



STAFF REPORT

SAUSALITO CITY COUNCIL

AGENDA TITLE: Disaster Recovery Proposal

RECOMMENDED MOTION: Approve subscription to Iron Mountain's Live Vault Disaster Recovery System to make numerous daily backups, create virtual servers and transfer this data off site to the Iron Mountain storage facility. This item is budgeted.

SUMMARY

Staff is proposing the City of Sausalito move from a traditional tape backup system to a Iron Mountain's Live Vault backup and disaster recovery system; which provides improved file, database and Microsoft Exchange backups and recovery as well as multiple daily offsite archival of not only our data but each of our server configurations; which will allow us to quickly restore and access virtual copies of our server environment in the event of a situation that might prevent access our physical network.

Per direction from the OMIT Committee, the Information Technology division has researched several of the leading disaster recovery services and solutions, including: CommVault, Asigra (as deployed by Marin County) and Live Vault from Iron Mountain. We found that the only solution that will provide improved usability, fixed costs and real time backups is Live Vault from Iron Mountain.

This item is budgeted.

BACKGROUND

When first presented to the OMIT committee, the County of Marin was proposing an in-house solution using a product called Files X, projected to cost \$34,000.00. During our evaluation process, Files X was purchased by IBM and discontinued. The County of Marin and the City of Sausalito embarked on a pilot program using CommVault which proved to be perfectly capable of protecting our data, allowing real time backups and restoration of our data to an alternate location on dissimilar hardware but it proved too complex and expensive to implement. The County of Marin is currently proposing an in-house solution using Asigra which is more user friendly than CommVault but is a

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subscription model with pricing based on each gigabyte of storage; meaning that the more data we create and store, the more the solution will cost over time.

Live Vault from Iron Mountain is also a subscription model but is priced per server, not per gigabyte. We can predict and plan for our disaster recovery expenses, adding servers only if needed. Additionally, Iron Mountain provides multiple daily backups (every 15 minutes) and a network appliance with a local copy of the backed up data so we can continue to backup and restore data even if our network connection is interrupted. In addition to our data, Live Vault records the system states of each server. If a server is lost or damaged irreparably, we need only install an operating system on new hardware and restore not only our data but also our applications.

Where we are now:

At the time of this writing, the City of Sausalito has nearly 2 terabytes of data residing on our corporate network in documents, photographs, audio recordings and databases such as the Springbrook finance server and in the Microsoft Exchange email system. Our current backup system is Veritas Backup Exec, driving a 5 slot robotic backup tape drive (DLT) array, which is working beyond capacity. Currently we can only backup data once per day and retain only 3 weeks of changes to our data per set of tapes.

Because we must have ready access to our files from early morning to very late at night, we have a short window of time at night with which to run our backups. Even incremental backups take several days. The Backup Exec system is very unstable; requiring constant attention on the part of the technical staff and putting our data at risk. We do not have a formal offsite storage solution.

In the event of a catastrophic event, staff would need to purchase new servers, restore and rebuild a copy of our Windows domain, acquire copies of all of our server software with any needed updates *before* attempting to recover our data from a new DLT tape array. This assumes each of our backup jobs was 100% successful the day before the event.

The Iron Mountain Live Vault disaster recovery solution differs in the following important ways:

1. Backing up to hard disk instead of DLT cartridges speeds up the backup process.
2. Multiple backups mean that multiple versions of documents can be restored the same day they are created. Currently files created and accidentally deleted the same day are not recoverable.
3. Live Vault will give us the ability to take a "snapshot" of our server and application configurations so we can restore them to dissimilar hardware if needed.
4. Offsite storage is done daily via our 5mb data connection to the internet.

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5. Access to our stored data is immediate. Even with a traditional offsite storage service, our physical media would take time to have returned to us.
6. Live Vault is scalable. If the needs of the City of Sausalito dictate, we can increase our backup capacity or the number of servers included in the backups as needed.
7. Our data can be recovered remotely in the event of a catastrophic disaster that would make our current site inaccessible.
8. Data backed up with Live Vault is stored offsite in Iron Mountain's underground facility outside of the Bay Area.
9. Iron Mountain is the industry leader in offsite data storage and retrieval.

	Iron Mountain Live Vault	CommVault / Dell	Asigra /Marin County
Single vendor, point of contact and accountability	Yes	No, product only available through a reseller	No, product only available through a reseller
Provides native support for Microsoft Exchange (email) and SQL (database)	Yes	No	Yes
Multiple daily backups	Yes	No	No
Independent of Tape drives	Yes	No	Yes
Fixed/predictable billing	Yes, billed per server	No	No, billed per gigabyte
Designed to transport data offsite via the internet	Yes	No, unless provided by 3 rd party application developer	Yes, if offered by 3 rd party reseller
256-bit AES encryption prior to data transmission	Yes	N/A	No, data is encrypted <i>after</i> transmission across the internet
Bare Metal restore capability for server virtualization	No. Server configurations are restored to operating systems installed by local staff	Yes	Yes, if offered by 3 rd party reseller
Vendor provides all hardware and support.	Yes	No, local server must be purchased and maintained by staff, tape drives maintained, etc..	No, hard disks must be purchased for storage at the Marin County data core.

