

# Microsoft and Iron Mountain: Partners in the Storage Cloud

## Spotlight

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The latest release (SP1) of its Data Protection Manager 2007 (DPM) V 2 represents Microsoft's first foray into the storage cloud. But instead of buying or building its own storage cloud à la EMC with Mozy, or Symantec with Symantec Protection Network, Microsoft has partnered with Iron Mountain to provide CloudRecovery—a cloud storage-based backup and recovery service that is now integrated with DPM as an alternate backup target.

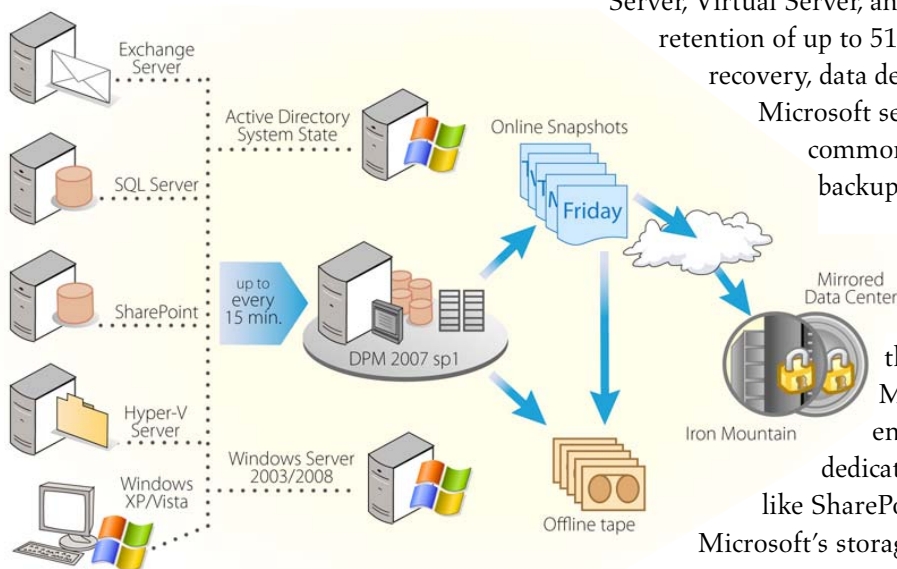
From the standpoint of a DPM administrator, Iron Mountain's CloudRecovery service is a fully-integrated, off-site vaulting facility that doesn't require the physical transport of backup tapes to the vaulting site. Microsoft chose Iron Mountain specifically for its reputation in off-site vaulting and security—a hot issue for cloud-based storage, and its experience in supporting legal discovery and chain-of-custody issues which can be critical to large Exchange users.

To activate CloudRecovery, the DPM administrator first goes to the Iron Mountain site and signs up for the service, then clicks on a DPM icon to get started. Once the link to Iron Mountain is running, DPM sends incremental copies of DPM's local backup from disk to Iron Mountain's remote data store—its cloud, if you would.

### DPM and D2D2C

Data Protection Manager 2007 is an enterprise class backup and recovery application—albeit one that is targeted specifically at protecting Microsoft applications and operating environments such as SharePoint, Exchange, SQL Server, Virtual Server, and Windows desktops. It features retention of up to 512 on-line snapshots, disk-to-disk recovery, data de-duplication, and support for Microsoft server clusters—all features commonly found in enterprise-class backup and restore applications.

DPM is getting traction within two different user groups: small and medium businesses (SMB) that run their entire businesses on Microsoft applications and enterprises that have server farms dedicated to single Microsoft applications like SharePoint, Exchange, and SQL Server. Microsoft's storage product managers have debated



whether or not to broaden DPM's opportunities by extending the data protection umbrella beyond Microsoft-branded applications, but have decided—at least for now—to concentrate on extending DPM's feature and function set within the context of a pure Microsoft environment instead.

Integrating Iron Mountain's CloudRecovery service as an optional backup target for DPM servers is just such an example.

Prior to the announced cloud storage integration, DPM had already supported Disk-to-Disk-to-Tape (D2D2T) backup. In a D2D2T scenario, backup data moves from a server running a Microsoft application such as Exchange to disk attached to the DPM server. From there, it can optionally be copied to tape as well. (Backup data can also move directly to tape, bypassing the intermediate disk copy.)

CloudRecovery adds a new backup target option: the storage cloud. With the latest SP1 release of DPM, the data can also be sent to Iron Mountain's CloudRecovery service over the Internet. Call it D2D2C if you like.

Like many data protection applications, DPM deposits an agent on each server that is included in the DPM protection plan and attached to the DPM server. Microsoft Windows Server administrators also have the option of installing one agent per Hyper-V<sup>1</sup> guest rather than just one for the entire physical server.

The agent automatically triggers data snapshots of the data resident on the server or the guest at timed intervals. The snapshots are first sent to the DPM server over LAN connections, and then on to DPM server-attached disk or tape. If DPM is integrated with Iron Mountain's CloudRecovery service, copies of both daily and weekly backups can be encrypted and forwarded off-site to the CloudRecovery facility. With the addition of CloudRecovery, DPM administrators can now recover data directly from disk, use local tape for

longer term retention of backups, and use CloudRecovery as an off-site disaster recovery and archiving repository.

