Atempo, Inc.

Live Backup Evaluation Guide

Setup Live Backup evaluation edition and work with replication and recovery features

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Overview

Thank you for choosing to evaluate Atempo Live Backup. We are confident that you will find this software to be the best real-time continuous workstation backup application available!

This document will assist you in your evaluation process by guiding you through the installation and replication process, and then pointing you to several key features to evaluate protection and recovery.

What's inside

This document contains information on the following topics:

- Before you install
- Installing Live Backup Server
- Checking the Live Backup Server installation
- Planning the initial replication
- Installing Live Backup Client
- Verifying the client installation
- Adding a second client
- Capturing data
- Data aging
- Monitoring progress
- Finding and restoring data
- Rolling back a system
- Running bare metal disaster recovery

Other sources for help

This document provides an overview of the features and functionality you can review during your evaluation of Live Backup. For detailed instructions and reference information, you can refer to the following guides:

- ***Live Backup Deployment Guide***: Provides detailed planning, configuration, and installation instructions for deploying Live Backup in your corporate enterprise.

- ***Live Backup Installation and Setup Guide***: Describes pre-installation requirements, as well as the installation procedures for Live Backup Server and Live Backup Client.

- ***Live Backup Administrator's Companion Guide***: Provides both reference and step-by-step information necessary for the administrator to set up Live Backup Server, manage client computers, monitor throughput, generate reports, and respond to alerts.

- ***Live Backup Group Administrators Guide***: Provides step by step information for using the Web-based Live Backup Clients Management Console to manage groups and clients remotely from any computer.

- ***Live Backup Client User Guide***: Provides complete details on how Live Backup Client protects data and how to recover a file, folder, or an entire system.

- ***Live Backup Express Client User Guide***: Provides complete details on how Live Backup Express protects user data and how to recover a file or a folder.

- ***Live Backup for Mac Client User Guide***: Provides complete details on how Live Backup for Mac protects user data on Mac operating systems. Also describes how to recover a file or folder.

Throughout this document, you will find call-outs that reference information in the guides above, where appropriate.

Contact Atempo

If you need assistance at any time, feel free to contact your assigned Sales Engineer. You can also check the Atempo Web site at http://www.atempo.com/.

We appreciate your feedback!

Before you install

In addition to the standard minimum requirements, Live Backup's requirements are based directly on the requirements of the workstations to be protected. The number and location of client workstations, type of protection, and amount of data on each client all directly affect the requirements of the Live Backup Server.

This chapter includes information on the following:

- Minimum system requirements
- Storage
- Performance
- Microsoft SQL Server Configuration

See also…
Live Backup Installation and Setup Guide
Chapter 2

Minimum system requirements

For details on Live Backup Server and Live Backup Client minimum system requirements, see the *Live Backup Installation and Setup Guide*.

Before installing, be aware of the following issues that may affect your configuration:

General

- Server performance improves with increased RAM and faster disk storage.
- Live Backup Server supports Windows Servers in English and French only.
- Live Backup 3.32 Clients and later support English, French, Italian, German, Spanish, Korean, Traditional and Simplified Chinese.

Domains

- Live Backup is compatible with all domain configurations. Although you can install Live Backup Server on a domain controller, you should not promote the server to a domain controller after Live Backup Server has already been installed.

Windows Server

- Make sure IIS is installed before installing Live Backup.

Storage

The amount of hard disk space required to protect your clients' files depends on the number of clients protected, protection configuration, and the length of time you are providing protection. For details on analyzing and allocating storage, see the *Live Backup Deployment Guide*.

Performance: Evaluation versus Production

Evaluations of Live Backup Server typically involve a very small number of PCs running on low-end hardware and a relatively low-powered server. Some aspects of Live Backup performance may not be representative of production mode performance, especially:

- Client-to-server transmission speed
- Time needed to create a disaster recovery image
- Time needed to run reports
- General responsiveness of the server

Even in production environments, performance can vary significantly depending on a wide variety of factors. For more information on recommended configurations in evaluation and production environments, see the *Live Backup Deployment Guide* or contact your Atempo Sales Representative.

