

Simpana[®] Archive for File Systems and NAS

Optimize Storage Resources, Reduce Risk and Improve Operational Efficiencies

Key Benefits

- ▶ Optimize capacity in primary storage with tiered storage architecture, providing cost and resource benefits.
- ▶ Retain transparent access to archived data.
- ▶ Reduce backup and recovery windows by decreasing the size of primary data volumes.
- ▶ Enable efficient, effective legal discovery.
- ▶ Ease audit burden with comprehensive, point-and-click reporting.
- ▶ Improve productivity by automating archiving policies and providing easy, self-serve access to files for search and discovery.
- ▶ Simplify data management by leveraging a single, unified console for applying enterprise-class archiving policies against e-mail, document and file environments.
- ▶ Support Content Addressable Storage (CAS) devices including tape, disk, optical and WORM media.

Easily add capabilities for protection, archive, deduplication, replication and snapshot recovery, all managed from the same management console.

The Business Problem

Faced with explosive growth of electronic data, many organizations are looking for a cost-effective archive solution. The size of these data stores, coupled with increasing litigation and regulatory requests, put organizations at great risk. Archiving allows the preservation, transparent retrieval, and discovery of information held within file system and network attached storage (NAS) environments. Large file shares can contain vast stores of unmanaged, aged data stored on expensive storage. Opportunities to recycle existing storage capacity, address new retention requirements and control the size of active file stores by employing centralized, policy-based storage can reduce costs and simplify management. Archiving aged data from file systems and NAS devices spinning on expensive primary storage to low-cost secondary, tiered storage balances storage utilization across the enterprise and maintains transparent end-user access. In short, businesses need to control the growth and costs of storing data, while also being able to respond efficiently and effectively to discovery actions.

The CommVault[®] Simpana[®] Solution

CommVault[®] Simpana[®] Archive offers a hierarchical data management solution that reclaims valuable primary storage space by automatically moving stale data to low-cost secondary

storage. This solution also provides transparent access to end-users, who can see and recall migrated files by selecting them from the file system. Using Simpana Archive, IT teams can redistribute their file stores across tiered storage. CommVault policies are unique, compared to traditional archive solutions, because they work inside existing file system directory structures. Data can be directly archived from its original location, rather than moving it first to media staging folders. This offers a transparent access experience for end-users and applications because the access point remains identical to before it was archived. Additionally, the remaining "stub" retains security properties of the original file. Organizations can classify data by application, plan its lifecycle over time and assign the most appropriate and cost-effective storage resources.

Automate Data Management and Availability

Using CommVault[®] Simpana[®] Archive, you can automatically archive data when quotas are reached. Automated archive of files based on age, size or usage pattern provides immediate results in reclaiming valuable space. Stale data can be stored on secondary, more cost-effective storage and is still directly accessible. By controlling the growth of the file server and by shrinking backup windows,

Key Capabilities

- ▶ **Reduce TCO**—Achieve resource and performance benefits by increasing capacity of primary devices and moving data to cheaper storage. Tiered storage policies enable organizations to manage data across longer lifecycles and ensure accessibility, while decreasing the TCO of the data.
- ▶ **Maximize productivity**—Users can find and retrieve archived information on their own, without consuming help desk or support resources. Advanced content indexing options open a rich search pool of secure information to both end-users and eDiscovery users.
- ▶ **Improve backup and recovery performance**—Archiving file data immediately frees up physical storage space in the production environment. This directly improves speed and size of backup and recovery operations, as well as reduces the amount of backup media consumed because much less data is being moved, protected and retained.
- ▶ **Centralizes data archiving policies**—Alerting, reporting and auditing from a single interface eliminate “point solutions”, saving time and money.
- ▶ **Managed risk**—Data is managed by automatically archiving to compliant storage devices for active retention and seamless retrieval of information. This helps address policies for corporate governance and legal protection.
- ▶ **Seamless integration with CommVault® Backup & Recovery software**—Unified architecture means a single pool of data with a common GUI to centrally set and manage all policies and schedules to track and report on operations across tiered storage. Policy and job management is consolidated while reporting and alerting is improved for administration and operational efficiencies. As a result, training costs and infrastructure resources are reduced.

storage is used more efficiently and server performance improves. At the same time, regulatory data is preserved and remains accessible to meet legal, compliance and retention requirements. Archived data is efficiently managed and indexed with retention and search capabilities to improve discovery efforts. The Data Classification option allows administrators to match files to the right media based on data access needs. Data can be automatically classified according to its use type and value (for example, ownership and frequency of access), offering the flexibility to create rule sets to meet the changing needs of your organization.

