

Comprehensive Data Protection using CommVault Simpana and Coraid EtherDrive

Solution Brief

The astronomical growth of data in enterprises in recent years is one of the biggest challenges for data center hardware infrastructure. This rapid growth in primary data has in turn driven the need for reliable backup systems that are easy to manage and can efficiently scale with demand. Regulatory requirements around data retention and a growing need for business continuity and disaster recovery have further accentuated the importance of selecting a comprehensive data management system.

The CommVault Simpana data management suite offers a rich, flexible set of capabilities such as multi-level de-duplication, compression and centralized monitoring and control that allow administrators to tame the problem of data protection and archival in an environment of unchecked data growth. The CommVault software solution works best with fast, scalable and simple storage. The Coraid EtherDrive family provides the required storage performance and flexibility at a price that is significantly less than comparable iSCSI and Fibre Channel solutions. By deploying a backup solution built on CommVault and Coraid, administrators can enforce data backup policies that meet their organizations' performance and protection needs.

CommVault Simpana

CommVault Simpana is a modern, comprehensive suite of data management solutions that can meet the backup and archival needs of enterprises. CommVault uses a variety of techniques such as de-duplication, compression and data tiering to utilize the underlying storage and network resources more efficiently. Using these techniques, CommVault is able to reduce the amount of data that needs to be stored for backup and archival by over 90%. In situations where data is backed up and archived off-site, such as in disaster recovery implementations, de-duplicating data locally before transmitting over the WAN reduces network traffic and speeds up data transfer.

CommVault Simpana provides a single pane interface for all backup, replication and data management activities across hundreds of clients. The solution provides a high degree of customization of retention rules according to business needs and automation of backup management, reporting and migration.

Coraid EtherDrive SAN

Software-based backup solutions require underlying storage that is fast, reliable and scalable. With most of the backup and recovery intelligence handled at the software layer, the hardware infrastructure requires simple scale-out storage with great price-performance characteristics that will allow companies to easily grow their storage capacity in line with data growth.

The Coraid EtherDrive family of products offers flexible, scale-out storage with higher performance than Fibre Channel SANs at a fraction of the cost. EtherDrive storage arrays have true scale-out capabilities and provide an attractive alternative to controller-based storage architectures, growing to multiple Petabytes without expensive forklift upgrades. The flexibility and versatility of Coraid's single-tier technology allows it to be used as primary storage, disk-based backup storage and off-site disaster recovery storage.



Description of the End-to-End Solution

Primary storage for application servers is provided by Coraid EtherDrive arrays with a combination of SAS and SATA drives and 10 GbE Ethernet interfaces. The CommVault media agent runs on a Windows or Linux server and is connected to Coraid EtherDrive target disk backup storage with 1 GbE/10 GbE interfaces, and to tape-based archival systems and remote Disaster Recovery sites over LAN/WAN. The remote Disaster Recovery site has a CommVault media agent connected to Coraid EtherDrive arrays with 1 GbE/10 GbE interfaces. Figure 1 shows the end-to-end backup solution based on CommVault and Coraid.

The CommVault media agent coordinates backup activities with software-based CommVault clients installed on the application servers. The CommVault clients retrieve the blocks to be backed up from primary storage, create the de-duplication hash for the blocks and send the data to the CommVault media agent. The media agent performs de-duplication at both the block level and object level and stores the data to the backup target. CommVault also provides optional source-based de-duplication, where the CommVault clients de-duplicate the data from each of the servers before sending data over the LAN. This reduces the traffic on the LAN substantially.

The CommVault media agent coordinates replication of data to the remote disaster recovery site according to the policies configured by the administrator. The media

agent can be integrated with the archival system that uses tape-based storage. The CommCell Console provides the administrator with a single point of control for the entire backup system. The CommCell Console maintains a database that tracks the backup activities at a global level and ensures that policies are being followed.

Administrators can scale their backup systems by adding more media agent servers for greater throughput. Storage can be scaled simply by adding more Coraid arrays to the SAN. Coraid's connectionless technology provides parallel access to data in all the arrays, ensuring that storage performance scales. Scalability and storage consolidation are the key benefits of Coraid over direct-attached storage for backup.

Conclusion

The capabilities of CommVault's backup solution are well matched by the reliability, simplicity, and scalability of Coraid Ethernet SANs. By providing features such as de-duplication and compression, CommVault Simpna allows storage administrators to take backups more frequently without increasing storage needs or backup time drastically. This enables better Recovery Point Objective (RPO) capabilities. At the same time, high performance of Coraid storage allows administrators to deploy disk-based backup in environments with stringent Recovery Time Objective (RTO) requirements. A backup solution built on CommVault and Coraid offers capabilities that help customers effectively deal with unmitigated data growth in enterprises.

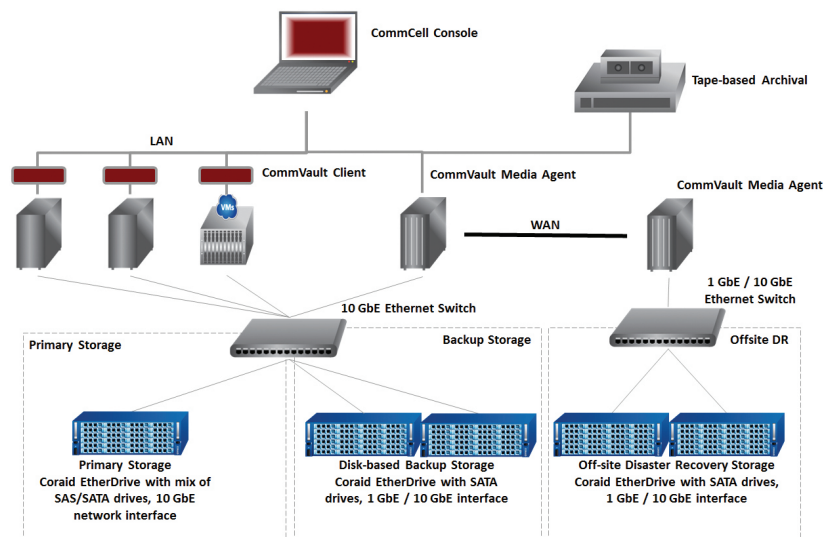


Figure 1: CommVault Backup Solution on Coraid Storage