Microsoft SQL Server configuration

You must install and configure Microsoft SQL Server 2000, 2005, or 2008 prior to installing Live Backup Server. After installing SQL Server 2000, you must apply SQL Server 2000 Service Pack 3a, before installing Live Backup. SQL Server Service Pack 3a provides support for multiple CPU's, which is required for Live Backup Server to operate properly on a computer with multiple processors or with hyper-threading turned on.

Before and during the installation of SQL Server, please keep the following important points in mind:

- If you are upgrading Live Backup Server, and you have an existing version of Microsoft SQL Server installed that you want to upgrade to, special procedures are required in Live Backup to maintain consistent databases. See the Upgrade chapter of the *Live Backup Installation and Setup Guide*. .
- SQL Server 2005 and 2008 Standard, Enterprise, and Workgroup editions supported. SQL Server Express edition is not supported. SQL 2000 Standard and Enterprise Editions are supported; SQL 2000 Personal Edition and Desktop Engine (MSDE 2000) are not supported. During evaluation, you may use SQL 2008, 2005 2000 Evaluation Edition; however, SQL Server 2000 evaluation edition supports only Service Pack 3a, which you can download from the following site: http://support.microsoft.com/default.aspx?scid=kb;EN-US;290211. Note that Service Pack 3a is required for full functionality of Live Backup during an evaluation.
- Before installing SQL Server Service Pack 3a for SQL Server 2000, you must stop IIS. Type **iisreset /stop** in the **Start\Run** dialog box. After you complete the installation and restart the computer, IIS will be restarted.

  When you install SQL Server Service Pack 3a, you must enable **Cross-database ownership chaining**. If it is disabled, Live Backup will not function properly. For tips on a successful upgrade to SQL Server Service Pack 3(a) on the Live Backup Server computer, see the Knowledge Base at http://www.atempo.com/support/kb

- Make sure that databases are not set up on compressed disks or directories with NTFS compression or third-party software compression. This configuration will cause Live Backup to fail.

- After installation, make sure that Microsoft SQL Server's **Use Windows NT fibers** option is disabled.

- Make sure the default SQL Server instance is not, and has not, been shared by another application.

SEE ALSO *Microsoft SQL Server Introduction* guide and *Microsoft SQL Server* online help, as well as the Microsoft SQL Server Web site at http://www.microsoft.com/sql

Installing Live Backup Server

You can now install Live Backup Server. The installation procedure will install the following components:

- **Live Backup Console**: This Microsoft Management Console (MMC) snap-in enables you to manage clients, change disk space usage quotas, configure protection settings, lock down features on a per-user and/or per-client basis, and generate system recovery images for disaster protection.

- **Live Backup Server**: This component receives data from clients and stores it in a Microsoft SQL Server database. It also transmits files back to the clients upon a file, folder, or system recovery request.

To install Live Backup Server

1. Login to the server using a domain account that has local administrative privileges.

2. Insert the Live Backup CD-ROM into your CD-ROM drive.

3. Follow the directions on your screen to install Live Backup Server.

See also…
Live Backup Installation and Setup Guide
Chapter 2

Checking the Live Backup Server installation

During installation of Live Backup Server, several Windows components are configured for use with Live Backup Server. When installation completes, you can check the following:

- **IIS configuration**: See the *Live Backup Installation and Setup Guide* for details

- **Check user accounts**: Ensure that the Live Backup Server user account "LBU_*servername*" has a password that is set to *never expires.*

Planning the initial replication and seeding

Live Backup provides centralized storage management and administration of distributed data on desktop and laptop workstations throughout the enterprise. To provide this protection, Live Backup must make sure a copy of every required file from each protected client exists on the Live Backup Server. Required client files include all Windows system files, application files, and user document files such as Microsoft Office documents. These files are required for a full system recovery, should one ever be necessary.

For the first client installations, this means that virtually every file, with the exception of temporary files and other discardable data, is backed up to the server. This process is called the *initial replication.*

But once a Windows system file or application file (by default), is copied to the server, it will never be copied again. Rather, a pointer to the backed up file will be saved. This process is called *data de-deduplication* or *redundancy elimination*. Therefore, for subsequent client

installations, fewer files will be transferred to the server, as more files will be eligible for block and file redundancy elimination.