A partial list of companies using Iron Mountain include:

- Coca Cola
- Delta Dental
- Visa International

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- Bank of America
- Harvard University
- Stanford University
- Boeing
- Dow Chemical
- Verizon
- Bell South
- Sirius Satellite Radio
- Farmer's Insurance
- AARP
- Fair Isaac
- GE Capital
- SAP
- Pfizer
- Progress Software
- Google
- AMGEN
- Adobe

A partial list of smaller agencies using Iron Mountain include:

- City of Wilmington
- San Joaquin County
- Pine Bluff Housing Authority
- Planned Parenthood of Santa Barbara
- San Antonio Housing Authority

ISSUES

Live Vault preserves 90 days worth of changes to our data. This means that changed versions of our data 91 days or older will not be accessible unless they are preserved on separate media (such as CD, DVD or tape) or (if applicable) printed to hard copy. Unchanged data is retained as long as needed.

This is a recurring expense.

FISCAL IMPACT

This item is budgeted for FY 2009-10.

Complete annual cost: \$ 21,600.00 with Turbo Restore (local backup) appliance

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FUNDS EMCUMBRANCE

The following steps have been completed before submitting this request to the Council in order to ensure that the item is budgeted and that the funds have been properly encumbered for this expenditure.

- Funds have been identified in 100-130-7000-762
- Written quotes or formal bids have been obtained from the following vendors or service providers listed below: Iron Mountain and CommVault/Dell. A formal quote was requested from Marin IT for Asigra but was never received. Their verbal quote was \$42,000.00 per year.
- Based on the bids or price quotes received, this expenditure has been reviewed by the Finance Director and the City Manager.
- A Purchase Requisition has been created in the City's Springbrook finance system, and a copy is attached to this report.
- All bid pricing and other supporting documentation and the committed Purchase Requisition has been submitted to the appropriate Finance staff member for review.
- The Finance Director's signature has been obtained on the Purchase Requisition as reviewed by Finance staff.
- An insurance certificate is required / is not required for this expenditure. If a certificate is required, it is attached to this report.

STAFF RECOMMENDATIONS

Approve subscription to Iron Mountain's Live Vault Disaster Recovery System to make numerous daily backups, create virtual servers and transfer this data off site to the Iron Mountain storage facility. This item is budgeted.

ATTACHMENTS

1. A Purchase Requisition will be attached to this report when it is submitted to the City Council
2. Quote from Iron Mountain
3. Live Vault white papers
4. Formal quote from CommVault and Dell (*Note: A formal quote from Marin IT for Asigra was requested numerous times but was never received.*)

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PREPARED BY:


REVIEWED & SUBMITTED BY:

Rhett Bedelings-MacDermott, Technology Manager Adam Politzer,


Employee Name & Title


Name, City Manager

Reviewed by Charlie Francis, Finance Director



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Iron Mountain's LiveVault® Small Business Plan Schedule

January 22, 2010

Rhett Redelings
City of Sausalito (referred to herein as "Customer")
420 Litho St.
Sausalito, CA 94965

Dear Rhett

Thank you for allowing Iron Mountain, the undisputed leader in information management, the opportunity to address your online backup and recovery needs. We appreciate your business and understand your need to control costs, while at the same time reduce the risk of potential data loss. Iron Mountain's LiveVault® Small Business Plan ("SBP") Service can help you achieve both.

This is an offer by Iron Mountain to provide products and services to you at the price shown below and as per the terms and conditions as set forth on the day you execute this Schedule in the Digital Master Services Agreement ("Agreement") at U.S. - Digital Master Services Agreement http://ironmountain.com/support/livevault.asp, and in this LiveVault® Small Business Plan Service Schedule ("Schedule"). By signing this document, you are thereby agreeing that this Schedule and the Agreement are the complete, final and exclusive terms and conditions governing your license and/or use of products and services from Iron Mountain. This Schedule supersedes and terminates any prior Schedule between the Parties for the same type of Services described below. All capitalized terms used herein shall have the same meanings attributed to them in the Agreement, unless otherwise noted.

The Term of this Schedule shall commence on the date of Customer's signature and shall continue for one (1) year ("Initial Term"). Thereafter, the Term will continue with automatic month-to-month renewals unless terminated by Customer with thirty (30) calendar days prior written notice of non-renewal delivered to Iron Mountain.

Pricing contained within this Schedule is valid for acceptance by Customer only for a period of thirty (30) calendar days.

LiveVault® Small Business Plan Pricing

SBP Server Storage Tier (GB / Month / SBP Server): (250GB of aggregated data storage per server

[X] Monthly [] Annual

Table with 4 columns: Service, Quantity, Unit Fee (USD), Extended Fees (USD). Rows include SBP Server, Monthly Minimum Commit (MMC), Monthly Per Gigabyte Overage Fee (PPG), Optional Monthly TurboRestore Appliance (TRA) Fee, and Total Monthly Fees (Excluding Overage Fees).