Additionally, CommVault deduplication allows you to retain more archive data on your existing storage by reducing the copies of the duplicated data (see Figure 1). The amount of total storage required is reduced, minimizing backup windows. Fewer server upgrades and backup tapes are required, helping to improve bottom-line efficiencies. More logical data can be stored on less physical disk, simplifying search and discovery.

Efficiency and security are further improved with data compression and encryption.

Meet Discovery Challenges and Reduce Risk

CommVault® Simpana® Archive delivers the archive, find, search and retrieval capabilities to meet the increasing demands for retention and retrieval of all Electronically Stored Information (ESI). As courts begin to look beyond e-mail for discovery, a solution that offers file preservation and access is key. Storage Policies easily adapt to change and automate policy enforcement. Furthermore, CommVault Simpana software’s modular design enables organizations to choose the level of preservation and retention they need and change it easily over time, without being locked

into a single methodology. The flexible nature of CommVault Simpana software includes the capability to search and retrieve all types of data—from e-mail to files to application data. Also, CommVault Simpana software enables the universal search and retrieval of all data copies, including archive and backup copies.

Simplify File Management and Administration

With CommVault® Simpana® Archive, administrators can establish more efficient primary storage architectures and meet operational requirements through an easy, centralized browser interface. Seamless integration with CommVault® Backup & Recovery software provides a common architecture and single pool of data which simplifies management. Archiving and backup policies can be managed exclusively, all while using a single console and shared servers and storage devices.

Policies can be set based on any combination of file type, age of file, size of file, or percentage of disk quota and remaining storage. Based on these configurable criteria, you can optionally archive files and replace them with stubs to keep them accessible or delete them to save primary storage space. Transparent, in-place recall maximizes data accessibility for users, without requiring extensive training, physical staging or catalog maintenance over the data’s life span. User and application data is accessed directly from where it was left, providing less chance of data loss. Productivity is heightened at the user and administrative levels.

In addition, Simpana Archive scales with the needs of your business by providing the ability to easily move data from one tier of storage to another. Data is available for automatic recall from any copy in a mixed-media environment, including disk, tape and optical. Broad tier and media support improves flexibility and increases efficiencies.

CommVault® Deduplication With Simpna® Software

CommVault extends the power of Simpna® with hardware-independent, content-aware deduplication. CommVault® deduplication software eliminates all duplicate copies of backup and archive data managed within the guidelines of the Global Storage Policy, regardless of source, data type or platform. A combination of content-aware and segment-based deduplication, along with the scalable Deduplication Database delivers better results compared to other block-based approaches. Using the Deduplication database, the digital signature is compared of each segment against all the other segments of data in your global storage policy, maximizing deduplication across 100% of your backup and archive data. Combining client-based generation of hash signatures, with integrated data compression and data encryption capabilities minimizes network bandwidth requirements and maximizes end-to-end network speed and security that goes all the way from clients all the way to disk and tape-based storage tiers.

With Simpna software, you can expand the use of data deduplication across all tiers of storage, including tape, without the need to “rehydrate” the data back into full form. Using our automated, policy-based approach, you can implement a hands-free approach to migrate and manage aging data quickly and efficiently. The migration is invisible to end-users, and ensures that the deduplicated data is brought back seamlessly directly from any storage tier. CommVault® deduplication software also combines the Shared Index/Catalog with the unique SILO storage to track and retrieve just the data required, without the need for lengthy restores and searching through entire volumes of data.

Deduplication With Simpna is Especially Helpful for:

- ▶ End-to-end elimination of duplicate data across multiple backup cycles, and across backup and archive data stores → Greater deduplication ratios.
- ▶ Direct data restores from any storage tier and the ability to create and retain dramatically more recovery points → Faster recovery of data covering longer retention periods.

