Live Backup Client User Guide

For Microsoft Windows® Vista, XP Professional or Home Edition, and

Windows 2000 Professional Operating Systems

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Atempo Live Backup Client

The modern business world increasingly depends on mobile workers. In this environment, scheduled backups of critical data simply do not provide the protection you need anymore. Every version has to be available for recovery without the expense or inconvenience of launching backup programs, connecting to the network, or interrupting workflow or computer response time.

Atempo Live Backup provides completely automatic and transparent backup for Windows desktop and laptop PCs in the global enterprise. Using advanced continuous data protection technology, Live Backup backs up both your files and all incremental changes to them as they occur. That way, virtually every version of all your critical files are always available for recovery.

Live Backup includes the Recovery Assistant, a simple step-by-step wizard that walks you through the process of finding the precise version you want to recover. Using this Recovery Assistant, you can recover individual files, folders, or even the entire system. Armed with a system image created by the Live Backup Administrator, you can even recover from the bare-metal disaster of a hard drive failure.

About the documentation

The information in this guide provides everything you need to know to use Live Backup Client. It contains the following chapters:

Chapter 1: Atempo Live Backup Client   This chapter you are now reading provides an overview of Live Backup Client and describes how to use the documentation accompanying it. It also explains how to determine if Live Backup is installed on your computer.

Chapter 2: Protecting your data   Describes how Live Backup protects your data, including monitoring protection status, pausing and resuming protection, disabling the server connection, configuring performance, and security issues such as feature lockdown.

Chapter 3: Recovering a lost file   Describes how to recover any version of a particular file using either Live Backup's Recovery Assistant or the Windows Explorer shortcut menu.

Chapter 4: Performing a Web Recovery   Describes how to download any protected file from specific clients to the local computer over the internet. Special permissions are required to access the Recovery Center for this Web Recovery.

Chapter 5: Recovering a folder   Describes how to recover a particular version of all files located within a folder using Live Backup's Recovery Assistant or the Windows Explorer shortcut menu.

Chapter 6: Recovering your system   Describes how to roll back your system to a previous point in time (checkpoint), how to accept an automatic rollback pushed to your computer from the Live Backup Server, and how to recover your entire drive(s) in case of a disaster such as hard drive failure.

Appendix A: Installing Live Backup Client   Describes automatic installation as well as installing Live Backup Client manually, if necessary. This chapter also describes how to uninstall Live Backup Client from the computer.

Appendix B: Glossary   Defines technical terms and terms specific to Live Backup.

You can read this guide straight through, or you can refer to just those sections you need.

Documentation conventions

Throughout the printed documentation, the following conventions are used to help you understand the information presented.

Convention	Used for
UPPERCASE	File names
Bold	Menus, commands, dialog box options, and text that must be typed as shown
"in quotes"	References to other sections within the same printed guide
Italic	References to other sources of information and new terms in the text
`Monospace`	Code samples and operating system commands
Click	Click the primary mouse button once
Right-click	Click the secondary mouse button once
Double-click	Click the primary mouse button twice quickly

Other Live Backup guides

Live Backup Client is only one of several components that make up the total Live Backup system. Other components include Live Backup Server, which addresses the needs of storing and administering computer files and users, and therefore is the concern of your Live Backup Administrator. As an individual computer user, information on Live Backup Client is all you should ever need.

Getting help

Live Backup provides a comprehensive help system online. This help includes all the information in this guide, plus help on individual controls and windows that you see in Live Backup.

To get help:

■   Right-click the Live Backup task tray icon and click **Help**.

Help for Live Backup Client appears.

To use context sensitive help:

■   To get an overview of a dialog box, click the **Help** button; to get help on an individual control within the dialog box, right-click a control and choose **What's This?**.

Customer support

If you have a problem that you can't solve given the information in this user guide, check the *Help for* Live Backup *Client*.

If you don't find an answer in this documentation, then see the Atempo Knowledge Base, located on the Atempo Web site at http://www.atempo.com/support/kb.

If you still can't solve the problem, see your Live Backup Administrator.

Is Live Backup Client installed?

Under most circumstances, the Live Backup Administrator will install Live Backup Client for you. This installation runs silently, so you may not be aware if it has been done yet. You can check for Live Backup in two places:

■   Click **Start** and point to **Programs**. If you see a folder named Atempo Live Backup, then Live Backup is installed.

■   Look at the taskbar. Opposite the **Start** button is the **tasktray**. If the tasktray contains the Live Backup icon— —then Live Backup is installed.

If Live Backup is installed, and the icon above appears in your tasktray, then it has already begun protecting your files. You can continue with the next chapter to learn more about file and system protection and recovery.

If Live Backup is installed and you have been notified that an upgrade is available, see

If Live Backup Client is *not installed* on your computer yet, see your Live Backup Administrator. If s/he tells you to install it yourself, see

C H A P T E R   2

Protecting your data

2

You already know that Live Backup protects the files on your computer continuously by backing them up to the Live Backup Server. This section describes that backup process from physically connected computers as well as remote or disconnected systems, such as laptops. You will also learn how to monitor and configure the backup process.

In this chapter you will learn

■　　How Live Backup protects your data

■　　What Live Backup is doing—The tasktray

■　　Working with checkpoints

■　　About Monitoring Live Backup Client connections

■　　About Pausing and resuming protection

■　　About Disabling the server connection

■　　About Security: How Live Backup secures your computer files from snooping and theft

How Live Backup protects your data

Live Backup protects desktop data using a two-step process: *mirroring* and *versioning*.

Immediately following installation and connection to the Live Backup Server, Live Backup creates an exact copy of your drives, folders, and files on the Live Backup Server. Once this *mirroring* process is complete, you must reboot your computer. After reboot, Live Backup creates a *checkpoint*, which is a complete copy of your computer from which it can restore individual data files as well as all Windows and application system data at your request.

Next, Live Backup versions files. *Versioning* is the process of continuously tracking all changes made to each and every file on your computer. Live Backup then saves each change as a new version of the file and copies that version to the Live Backup Server. Using this continuous journal of file changes stored on the server, Live Backup can recover all information up to and including the very last file save.

Live Backup operates in the background, protecting data automatically—without intervention. Live Backup's continuous tracking operates at the file system level, so it allows recovery easily and eliminates the need for you to perform complicated and cumbersome restoration procedures. Because of the simplicity of operation, you can recover data as well as system files without help from your Live Backup Administrator.

Note: Live Backup protects the contents of physical drives only. You cannot protect or recover files from a network drive, CD-ROM, or other removable media.

Protecting data on disconnected computers

Live Backup protects data on computers even when they are disconnected from the server. If a file is changed on a client computer while it is disconnected from the network, Live Backup logs the change in a cache on the local hard disk. If you install Live Backup manually, you can choose the location of this cache folder at that time. A typical path is X:\LIVE BACKUP CACHE, where X is the local drive with the most free disk space.

Since your file changes are saved in a cache locally, you can recover recently created files from this cache without a network server connection. (Older files are available only with a network connection.) Once the computer is reconnected to the Live Backup Server either physically through a network cable connection or by dial-up, Live Backup automatically moves the file changes to the Live Backup Server. Once moved, these changes are available for recovery any time your computer has a connection to the Live Backup Server.

What Live Backup is doing—The tasktray

Since Live Backup Client runs in the background, you may wonder precisely what it is doing at any given time. The Live Backup tasktray icon provides this information through its changing state:

Live Backup is working normally, either replicating files to the network, caching files locally, or "listening" for changes. (Blue)

Live Backup Client is paused and no new versions are being saved. This status appears if you select Pause manually, or if Live Backup detects a software installation by MS Installer in progress.

Live Backup Client's connection to the Live Backup Server has been disabled. No data is being sent to the Live Backup Server for protection nor is available for recovery. Settings are not downloaded from the server.

Live Backup Client's connection to the Live Backup Server has been disabled. No data is being sent to the Live Backup Server for protection nor is available for recovery. Settings are not downloaded from the server. Files continue to be protected locally in the Live Backup Cache.

Live Backup Client is paused, and its connection is disabled. (See above for details.)

Live Backup experienced a critical error and is stopped

Either the Live Backup Client is initializing or it is disabled. Hover the cursor over the icon to determine which.

If the Live Backup Client is initializing, then it has been automatically paused to complete an internal process such as upgrade, and will resume its normal state once all processes are complete. If the Last Server Status indicates Maintenance Tasks Running, along with this initializing state, then the installed version of Live Backup Client is incompatible with that of the server. To learn about server status, see "Check network connection status" on page 19. For further information, see your Live Backup Administrator.

If the Live Backup Client is disabled, then the client account has expired. Expired clients are stopped: no new versions are created and no local or remote recovery operations are available. If the client is disabled, see your Live Backup Administrator.

⚠️ Live Backup Client encountered errors that have been logged. This status is repeated in the Client engine page of the Control Center. See .

Working with checkpoints

Checkpoints represent a set of protected data at a particular point in time. Checkpoints are created every time the client computer is restarted, at 4:00 AM local time if the computer is idle, when the client user requests one using the Save Checkpoint option, and when the Live Backup Administrator requests one from the Live Backup Console.

If Live Backup does not have the latest version of any file at the time when checkpoint creation begins, then Live Backup uses the Microsoft Virtual Shadow Copy Service (VSS) to back up those files, if this service is available. Microsoft VSS is available on 32-bit versions of Windows XP, Vista, Server 2003 and 2008 that have at least one NTFS volume,

Checkpoints are available only after the client computer has been completely replicated to the server.

Types of checkpoints

Live Backup creates two different types of checkpoints:

■   **Data checkpoints** are created on clients that are protected with User Document only protection, such as Live Backup Express clients. These checkpoints represent a snapshot of all data files at a specific point in time, and may be used to restore multiple files. Data checkpoints do not contain the information required to restore the entire client system. These checkpoints are represented in the user interface by file icon.

■   **System checkpoints** are created on clients that are protected with Full System Protection. These checkpoints represent a snapshot of the entire client system at a specific point in time, and may be used to roll back the system or create system images that may be used in a Disaster Recovery procedure These checkpoints are represented in the user interface by a gears icon.

Checkpoints are further differentiated by how they are created: *Static* checkpoints required you to restart Windows and should contain all protected client files; and *Dynamic* checkpoints do not require you to restart Windows and should contain most protected files. Either type of checkpoint may be missing some files such as open files. These missing files are called exceptions. Static checkpoints are less likely to contain exceptions, and are therefore more reliable for any data recovery.

If a checkpoint contains exceptions, then a yellow caution icon will be superimposed over the icon the selection screens. You may view a list of missing files by clicking the **View exceptions** button beneath the list. Live Backup may also create static checkpoints with exceptions in the following situations:

■   Live Backup has detected an abnormal shutdown; therefore, this checkpoint may have missing or outdated files. In this case, Live Backup cannot detect which files are missing.

■   The Live Backup Client user skipped the boot-time backup, which prevents Live Backup from capturing all modified files. In this case, Live Backup can capture a list of missing files.