1. Definitions.

- a. Price per Gigabyte ("PPG"): means the monthly Fee per gigabyte per month.
b. SBP Server or Protected Server: means either a physical server or Virtual Server (a virtual server guest when there is virtualization running on a physical server) under the protection of the SBP Service.
c. Minimum Monthly Commitment ("MMC"): means the minimum Fee Customer agrees to pay in arrears for each monthly billing period. At the end of each monthly billing period, the total monthly Service cost is calculated and compared to the MMC. If the total monthly Service cost is less than the MMC, the MMC will be the Fee Customer is charged for that billing period.

2. Service Description. LiveVault® SBP Service provides Internet-based backup services for Customer Protected Data on server platforms and restore or recovery of Protected Data upon request. Iron Mountain retains two (2) secured copies of Customer's

Handwritten number 4847

Protected Data for the set retention period for so long as this Schedule is in effect. Customer is required to install the Agent on Customer's targeted server(s) at Customer's expense.

2.1 Restore/Recovery:

2.1.1 Free Internet-based restores based upon Customer request. The completion of the Restore/Recovery will depend on Customer's Internet connection speed, data change rates, and the total amount of Customer's Protected Data requested. Should Iron Mountain, as part of its monitoring function, observe any unusual, abnormal, or excessive number of restore requests, Iron Mountain reserves the right to require Customer to modify its procedures and behavior in this area.

2.1.2 Optional NAS-based restores are available for an additional fee in the applicable Schedule. In most cases this will be available for shipment within one (1) business day of receipt of the written request from Customer.

2.1.3 Monitoring: Staffed monitoring during Business Hours, automated pager-alert system deployed for off-hours.

2.2 Historic Data Protection: The Service provides three (3)-month continuous backup for one (1) day, seven (7) dailies, five (5) weeklies, and four (4) monthlies. The Service takes fifteen (15) minute incremental backup copies, depending upon size and change rate to file(s) of Customer's Protected Data. After the initial twenty-four (24) hours Iron Mountain will hold a single daily backup copy for one (1) week and monthly copies for the remainder of the three (3)-month period. Customer may initiate restores from any of these data sets.

2.3 If Customer requires a Turbo Restore Appliance ("Equipment") to be installed on-site at Customer's facility, the Equipment will remain the property of Iron Mountain. Customer shall provide, at no cost to Iron Mountain, adequate security to protect the Equipment from theft, loss, damage, or misuse. Iron Mountain reserves the right to replace the Equipment for maintenance or other service related purposes. Upon receiving new Equipment, Customer shall be responsible for packing, shipping and handling of the original Equipment for return to Iron Mountain at Customer's expense within two (2) business weeks (a business week represents five (5) business days). Customer shall be responsible for returning Equipment to Iron Mountain in good working condition upon termination of the services. Customer shall obtain from its landlord (and/or any relevant entity) such agreement(s) as may be reasonably necessary to allow Iron Mountain the right to enter Customer's premises and access and/or possess the Equipment in a timely manner. The following charges will apply for delayed returns, lost or stolen Equipment.

- Delays over two (2) business weeks USD \$750.00 per business week, rounded to the closest business week
- Lost/Damaged Equipment(s) One time Fee of USD \$1,500.00 per Equipment

3. **Customer and Technical Support.**

3.1 Iron Mountain Customer Support is provided as outlined under the Agreement in Section 3, "Maintenance and Support Services" and as described in this Schedule. Customer Support is available 24 x 7 x 365 via the Iron Mountain Customer Help Line.

3.2 Normal business hours of operation are 8 a.m. to 9 p.m. Eastern Time Monday to Friday, excluding holidays ("Business Hours").

3.3 Iron Mountain will respond to Service availability issues ("Severity 1") within sixty (60) minutes after Customer notification. Severity 1 Service issues must be reported to Iron Mountain Customer Support telephonically. Service issues that are not Severity 1 issues which cannot be resolved on initial point of contact will be worked during Business Hours. Iron Mountain shall not be liable for Internet downtime

3.4 Iron Mountain shall maintain a knowledge base accessible via <http://digitalresourcecenter.ironmountain.com> that contains information regarding the Services.

3.5 For security purposes, Customer shall provide at all times two (2) Authorized Contacts. Customer shall provide to Iron Mountain, and keep current, the phone numbers and email addresses of such Authorized Contacts. The Authorized Contacts shall be the sole contacts for all communications between Customer and Iron Mountain's Technical Support Department, until the reported problems is resolved. In the event the Authorized Contact(s) drops below two (2), Customer shall notify Iron Mountain within fifteen (15) calendar days and shall have ninety (90) calendar days to replace such Authorized Contact(s).

4. **Pricing Terms.**

4.1 Customer's total monthly storage allowance for Protected Data is based upon the SBP Server Storage Tier per month per SBP Server as outlined in the pricing contained herein this Schedule, multiplied by the aggregate number of SBP Servers ("Aggregate Monthly Storage Allowance"). If in any month Customer exceeds the Aggregate Monthly Storage Allowance, Customer shall be charged an overage Fee which is calculated by multiplying the Monthly Per Gigabyte Overage Fee by the

number of gigabytes of Protected Data in the LiveVault SBP Service in excess of the Aggregate Monthly Storage Allowance.