See Also: For more information about redundancy elimination, see the document Live Backup Redundancy Elimination (PDF).

The initial replication of client data is the most resource intensive step in the Live Backup protection process in terms of network bandwidth, client, and server hits. After the initial replication, the network and system usage decreases significantly.

Since the Live Backup Server limits replication based on its capabilities, the effective rate at which a workstation will replicate depends on the number of workstations replicating simultaneously.

Consider the performance implications for your network and for your users if the initial replication is invoked by all workstations simultaneously. Clearly, you must carefully plan, execute, and monitor Live Backup Client deployment according to your production schedules, network configurations, and user demographics.

To help plan client replication, you can create clients automatically, and then specify the time when they will begin replication: immediately following creation, at a specific time, in a specific number of hours, or not until you manually launch replication.

Also make sure to group your clients. Live Backup provides powerful client grouping tools. For each group that you create (or auto-create), you can configure protection settings including level of protection, discardable data, custom user document types, storage, data aging, and feature lockdown. These settings apply to every member of your group. Therefore, it is logical to group clients by the protection settings you want applied. You can also delegate administration of specific groups to individual users.

Finally, make sure to consider Live Backup's redundancy elimination features. Each time the Live Backup Server backs up a system, it identifies which files are likely to occur on other PCs. These files are stored in a shared database. When more clients are introduced into the Live Backup system, the server will not need to back up these "redundant files" a second time, saving time and bandwidth. This technique, called Single Instance Object Storage (SIOS), is a very powerful feature. During the evaluation you should perform test backups of more than one PC. You will undoubtedly observe that subsequent PC deployments will complete faster than the first one.

Determine protection properties

When you create a group or client, you can configure how Live Backup will protect the files on each client. You can also modify these settings in the Properties of each group and client. These Properties have a direct effect on the level of protection you provide your clients, as well as the amount of storage required.

See also…
Live Backup Administrator's Companion
Chapter 7

Below are some tips and tricks for deciding how to define these properties, organized by each Properties page.

NOTE Storage and Auto-Creation properties are inherited from the group to the subgroup, but do not apply to existing clients. Storage properties may be configured independently for each client.

General

On the General page, you can specify a unique name and comments for a group. The full internal client and group name appears in this page as well. This name is a combination of the individual client name and the parent group's name as follows:

ClientName@Groupname.ParentGroup.

Protection

On the Protection page of Client/Group Properties, you can specify whether to apply Full System Protection or User Document Only Protection, and you can specify which local drives you want to protect on each client.

LIVE BACKUP EXPRESS and LIVE BACKUP for MAC Support only User Document protection.

Protected Data

Under Full System protection, Live Backup protects all your clients' files, except those files that are excluded from protection in the Discardable Data page.

However, under User Document Protection, Live Backup protects only those files defined as *user documents.* User documents are defined on the Protected Data page in Client or Group Properties. By default, Live Backup includes the following groups of files as user documents: My Documents Directory, Microsoft Office Documents, Streaming Audio/Video Files, E-Mail Inboxes, Graphics Files, Application Development Files, Compressed Files, and Text Documents. These groups of files are defined by macros within Live Backup.

On the Protected Data page, you can define specific file types and masks to protect under User Document Protection.

See also…
Live Backup Administrator's Companion
Appendix A

NOTE Any protected data masks intended to be used with Live Backup for Mac clients must be prefaced with **Mac:**

Discardable Data

Live Backup defines file types that are excluded from protection as *discardable data*. This discardable data consists of files that are completely unnecessary for full system backups, including Windows temporary files that are recreated at boot time, such as swap files, and cached files from the Internet. It also includes local temporary directories, the Windows Recycle Bin, and temporary download directories.

Defining discardable data is one of the most powerful tools you can use to control storage space on protected clients. Consider defining the following as discardable data:

- temporary files created by the operating system or an application;
- large files that change often, but do not need to be versioned, such as log files;
- custom temporary folders, such as C:\TEMP*.*;
- screen saver configuration files that write out the same file repeatedly;
- large backup or archive files such as Ghost (*.gho) or *.iso images, which Live Backup includes as discardable data by default;
- user-determined discardable files, which can be placed in a globally predefined folder such as *\discardable*. If you create this mask, and then instruct your users to create a folder named "discardable"

anywhere on their systems, then any files created within that folder will be ignored by Live Backup.