■   Live Backup detects pending operations prior to shutdown. This situation may be due to an incomplete software installation, and therefore may have produced a checkpoint that represents an unstable state of the system. Live Backup cannot detect which files are missing in this situation.

■   Live Backup fails to get the boot-time backup list from driver. Live Backup cannot detect which files are missing in this situation.

■   The delayed backup list file, DELAY.TSK, located in the Live Backup Cache folder is corrupt. This file is required to build the complete system checkpoint. Live Backup cannot detect which files are missing in this situation.

■   Live Backup fails to complete the boot-time backup due to a read failure or cache overflow. In this case, Live Backup can capture a list of missing or outdated files.

■   Live Backup does not finish processing the boot-time backup due to unexpected shutdown. In this case, Live Backup can capture a list of missing or outdated files.

Requesting a checkpoint

In addition to automatic checkpoints, you can create checkpoints at virtually any time, and the Live Backup Administrator may request that a checkpoint be made for you. You may want to save a checkpoint immediately prior to a software update or beta software installation. Although you could always uninstall the new software if there was a problem with it, uninstallation programs do not always remove every remnant of the application from the disk or the Windows registry. However, if you create a system checkpoint before the installation, you could simply roll back your system to a working state that existed before the new installation.

How system checkpoints are created

Before creating a system checkpoint, Live Backup scans your system and protection settings for system files required for a successful recovery. The following files are required for a valid system checkpoint:

■   System boot files

■   Windows kernel files

■   Modules used for disk formatting

■   System registry files

■   Files required to convert ANSI to Unicode, and OEM to Unicode (these files are required during system boot)

First, Live Backup scans the exceptions list to ensure that no required files will be excluded. If the protection configuration passes this scan, then Live Backup scans the local database to ensure that these required files are currently available for inclusion in the checkpoint.

Once Live Backup confirms that the system has passed both scans, then it creates a checkpoint. If either test fails, then Live Backup will be unable to create a valid recoverable checkpoint, and therefore cancels the checkpoint creation process. This check helps ensure that all available system checkpoints will provide a valid system recovery.

Tip   While the computer is restarting, Live Backup Client performs a series of tasks that enable it to create a checkpoint. These tasks may take up to a few minutes, and Live Backup displays a message during this time to inform you of this processing. If a checkpoint is not required, then at any time while you see the message, "Live Backup is backing up files that were not captured during the previous Windows session. To skip these files, press and hold ALT. . . ," press the **Alt** key to skip the task. In this case, Live Backup creates a Static checkpoint with exceptions.

Checkpoint uses

Once created, checkpoints may be used to

■   Recover multiple files to a specific point in time

■   Recover folders to a specific point in time

■   Rollback the operating system from a system checkpoint

■   Perform a complete disaster recovery from a system checkpoint. Disaster recoveries can be performed either locally or over the network. Network disaster recoveries may

access an image stored on the network, or may access database data directly. Both methods, however, require checkpoints.

If you want to protect a laptop or other disconnected computer from system failure, you can request a universal boot image on a CD/DVD and a copy (image) of your entire system on a DVD, USB, eSATA, or Firewire drive, or other media and take it with you. You can then restore your entire system—Windows, application, and data files—from this image without any additional assistance from the Live Backup Administrator by using the Live Backup disaster recovery procedure.

To save a checkpoint:

1. Right-click the Live Backup tasktray icon and click **Save Checkpoint**.

    The Welcome page of the Save Checkpoint Wizard appears.

    If Live Backup Client has not fully copied all files to the Live Backup Server yet, then the Save Checkpoint option will not yet be available.

2. In the Save Checkpoint Wizard, read the Welcome screen, and then click **Next**.

The Select a Checkpoint Type page appears.

3.   Click the type of checkpoint that you want to create and name it:

■   **Create a dynamic checkpoint**: Dynamic checkpoints represent the client computer system in its current state, without restarting Windows. Since this is a "hot" checkpoint, it is possible that it will exclude open files. If you choose this option, it is recommended that you shut down all open applications and files before continuing this wizard. This option likely creates a checkpoint with exceptions; the missing files will be listed in the next page of the wizard.

■   **Create a static checkpoint**: Static checkpoints require that you restart Windows during the checkpointing process; however, it will include currently open files. Always choose this option if it is acceptable to restart Windows at this time.

■   In the **Description** box, type a comment about this checkpoint. The description will help you identify this particular checkpoint if you choose to roll back your system.

Click **Next**.

4. If any files will be excluded from the checkpoint, then the Outdated files page appears.

Examine the files in the **Missing files** list. If any are required, then click **Back** and select **Create a static checkpoint**. Otherwise, click **Next**. Live Backup launches checkpoint creation.

The Completing the Save Checkpoint Wizard page appears.

5. If you selected a dynamic checkpoint, then this page lists the files excluded from the checkpoint. Click **Finish**.

6. If you selected a static checkpoint, then you will be prompted to restart the computer. Restart, and allow Live Backup to complete the checkpoint.

Live Backup creates a checkpoint of your protected data on the Live Backup Server.

When you are ready to recover files from this or any checkpoint, you can use the Recovery Assistant: see "Recovering multiple files using the Recovery Assistant" on page 40 and "Recovering a folder using the Recovery Assistant" on page 58. If your computer is covered under Full System Protection, you may use the checkpoint to recover your system: to learn how, see "Rolling back your system" on page 69.

Tip   If you do not have sufficient privileges to save a checkpoint in this manner, simply make note of the date and time and restart your computer. Every time you restart your computer, Live Backup checkpoints your protected data. You can use the date and time to reference this checkpoint.

Monitoring Live Backup Client connections

From the Live Backup Client Control Center, you can check the status of your local cache and network connections, view an error log, configure the client for the best possible network performance, configure notifications, and configure automatic updates. The Control Center contains the following pages of information:

■ **Client Engine**   Check client status

■ **Network**   Check network connection status

■ **Performance**   Configure performance

■ **Notifications**   Configure notifications to appear upon certain conditions

■ **Update**   Configure update settings (Super Users only)

You can use this information to determine if Live Backup Client is functioning properly and protecting files. You can also Test Live Backup Client's connection to the server.

Test Live Backup Client's connection to the server

At any time, you can test Live Backup Client's connection to the Live Backup Server. Since a connection is required for full backup and recovery, this test enables you to troubleshoot problems with replication, disk space usage, and recovery.

For example, if the Live Backup Client loses its connection to the Live Backup Server, then all protected data will be cached locally until the connection is resumed. Local caching of a large amount of data can cause the client computer to run lower than expected on disk space and could decrease performance. A lack of a connection will also limit the files that are available for recovery to those that are cached locally.

To test the connection:

1.   Click the **Start** menu and point to **Programs**. Point to **Atempo Live Backup**, and then click **Live Backup Server Connectivity Test**.

The Live Backup Server Connectivity Test begins.

2. Total progress displays at the bottom of the window. Check the **Status** area to determine the status of the connection:

   ■ **In progress**: Live Backup is checking the connection to the server.

   ■ **Tested successfully**: The Live Backup Client can connect to the Live Backup Server.

   ■ **Failed**: The connectivity test encountered an error. Live Backup will retry two more times. If it fails after three attempts, then the connectivity test fails. Failure may result if

      ■ There is no physical connection to the Live Backup Server.

      ■ The Live Backup Server is not running or is too busy to respond.

      ■ The client database has not yet been created on the Live Backup Server, or it is inaccessible due to server processing.

      ■ The Internet connection on the client computer is configured to work offline. You can modify this setting in Internet Explorer: under the **File** menu, clear the check beside **Work offline**.

   Contact the Live Backup Administrator for help with troubleshooting the failure.

3. When you have finished testing the connection or if you want to cancel the test in progress, click **Cancel**.

Tip You can also run this connectivity test from the **Check connection** button on the Control Center's Network page. See "Check network connection status" on page 19.

Check client status

For Live Backup Client to protect your files, it must be active and have enough free disk space available in the local cache to store files before transfer to the Live Backup Server. The Client Engine page of the Control Center provides this information about the system status, mode, and local cache.

Note For best results, your computer should have free disk space equal to at least twice the size of the largest file. A percentage of this disk space will be used for the local cache to store files temporarily until they are moved to the Live Backup Server.

To check client status:

1. Right-click the Live Backup Client tasktray icon and select **Control Center.**

   The Client Engine page of the Live Backup Control appears. Use this page to check Backup system status and Local cache status.

2. Check **Backup system** status. This section of the Client Engine page provides the following information:

   ■ **System is**: The Live Backup Client status. This status is also indicated in the Live Backup Client tasktray icon: see "What Live Backup is doing—The tasktray" on page 7.

   Active: Live Backup is protecting your files.

   Inactive: Live Backup is not protecting any files. This rare status indicates a serious problem that unloaded the client from memory or prevented it from loading altogether. The problem may be due to missing files, a corrupt installation, a driver or service that failed to start, or a Live Backup service that was stopped manually. For help, contact the Live Backup Administrator.

   Paused: You have paused versioning and Live Backup is not protecting files.

   Initializing: Live Backup is in the initial phase of connecting to the Live Backup Server, or it has paused itself as a result of restoring the local database, upgrading, or rolling back the system. As soon as the process completes, the status will return to the normal active state.

   Disabled: The client account has expired. Expired clients are stopped: no new versions are created and no local or remote recovery operations are available. See your Live Backup Administrator.

- **Mode**: The Mode indicates the status of your cache and synchronization with the server. If the Mode includes the text *Scan Running*, then the Live Backup Client is synchronizing the local disk data with the server.

  Normal: Live Backup is protecting your files.

  Conserving Space: The local cache is running out of disk space, so Live Backup is attempting to limit the flow of data into the cache. You may encounter this problem if you are working with very large files, bandwidth is limited, server connections have been sporadic, or if disk space is low. To remedy this situation, either increase the available disk space, or decrease the volume of data being backed up. To decrease the volume of data, check with your Administrator to ensure that large archive files and unnecessary multimedia files are being discarded. Also make sure you occasionally connect to the server over a high bandwidth connection. You can also modify your Performance settings: see "Configure performance" on page 22.

  Out of space: The local cache is out of disk space, and the cache space usage setting in the Performance tab is at its maximum level. Although the computer may still have some free disk space, this space may not be allocated to the local cache because Live Backup prevents you from increasing the amount of space that the local cache can consume to dangerous levels. No more files will be protected until you connect to the Live Backup Server and allow the existing files in the cache to replicate. If you are already connected to the Live Backup Server, you only need to wait for the files in the cache to be moved to the server. Once moved, cache space is freed and the Mode should return to Normal.

- **Client name**: The full compound name of the Live Backup Client account on the Live Backup Server. This name includes group membership and appears in the following format: **ClientName@GroupName.ParentGroup**.

- **Errors**: The normal status is that no errors have been detected. If errors have been detected, a warning icon appears here as well as in the tasktray icon. To see an error log displayed in Notepad, click the **View** button. The error(s) that caused this status appears in the log file preceded by an exclamation point, "(!)". Save this file, and then contact your system administrator for help in resolving the errors. To clear the error message and icon, click **Clear**. The log will remain available for troubleshooting. See also "What Live Backup is doing—The tasktray" on page 7.

