LiveVault®
ONLINE BACKUP SERVICE

TECHNICAL BRIEF

Introduction to LiveVault Security

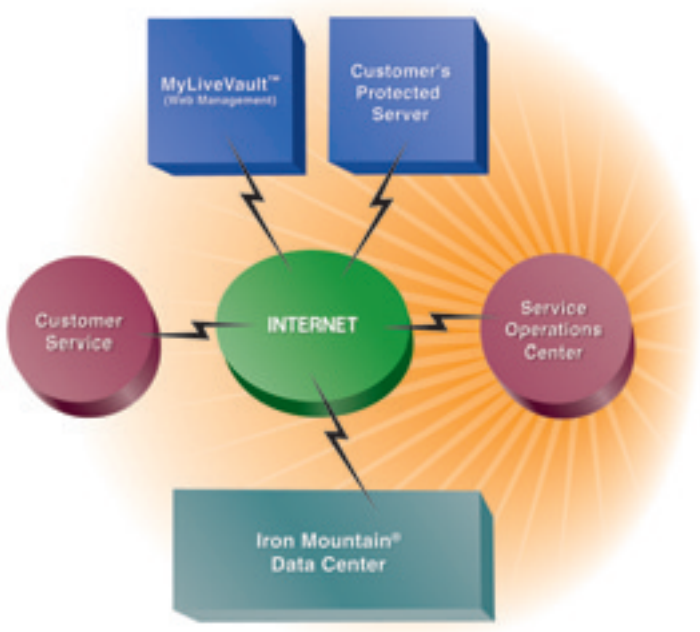
Many businesses are beginning to take advantage of the substantial value and convenience of using Internet-based storage services for data protection and disaster recovery. The complete LiveVault solution of online backup, recovery, and electronic vaulting managed services is ideal for small and medium businesses or remote sites with little or no IT staff. LiveVault's online backup allows companies to back up servers in multiple sites in real-time, continuously and automatically, over low-cost Internet connections. LiveVault's electronic vaulting protects data by archiving it immediately to a secure offsite location, where it is available for immediate restore operation or disaster recovery.

LiveVault Online Backup Service provides real advantages to businesses. Using unique byte-level replication technology, LiveVault Agent software on each protected server copies only the bytes that change in your open files and databases, minimizing server load and bandwidth requirements. LiveVault's patented Time-Slice Restore™ technology enables point-in-time restores of historic file versions. A personalized web management interface (MyLiveVault™) lets users manage the entire online backup and electronic vaulting process from a web browser. Finally a Service Operations Center (SOC) monitors and maintains the entire process 24 hours a day, 7 days a week.

Security, efficiency, and convenience are built into every step of the process to install and establish LiveVault Online Backup Service. The basic steps are:

- *Customer registers for LiveVault Online Backup Service.*
- *Customer identifies servers to be protected and submits the certificate request.*
- *LiveVault establishes the account(s) and creates digital certificates.*
- *Customer downloads and installs LiveVault Agent software and digital certificate(s).*
- *On reboot, the Agent establishes a secure connection to the LiveVault Internet Gateway server via a VPN tunnel.*
- *Customer logs onto MyLiveVault, creates backup policies, and starts initial synchronization backup (the only total backup).*
- *Once synchronization backup is complete, then continuous, real-time byte-level protection begins.*

When signing up for LiveVault Online Backup Service, the customer immediately creates a username and password that will authenticate access to the MyLiveVault web management interface over a Secure Socket Layer (SSL) connection. The customer then provides the name of each server to be protected. LiveVault uses this information to establish the account, create a customized web management interface for each protected server, and issue the digital certificates (see Technical Brief: Secure Transmission Over the Internet) that will authenticate the secure Internet connections between protected servers and the LiveVault Internet Gateway server. The LiveVault Internet Gateway server is a server that sits between the Internet and the LiveVault backup servers. Its purpose is to ensure secure and resilient connections between the customer server and the LiveVault backup server. From MyLiveVault, the customer then downloads and installs LiveVault Agent software on each protected server. Part of the installation includes linking the digital certificate file to the agent software. Once this is done, the agent will connect to the appropriate LiveVault Internet Gateway server.



LiveVault
Your Backup Is Our Business™

In addition to the digital certificate that is installed on each customer protected server (LiveVault Agent), there is a digital certificate on the customer's assigned LiveVault Internet Gateway server and another on the LiveVault backup server. From the setup process, each LiveVault Agent knows the appropriate LiveVault Internet Gateway Server to connect to. When the LiveVault Online Backup Service starts, the two servers exchange their certificates. This is to verify that each server is connected to the appropriate other server. If this two-way authentication is confirmed, data begins to move through the secured Virtual Private Network (VPN, see Technical Brief: Secure Transmission Over the Internet) tunnel from the customer server to the LiveVault Internet Gateway Server. If either server does not confirm the authentication, then the communication attempt is rejected and the connection disabled.

Once the VPN tunnel connection is established, the customer accesses MyLiveVault from an Internet browser, defines backup policies, and starts the server's initial synchronization (full) backup. As soon as the synchronization backup is complete, byte-level changes are sent to the LiveVault backup server 24 hours a day, 7 days a week.

LiveVault Online Backup Service allows companies to securely back up protected servers continuously and automatically over low-cost Internet connections to a backup server located in a protected offsite Iron Mountain data center. Iron Mountain data centers are strategically located to eliminate risk and feature state-of-the-art physical security, UPS, emergency backup generators, fire protection systems, and more. Once there, your data is away from disgruntled employees, isolated from viruses, and safe from natural disasters. In providing this service, LiveVault ensures the highest levels of data security, customer service, and operational reliability with features such as: password-protected SSL-level web access, industry-standard digital certificates, state-of-the-art VPN tunneling technology, a personalized web interface, patented byte-level replication and Time-Slice Restore technologies, and round-the-clock monitoring by a fully equipped Service Operations Center.

LiveVault corporation

www.livevault.com
LiveVault Corporation
201 Boston Post Road West
Marlborough, MA 01752 USA

IRON MOUNTAIN INCORPORATED