- 4.2 Monthly Pay Service Plans are billed in arrears. Fees are based upon the total number of SBP Servers in use and the peak amount of Protected Data under protection at any time during the monthly billing cycle, based on actual gigabytes, for each SBP Server.
- 4.3 Customer may elect an annual prepaid plan by so informing Iron Mountain in writing. For annual prepaid plans and/or multi-year Schedules, Customer will be invoiced for one (1) full year in the first (1st) month of each Schedule's Initial Term and subsequent renewal Term(s). Customer shall receive a monthly service credit ("Monthly Service Credit") equal to one-twelfth (1/12) of the SBP Server Annual PrePaid Plan Fee, as outlined in Section 4.1, toward the monthly cost of the Service, excluding TRAs and overage Fees. If the Monthly Service Credit does not exceed the monthly Service cost for the Service, then no overage Fees are due for that billing month.
- 4.4 Upgrades with higher financial SBP Server Storage Tier levels are permitted at any time, but will require Customer to execute a new Schedule.
- 4.5 Customer may add SBP Servers to the LiveVault SBP Service at any time. The SBP Server Storage Tier, as outlined in the LiveVault® Small Business Plan Pricing contained herein this Schedule, must be applied to all SBP Servers.
- 4.6 If execution of this Schedule occurs prior to the fifteenth (15th) day of the month, then Customer shall be liable for charges effective as of the first day of the current calendar month. If execution of this Schedule occurs on or after the fifteenth (15th) day of the month, then Customer shall become liable for charges as of the first day of the next calendar month.
- 4.7 Customer invoicing will be sent via email. Customer is responsible for keeping bill-to email address information current.
- 4.8 NAS Restores shall be provided upon Customer request for a charge of three thousand USD (\$3,000) per request. If a request requires multiple NAS devices, then the total fee shall include an additional charge of three thousand USD (\$3,000) for each extra NAS device. This charge includes a two (2) week rental of the NAS device, commencing upon date of shipment. An additional rental fee shall be charged to Customer in the event the furnished NAS device is not returned to Iron Mountain by the expiration of the two (2) week rental period, at the flat rate of five hundred USD (\$500) for each additional thirty (30) day period or portion thereof. Iron Mountain has no responsibility to arrange for return shipment.
- 4.9 Prices and/or rates shall remain fixed for the Initial Term of the Agreement and thereafter may be changed by Iron Mountain at any time upon thirty (30) calendar days written notice.
- 4.10 If travel is required by Iron Mountain in order to implement the Services hereunder, Customer will reimburse Iron Mountain for all reasonable, actual out-of-pocket travel expenses. Iron Mountain substantiates such expenses and submits a statement to Customer of all such expenses, including actual or accurate copies of receipts for any single expense greater than twenty-five USD (\$25.00). Iron Mountain shall invoice Customer upon completion of Services.
- 4.11 Notifications will be sent to the Customer address shown at the commencement of this Schedule.

Each Party has full power and authority and has been duly authorized to enter into and perform its obligation under the Agreement associated with this Schedule, including the Customer's authority to enter into an agreement of this scope and duration, all necessary approvals having been obtained. The execution, delivery and performance of the Agreement and this Schedule by each Party shall not violate, create a default under or breach of any charter, bylaws, agreement or other contract, license, permit, indebtedness, certificate, order decree or security instrument to which such party or any of its principles is a party or is subject.

CUSTOMER	IRON MOUNTAIN INFORMATION MANAGEMENT, INC.
Individual Signing: [print name]	Individual Signing: [print name]
Signature:	Signature:
Title:	Title:
Signature Date:	Signature Date:

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Introducing LiveVault 5.5

Importance of Backup of Servers

Businesses of all sizes have become increasingly dependent on data for the very existence of the company. Whether it is a large financial institution with transactional data or a 15-person law office with valuable client records, business assets are increasingly represented by the data we maintain.

The business risk of losing this data or losing access for an extended period of time is well documented and well understood. A report from Gartner Group indicates that server backup in the Small and Medium-sized Business (SMB) world is approaching 100%. Continuously expanding regulatory requirements are causing businesses to re-examine current recovery plans.

In addition, there is an increasing awareness that responsible business protection also includes moving data to a safe off-site location. While there are the well-known examples of large-scale disasters such as hurricanes and tornados, greater total risk exists in the less publicized, but equally damaging events such as fire, flood, theft, a malfunction in the sprinkler system or simple human error.

Understanding the need is only the first step in the process. Equally important is determining the right data protection strategy for your business.

Data disaster protection comes in many shapes and sizes. What's best for a large global company may not be right for your business. Developing your data protection strategy does not have to be complicated, but it does need to be carefully thought out. It needs to ensure not just that the data is backed up, but that it is stored safely, and that it is readily and quickly available when restoration becomes necessary.

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DOCUMENT INFORMATION

Introducing LiveVault 5.5

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July 2006

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ABOUT IRON MOUNTAIN DIGITAL

Iron Mountain Digital is the world’s leading provider of data backup/recovery and archiving software as a service (SaaS). The technology arm of Iron Mountain Incorporated offers a comprehensive suite of data protection and e-records management software and services to thousands of companies around the world, directly and through a world-wide network of channel partners. Iron Mountain Digital is based in Southborough, Mass. with European headquarters in Frankfurt, Germany. For more information, visit www.ironmountain.com/digital.