3. Check the **Local cache status**. This section of the Client Engine page provides the following information:

   - **Maximum cache size**: The maximum amount of disk space that the cache may consume, if the allocated cache setting is at its maximum level in the Performance page.

■ **Cache in use**: The total size of all files in your local cache folder that still need to be transferred to the Live Backup Server. This total is equal to the sum of the current amount of data in the cache plus any overhead. The percentage of the available cache space used also appears.

■ **Number of files in cache**: The number of unique files in the cache. If a single file has two versions in cache, each version counts individually toward the total.

■ **Location**: The full path to the local cache, selected during the Live Backup Client installation.

4. To close the Control Center, click **OK**.

Check network connection status

You can check Live Backup Client's connection to the Live Backup Server to ensure that your files are protected. You can also determine whether you need to modify your connection settings for the best network and system performance. Finally, you can disable or enable your connection to the Live Backup Server. You may want to disable the connection temporarily if the computer has a low bandwidth connection to the network. While disconnected, files will continue to receive protection in the local Live Backup cache.

To check network connection status:

1. Right-click the Live Backup Client tasktray icon and select **Control Center.**

2. Click the **Network** tab.

The Network page of the Live Backup Control Center appears. Use this page to check network connection, replication, and encryption status.

■   **Last server status update**: The status of the client's last attempted communication with the Live Backup Server. It may be any of the following:

Normal: Live Backup Server is ready to accept backup data from your computer.

Maintenance Tasks Running: Live Backup is stopped on either your computer or the Live Backup Server due to data archiving, disaster recovery, server backup, upgrade, or a manual server stop. This status can appear if the client database has reached the maximum size configured in the Live Backup Console. See your Live Backup Administrator.

If this status appears in conjunction with System is Initializing status on the Client Engine page, then the version of Live Backup Client in incompatible with the Live Backup Server version. Upgrade Live Backup Client: see "Upgrading Live Backup Client" on page 85.

No Authorization: Your computer is not authorized to connect to the Live Backup Server, or the Live Backup Administrator has not yet added it to the Live Backup Server for protection.

Activation Pending: Live Backup Server has created the client account, but has not yet allocated storage for its protected files.

Out of Disk Space Quota: The Live Backup Server has stopped accepting backup data from your computer because the maximum space quota has been reached on the server. A message warning you of this status will appear every time you log on until the problem is resolved. Contact your Live Backup Administrator for assistance.

Account has Expired: The client account on the Live Backup Server has expired. The client is stopped: no new versions are created and no recovery operations are available. See your Live Backup Administrator.

Redirection Requested: The client account is in the process of being redirected to a new Live Backup Server. Once the redirection is complete, normal functionality will resume.

■   **Last successful connection**: The date and time of the last successful communication with the Live Backup Server.

■   **Average connection speed**: The average effective file transfer rate from the client to the server as calculated over 5 minutes of data transfer and updated on a 10 second interval. Note that this value does not coincide with the network connection speed, because this value depends on the size of HTTP data packets sent to the server. During initial replication, Live Backup sends full packets,

which may be processed quickly, so results in a relatively higher average connection speed. However, during normal operation, Live Backup sends many incremental changes that are transmitted in multiple variable, smaller HTTP packets, which take longer to process. This incremental versioning causes the effective file transfer rate to drop.

- ■ **Mode**: *Normal*, *Roaming/Low Bandwidth*, meaning autothrottle is on, or *Connection Disabled*, meaning the connection to Live Backup Server has been disabled, and no data is being sent or received from the server.

- ■ **Server**: The name of the Live Backup Server. If the client is in the process of redirection, then both the original server name (source) and the new server name (target) appear.

- ■ **Encryption**: The level of encryption applied to data during transport to the Live Backup Server.The encryption may be

  Enhanced (128-bit cipher): Data is encrypted using the RC4 method supported by the Microsoft Enhanced Crypto Provider. This is the strictest security available.

  Base (40-bit cipher): Data is encrypted using the RC4 method supported by the Microsoft Base Crypto Provider.

  Failure: The required crypto provider is unavailable on the Live Backup Client. To fix this problem, you may try to apply the Internet Explorer High Encryption Pack.

  Off: Transport encryption is disabled on the Live Backup Server.

- ■ **Current**: If your computer is connected to the Live Backup Server, this is the name of the file currently being transferred to your computer's backup database on the server.

3. To test the connection between the Live Backup Client and the Live Backup Server computers, click the **Check connection** button. The Live Backup Server Connectivity Test begins. For more information on this test utility, see "Test Live Backup Client's connection to the server" on page 15.

4. To disable Live Backup Client's connection to the Live Backup Server, select the **Disable connection** check box. No data will be transferred between the client and the server for backup or recovery, and protection settings will not be downloaded to the client. Files will continue to receive protection locally in the Live Backup Cache. This feature requires Power User privileges. See your Live Backup Administrator for details.

5. When you have finished viewing network status, click **OK**.

Configure performance

Because Live Backup is constantly monitoring your file changes and transmitting the changes to the Live Backup Server, it uses some of your system resources. However, after initial replication, the effect on your system resources is minimal–you should notice no change whatsoever. If you are noticing any change in your system's performance, you may be able to improve it.

To configure performance:

1. Right-click the Live Backup Client tasktray icon and select **Control Center.**

2. Click the **Performance** tab.

3. To adjust how much disk space is used to cache files locally before moving them to the Live Backup Server, slide the **Allocated cache** slider to the right (**Max**) or to the left (**Min**).

    Decrease the disk space usage if your hard drive is running low on free space and this state is affecting your work or your system's performance. At the lowest setting, Live Backup transfers only one file at a time into the cache.

4. To adjust how quickly files are transferred to the Live Backup Server, slide the **Network bandwidth usage** slider to the right (**Max**) or to the left (**Min**), which represents a scaled throttling factor from 10 to 0, respectively.

    Live Backup manages network bandwidth usage by adding a delay after sending each data packet to the server. At the maximum slider position, there is no delay, and data is sent continuously. This is the default. So the higher the Network bandwidth usage, the faster files will be transferred to the server.

    If you decrease the Network bandwidth usage setting, then Live Backup calculates the

time delay as follows:

```
Delay = (<Packet Send Time> + <Server Confirmation Time>) *
                        <Throttling Factor>
```

5. Live Backup can automatically lower the network throttle when the connection to the server is slow. To configure this automatic throttling, select the **Enable automatic bandwidth usage adjustment** check box.

   When Live Backup detects a slow connection (less than 10 KBps), it will lower the network traffic to 30% of its current setting, and the client will send packets to the server at this rate. If a normal connection is detected, such as a physical connection to the Live Backup Server, then Live Backup transfers at the rate selected in Network bandwidth usage, regardless of the selection of this check box.

6. To close the Control Center, click **OK**.

Note Live Backup determines the amount of disk space it may use to cache files by subtracting 3% of the total disk space (or 10 MB, whichever is greater) from any free disk space, and using the remainder as available cache space. This remainder is then multiplied by the Allocated cache setting to determine the actual amount of space used.

[(Total disk space - Used disk space) - (Total disk space * 3%)] * Allocated cache%

For example, if you have a 1.0 GB drive with 500 MB used, then Live Backup takes the 500 MB free space and subtracts 30 MB (3% of 1.0 GB), leaving 470 MB available for cache space. By default, the Cache drive space usage is set to 50%, so this value of 470 MB is multiplied by 50%, leaving 235 MB available for your Live Backup cache.

[(1000 MB - 500 MB) - (1000 MB * 3%)] * 50% = 235 MB

Adjusting the **Allocated cache** option increases or decreases this default 235 MB.

Tip If you are using a dial-up connection to the network, you may want to decrease the Network bandwidth usage setting to avoid saturating your connection.

Tip To help speed up file transfer, you may increase the Network bandwidth usage setting during the initial replication to the Live Backup Server. This change should not affect your network's performance significantly; however, if you observe any impact on network performance, you may lower the Network bandwidth usage setting again.

Configure notifications

You can configure Live Backup Client to notify you of important events such as when it is disconnected from the server and no data is protected. This notification process will help you address potential problems faster and ensure data protection. You must have at least Power User privileges to configure notifications.

To configure notifications:

1.   Right-click the Live Backup Client tasktray icon and select **Control Center.**

2.   Click the **Notifications** tab.

3.   Select the check boxes beside the situations in which you want to receive a notification. You have the following choices:

- **After client has been disconnected for *xx* working hours**: There has been no connection to the Live Backup Server for the specified number of hours that Live Backup Client has been running (hours when the computer is shut down are not counted). The client could be in the disconnected state due to a manual disconnect, physical connection error, such as cables unplugged, or a server error.

- **After client has expired**: The expiration date configured on the Live Backup Server for this client has been reached.

- **After client has exceeded the storage quota allotted**: The amount of storage space allocated to the client on the Live Backup Server has been exceeded. The Live Backup Server can accept no more data from this client until the Live Backup Administrator increases the storage space allocated to it.

4.   Click **OK**.

Configure update settings

If either the logged in user or the Live Backup Client has Super User access, then the Update tab appears in the Control Center. From the Update page, you can configure how Live Backup Client software updates will be applied: you can either have Live Backup install updates as soon as they are available or request that you be notified first.See also "Security" on page 30.

To configure update settings

1.   Right-click the Live Backup Client tasktray icon and select **Control Center**.

2.   Click the **Update** tab.

3.   In this page, you can select how you want to receive updates to Live Backup Client. By default, updates will be performed automatically.

4.   To enable automatic updates, select the **Update Live Backup Client automatically whenever an update is available** option button. When an update is available, Live Backup will install it for you.

5.   To receive a message about available updates before applying them, select the **Notify me when new updates are available** option button. When an update is available, Live Backup displays a message about the update with instructions on how to apply it.

6.   To close the Control Center, click **OK**.

Note   The Update tab in Control Center appears only if the Live Backup Client computer or the user logged in to the Live Backup Client computer has Super User privileges. By default, Live Backup launches the update automatically for all other users, unless a Super User changed this option previously.

Configuring protection preferences

Given the appropriate Backup Profile Administrator permissions from the Live Backup Administrator, you can configure which data is protected on your client computer. If Live Backup is configured with full system protection, you can configure which data to exclude using discardable data settings. If it is configure for User Document Only or Express protection, you can configure both which data to exclude using discardable data settings, as well as which data to include using protected data settings.

You can configure protection using the Live Backup Clients Management Console, which you can run by pointing your browser to **http:\\servername\lbconsole**. Make sure to contact your Live Backup Administrator to obtain proper permissions and user credentials to access this console. For more information on the Live Backup Clients Management Console, see the *Live Backup Group Administrators Guide*.

Responding to notifications

If you have configured Live Backup Client to notify you in case of connection, expiration, or storage issues, you will receive warnings when these conditions arise. The warning appears initially as a minimized message box. To get your attention, it will blink in the task bar.

If you see one of these messages, click the blinking taskbar item to maximize it. The message may indicate one of the following situations. See the message descriptions below to learn how to respond to each.