Discarding such files saves disk space on Live Backup Server and diminishes network traffic.

NOTE If you accidentally define a file type as both a User Document type and a Discardable Data type, then the Discardable Data takes precedence, and the file will be excluded from protection.

NOTE Any discardable data masks intended to be used with Live Backup for Mac clients must be prefaced with **Mac:**

Storage

On the Storage page, you can specify how much disk space is allocated to each of the clients as soon as it is created, how the disk space increases when necessary, and what the maximum space limit will be.

Note that during the initial replication of clients, performance is enhanced by significantly increasing the default initial size and growth increments of the client databases. By increasing these sizes, you limit the amount of time Live Backup Server needs to spend modifying databases, thereby improving overall performance.

Plan initial database sizes and growth increments carefully. If you decide to increase the default initial size, then the client replication may proceed more smoothly, but client creation will take longer. The incremental growth size also has performance effects: If set too low, then file fragmentation results. This fragmentation slows down overall performance. If set too high, you may waste disk space. Experiment with the best settings for your organization's needs.

It is critical that you determine storage requirements before creating clients and adding groups. When you first create a client, it inherits storage properties from its group. However, later changes to the group configuration do not apply to the client. Therefore, if you want to change the storage settings for an entire group, you must configure the group and each client individually.

Data Aging

On the Data Aging page, you can define policies for when older protected data is removed from the client database by either deleting it or archiving it. As a result, Data Aging is another powerful tool for controlling storage space requirements.

Feature Lockdown

On the Feature Lockdown page, you can configure which tools are available on a client computer. All users who log in to the 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
Perform System Rollback			X	X
Configure notifications			X	X
Disable/enable connection			X	X
Pause/resume versioning				X
Configure update				X

The administrator may assign each user individual access privileges. These users will have the same access on every Live Backup Client computer. 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.

Expiration

On the Expiration page, you can set a date at which the client account will expire. Expired clients are stopped: no new versions are created and no local or remote recovery operations are available.

Auto-creation

On the Auto-creation page of Group properties, you specify policies for creating clients automatically within a group, including scheduling when to begin replication of automatically created clients.

Installing Live Backup Clients

After the Live Backup Server is installed, you can deploy the Live Backup Client software in your company. To deploy the Live Backup Client software, you have the following choices.

- Manual installation
- Web installation
- Command line installation
- Administrative installation

See also…
Live Backup Installation and Setup Guide
Chapter 5

For evaluating Live Backup, we highly recommend that you configure Live Backup to automatically create clients, and then that you install clients via the Web installation procedures.

Automatic creation

Live Backup can create both clients and groups automatically. This method is recommended for large deployments of Live Backup.

When you configure auto-creation, Live Backup Server creates an account for each installed client as soon as it tries to connect. You can specify in which group the account will be created, and determine when client replication begins.

To create clients automatically, do the following:

- Create or configure a group for automatic creation
- Define auto-creation policies
- Configure client auto-creation
- Configure group auto-creation

Web installation

Once you have installed Live Backup Server, you may notify all clients of the new Live Backup protection and have each user install the Live Backup Client over an intranet/internet connection. This process enables you to specify both a name and group (or only a group) for each client, lets your users install Live Backup Client at their convenience, and saves you the time of visiting every client computer. It also provides remote users a quick and easy way of installing Live Backup Client.

The Web installation package is located in the LBClient virtual directory within the Web site. All required setup files are located in the ClientWebSetup subfolder of the Live Backup Server application folder. For clients to access this setup, they must have access to the LBClient virtual folder on the Live Backup Server.

To complete a Web installation, you must

- Enable the Web installation
- Notify clients of the Web installation
- Run a Live Backup Client Web installation

See also…

Live Backup Installation and Setup Guide

Chapter 5

LIVE BACKUP for MAC: Live Backup for Mac does supports a different method of Web installation. For more information, see the *Live Backup Installation and Setup Guide*.