Iron Mountain’s LiveVault, our automated server backup and recovery solution, received a 2006 CoDiE Award in the Best Storage Software Solution category. LiveVault is offered as licensed software and managed service and features all of the key characteristics on the checklist provided in this paper. In addition, our PC backup and recovery services and products protect and defend data stored locally on desktops and mobile devices.

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Reliability of Traditional Backup and Restoration Capabilities

Traditional backup — today's incumbent, de facto method for corporate data protection — has many shortcomings that have become too obvious to ignore. It is increasingly apparent that businesses require new solutions that bring new levels of ease and simplicity. Industry analysts have long noted that traditional backups fail to fully restore data as much as 50 percent of the time, an indefensible level of avoidable risk. After all, which half of data can companies afford to lose — the customer orders, the client records, the invoices? The fact is that virtually all company data is critical to ongoing operations and can not be placed in jeopardy.

Today, many companies are embracing a sophisticated new approach to data protection — leveraging disk-based, online technologies that address the challenges and shortcomings posed by traditional backup solutions.

Online Backup and Restore Benefits

• Disk-based Backup

Traditional backup has long been flawed by the reliability issues inherent in the technology. Disk-based backup technology solves the reliability problem by eliminating the technology that has the most flaws — the traditional process and human intervention. In addition, disk-based backup adds new capabilities to the data protection process, such as quicker and more precise data restoration.

• Continuous Backup

In the event of a disaster, through continuous backup technology you can restore data from moments before the interruption, rather than from the previous evening. LiveVault captures changes as often as every 15 minutes, which means the enterprise can manage its business knowing that maximum disaster loss would be 15 minutes of data, and the restoration can be completed much quicker, further reducing system downtime.

• Automatic Off-site Electronic Vaulting

Even if you're extremely careful about backing up your data, that's only half of the process. To truly protect that data, you must also get it off-site. Too many businesses store backup tapes onsite, needlessly exposing them to risk from fire or flood. Some businesses assign an employee to take the tapes home. While that might work (when they do not forget), what if the employee leaves the tapes in a car, vulnerable to theft or temperature damage? Even if you hire a professional tape-handling service to courier and store tapes on a daily or weekly basis, there's always a period of time when you're unprotected and vulnerable to severe data loss. The time and money you spend recreating lost data can be costly not only in terms of lost productivity, but in terms of lost revenue and customer goodwill.

• Recovery Where and When You Want It

With online backup and recovery, if you experience a site disaster — or even want to restore data to a different location for any reason — all you have to do is log on to a Web interface, click on the files you want to restore, and specify the location (even one that is thousands of miles away). The restore process begins automatically.

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White Paper Purpose

This white paper will describe Iron Mountain's LiveVault 5.5, an automated solution for online backup and restore for small and medium-sized businesses, as well as remote offices with local servers.

INTRODUCING LIVEVAULT 5.5

As defined above, online backup clearly has numerous benefits that make it a superior solution to traditional backup. Iron Mountain Digital understands the benefits of online backup and is now improving the LiveVault solution family with the introduction of LiveVault 5.5.

LiveVault 5.5 – A Better Server Backup Solution

LiveVault 5.5 provides the world's only completely automated end-to-end data protection solution for businesses with distributed servers. Uniquely coupling the speed and ease-of-use of disk backup with the security and convenience of online backup, LiveVault offers the simplest, yet most advanced data protection available. With LiveVault 5.5, small and medium-sized businesses, as well as remote offices with local servers, have a complete solution that addresses the numerous deficiencies of traditional backup for distributed servers.

LIVEVAULT KEY CAPABILITIES

LiveVault 5.5 continues to provide all of the primary functionality of an online backup and recovery solution, tuned to enable the most efficient management of your data protection needs.

Backup and Restore

- **Backup** – Unlike traditional backup, that requires taking a static snapshot of the server at a point in time, LiveVault provides continuous backup (snapshots are taken as often as every 15 minutes), so that the time between the last backup set and a server failure is minimized. This means that IT can restore the server to the state it was in just 15 minutes before the loss, rather than days before. In addition, LiveVault monitors changes at the files system I/O level, which means that only the changed regions of each file are backed up, reducing backup time.
- **Iron Mountain Storage** – All backup data is electronically transmitted to Iron Mountain's secure underground storage facility, providing real-time remote storage to protect against losses from disasters at the server location.
- **Restore Speed** – With LiveVault's continuous backup and file-level backup, file restoration is significantly faster than traditional backup restoration. The incremental file-level backup creates more restore points and requires that only changed data is restored, not the entire file.
- **Local and Remote Copy** – LiveVault can be implemented with TurboRestore, a local appliance that retains up to one week of backup data for faster restoration.

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Configuration and Management

The enterprise manages its LiveVault implementation through the integrated Web UI, which can be accessed from anywhere the administrator has an Internet connection. The administrator can add or remove servers for backup, request a restore, or manage users.

