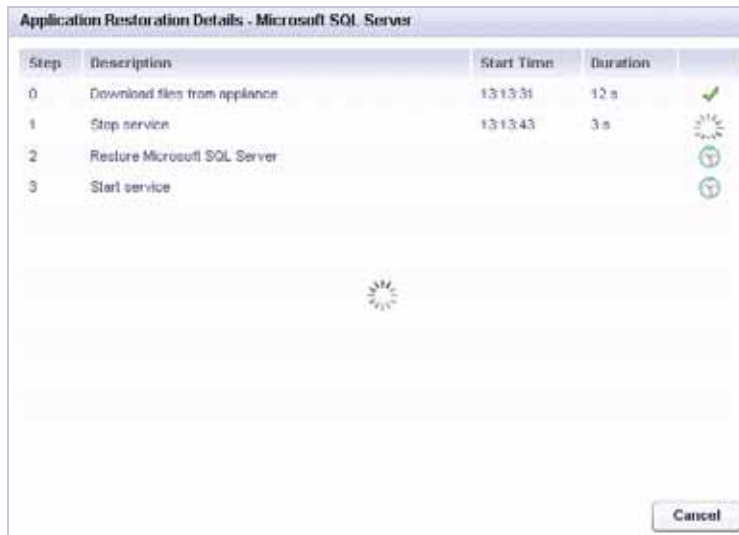


- Step 6** In the **Options** drop-down list, select one of the following:
- **Restore to original location** – This option restores the files to the application in their original location for Microsoft SQL Server.
 - **Restore to alternate location** – This option restores the files to the disk of the agent machine.
- Step 7** Under **Components**, select the checkboxes for the databases you want to restore.
- Step 8** Click **OK**. The Application Restoration Details window appears.



- Step 9** The restoration steps are listed, along with a **Start Time** column, a **Duration** column, and an in-progress indicator. The steps are:
- **Download files from appliance**
 - **Stop service**
 - **Restore Microsoft Exchange SQL Server**
 - **Start Service**
- To start the restore process, click **Start**. To exit without restoring any files, click **Cancel**.

The in-progress indicators become active for each step as it is executed, and the **Start Time** and **Duration** values are updated.



Step 10 When the restore is finished, click **Close**.



Additional Information

More information can be found here:

SQL Forum on Disaster Recovery run by Microsoft:

<http://forums.microsoft.com/MSDN/ShowForum.aspx?ForumID=744&SiteID=1>

Handling Large Log Files:

<http://mkruger.cfwebtools.com/index.cfm?mode=entry&entry=CFEA536D-FC85-271F-691D1A974BA71B07>

Database Locked Error

Actions that can lock the database and prevent the restore process include:

- Querying
- Accessing by user or application
- Opening Web Management Interface with database selected

Revisions may not appear immediately or even for some time due to a number of reasons including, but not limited to, large databases, single user mode databases, 24x7 databases, or other databases with high access frequency.

Using Online Help

You can access online help by clicking the **Help** tab in the Agent User Interface.

The Help window provides links to online help, the SonicWALL knowledge base, the Agent log file, and Agent version information.



See the following sections:

- “[Viewing the Online Agent User Guide](#)” section on page 127
- “[Accessing Technical Support Information](#)” section on page 128
- “[Viewing Information About the SonicWALL CDP Agent](#)” section on page 129

Viewing the Online Agent User Guide

To view the online version of the *SonicWALL CDP Agent User Guide*, click the [Online Help](#) link in the Help window. The HTML version of the User Guide is displayed in your browser.

Administrative Use of the Agent User Interface

The Agent software allows Administrators to log into the Agent User Interface to manage and configure local and global policies for agents. When you launch the Agent User Interface, there is a button in the lower left corner that allows you to log in as an Administrator.

Figure 1 Agent User Interface



The screenshot shows the SonicWALL Continuous Data Protection Agent Tool interface. It features a table titled 'Available Appliances' with two columns: 'Appliance IP' and 'Appliance Description'. The table lists various appliances, including unregistered CDP appliances, RTCDPS-DG, and specific models like Netinder 5040c, Netinder CDP 1440 SH, and Netinder 1440 V. A 'Login to Administrator File Browser' button is visible in the bottom left corner of the interface.

Appliance IP	Appliance Description
10.0.15.17	Unregistered CDP Appliance
10.0.30.30	RTCDPS-DG
10.0.16.105	Unregistered CDP Appliance
10.0.15.187	Unregistered CDP Appliance
10.0.15.3	Boris Downstream
10.0.92.6	Unregistered CDP Appliance
10.0.16.115	Netinder 5040c
10.0.16.221	Unregistered CDP Appliance
10.0.16.108	155-Downstream
10.0.92.28	BROKEN TOYS
10.0.16.113	Netinder CDP 1440 SH
10.0.92.25	THE TOY ASLE
10.0.16.117	Netinder 1440 V
10.0.15.49	Shunka6.0.1
10.0.15.100	Unregistered CDP Appliance
10.0.92.26	NEVER NEVER LAND
10.0.92.5	Unregistered CDP Appliance

To log in to the Administrator File Browser, perform the following steps:

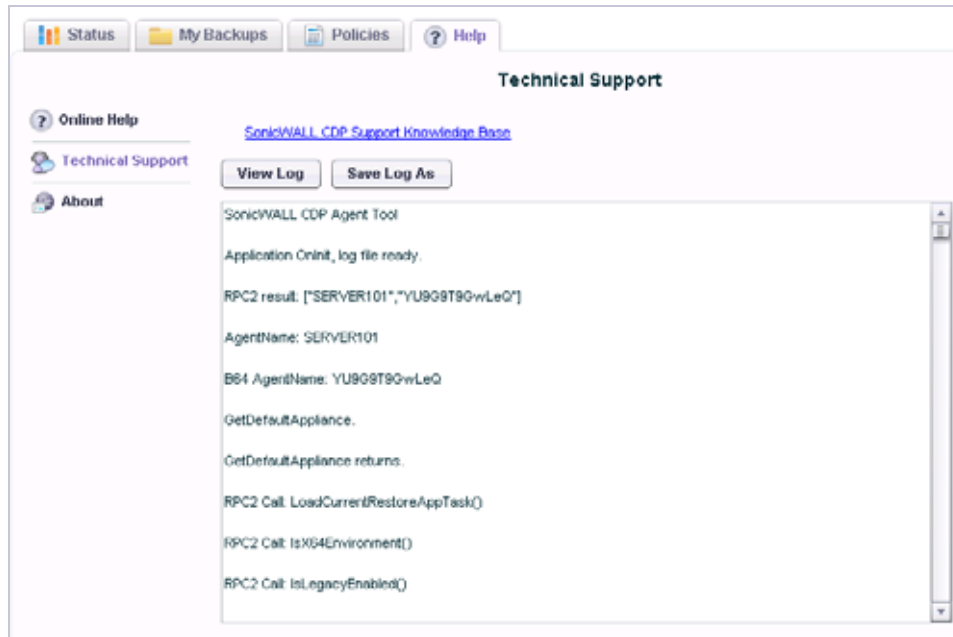
Step 1 Click the **Login to Administrator File Browser** button.

Navigation buttons: Back, Next

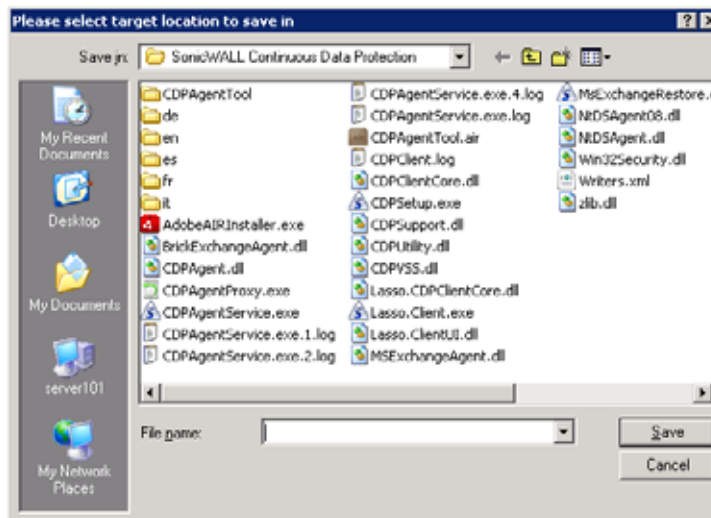
Accessing Technical Support Information

Click the **Technical Support** link on the Help page to display a link to the SonicWALL Knowledge Base and the Log Viewer.

To view the log entries, click the **View Log** button.



To save the log as a file on your hard drive, click the **Save Log As** button, specify the location and file name in the save dialog, and then click **Save**.



To access the SonicWALL Knowledge Base for information about SonicWALL CDP, click the [SonicWALL CDP Support Knowledge Base](#) link. The Knowledge Base page opens in your browser.

The screenshot shows the SonicWALL Knowledge Base search page. At the top is the SonicWALL logo. Below it are three main sections: 'Search Using Text', 'Refine search by product', and 'Sort Search Results'. The 'Search Using Text' section has a search input field and radio buttons for 'Any words match', 'All words match' (selected), 'Exact phrase matches', and 'Match KBID'. There is also a checkbox for 'Search Archived Items'. The 'Refine search by product' section has a dropdown menu set to 'CDP (Backup & Recovery)', a 'Select your topic within product' dropdown, a 'Select your sub-topic' dropdown, a 'Browse All' link, and a checkbox for 'Do not search subcategories'. The 'Sort Search Results' section has a dropdown menu set to 'Relevance' and a 'Go' button. Below these sections are links for 'Search Tips' and 'What's Hot'. A message states: 'We value your feedback! While viewing an article, please click the "Rate" button and help us improve the knowledge base.' Below this is a section titled 'Most Relevant Info in "CDP (Backup & Recovery)"' with a prompt: 'Click on the item below that best resolves your inquiry. If not found, click [here](#) for help.' Two items are listed: 1. 'UTM: New Video Tutorials available on the SonicWALL Support website' (Priority Item) and 2. 'CDP: Can CDP backup applications beside our currently supported ones?' (Priority Item).

Viewing Information About the SonicWALL CDP Agent

To view information about the SonicWALL CDP Agent, click the **About** link on the Help page.

The screenshot shows the 'About SonicWALL CDP Agent Tool' window. At the top are four tabs: 'Status', 'My Backups', 'Policies', and 'Help' (selected). Below the tabs is a sidebar with links: 'Online Help', 'Technical Support', and 'About' (selected). The main content area displays the title 'About SonicWALL CDP Agent Tool', the product name 'SonicWALL CDP Agent Tool', the version 'Version: 6.0.1.17', and the copyright information '© 2006 – 2010, SonicWALL Inc. All Rights Reserved.'

The version and copyright information are displayed.

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PN: 232-002021-00 Rev A

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