■   **Live Backup Client has failed to connect**: There has been no connection to the Live Backup Server for the specified number of working hours. Working hours are the hours during which Live Backup Client is running; hours when the computer is shut down are not counted. The cause may be:

   Physical connection error   Check the cables and other hardware to ensure a network connection is possible.

   Manual disconnect   The **Disable connection** check box is selected in the Network page of the Control Center. To reconnect, clear this check box. See "Check network connection status" on page 19.

   Server error   There is an error on the Live Backup Server preventing the connection. See the Live Backup Administrator.

■   **The client account has expired**: The expiration date configured on the Live Backup Server for this client has been reached. To reset the expiration date, see the Live Backup Administrator.

■   **The client account has exceeded the storage space quota**: The amount of storage space allocated to the client on the Live Backup Console has been exceeded. To allocate more storage space to the client, see the Live Backup Administrator.

Pausing and resuming protection

You can stop Live Backup Client from versioning files to the Live Backup Server temporarily. You may want to pause protection if your system is not functioning properly, and you want to troubleshoot the problem. This feature is available only if either the client is assigned Super User access, or if the logged in user has been granted Super User access; otherwise, Pause is disabled. For more information on user privileges, see "Feature lockdown" on page 31.

Warning	During the period that versioning is paused, no new backups of your files will be saved. Therefore, file changes made during that period are *not* protected. However, these files will be protected when you deselect **Pause**.

To pause protection:

■   To temporarily stop creating and sending backup versions of your files to the Live Backup Server, right-click the Live Backup tasktray icon and select **Pause**.

A check appears beside this menu item to indicate its selection, and the Live Backup icon changes to the paused state.

Note	During any software installation, Live Backup Client will automatically pause itself. Once installation is complete, Live Backup Client will resume protection.

To resume protection:

■   To begin creating and saving backups again, right-click the Live Backup tasktray icon and select **Pause**.

The pause symbol is removed and the Live Backup icon changes back to an active state. See "What Live Backup is doing—The tasktray" on page 7.

Disabling the server connection

If you have Power User privileges, you can disable the connection between the Live Backup Client and the Live Backup Server. When you disable the connection, no data will be transferred between the client and the server for backup or recovery, and protection settings will not be downloaded to the client. Files will continue to receive protection locally in the Live Backup Cache.

To disable the server connection:

■ To temporarily stop transferring data to the Live Backup Server, right-click the Live Backup tasktray icon and select **Disable connection**.

A check appears beside this menu item to indicate its selection, and the Live Backup icon changes to the disconnected state.

To enable the server connection:

■ To begin transferring data to the server again, right-click the Live Backup tasktray icon and select **Disable connection**.

The Live Backup icon changes back to an active state, and data transfer resumes.

Note   You can also disable the connection from the Network page of the Control Center. Note that if this page is open when you choose Disable Connection from the menu, then the connection will not be disabled until you close the Control Center. See

---

Security

Because Live Backup is making copies of all your files and backing them up to the server, you may be concerned about security. But don't worry. . . Live Backup not only protects your data from loss, it secures the backups from snooping and theft. Live Backup imposes the following security measures to protect your files:

■ Encryption

■ Feature lockdown

Encryption

Live Backup encrypts files during both transmission to the Live Backup Server for backup and transmission back to your client computer for recovery. Data sent between the client and server is encrypted by a session-specific key on both the client and server. The level of encryption applied to your data during transport appears in the Network page of the Control Center. See "Check network connection status" on page 19.

Once transmitted to the Live Backup Server, your files are encoded using a common server-wide key. They are then stored in Microsoft SQL databases. Since Microsoft SQL protects stored data by user access restrictions, your files are doubly protected (Live Backup encryption plus SQL access restrictions).

Feature lockdown

One way Live Backup secures your computer's files is by locking out features through privileges assigned to client computers and users. This security is configured by the Live Backup Administrator.

When each computer is added to Live Backup as a Live Backup Client, the administrator assigns it a default user access level. All users who log into this Live Backup Client computer will have at least the access rights assigned to the client as follows:

	No access	User	Power User	Super User
Protect files	X	X	X	X
Recover files/folders		X	X	X
Tune performance		X	X	X
Save checkpoint		X	X	X
Request system image		X	X	X
System rollback			X	X
Configure notifications			X	X
Disable/enable connection			X	X
Pause/resume versioning				X
Configure update				X

In addition, the administrator may assign each user individual access privileges. If a user is granted individual privileges, then when s/he logs into a Live Backup Client computer, then s/he receives whichever privileges (user or client) are greater.

For example, if a Live Backup Client has granted User access, and the user who logs into the computer has Power User privileges, then that user will be given Power User access to that particular Live Backup Client computer. Users who were not granted individual access will have only the default User access assigned to the client.

Either way, each time someone logs into your computer, Live Backup checks the user's Live Backup status and grants privileges and/or imposes restrictions on his/her access, depending on the rights assigned to that user and client by the system administrator. These privileges ensure that non-Live Backup users cannot perform undesired file recoveries or system rollbacks, while also guaranteeing you the backup and recovery access you need.

Regardless of the access rights assigned to the user logged into a Live Backup Client computer, the client computer's files will always be backed up to the server. Any Live Backup User may restore files on any Live Backup Client computer; however, files can be restored only to the client computer from which they were backed up.

Note	Any features to which you have not been granted access through feature lockdown will be unavailable and therefore dimmed.

Note	To perform a system rollback, a Power User or Super User must also have local administrative privileges.

Note	If you are logged in with administrator privileges under Windows Vista, you will see a Windows User Account Control dialog box whenever you run the Recovery Assistant. To launch the Recovery Assistant, click **Continue**.

C H A P T E R   3

Recovering a lost file

3

Once your drive has been completely mirrored to the Live Backup Server, you can recover any protected file that was corrupted, lost, or accidentally overwritten. Even when your computer is disconnected from the network, you can recover recent files from your local cache folder. You can recover any available version to a folder you select. Live Backup offers two ways to recover files for both the user who needs a little extra help as well as the expert.

- If you want a little extra help, or you want to recovery multiple files, you can use the Recovery Assistant to walk you through the steps of file recovery. Use this method if you are not sure where to look for the file you want to restore, or if you want to restore a deleted file.

- If you're an expert user, you can restore a particular version of a file directly from Windows Explorer. Use this method if you know the precise name and location of the file you want to restore.

The remainder of this chapter describes both of these procedures for recovering individual files.

Things to remember about file recovery

■   You may recover any version for which you have permissions. The version of the file that is recovered will retain the exact permissions with which it was backed up. If you have at least read permissions, you can recover the version to a new folder. To replace the original file, you must have adequate permissions on that file as well as the folder location.

■   If the file that you want to recover has been deleted, but is still recoverable, then the file's icon will appear dimmed in the Matching files list of the Recovery Assistant.

■   In the Recovery Assistant, folders that have been deleted, but contain files that are recoverable, are indicated with a red folder icon rather than the default yellow icon.

■   If the file that you want to recover has been deleted as part of a folder deletion, then the full path to the file will be recovered unless you select Save As in the final page of the Recovery Assistant.

■   If the computer is disconnected from the network, and the Recovery Assistant contains the text "No versions found," then no local versions are available for recovery. Versions may be available on the Live Backup Server, but you must connect to the server to restore them.

■   If Live Backup Client is disconnected from the Live Backup Server, you can restore full versions of files from the local cache. Incremental versions stored in the cache may not be recovered in disconnected mode.

■   Due to special security attributes available under NTFS, you may not preview or recover a file created under the NTFS file system to any FAT volume. If you need to recover an NTFS file, then restore to an NTFS file system volume.

■   If the path in which you decide to recover a file contains symbolic links, Live Backup will display a warning message containing the actual target path. You may continue or cancel the recovery at that time.

Recovering a single file using the Recovery Assistant

The Recovery Assistant is a wizard that guides you through the process of recovering a file. It helps you locate the correct file by providing search criteria, then it offers you a list of files that match the criteria you selected. Finally, you can choose the version you want to restore and where you want to save it.

To use the Recovery Assistant:

1.   Run the Recovery Assistant: Click the **Start** menu and point to **Programs**. Point to Atempo Live Backup, and then click **Recovery Assistant**.
Or click the Live Backup tasktray icon.

The Live Backup Recovery Assistant appears. This wizard will help you recover your file in a simple step-by-step procedure.

2. Read the Welcome screen, and then click **Next**.

3. In the first page, click **I need to recover a lost file or restore a previous file version**,
    and then click **Next**.

    The File Criteria page appears. In this page, you can select criteria on which Live
    Backup Recovery Assistant will search for the file you want to restore.

4. To help narrow Live Backup's search for your file and decrease the total recovery
    time, select the check boxes beside the information you know.

    ■   **I know where I kept the file on disk**: Select this check box if you know the
        folder in which you saved the file. This option is useful if you accidentally
        moved the file to a new location, but you're not sure where.

■ **I know what kind of data the file contained**: Select this check box if you know the name of the application that created the file and/or the file's extension (the two, three, or four letters following the period in the file name).

■ **I know I saved the file sometime within the last *x* minutes**: Select this check box if the file has been changed recently. If you select this option, make sure you select the time interval within which you last worked with the file—from 1 to 59 minutes. The default is 10 minutes.

If you don't know all of this information, select any combination of the options, or leave all the check boxes cleared. If you leave all the check boxes cleared, Live Backup will let you choose from all of the files it has backed up. Don't leave all the options cleared unless you know nothing about the file, because the total recovery time will be longer.

Click **Next**.

5. If you chose **I know where I kept the file on disk**, then the Select Folder page of the Recovery Assistant appears; if not, skip to number 6 in this procedure. The Select Folder page enables you to choose a location from which you want to restore a file.

Click the + to expand the drive of the file's last known location, and then click the + beside each subfolder in the file's path. When the full path is expanded, click the final folder in which the file was located.

The path you chose appears at the bottom of this page. If you know all or part of the file's name, you can type it at the end of this path.

Click **Next**.

6. If you chose **I know what kind of data the file contained**, then the Select File Type page appears; if not, skip to step 7 in this procedure. This page enables you to choose the type of file to recover.

- If you know the file extension, click the **Extension** heading of the **File types** list to sort the registered file types by their extension. If you know the application that created the file, click the **Type** heading to sort the list by application name. Only registered file types are available.

- Click the file type that you want to recover. You can choose more than one by holding down the **Ctrl** key as you click each type.

Click **Next**.

7. The Select File page of the Recovery Assistant appears, listing all files that match the criteria you selected in the previous pages.

In the **Matching Files** list, click the file that you want to recover.

If you still do not see the file, click **Back** to refine your search criteria.

After you have selected the file you want to recover, click **Next**.

8.   The Choose Version page of the Recovery Assistant appears, listing the versions of the chosen file that Live Backup has saved.

9.   Click the version of the file that you want to recover. Higher version numbers correspond to more recent versions.

Although Live Backup can restore versions of files while the computer is disconnected from the network, it cannot guarantee that *all* versions will be available for restoration without the network connection. In the Recovery Assistant, the icon that appears beside the file indicates its availability:

If the icon is green with a check, you can recover the file.