Example: Manage deployment with clients auto-creation

Suppose you want to build the clients/groups hierarchy in accordance with the departmental structure of your company. Such an approach is reasonable because of the ease of handling deployment and managing protection settings.

If you are going to use Web installation for Live Backup Client deployment you just need to send a URL string to all users in each department:

http://servername/lbclient?@Department

where *Department* is the name of the Group that corresponds to the particular department.

Each user should then run a Web browser, open this URL, and complete the installation accepting all defaults. There's no need to worry about client or group names.

Live Backup will create an account for each computer in the department as soon as Live Backup Client is installed and connected to the server. By default, the account name will correspond to the name of the user's computer.

The only required steps are

1. Enable client auto-creation
2. Enable group auto-creation or create group hierarchy in advance
3. Allow client auto-creation in any group in hierarchy

Verifying client installation

After you install Live Backup Client, you can perform several checks to ensure it is connecting and replicated properly.

Check that clients are installed properly

If Live Backup Client is installed properly, a blue or orange Atempo Live Backup icon appears in the task tray of the Windows client computer. On Live Backup Client for Mac, the icon appears in the status menu. If you don't see a Live Backup icon, restart the computer and check again.

Check that clients are connected properly

Clients should connect to the Live Backup Server immediately after installation. To check the connection, click **Start** and point to **Programs**. Point to **Atempo Live Backup**, and then click **Live Backup Server Connectivity Test**. After the test completes, the status Tested successfully should appear.

If the clients do not appear to be connected, you should

- Make sure the client's connection is not manually disabled.
- Make sure TCP/IP is set up properly.
- Make sure the Live Backup Server is running.
- Ping the Live Backup Server from the client.
- Verify that Live Backup Client is attempting to access the correct Live Backup Server name. This server name appears on the Network page of the Live Backup Control Center on Windows clients and the Network page of the Live Backup Statistics Center on Mac clients.

Check that clients are replicating

Shortly after the client computers connect to Live Backup Server, they should begin replicating files to the server. When Live Backup Client is replicating files to the server, the Live Backup tasktray icon changes from orange to blue on Windows. On Mac, the Live Backup status item displays a blue light on the lower right.

To determine if a Windows client has fully replicated, right-click the Live Backup task tray icon and choose **Control Center**. Click the **Client Engine** tab. If replication is complete, **Mode** displays *Normal*, and the local cache will be empty (Cache in use shows 0 MB). On the Mac, simply hover over the status item to reveal the replication status.

If the Live Backup Client appears to be connected, but does not appear to be replicating, note that the server might be busy, preventing replication at the moment. If this is the case, replication will begin shortly.

If replication is stalled for quite a while, then you should check the Live Backup Console to ensure that the appropriate client account has been created for this client. If no account appears, then create the account manually or enable auto-creation from both System Tools and the parent group.

If the client account exists, but replication still has not started, then check the status of the client in the Live Backup Console. If the status is "Activation pending," then right-click the client account and click **Activate**. Note that the client may not activate immediately. Wait several minutes and refresh the screen to see the updated status.

Check the amount of disk space being consumed

In the Live Backup Console under Reports, check the **Space Consumption** to make sure it is in line with your expectations.

Create a checkpoint

Once the clients are fully replicated, restart each client computer to create a Static Checkpoint. Static Checkpoints provide the greatest stability for system rollback or recovery operations. It is recommended that you create at least one Static Checkpoint following full system replication.

You may also create a Dynamic Checkpoint. Dynamic Checkpoints are created without requiring Windows to restart. They are convenient because no restart is required, but they are more likely to be missing files than static checkpoints.

You can create either type of checkpoint using the Save Checkpoint utility on the Live Backup Client.

To confirm that a checkpoint was created, check each client from the Live Backup Console: Right-click a client name and choose System Image Wizard. If a checkpoint was created, you will see it in the first page of the System Image Wizard (click Cancel). If not, a message informing you that "there are no checkpoints" appears, and the System Image Wizard exits.