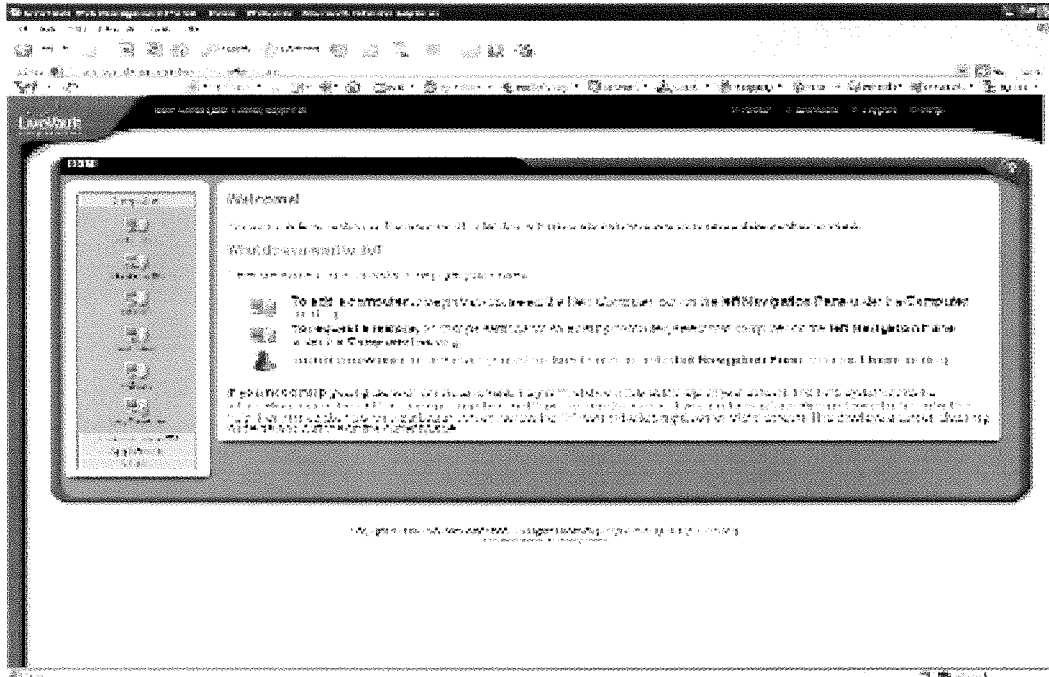


Figure 1: Web UI Home Page

- **Scheduling and Automated Transfer** – For each server that is being backed up, the administrator can configure the schedule for how often data is backed up. LiveVault automatically takes care of transferring the data to the remote storage at the Iron Mountain storage vault. Once the settings are configured, no interaction is necessary for IT staff — the continuous backup is active and available at any point for restoration needs.
- **Retrieve Restores** – The interface can also be used to request a restore. No direct access to the affected server is necessary — from any Internet connection, the administrator can access the UI and request restoration of a file or a complete snapshot of the server from a particular time.
- **Bandwidth Throttling** – The administrator can define bandwidth used for backup by day of week and time of day. This allows the enterprise to manage the bandwidth used in the backup process and make more efficient use of excess bandwidth during off-use hours.

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NEW IN 5.5

With LiveVault 5.5, the solution continues to improve. Some key features include:

- **Internationalization** – LiveVault can now support data on foreign language Operating Systems including double byte characters.
- **Disconnected Restore UI** – With TurboRestore, the administrator can initiate a restore from the local appliance without needing an active Internet connection.
- **MS Cluster Support** – LiveVault can now support servers with Microsoft® Cluster implementations, both in active/active and active/passive configurations.
- **Improved Email Notifications** – Backup and restore status tracking and alerts have been enhanced to give the administrator even more insight into the status of the data protection on the configured servers.
- **Additional Operating System Support** – As server Operating Systems continue to upgrade, so does LiveVault. LiveVault 5.5 adds RedHat® Enterprise 4.0, Solaris™ 10, Suse Linux® Enterprise 10, and Windows® 2003 Server R2 to the list of supported operating systems.
- **Web UI Enhancements** – The user interface has also improved, providing faster response time and full access to configuration management from any Internet access point.

ARCHITECTURE

The standard LiveVault architecture configuration is described below:

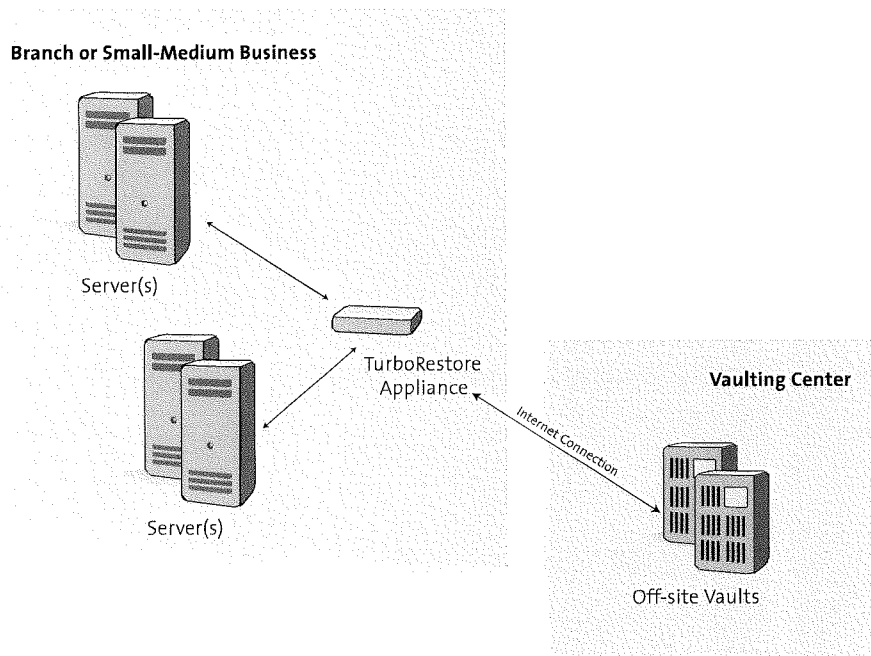


Figure 2: LiveVault Architecture

Server Agent

On each server to be included in the backup process — any server running a compatible operating system and containing less than 400GB of data under a change rate of less than 10% — an Agent is installed. This Agent runs in the system process at the file system I/O and identifies changed disk regions that should be included in each incremental backup. Using the settings configured through the Web management UI, the Agent monitors the identified files for changes and sends those changes for backup. The Agent also plays a critical role in managing the restore process, and must be installed on a new machine before a restore of backup data can be initiated to that machine.

TurboRestore Appliance

Although not required for a LiveVault implementation, the TurboRestore appliance adds significant functionality and speed to the data protection solution. The appliance acts as an interim “mini-vault” to keep a local copy of the backup, thereby enabling faster restoration when necessary. In addition, the appliance acts as a holding spot for the backup data to enable delayed transfer to the remote storage, which enables smarter management of Internet bandwidth utilization.

The amount of data that is stored on the appliance can be managed by the enterprise, and expanded with the addition of additional storage hardware to meet the needs of the number of servers and respective data needs of the enterprise.

Iron Mountain Storage

Via the enterprise Internet connection, all backup data is transmitted to Iron Mountain’s secure underground facility. Using state-of-the-art security, including AES encryption, VPN tunneling and digital certificates, Iron Mountain ensures that the data is continuously stored off-site at a secure, remote facility.

All data is encrypted at the source using 256-bit AES encryption, to ensure that data is secure from the moment it leaves the server, to storage at Iron Mountain’s secure underground facility, through restores back to the systems. LiveVault utilizes SSL security to establish a secure, resilient communication tunnel to the Iron Mountain Data Storage Vault. This ensures that the data is always protected with data encrypted in transit, and while in the secure Vault. The data can only be decrypted using a key the enterprise controls.

Each secure Iron Mountain Data Storage Vault facility features comprehensive physical security, UPS, emergency backup generators and fire protection systems. You can be assured that your backup is consistently executed and your business data is fully protected.

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Web Management UI

The entire backup and restore process is managed through LiveVault's user-friendly, available anywhere Web Management user interface. Through the UI, the administrator can identify all policies and configurations, including:

- Identify the servers to be backed up.
- Set the backup policies (what files to back up and how often).
- Manage the backup retention length.
- Initiate restores of single files through to entire servers — even restoring files to a different machine.

CONCLUSION

With LiveVault 5.5, Iron Mountain continues to provide the premier data protection solutions for the needs of small and medium-sized business, as well as remote offices with local servers. LiveVault's continuous data protection, local near-term storage and online remote storage provide a premier mechanism for protecting critical server data — a solution far superior to traditional backup. With LiveVault 5.5, organizations can get lower total cost of ownership, higher reliability, better protection with more data rollback points, and significant ease-of-use with less maintenance. LiveVault 5.5 brings large enterprise disk-based backup features to the small and medium-sized business market, with the security of Iron Mountain storage.

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745 Atlantic Avenue
Boston, Massachusetts 02111
(800) 899-IRON

Iron Mountain Digital, the world's leading provider of data backup/recovery and archiving software as a service (SaaS), offers a comprehensive suite of data protection and e-records management software and services to thousands of companies around the world. For more information, visit our Web site at www.ironmountain.com/digital.

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DELL**QUOTATION**

QUOTE #: 526963311

Customer #: 15521721

Contract #: WN99ABZ

Customer Agreement #: WSCA- B27160

Quote Date: 1/29/10

Date: 1/29/10 3:41:26 PM

Customer Name: CITY OF SAUSALITO

TOTAL QUOTE AMOUNT:	\$44,025.09		
Product Subtotal:	\$40,588.50		
Tax:	\$3,436.59		
Shipping & Handling:	\$0.00		
Shipping Method:	Ground	Total Number of System Groups:	2