If the icon is red with an X, then you cannot restore the version until you connect to the Live Backup Server.

If you're not sure which version to restore, click a version, and then click the **Preview** button.

Note that if you select **Preview**, Live Backup creates a temporary version for you to view. Use this feature to verify that the file you are restoring is the version you want. Do not try to save or edit this file, as it will be deleted once the preview is closed.

Once you have selected the desired version, click **Recover**.

10.   A dialog box appears giving you the option to Save or Save As.

- ■   To overwrite the original file, click **Save**

- ■   To preserve the original file and choose a new name and/or location for the version that will be restored, click **Save As**, and then choose a new name and location.

11.   The Recovery Assistant searches the Live Backup Server for the version you selected and displays a status bar indicating the progress. When the file has been recovered, the Completing the Live Backup Recovery Assistant page appears.

Click **Finish**.

Recovering multiple files using the Recovery Assistant

In addition to enabling you to recover a single file, you can use the Recovery Assistant to recover multiple files that are located in any folders. It helps you locate the files by providing search criteria, then it offers you to choose which versions you want to recover by either a specific date and time or by a checkpoint. You can choose where you want to save recovered files, and even preview versions before recovery.

To recover multiple files:

1.   Run the Recovery Assistant: Click the **Start** menu and point to **Programs**. Point to Atempo Live Backup, and then click **Recovery Assistant**.
Or click the Live Backup tasktray icon.

The Live Backup Recovery Assistant appears. This wizard will help you recover your files in a simple step-by-step procedure.

2.   Read the Welcome screen, and then click **Next**.

3.   In the first page, click **I need to recover a lost file or restore a previous file version**, and then click **Next**.

The File Criteria page appears. In this page, you can select criteria on which Live Backup Recovery Assistant will search for the file you want to restore.

4.   To help narrow Live Backup's search for your file and decrease the total recovery time, select the check boxes beside the information you know.

■   **I know where I kept the file on disk**: Select this check box if you know the folder in which you saved the file. This option is useful if you accidentally moved the file to a new location, but you're not sure where.

- ■   **I know what kind of data the file contained**: Select this check box if you know the name of the application that created the file and/or the file's extension (the two, three, or four letters following the period in the file name).

- ■   **I know I saved the file sometime within the last *x* minutes**: Select this check box if the file has been changed recently. If you select this option, make sure you select the time interval within which you last worked with the file—from 1 to 59 minutes. The default is 10 minutes.

If you don't know all of this information, select any combination of the options, or leave all the check boxes cleared. If you leave all the check boxes cleared, Live Backup will let you choose from all of the files it has backed up. Don't leave all the options cleared unless you know nothing about the file, because the total recovery time will be longer.

Click **Next**.

5.   If you chose **I know where I kept the file on disk**, then the Select Folder page of the Recovery Assistant appears; if not, skip to number 6 in this procedure. The Select Folder page enables you to choose a location from which you want to restore a file.

Click the + to expand the drive of the file's last known location, and then click the + beside each subfolder in the file's path. When the full path is expanded, click the final folder in which the file was located.

The path you chose appears at the bottom of this page.

Click **Next**.

6. If you chose **I know what kind of data the file contained**, then the Select File Type page appears; if not, skip to step 7 in this procedure. This page enables you to choose the type of file to recover.

■   If you know the file extension, click the **Extension** heading of the **File types** list to sort the registered file types by their extension. If you know the application that created the file, click the **Type** heading to sort the list by application name. Only registered file types are available.

■   Click the file type that you want to recover. You can choose more than one by holding down the **Ctrl** key as you click each type.

Click **Next**.

7. The Select Files page of the Recovery Assistant appears, listing all files that match the criteria you selected in the previous pages.

In the **Matching Files** list, click all files that you want to recover.

If you do not see the files you want to recover, click **Back** to refine your search criteria.

Click **Next**.

8. The Restore by... page of the Recovery Assistant appears, giving you the choice to restore to a specific time or from a selected checkpoint.

■ To restore files by a specific date and time, click **Choose a date and time to which you want to recover**. Choose this option if you have a set date and time at which you know all the files you are recovering are in the desired state. For example, if a project you were working on crashed some time this morning, you may want to choose to restore all the project files to last night.

■ To restore files to the state at which they existed in a checkpoint, click **Select a checkpoint from which versions will be recovered**. A checkpoint is a stable state of your system at any given point in time. Checkpoints are created every time you restart the computer, as well as overnight. If you choose this option, you will have the option to choose a specific checkpoint in the next screen, and all files will be restored to the version that existed when the checkpoint was taken.

Click **Next**.

9. If you chose to recover by date and time on the previous page, then the Select a Date and Time page appears. Otherwise, go to step 10.

Choose the date and time to which you would like to roll back the files. A range of valid dates appears at the bottom of this page.

In the **Date** area, select the month and year, and then click the date in the calendar.

In the **Time** area, type the time to which you want to rollback the files. Once you enter a time, the clock stops.

Click **Next**.

10. If you chose to recover from a checkpoint in step 8, then the Choose a Checkpoint page appears.

In the **Saved system checkpoints** list, click the checkpoint that contains the versions of your files that you want to restore. System checkpoints, which contain all information required for a full recovery of your entire system, have a gears icon beside them; data checkpoints, which enable recovery of one or more files, have a file icon beside them. You can use either type of checkpoint for multi-file recovery. Note that any checkpoint that may have exceptions (missing files) displays a small yellow caution icon as well.

To view only checkpoints that you have created from the Save System Checkpoint command, select the **Hide automatic checkpoints** check box.

If you want more information on checkpoint with exceptions, select the checkpoint, then click the **View exceptions** button: See "Working with checkpoints" on page 8.

Click **Next**.

11.   The Preview the Recovery Results page appears.

This page displays a list of all files that will be recovered.

To preview a file, click the file in the **Versions** list, and then click the **Preview** button. Use preview to verify that the file you are restoring is the version you want. Do not try to save or edit this file, as it will be deleted once the preview is closed.

To cancel the recovery of any file, clear the check box beside it.

Click **Next**.

12.   The Choose Destination page appears.

A dialog box appears giving you the option to overwrite the existing files or recover to a new location.

■   To overwrite each file in its original location, click **Recover each file in its original location**.

■   To preserve the original files and choose a new location for the versions that will be restored, click **Recover all files to the following location**, and then type a new location, or click **Browse** and choose one.

Click **Recover**.

13.   The Recovery Assistant searches the Live Backup Server for the versions you selected and displays a status bar indicating the progress. When the files have been recovered, the Completing the Live Backup Recovery Assistant page appears.

Click **Finish**.

Recovering a file from Windows Explorer

From Windows Explorer, you can recover a saved version of any file using the file's right-click context menu.

To recover files using the context menu:

1. Run Windows Explorer and open the folder containing the file you want to restore.

2. Right-click the file you want to restore, and then click **Recover Version**.

3. The Choose Version page of the Recovery Assistant appears, listing the versions of the chosen file that Live Backup saved.

4. Click the version of the file that you want to recover. If you're not sure, click a version, and then click the **Preview** button.

Note that if you select **Preview**, Live Backup creates a temporary version for you to view. Use this feature to verify that the file you are restoring is the version you want. Do not try to save or edit this file, as it will be deleted once the preview is closed.

Once you have selected the desired version, and click **Recover**.

5. The Recovery Assistant searches for the version you selected on the Live Backup Server and displays a status bar indicating the progress. When it has located the file, you have the option to Save or Save As.

   To overwrite the original file, click **Save**.

   To preserve the original file and choose a new name and/or location for the version that will be restored, click **Save As**, and then choose a new name and location.

6. When the file has been recovered, the Completing the Live Backup Recovery Assistant page appears.

7. Click **Finish**.

Note If you don't know the location of the file you want to restore, you can use the Recovery Assistant to help you track it down by its document type and/or the last time you changed it. See "Recovering a single file using the Recovery Assistant" on page 35.

Note If you select Recover Version on an LNK file, then Live Backup will attempt to recover the target file of the link, not the LNK shortcut file itself.

C H A P T E R   4

Performing a Web Recovery

4

Given proper Client Computer Owner permissions by the Live Backup Administrator, you can download any protected file from specific clients to your local computer over the internet. You do not need to be logged onto the Live Backup Client computer.

To perform this Web Recovery, the Live Backup Administrator can assign you permissions to recover files from one or more clients. You can then connect to the internet, and point any browser to the URL given to you by the administrator. After providing credentials, you can then browse all clients for which you have permissions, and choose any protected file to download to the local computer.

The remainder of this chapter describes how to use Web Recovery.

Things to remember about Web Recovery

- To recover files, you must be granted recovery permissions to the client account from the Live Backup Administrator. You must enter your user name and password before you can access the Recovery Center.

- You can recover only one file at a time.

- Recovered files are downloaded to your local computer, not the original Live Backup Client computer. You choose the location.

- When Live Backup recovers files through the Web, it performs a basic download. This means that file attributes such as read-only, archive, creation time, etc., will not be restored.

- To use Web Recovery, your browser must be configured to allow downloading files from the Live Backup Server. In Internet Explorer, you can accomplish this by adding the Live Backup Server URL to your trusted sites.

  - From the Internet Explorer **Tools** menu, select **Internet Options**.

  - Click the **Security** Tab.

  - Under **Select a zone**, click **Trusted Sites**, and then click the **Sites** button.

  - In the **Add this Web site to the zone** box, type the URL to your Live Backup Server. If you have not configured web recovery for SSL, then make sure the **Require server verifications (https://) for all sites in this zone** check box is cleared, and then click **Add**. Click **Close**.

  - Close Internet Options.

Performing a Web Recovery from the Recovery Center

The Recovery Center is a Web-based recovery tool that enables you to download any protected file from any client for which you have permission. All you need is proper authority, an internet connection, and a Web browser.

In the following procedure, Internet Explorer is used as an example. Note that the Recovery Center screens may look slightly different depending on the browser that you use. The functionality remains the same.

To run a Web recovery:

1. On a computer with an internet connection, run a Web browser.

2. Go to **http://***servername***/LBRecovery**. You'll need to get the full path from your Live Backup Administrator.

3. In the Connect dialog box that appears, type your Live Backup user name and password, and then click **OK**.

4. If you have permissions to recover files from more than one client, then the Live Backup Clients List appears.

Otherwise the Recovery Center appears. Go to step 5.

The Recovery Center lists all clients for which you have permission to access and recover files. Find the client from which you want to recover a file, and then click the button in the first column of that client's row.

5.   The Live Backup Recovery Center appears

6.   In the tree control on the left hand side of the Recovery Center, navigate to the folder that contains the file you want to download.

7.   Files in the selected folder that are available for recovery appear in the **Protected files** list. To help you locate the correct file, the file name, size, type, and date modified appear. The date modified is the most recent copy of the file available in Live Backup.

In the **Protected files** list, click the button beside the file you want to download.

8.   The **Versions** list displays every version of the selected file that is available for recovery. The higher the version number, the more recent the version. Once you locate the version you want to recover, click the download button beside it.