LIVE BACKUP EXPRESS and MAC System checkpoints do not apply to Live Backup Express or Live Backup for Mac versions.

Adding a second protected client

Repeat the process described above a second time, using a different computer.

You will observe that the replication time for the second system is shorter. This will be the case even if the first two systems have different operating systems – for example one might have Windows XP and the other Windows Vista. Even when the operating system is different, up to two-thirds of a system's files will be redundant with respect to another system.

Obviously, the degree of similarity will affect the effectiveness of single instance object storage. If the systems have the same operating system and the same applications, the effect will be more pronounced.

Capturing client data

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

Immediately following installation, Live Backup creates an exact copy of your protected 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 system and application 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.

Remote connection data capture

Ideally, the client computer is directly connected to the Live Backup Server computer via a hard-line network connection. However, Live Backup also supports remote connections via dial-up, cable modem, or DSL. Note, however, that data transfer over these connections will be slower than a direct connection.

It is strongly advised to observe the behavior and performance of Live Backup under less-than-ideal bandwidth conditions, particularly if you plan to use Live Backup on laptops.

You should examine the behavior of Live Backup on an intermittent connection.

See also…
Live Backup Client User Guide
Chapter 2

- For example, connect to Live Backup using a modem line, and save some new files.
- If you open up Control Center under Windows or the Statistics Center under Mac, you will see the file moving to the server (slowly).
- Interrupt the modem connection (sever the connection). Now re-enable it. You will observe that Live Backup resumes the transfer at the point it was interrupted (does not have to start over fresh).

Offline data capture

Live Backup protects data on computers even when they are disconnected from the server. If a file is changed on a desktop or laptop 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. A typical path is **D:\LiveBackup Cache**, where D is the drive with the most free disk space. This folder is hidden.

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.

To determine whether Live Backup is saving files in your local cache only, or if it is backing them up to the Live Backup Server, check the status in Live Backup Control Center.

LIVE BACKUP for MAC Does not support local recovery from the cache.

Data Aging

Once Live Backup accumulates many versions of a particular file, you may want to delete the older versions to free space for more recent data storage. By default, Live Backup enables data aging for all clients, and deletes applicable files.

See also…
Live Backup Administrator's Companion
Chapter 10

Monitoring client and server activity

Live Backup provides tools that enable you to monitor activity on both the Live Backup Client and the Live Backup Server.

Check the following tools periodically:

See also…
Live Backup Client User Guide
Chapter 2
Live Backup Administrator's Companion
Chapter 4

- **Live Backup Client Control Center or Statistics Center**
  Monitor network and client activity, as well as tune client performance. Windows: Click the Live Backup tasktray icon, and then choose **Control Center**. Mac: Click the Status menu and choose Statistics.
- **Live Backup Throughput**
  Get statistics on data throughput to and from the server. In the Live Backup Console, click **Monitoring**.
- **Live Backup Alerts**
  Read information, warnings, and errors about Live Backup's operation. In the Live Backup Console, click **Alerts**, then **Event Viewer**, and then **Live Backup Alerts**.
- **Live Backup Reports**
  Generate reports on client data profile, space consumption, client activity, and operations performed. In the Live Backup Console, click **Reports**.

Finding and restoring data

By continuously tracking all changes made to your files, Live Backup enables you to undo any level of file changes on either an individual user document file, or all files in a single folder. You can open a file, make changes, and then restore any version of those changes, including changes you made days or even weeks ago. Not only can you restore intentional file changes, but accidental changes as well, such as overwriting a file by using the *Save* instead of *Save As* command, or the system corrupting a file during a system crash.

Recover individual files

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 files that you just created from

See also…
Live Backup Client Guide
Chapter 3

your local cache folder. You can recover any available version to a folder you select. Live Backup offers two ways to recover files:

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

- If you want a little extra help, 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. Click the Live Backup tasktray icon in Windows or click Status menu>Recovery Assistant in Mac . When the Recovery Assistant appears, choose **Recover a file**. Then follow the step-by-step wizard to locate, choose, and restore the file.

While testing file recovery, keep the following notes in mind:

- To recover files, you must have at least Write privileges for the file. To preview a file, you must have at least Read privileges for the file.
- 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.
- 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.
- 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 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.