### **Iron Mountain: The Company**

Revenues from existing physical and digital data protection and recovery services currently account for approximately 19 percent of Iron Mountain's \$3 billion in annual revenue. CloudRecovery lives within Iron Mountain Digital, a business unit that employs 850 people and generated \$220 million in revenues for 2008, representing an annual growth rate of 37 percent. It counts 15,000 customers worldwide, of which roughly 10,000 fall into the SMB category. Iron Mountain Digital currently has 9 petabytes of data under management and has a rapidly growing email archive of more than 10 billion emails. And while noting the growth in digital storage services, it's interesting to see that Iron Mountain's off-site physical tape vaulting service is still growing at double-digit rates as well.

One of the striking things about Iron Mountain Digital as compared to other storage cloud vendors is its global presence with facilities in North America, Europe, and Asia. Since 2004, Iron Mountain has made a number of strategic acquisitions to build the digital business unit—including Connected in 2004 and LiveVault in 2005; technology from these acquisitions has been leveraged in the development of the CloudRecovery service. At the time of acquisition, LiveVault was a \$20 million in annual revenues online provider of disk-based server backup and recovery services for SMBs and enterprise remote offices. In 2007 Iron Mountain also acquired Stratify, a provider of in-depth discovery and data investigation; Stratify's services could also become part of the CloudRecovery service offering at some point in the future.

### **CloudRecovery**

CloudRecovery is available only to Microsoft DPM users. Once the Iron Mountain CloudRecovery service is activated, the DPM administrator is presented with three backup target options: disk,

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<sup>1</sup> Hyper-V is Microsoft's "Type 1" hypervisor for server virtualization. We expect to see it in increasingly wide use—especially in the sort of Microsoft-centric environments that DPM also targets.

tape and CloudRecovery. When backup to CloudRecovery is chosen, the DPM server automatically sends encrypted backup data from local DPM disk-based backups to the CloudRecovery site via an Internet connection. CloudRecovery then performs up to fourteen daily and one or two weekly additional backups to Iron Mountain's data center. CloudRecovery services include data mirroring at the CloudRecovery site and long-term data retention. Data can be stored on standard retention plans of 30 days, one year, and seven years, after which it is purged.

CloudRecovery incorporates on-site compression and off-site data reduction technologies to increase the performance and efficiency of the off-site backup process. Recoveries typically take place over an Internet connection as well except in cases where an entire disk needs to be rebuilt. In this case, overnight shipment of a restore device is available in order to avoid a prolonged recovery process. While CloudRecovery is offered worldwide, at this time it is only operated from a data center in the United States. However, Iron Mountain plans to expand the number of CloudRecovery sites in the future.

Both Iron Mountain and Microsoft claim that CloudRecovery is "tightly integrated" with Microsoft DPM. In this context, tight integration means that the CloudRecovery service works directly with DPM 2007 APIs to perform offsite backups to Iron Mountain's cloud storage. Administrative functions (backup sets, retention settings and recoveries) are performed via a web interface that can be launched from DPM and has the look and feel of DPM, but is actually a CloudRecovery tool. A change in the appearance of a file icon notifies the DPM administrator that a data source/replica is protected by CloudRecovery.

### **CloudRecovery Pricing**

A DPM customer contracts directly with Iron Mountain for CloudRecovery services. All associated backup charges are billed monthly by Iron Mountain for the amount of data protected. Charges for CloudRecovery services are based on the amount of data included in the off-site backup

as measured un-compressed at the local DPM server site; no additional bandwidth charges are applied as is the case with some other cloud storage vendors such as Amazon S3 and Nirvanix. Tiered pricing starts at 100 GB and stops at 4 TB with no further discounts for larger volumes.

The standard service includes retention of backups for 30 days. Additional offerings are available for customers wishing to archive backups for periods of one year or seven years. There is no charge for recoveries except when a restore has to be physically loaded on a device by Iron Mountain and shipped to the DPM administrator.

### **Conclusion**

The partnership between Iron Mountain and Microsoft holds great potential for DPM customers. Iron Mountain is hinting that its expertise in regulatory compliance, legal discovery, and data destruction could also be added to CloudRecovery services. We believe that Iron Mountain understands email and document chain-of-custody issues better than any other cloud storage service provider. That could be a big plus for enterprise users worried about what happens when legal discovery processes encounter cloud-based, data protection storage, and a significant differentiator relative to competitors.

At the moment, Iron Mountain basically adds to DPM an integrated, secure, online remote backup and recovery service that can archive backups for up to seven years. While this represents a strong first step in the relationship, Iron Mountain is positioned to, and we believe fully intends to, offer additional value added services on top of CloudRecovery in the future that draw upon Iron Mountain's expertise in the more complex and nuanced issues associated with archiving and compliance.