Your browser's standard File Download dialog box appears.

9.   You can open or save the file:

- ■   To open the file, click **Open**.

- ■   To save the file to a local drive, click **Save**, and then choose a file name and location from the Save As dialog box.

10.   As Live Backup downloads the file, a progress bar appears. When it completes, your browser's standard Download Complete dialog box appears.

Use the available options to open the file, open the folder where the file was downloaded, or just close this dialog box.

You can now download another file or close the Recovery Center. When you close the Recovery Center, make sure you close all browser windows and exit the browser, to ensure that your user credentials remain secure.

C H A P T E R   5

Recovering a folder

5

Once your drive has been completely mirrored to the Live Backup Server, you can recover all protected documents in any available folder. These documents may be recovered back to any point in time. Your computer must be connected to the Live Backup Server to recover a folder. Live Backup offers two ways to recover folders for both the user who needs a little extra help as well as the expert.

■ If you want a little extra help, you can use the Recovery Assistant to walk you through the steps of folder recovery. Use this method if you are not sure where to look for the folder you want to restore, or if you want to restore a deleted folder.

■ If you're an expert user, you can restore a particular version of a folder directly from Windows Explorer. Use this method if you know the precise name and location of the folder you want to restore.

The remainder of this chapter describes both of these procedures for recovering folders.

Things to remember about folder recovery

■   Live Backup can restore the contents of a folder only when the computer is connected to the Live Backup Server.

■   Live Backup restores all files in a folder. If you want to recover only specified files in a particular folder, use the Recovery Assistant to recover individual files. See "Recovering a lost file" on page 33.

■   To recover a folder that is part of the operating system or part of a software application, you must have at least Power User privileges.

■   Live Backup restores folders to their original locations, only.

■   In the Recovery Assistant, folders that have been deleted, but are recoverable, are indicated with a red folder icon rather than the default yellow icon.

■   If Live Backup encounters an error recovering any file during a folder rollback, a message appears. This message indicates the name of the file causing the problem and offers you the choice to Abort, Retry, or Ignore. It is recommended that you first try again: click **Retry**. If the message appears again, then skip the file by clicking **Ignore**. If you decide to cancel the folder rollback, click **Abort**.

■   If the path in which you decide to recover a file contains symbolic links, Live Backup will display a warning message containing the actual target path. You may continue or cancel the recovery at that time.

Recovering a folder using the Recovery Assistant

The Recovery Assistant is a wizard that guides you through the process of recovering all files in a particular folder. First, you will select the folder you want to recover, and then you'll select which version you want to restore. Finally, the Recovery Assistant will restore the selected folder.

To recover a folder using the Recovery Assistant:

1.   Run the Recovery Assistant: Click the **Start** menu and point to **Programs**. Point to Atempo Live Backup, and then click **Recovery Assistant**.
     Or click the Live Backup tasktray icon.

2.   The Welcome page of the Live Backup Recovery Assistant appears. This wizard will help you recover your folder in a simple step-by-step procedure.

3.   Read the Welcome screen, and then click **Next**.

The Recovery Type page of the Recovery Assistant appears.

4. In the Recovery Type page, click **I need to recover an entire folder**, and then click **Next**.

The Choose Folder page of the Recovery Assistant appears.

5.   In the **Roll back the following folder** box, type the full path of the folder you want to recover. If you are not sure of the full path, click **Browse**.

Select the folder from the Browse for Folder dialog box, and then click **OK**. Note that folders that have been deleted from your system, but are available for recovery have red folder icons.

If you want to restore subfolders in the location you have chosen, select the **Include Subfolders** check box, and then click **Next**.

The Restore by... page of the Recovery Assistant appears.

6.   Choose whether to restore to a specific time or from a selected checkpoint.

■   To restore the folder by a specific date and time, click **Choose a date and time to which you want to recover**. Choose this option if you have a set date and time at which you know that the folder you are recovering is in the desired state. For example, if a project you were working on crashed some time this

morning, you may want to choose to restore the project folder to last night.

■   To restore files to the state at which they existed in a checkpoint, click **Select a checkpoint from which versions will be recovered**. A checkpoint is a stable state of your system at any given point in time. Checkpoints are created every time you restart the computer, as well as overnight. If you choose this option, you will have the option to choose a specific checkpoint in the next screen, and all files will be restored to the version that existed when the checkpoint was taken.

Click **Next**.

7.   If you chose to recover by date and time on the previous page, then the Select a Date and Time page appears. Otherwise, go to step 8.

Choose the date and time to which you would like to roll back the folder. A range of valid dates appears at the bottom of this page.

In the **Date** area, select the month and year, and then click the date in the calendar.

In the **Time** area, type the time to which you want to rollback the folder. Once you enter a time, the clock stops.

Click **Next**.

8. If you chose to recover from a checkpoint in step 6, then the Choose a Checkpoint page appears.

In the **Saved system checkpoints** list, click the checkpoint that contains the version of the folder that you want to restore. System checkpoints, which contain all information required for a full recovery version of your entire system, have a gears icon beside them; data checkpoints, which enable recovery of one or more files or a folder, have a file icon beside them. You can use either type of checkpoint for folder recovery. Note that any checkpoint that may have exceptions (missing files) displays a small yellow caution icon as well.

To view only checkpoints that you have created from the Save System Checkpoint command, select the **Hide automatic checkpoints** check box.

If you want more information on checkpoint with exceptions, select the checkpoint, then click the **View exceptions** button.: See "Working with checkpoints" on page 8.

Click **Next**.

9.   The Choose Destination page of the Recovery Assistant appears.

On the Choose Destination page, choose where you want to recover the selected folder.

To replace the current folder with a mirror image at the time and date you selected, choose **Recover folder in the original location. If the folder exists, its content will be rolled back to the selected time and date.**

To recover the folder to a new location, choose **Recover the entire folder and contents to a new location**, and then type that location into the box below, or click **Browse** and choose one.

Click **Recover**.

The Recovery Assistant analyzes your system for the recovery, and then rolls back

the folder using the options you chose. A status page displays progress.

10.   When recovery is complete, click **Finish**.

Recovering a folder from Windows Explorer

From Windows Explorer, you can recover a saved version of any folder using the folder's right-click context menu.

To recover a folder using its context menu:

1. Run Windows Explorer and navigate to the folder you want to restore.

2. Right-click the folder you want to restore, and then click **Recover Version**.

   The Folder Recovery Assistant appears. The folder you selected appears in the **Roll back the following folder** box.

   If you want to restore subfolders in the location you have chosen, select the **Include subfolders** check box, and then click **Next**.

   Repeat the procedure, "To recover a folder using the Recovery Assistant," starting with step 2.

C H A P T E R   6

Recovering your system

6

Live Backup maintains versions of all your Windows and application files and settings as well as your data files. These system backups are called system checkpoints because they take a snapshot of all the files on your computer at a particular time. These system checkpoints enable you to do the following:

■　Roll back your Windows operating system to a previously working version if you have problems with it due to a corrupted system file or failed software installation.

■　Restore an entire drive in case of a disaster such as hard drive failure or theft.

The remainder of this chapter describes how to work with system checkpoints. You will learn about the following

■　Requesting a system image

■　Rolling back your system

■　Recovering from a system disaster

If you want to learn more about checkpoints in general, see "Working with checkpoints" on page 8.

Important	To use any of the features described in this section, your Live Backup Client must be configured for Full System Protection. This level of protection is set by the Live Backup Administrator on the Live Backup Server.

Requesting a system image

You can send a request for a complete image of your system to the Live Backup Administrator. You choose the checkpoint. This system image can later be used in a local or network share disaster recovery procedure.

To get a disk image of your system:

1. Click the **Start** button, point to **Programs**, and then point to **Atempo Live Backup**. Click **Request System Image**.

    Or right-click the Live Backup tasktray icon and click **Request System Image**.

    The Request System Image screen appears.

2. In the **Saved system checkpoints** list, click the version of which you want to create an image. Choose one that you are sure is functioning properly. Checkpoints that include all files display a green check. Checkpoints that may contain exceptions display a yellow information icon.

3. To view only checkpoints that you have created from the Save System Checkpoint command, select the **Hide automatic checkpoints** check box.

4. If you want more information on checkpoint with exceptions, select the checkpoint, then click the **View exceptions** button: See "Working with checkpoints" on page 8.

5. Click **Send**. Live Backup sends a message to the Live Backup Server requesting that the administrator create a recovery image of your computer.

    You can later get a copy of that image in one of several formats, including CD/DVD, eSATA, Firewire or USB. To obtain the disk image in the format of your choice, see your Live Backup Administrator.

Rolling back your system

Using the Recovery Assistant, you can roll back your system if your computer is exhibiting unexplainable problems that did not occur in the past. This rollback will restore all files, including any documents you have created. Data types designated as "discardable data" will be ignored during System Rollback.

To roll back your system, your computer must be connected to the network, you must be a member of either the Power Users or Super Users groups, and you must have local administrator privileges. If you do not have sufficient privileges, the rollback option appears dimmed. For more information, see "Feature lockdown" on page 31.

To perform a successful, fault tolerant system rollback, you must have adequate free disk space on your hard disk. If you don't have enough disk space, Live Backup can continue with the rollback, but may encounter serious problems if your computer's connection to the Live Backup Server is lost during the rollback process. If Live Backup determines that the amount of free disk space is insufficient, it displays a warning with information about how you should continue.

This procedure is intended for restoring a system with which you are experiencing a few problems. Windows must still be running. If you cannot run Windows or if you need to perform a bare-metal disaster recovery, do not use the Recovery Assistant; rather, use Live Backup's Disaster Recovery procedure. See "Recovering from a system disaster" on page 72.

Note   During a System Rollback, Live Backup also rolls itself back to the version that existed in the selected checkpoint. For example, if you have just upgraded to version 3.20 yesterday, and then you roll back your system to a checkpoint from last week, Live Backup will revert to the previous version 3.11. After restart, Live Backup's auto update will notify you about the need to upgrade again.

To roll back your system:

1.   Click the **Start** menu and point to **Programs**. Point to **Atempo Live Backup**, and then click **Recovery Assistant**.

     Or click the Live Backup tasktray icon.

     The Live Backup Recovery Assistant appears. This wizard will help you roll back your system through a simple step-by-step procedure.

2.   Read the Welcome screen, and then click **Next**.

The Recovery Type page of the Recovery Assistant appears.

3. Click **My PC is no longer working correctly, and I'd like to fix it**, and then click **Next**.

    The Choose a System Checkpoint page appears, listing versions to restore.

4. In the **Saved system checkpoints** list, click the version of your system you want to restore. Checkpoints that include all files display a green check. Checkpoints that may contain exceptions display a yellow information icon.

    To view only checkpoints that you have created from the Save System Checkpoint command, select the **Hide automatic checkpoints** check box.

    If you want more information on checkpoint with exceptions, select the checkpoint,

then click the **View exceptions** button: See "Working with checkpoints" on page 8.

Make sure that you choose a checkpoint that matches the Windows operating system and architecture currently installed on the client computer.