Recover complete folders

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.

See also…
Live Backup Client Guide
Chapter 4

- If you're an expert user, you can restore a folder directly from Windows Explorer or Finder. Locate the folder, right-click and use the file’s context menu to recover. Follow the onscreen instructions.
- If you want a little extra help, you can use the Recovery Assistant to walk you through the steps of folder recovery. Click the Live Backup tasktray icon in Windows or Status menu>Recovery Assistant in Mac. When the Recovery Assistant appears, choose **Recover a folder**. Then follow the simple step-by-step wizard to locate, choose, and restore the folder.

While testing folder recovery, keep the following notes in mind:

- To recover a folder, a Live Backup user must have local administrative privileges.
- 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.
- Live Backup can restore the contents of a folder only when the computer is connected to the Live Backup Server.
- Live Backup restores folders to their original locations, only.
- Live Backup restores all files in a folder. To recover only select files in a particular folder, use the Recovery Assistant to recover individual files.

Rolling back a system

Live Backup maintains versions of all your Windows and application files and settings as well as your data files. This *system backup* enables you to roll back your Windows operating system to a previously working state if you have problems with it due to a system file corruption or failed software install. Each saved state of your system is called a *checkpoint*.

See also…
Live Backup Client Guide
Chapter 5

LIVE BACKUP EXPRESS and MAC Neither Live Backup Express or Live Backup for Macintosh supports system rollback.

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.

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.

When testing system rollback, keep the following notes in mind:

- To roll back your system to a previously working state, you must be able to run Windows. If you cannot run Windows, you will need to perform a bare-metal disaster recovery.

- Live Backup creates system checkpoints only if the client computer is configured for Full System Protection on the Live Backup Server.

- You must be a Power User or Super User to roll back your system; otherwise, this option will be disabled.

- File types designated as discardable data by the Live Backup Administrator will be ignored during System Rollback.

- 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.

You can launch a system rollback from the Live Backup Recovery Assistant. First shut down all open applications. Then click the Live Backup tasktray icon. When the Recovery Assistant appears, click **My PC is no longer working correctly, and I'd like to fix it**. Then follow the simple step-by-step wizard instructions to complete the system rollback.

Running disaster recovery

Live Backup protects you from the disaster of a hard drive failure. Simply replace the corrupted 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.

See also…
Live Backup Client Guide
Chapter 5

LIVE BACKUP EXPRESS and MACI Neither Live Backup Express or Live Backup for Mac supports disaster recovery.

To test disaster recovery, you will need to

- **Create a system image**
  To perform a full disaster recovery, you will need to create a full image of your file system. To create this image, run the Live Backup Console. From the desired client, right-click, point to **All Tasks**, and the click **System Image Wizard**. Follow the onscreen instructions to generate the image. You may also recover data directly from the network without first creating a system image. This network service disaster recovery is more time consuming than a network or local disaster recovery using a system image, and it requires special privileges on the server to access network data.

- **Create boot media**
  You will need media to boot the Live Backup Client computer and launch the disaster recovery process: From the Start menu, click Atempo Live Backup, and then click Disaster Recovery Boot Media Wizard. Answer the questions in the wizard, and generate the boot media. You must run this Wizard if you plan to access the disaster recovery images from the network.

Make the system image accessible
Either copy the system image to a network share accessible from the client computer or onto removable media. This step is required only if you are using a system image, not if you are recovering data directly from the network,

- **Run disaster recovery**
  You can run the disaster recovery. For details, see Chapter 5 in the *Live Backup Client User Guide*.

While working with disaster recovery, keep the following important notes in mind:

- 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.

- 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.

- 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.

- The Disaster Recovery Boot Media Wizard is not supported when the Live Backup Console is installed on Windows 2000 Professional.

Summary

Throughout this guide, you have sampled each major feature of Live Backup, including File Recovery, System Rollback, and full bare-metal Disaster Recovery. After this evaluation, we are confident that you will trust Live Backup for complete continuous data protection of your client workstations.

When you are ready to take the next step, please contact your assigned Sales Representative, if you have one, or the Atempo Sales department:

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