GROUP: 1	QUANTITY: 1	SYSTEM PRICE: \$32,667.40	GROUP TOTAL: \$32,667.40
Base Unit:	PowerVault DL2100 Performance 2xE5520 Processor, 24GB Memory 2x250GB Hard Drive, PERC6E, SAS6ir, DRAC (224-7111)		
Operating System:	Windows Server 2008SP2 Standard x64, Incl Hyper-V Incl 5 CALs (421-1072)		
Mouse:	CommVault Simpana 8.0 AdvancedDedupe Edition, 1 Year Maintenance (421-0744)		
Mouse:	No Option Selected (421-0194)		
Mouse:	CommVault Simpana 8.0 Client Agent License, 1 Year Maintenance (421-0749) - Quantity 4		
Mouse:	CommVault Simpana 8.0 Virtual Client Agent, 1 Year Maintenance (421-0751)		
Mouse:	CommVault Simpana 8.0 Application Agent License, 1 Year Maintenance (421-0750)		
Mouse:	CommVault Simpana 8.0 1.0TB License, Dedupe to disk, 1yr Maintenance (421-0748) - Quantity 2		
NIC:	Embedded Broadcom, GB Ethernet NICS with TOE (430-1764)		
Feature	Sliding Ready Rails With Cable Management Arm (330-3477)		
Service:	Dell Hardware Limited Warranty Plus On Site Service Initial Year (905-3707)		
Service:	Mission Critical Package: 4-Hour 7x24 On-Site Service with Emergency Dispatch, 2 Year Extended (905-4912)		
Service:	Dell Hardware Limited Warranty Plus On Site Service Extended Year (905-5028)		
Service:	ProSupport for IT: 7x24 HW / SW Tech Support and Assistance for Certified IT Staff, 3 Year (905-5042)		
Service:	MISSION CRITICAL PACKAGE: Enhanced Services, 3 Year (905-5078)		
Service:	Mission Critical Package: 4-Hour 7x24 On-Site Service with Emergency Dispatch, Initial Year (906-3260)		
Service:	Thank you choosing Dell ProSupport. For tech support, visit http://support.dell.com/ProSupport or call 1-800-945-33 (989-3439)		
Installation:	On-Site Installation Declined (983-5227)		
Misc:	Power Cord, NEMA 5-15P to C13, 15 amp, wall plug, 10 feet / 3 meter (310-8509)		
Misc:	Power Cord, NEMA 5-15P to C13, 15 amp, wall plug, 10 feet / 3 meter (310-8509)		

GROUP: 2	QUANTITY: 1	SYSTEM PRICE: \$5,521.10	GROUP TOTAL: \$5,521.10
Base Unit:	PowerVault MD1000 for DL2100 and DL2000 (224-3592)		
Hard Drive:	15X 500GB 7.2K RPM Universal SATA 3Gbps 3.5-in HotPlug HardDrive (341-8388)		
Hard Drive Controller:	Two Enclosure Management Modules, PowerVault MD1000 SAS/SATA (420-6220)		

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Controller Option:	Customer already has a PERC5/EController Card (Required to operate MD1000) (341-3154)
Feature	Rapid Rails for Dell, or other Square Hole Racks, MDxx00 (310-7080)
Service:	Dell Hardware Warranty Plus Onsite Service Initial Year (985-7579)
Service:	Dell Hardware Warranty Plus Onsite Service Extended Year(s) (985-9948)
Service:	Pro Support for IT: Next Business Day Onsite Service After Problem Diagnosis, 2Year Extended (987-9232)
Service:	ProSupport for IT: 7x24 HW / SW Tech Support and Assistance for Certified IT Staff, 3 Year (987-9262)
Service:	Pro Support for IT: Next Business Day Onsite Service After Problem Diagnosis, Initial Year (988-3250)
Service:	Thank you choosing Dell ProSupport. For tech support, visit http://support.dell.com/ProSupport or call 1-800-945-33 (989-3439)
	SAS Cable, 2 Meter, MDx000 (310-7083)

SOFTWARE & ACCESSORIES			
Product	Quantity	Unit Price	Total
Remote Matador Deployment Services- Price Per Day (A0957938)	2	\$1,200.00	\$2,400.00
Number of S & A Items: 1		S&A Total Amount: \$2,400.00	

SALES REP:	Kimberly Macias	PHONE:	1800-695-8133
Email Address:	Kimberly_Macias@Dell.com	Phone Ext:	7250291

Please review this quote carefully. If complete and accurate, you may place your order online at www.dell.com/qto (use quote number above). POs and payments should be made to **Dell Marketing L.P.**

If you do not have a separate agreement with Dell that applies to your order, please refer to www.dell.com/terms as follows:

If purchasing for your internal use, your order will be subject to *Dell's Terms and Conditions of Sale-Direct* including Dell's U.S. Return Policy, at www.dell.com/returnpolicy#total. If purchasing for resale, your order will be subject to *Dell's Terms and Condition of Sale for Persons or Entities Purchasing to Resell*, and other terms of Dell's PartnerDirect program at www.dell.com/partner. If your order includes services, visit www.dell.com/servicecontracts for service descriptions and terms.

Quote information is valid for U.S. customers and U.S. addresses only, and is subject to change. Sales tax on products shipped is based on "Ship To" address, and for downloads is based on "Bill To" address. Please indicate any tax-exempt status on your PO, and fax your exemption certificate, with seller listed as *Dell Marketing L.P.*, to Dell's Tax Department at 800-433-9023. Please include your Customer Number.

For certain products shipped to end-users in California, a State Environmental Fee will be applied. For Asset Recovery/Recycling Services, visit www.dell.com/assetrecovery.

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