Click **Next**.

5. As the Recovery Assistant analyzes your system for the update, a status page appears.

This analysis may take several minutes. When it completes, click **Next**.

A confirmation dialog box appears.

6. To view changes that are will be made to your system during rollback, click **View**.

To accept these changes, click **OK** in the confirmation dialog box. To reject the changes, click **Cancel**.

7. Live Backup copies the system, and then prompts you to restart. Click **OK**.

Your computer will restart, and your system will be rolled back to the saved version you selected.

Note	If Live Backup encounters an error recovering any file during a system rollback, a message appears indicating which file caused the problem and offers you the choice to Abort, Retry, or Ignore. It is recommended that you first try again: click **Retry**. If the message appears again, then skip the file by clicking **Ignore**. It is not recommended that you cancel the system rollback because it is only partially complete, and may leave the system in an inconsistent state. However, if you decide to cancel the system rollback, click **Abort**.

Recovering from a system disaster

Live Backup protects you from the disaster of a hard drive failure. Simply replace the failed hard drive with a new drive of at least the same size, and then use Live Backup's Disaster Recovery to restore the system and document files to the new drive.

To recover from a system disaster, you have three options:

1. **Local**: Request recovery media from your Live Backup Administrator. You will be provided a recovery image and a universal boot image. This method is recommended for laptops or mobile computers that do not have dedicated connections to the Live Backup Server.

2. **Network share**: Request your Live Backup Administrator to make system image data available to you on an accessible network drive. This method requires a universal boot image.

3. **Network service**: Recover a checkpoint directly from the Live Backup Server using a network service. This method is recommended only if your client computer is connected to the Live Backup Server over a local area network. Since large amounts of data is sent over the network, this method may be slow as compared to the other methods. This method requires a universal boot image as well as user privileges on the Live Backup Server to access server data. For more information, see your Live Backup Administrator.

Each method is described below, in the procedure Perform a bare-metal disaster recovery.

Although not difficult for you to execute, the bare-metal disaster recovery procedure is complex. Pay attention to the following notes and warnings before you begin the procedure.

Bare-metal disaster recovery notes

- If you want to recover your system to a new hard drive because the original drive was damaged, make sure that the new drive is at least as large as the old one. If it is smaller, then Disaster Recovery may not continue. At a minimum, the replacement drive must be at least the same size as the original drive, minus the last partition. In this case, some files on the last partition may not be restored. If the replacement drive is larger than the original, then the excess space will be left unpartitioned.

- Disaster Recovery will reformat the drives to the file system saved in the checkpoint. However, if the checkpoint specifies the FAT file system, but the partition is greater than 32 GB, then Disaster Recovery will reformat the volume to NTFS.

- Although you may copy your image file to a hard drive and run Disaster Recovery from that drive, you should not perform a Disaster Recovery from a drive that you are trying to recover. For example, if your Disaster Recovery image will restore your C: and D: drives, then you should not copy the system image to D: drive. If you try to recover from a restorable drive, then Disaster Recovery will ignore that volume (if reformat was selected), or the entire drive (if repartition was selected), and files will not be restored.

- Live Backup 3.30 Disaster Recovery can restore a system image created from a checkpoint originating in Live Backup versions 2.9x and later.

- You may also use Windows Deployment Services in place of boot media. To learn more about this method, see the following knowledge base article, Using Windows Deployment Services to recover a Live Backup Client system.

- You can use Disaster Recovery to restore to a VMWare Virtual Machine. To learn more about this process, see the following Knowledge Base Article: Disaster Recovery to a VMWare Virtual Machine.

- If you are running Disaster Recovery on an Asian language operating system, then file names that are written to the disaster recovery console during progress will not appear correctly. The correct file names will appear in the disaster recovery log file.

Perform a bare-metal disaster recovery

1. Obtain the required bootable media from your Live Backup Administrator.

2. Depending on your system configuration, you may be able to boot directly from the boot media, or you may have to use the boot menu or even configure BIOS setup.

    ■   First, try inserting the bootable media into the appropriate drive and restart your computer. If the computer boots and disaster recovery starts, then go to step 3.

    ■   If the disaster recovery does not start, but the BIOS allows selection of a boot device from a popup menu (such as "BBS Popup"), then activate this menu by pressing the corresponding key (e.g. F8). Then when the menu appears, select the appropriate device: CD, DVD or floppy.

    ■   If you do not see a boot menu, then launch BIOS setup (usually by pressing F2 or Del; see your computer documentation for details) and select the appropriate device (CD, DVD, or floppy) as the first boot device from the Boot Device Priority or similar option. You will need to reconfigure the BIOS after disaster recovery completes.

3. After the system boots, the Select Language dialog box appears.

    Disaster Recovery displays all information in English. If you change the keyboard settings, they will be modified system wide: click **Change keyboards**, and modify the Windows configuration, and then click **OK**.

Note	The default keyboard switch key sequence is **Left Alt** + **Shift**. We recommend that you only modify settings on the General page of the Text Services and Input Language Properties sheet, and that you do not modify the default input language. Also note that there will not be a keyboard indicator, so be aware of your current keyboard layout when typing information, especially passwords, which are not displayed.

4. Accept the Microsoft AIK license agreement, and then click **OK**.

5. The Disaster Recovery Console appears. This utility enables you to read comments, access tools, and access the system (disaster recovery) image from either local media, a network share, or a network service.

6. First, read the comments or instructions that the Live Backup Administrator provided for you. These comments will provide details on how you should continue. Click **Comments**, read, and then close this comments window.

7. If the administrator's instructions included running any third party tools, click the **Preconfiguration tools** button.

Select the tool, click **Start Application**, and then follow the instructions from your administrator. When you have finished with these utilities, click **Close**.

8. You can now launch Disaster Recovery. Remove the universal boot image from the drive.

    ■   If the system image is located on removable media, click **Local**. Disaster Recovery begins, and you can proceed to step 9.

■   If the system image is on a network drive, click **Network share**. The Connect
      to Network Share dialog box appears.

In the **Share name** box, type the network share name where the image is
located. Use the format \\servername\share. Then type a **Login** and **Password**
to access this share, and click **OK**. You can now continue with step 9.

■   If you are restoring directly from a checkpoint on the Live Backup Server, click
      Network service. The Connect to a Network Service dialog box appears.

In the Live Backup server address box, type the name or IP address of the Live
Backup Server. Then type a **User name** and **Password** to access the server.
The user you specify must have server privileges to access server data. Click
OK.

The Select a Client dialog box appears.

Click the name of the client that you are restoring. You must choose the correct
client, or disaster recovery may not proceed successfully. Click **OK**. The Select

Checkpoint dialog box appears.

If a checkpoint has yellow caution symbol, then it may have exceptions, which are missing files that are not essential to system recovery. To view a list of the missing files, click the **View exceptions** button. Review the list if missing files, and then click Cancel to close the list.

Click the checkpoint that you want to restore, and then click **OK**.

9. The Disaster Recovery startup text appears with a message providing the option to save a log of the Disaster Recovery process.

   ■ To save a log file, press **F8** when the message appears.

   ■ A menu appears listing the available writable drives. Do not choose a drive that will be overwritten by the Disaster Recovery procedure. Type the menu choice.

   Live Backup Disaster Recovery will save a log of the process in the file LBDRSYS.LOG in the root of the selected drive. Logging begins immediately.

10. If you are recovering from a Network share or service, skip this step and go to step 11.

    If you selected Local, then a menu appears asking you for the location of your recovery image.

    Type the drive letter of the disk containing the image.

11. If you have more than one recovery image available, a menu appears asking you which image you want to use.

    Type the menu choice number beside the desired recovery image.

12. If comments have been included with the image, then Disaster Recovery displays these comments now. Review these comments, and then type **Y**(es) to continue with the selected image or **N**(o) to choose another.

    If no comments appear, proceed to the next step.

13.   If the disaster recovery image you chose has been encrypted, you will be prompted for either the drive location of the key file or the key itself.

■   To specify the drive, type the drive letter where the key file is located.

■   To specify the key itself, type **1**. When prompted, type the entire key, and then press **Enter**. Note that only the characters A through F and 0 through 9 will be accepted in the key entry. Live Backup ignores all other characters.

If you don't know anything about the encryption key, contact your Live Backup Administrator.

14.   A menu appears asking you to prepare your drive for the disaster recovery. You have the following choices:

■   **1. Reformat existing partitions**   The protected drives will be completely reformatted. Unprotected drives will remain intact. Choose this option if you are restoring to your original drive.

■   **2. Repartition and then restore**   Live Backup will recreate the partitions that existed on the original drive. Choose this option if you are recovering to a new drive that is replacing the original, damaged drive, or if the disk is severely damaged.

Type the menu choice. Which menu you see next depends on your selection in this menu.

15.   If you chose the Reformat option, go to step 16.

If you chose the Repartition option, a menu appears offering you choices on how to repartition.

■   **Yes:** Performs a repartition and then restore. Live Backup will recreate the hard disk structure, while retaining all data on unprotected partitions of the same hard disk. Choose this option if you need to preserve some volumes or partitions that were not protected by Live Backup, such as service partitions on a notebook computer.

■   **No:** Performs a full repartition and then restore. Live Backup will recreate all the partitions as they existed on the original hard disk. The current disk structure and all existing data will be rewritten. Choose this option if you are recovering to a new hard disk that is replacing the original, damaged one. Note that if you choose this option, all hard disks that have even a fragment of a protected volume on them will be reformatted and repartitioned, and all data on those hard disks will be lost.

■   **Cancel (Esc)**: Cancel here if you are restoring to your original drive, and you are sure that the disk structure is not damaged or changed. You should also choose this option if you are not sure whether a repartition is required. If you cancel here, you will be returned to the previous menu.

Type the menu choice.

16.   A menu appears asking **Do you want to format volumes with surface verification?** For a quick format, select **No**. To scan your drive for bad sectors before reformatting, select **Yes**.

If you chose to repartition your drive, a confirmation message appears. Note that you will lose all data on the hard drives containing protected volumes before they are restored if you repartition. To confirm the repartition, type **Y**.

17.   Live Backup checks the operating system loader of the Master Boot Record (MBR) on the disk to recover. If it does not match, you will be prompted to update the current loader. To update, type **Y** (Yes); to continue without updating, type **N** (No).

18.   Live Backup restores your drive(s). You may have to insert additional media containing your system's image files: Follow the prompts that appear on your screen.

19.   After recovery is complete, Live Backup must restart your computer to complete setup. Remove the bootable media, and then press any key to restart the computer. If you reconfigured your BIOS Setup in step 2, you must restore the original configuration now.

After your computer has restarted, your Windows, application, and data files will be restored to a previously working state.

Note	If you have encrypted files, then Live Backup must process the encrypted files during the first restart following disaster recovery. Encrypted files will be available only when this process is complete.

Troubleshoot disaster recovery

If disaster recovery does not complete successfully, Live Backup offers some troubleshooting tools that might fix the problem.

1. Use your universal boot image to start the system.

2. When the Disaster Recovery Console appears, click **Troubleshooting options**.

3. You have the following options:

    ■   **Fix MBR**: Use this option if Disaster Recovery displayed any error messages referring to the Master Boot Record (MBR), or if you have disk encryption software or a boot manager installed. In either case, the Master Boot Record loader code might have failed. This option will replace the MBR loader code with a standard version that should enable your system to boot properly. Click the **Fix MBR** button. After Live Backup fixes the Master Boot Record loader code, a confirmation message appears. Click **OK**. You will return to the Troubleshooting options page.

    ■   **Set active partition**: Use this option if your computer did not start properly after Disaster Recovery, and it has a recovery partition or boot manager installed. This option verifies that the current active partition from which your computer is booting is the same as the active partition saved in the checkpoint, and resets it if necessary. Click the **Set active partition** button. After Live Backup ensures that the correct active partition is set, a confirmation message appears. Click **OK**. You will return to the Troubleshooting options page.

4. Click **Restart**. In the confirmation message, click **OK** to restart the computer.

    If the same problems recur, then try rerunning the disaster recovery procedure using a different checkpoint. Checkpoints without exceptions will be the most reliable. If you continue to have problems, then call Atempo Customer Support.

A P P E N D I X   A

Installing Live Backup Client

A

Under most circumstances, your Live Backup Administrator will manage the installation, which runs silently on your computer. However, you can also install manually.

This section describes everything you need to do to install and setup Live Backup Client to begin protecting the files on your computer.

System requirements

Hardware

- PC or compatible with a Pentium PRO processor, AMD Athlon, or Duron processor (Pentium II recommended)

- 128 MB RAM (512 MB required for Disaster Recovery)

- 100 MB of free disk space (500 MB recommended)

- Network connection (modem, WAN, and wireless are supported)

Software

- Windows 2000 Professional[1], Windows XP Professional or Home Edition, or Windows Vista 32- or 64-bit[2] edition.

- Microsoft Internet Explorer 5.01 (5.00.2516.1900) or later

- TCP/IP

- Windows Installer 2.0 or later (included)

- Administrative privileges on the client workstation (for installation only)

1.Microsoft Security Update for Windows 2000 (KB931784) is required for Windows 2000. You can download the update from http://www.microsoft.com/downloads/details.aspx?familyid=B3599AFB-7673-4EF6-A2B1-D77E39FD782C&displaylang=en
2.x64 architecture is supported; ia64 architecture is not.

Remote or mobile system requirements

If you are planning to run Live Backup Client on a computer that is not physically connected by a cable to the Live Backup Server, you may still protect files if you set up standard HTTP access to Live Backup Server.

It is recommended that you work with your Live Backup Administrator to set up a remote connection. There are many different ways of accomplishing this task, and only your administrator knows which one your company is using.

Before you install

Make sure the following conditions apply:

- Your system meets the System requirements.

- Your Live Backup Administrator has added your client to the Live Backup Server or has configured Live Backup for automatic client creation, and has given you the appropriate client name and group information for installation.

Installing Live Backup Client

As mentioned previously in this chapter, Live Backup will likely be installed automatically by your Live Backup Administrator.

If your administrator does not install Live Backup Client for you, then s/he may request that you install it in one of the following ways:

- Install from your corporate intranet

- Install manually from a network or CD-ROM drive

If you have an existing installation that you need to upgrade, see "Upgrading Live Backup Client" on page 85.

Important   The client workstation may be in either the domain or the workgroup configuration, or it may be standalone. For more information on network configurations, see your Windows documentation.

To install Live Backup Client from your corporate intranet:

1.   On the Live Backup Client computer, run Internet Explorer and go to the Live Backup Client setup Web site, as instructed by your Live Backup Administrator, for example:
http://*servername***/lbclient** or
http://lbserver.provider.com/LBClient?Client@Group.ParentGroup.

2.   Read the Welcome page, and then click **Next**.

The Checking Prerequisites page appears.

3.   Live Backup checks your system for the prerequisite software. If it does not find any of the prerequisites, it will prompt you to install them. Follow the directions on your screen.

4.   Once all prerequisites are set up, you may begin installation. Click the **Install** link, and then follow the instructions on your screen.

A status bar appears indicating the progress of the Live Backup Client installation. Once it completes, you will see a message instructing you to restart your computer.

5.   Click **Yes**.

Once your computer has restarted and connected to the Live Backup Server, Live Backup immediately begins the mirroring process, protecting your files from corruption and loss.

To install Live Backup Client manually from a network or CD-ROM drive:

1.   Click the **Start** button, and then click **Run**.

1.   In the Run dialog box, type **N:\LIVEBACKUP\CLIENT\SETUP.EXE**, where *N:* is replaced with the full path to the Live Backup installation program. This program may be located on a CD-ROM, a network drive such as N, or a local drive, such as C.

2.   Read the Welcome screen that appears, and then click **Next**.

The Select your Location page appears.

3.   From the **Location** list, choose the country in which your company is located. Click **Next**.

4.   Read the License agreement that appears, and then click **I accept the terms in the license agreement**. Click **Next**.

5.   On the Destination Folder page that appears, you can select the folder in which you want to install Live Backup and the folder you want to use to cache files locally.

The default installation folder is C:\PROGRAM FILES\Atempo\LIVEBACKUP. To install in a different location, click **Change**. In the Change Current Destination Folder dialog, select a path, and then click **OK**.

The default cache folder is X:\Live Backup CACHE, where X is the drive with most free disk space. This folder is hidden.

Backup files will be stored in this location temporarily (cached) until an adequate connection with the server is established for copying the files. To save backups in a different location, click **Change**. In the Change Current Destination Folder dialog, select a path, and then click **OK**.

Click **Next**.

6.   On the Live Backup Server page that appears, specify connection information about the Live Backup Server. In the Live Backup **Server** box, type the name or the IP address of the computer on which Live Backup Server is installed, followed by the port designation if applicable. For example, *servername***:3427**.

If you are not sure of the required server information, check with your Live Backup Administrator.

Click **Next**.

7.   On the Live Backup Client Name page, specify the name given to this client on the Live Backup Console. If the Live Backup Administrator gave you a name, type it here. If not, accept the default name that appears. The default name is the same as your computer's NetBIOS name.

You may also specify the group in which to create the client as well as the client name. To specify the group, use the following format: *clientname@group.parentgroup*. Click **Next**.

The Ready to Install the Program page appears.

8.   When you are satisfied with your selections, click **Install**.

The Live Backup installation program copies the Live Backup program files to the selected drive. When the process of copying files is complete, the InstallShield Wizard is Complete page appears.

9.   Click **Finish**.

You must restart your computer to complete the Live Backup installation.

10.   To restart your computer now, click **Yes**. To restart it later, click **No.**

Once your computer has restarted and connected to the Live Backup Server, Live Backup immediately begins the mirroring process, protecting your files from corruption and loss.

Upgrading Live Backup Client

You may upgrade Live Backup Client 3.00 or later to Live Backup 3.30. For any other version, you must either uninstall the previous version and then install the new version, or upgrade sequentially.

There are two methods for upgrading Live Backup Client software. The first method is to install the upgrade from a CD-ROM or network drive. The second method is to deploy the upgrade from a Web-based distribution point on the Live Backup Server computer.

To upgrade Live Backup Client from a CD-ROM or network drive

1. Click the **Start** button, and then click **Run**.

2. In the **Run** dialog box, type **N:**\Live Backup**CLIENT****SETUP.EXE**, where *n* is replaced with the CD drive letter assignment.

   The Live Backup install program will automatically detect that you have a previous version of Live Backup Client installed, and will start the upgrade wizard.

3. Follow the instructions on your screen to install the upgrade of Live Backup Client.

To upgrade Live Backup Client from the corporate intranet

If an upgrade is available on the Live Backup Server, Live Backup will send a notification to your Live Backup Client computer. If the upgrade has been configured to launch automatically, then installation begins. This configuration is the default. If an upgrade notification message appears on your Live Backup Client computer, then the default has been changed through the Control Center. You have the following choices:

■ **Browse**: Opens the update Web page, from which the update installation may begin. Follow the instructions on your screen to install the upgrade of Live Backup Client.

■ **Add to Favorites**: Places a shortcut to the Live Backup Client Web update in the Favorites folder of Internet Explorer. You can then select this link from your Favorites list to launch the update at any time.

■ **Cancel**: Closes the update notification with no changes.

You will see this upgrade daily until you complete the upgrade.

Uninstalling Live Backup Client

1. Click **Start**, point to **Settings**, and then click **Control Panel**.

2. Double-click the **Add/Remove Programs** icon.

3. In the Install/Uninstall page, select Atempo Live Backup **Client 3.30**, and then click **Add/Remove**.

4. Follow the instructions on your screen to remove Live Backup Client from your computer.

A P P E N D I X   B

Glossary

B

cache

Memory that stores data. In Live Backup, versioned files are stored in a local cache temporarily until they are copied to the server.

client

A computer that requests a service of another computer system or process (a server) and accepts the server's responses. In Live Backup, the client's files and data are backed up on the server.

checkpoint

An internal image of the client as it exists at a particular point in time. This image can be used to restore the client to a previously working state via System Rollback or Disaster Recovery. Checkpoints are created every time the client computer is restarted, at which point they are saved to the Live Backup Server.

data files

Files that you create–document, spreadsheet, graphics, etc. Live Backup defines these files as any files that you create or modify. See *user documents*.

discardable data

Files that are excluded from Live Backup protection. By default, Live Backup maintains a list of *internal discardable data* that it treats as temporary files and excludes from protection. In addition, the administrator can define any file as discardable for any given client or group.

exception

A known problem with a checkpoint--usually one or more files that are missing from the checkpoint because they were in use and inaccessible when the checkpoint was created.

initial replication

The first time the client computer connects to the Live Backup Server and copies all of its data to the server. The initial replication completes after all files are copied and the client computer is restarted.

LAN

Local Area Network. A data communications network that is geographically limited, allowing easy interconnection of terminals and computers within adjacent buildings.

server

A computer that provides some service for other computers connected to it via a network. The Live Backup server services requests to backup and recover its clients' computer files.

synchronized

The state of the Live Backup Client when an up-to-date copy of all its data has been replicated to the Live Backup Server and a *checkpoint* has been created and saved on the server.

system files

All files other than those defined as *user documents* or *discardable data*.

system rollback

The process of restoring the client computer back to a previously working state.

tasktray icon

The Live Backup program icon located in your desktop's tasktray. The tasktray is located at the far right of the desktop taskbar (with the Start button located at the far left). You can click the tasktray icon once to run the Recovery Assistant, or right-click the tasktray icon to access Live Backup's various features.

TCP/IP

Transmission Control Protocol/Internet Protocol. A protocol for transmitting data over the Internet.

trust relationship

A link between two Windows domains. This link allows users from the trusted domain rights and access to drives on the trusting domain.

Universal Boot Disk

Part of the Disaster Recovery disk set that enables you to boot any Windows system and launch Disaster Recovery.

versioning

The process of creating iterations of a file every time it is saved. Each version is created by applying incremental changes to the original version (that version with the oldest date.)

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