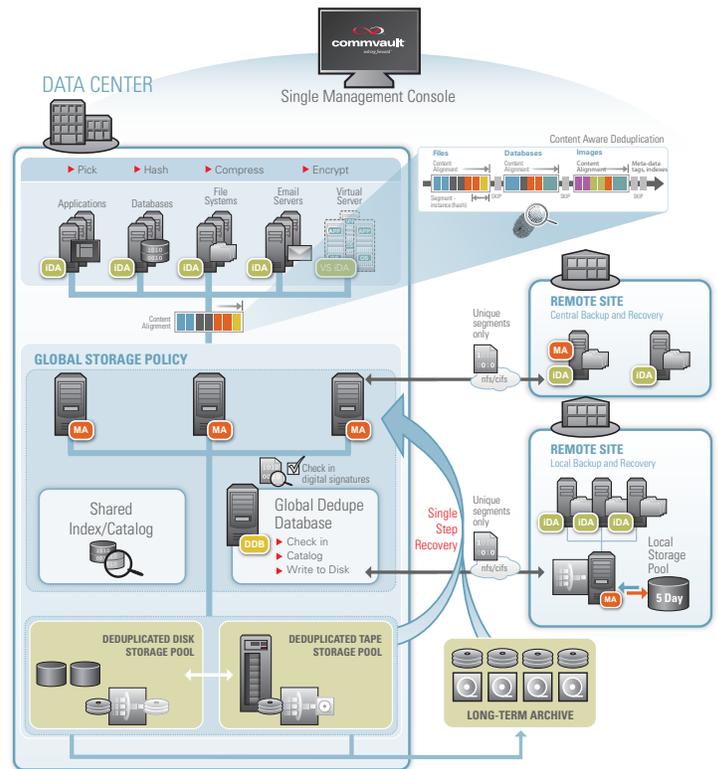


Figure 1

- ▶ Automated policy-based migration/management of long-term data on tape-based backup media → Better manageability with optimized storage/tiering of data.

CommVault® Simpna® integrates deduplication with our broader platform capabilities around Backup and Recovery, Archiving, Replication, SRM and Search to deliver a holistic embedded deduplication approach that maximizes efficiency and minimizes barriers to implementation throughout the enterprise.

Maximizing Deduplication Without Sacrificing Performance

1. Content-aware segment-based deduplication across all data within a global Storage Policy that spans all associated clients, applications, agents, jobs, etc.
2. Integration with compression and encryption increases speed and security when writing unique data to disk.
3. Retains dedupe to tape, and eliminates traditional VTL/appliance re-assembly “tax,” for direct and selective retrieval of data from any tier (including archived data on tape).

Key Features and Benefits

Features	Benefits
Context Indexing (CI) option available	Drive higher efficiencies with universal search and discovery by any word in the e-mail or within attachments, as well as backup and production data copies. Search both online and offline data. 77 languages and 370 data types are supported for content search.
Tiered lifecycle storage policies	Eliminates frequent quota problems; all content is containerized and optionally compressed and encrypted to save costs. Support for disk, tape, optical, content addressable storage (CAS) worm media is available.
Policy-Based Migration	Rules definable by thresholds, age, size, filters, folders or other criteria provides added flexibility. Can exclude specific files from migration process, saving migration time and media space. Can also migrate the data in its existing location and can incorporate shared media across all data sources.
Intelligent “stubs” with exact meta-data location of the archived files	The stub includes the file information and the CommVault meta-data location of the data, allowing movement from location to location, including across volumes, allowing for seamless access to all data.
Transparent Access	End-users can search and recall information from the archive, minimizing the need for help from administrators.
Auxiliary (AUX) Copy	Once a migration job is finished, an AUX-copy job can be created to make a redundant copy of the data for both retention and data protection purposes. If the primary copy is damaged, the AUX-Copy rebuilds it from the secondary copy. A scheduled process to frequently test ensures redundancy for quick recovery.
Multiple Device Support	Heterogeneous support offers added flexibility and cost savings. Unlimited amount of file migration is supported and addresses all platforms with the least expense.
Comprehensive Reporting	Easily report and track all archive and retrieve jobs for compliance audits. Reporting also provides prediction, cost and usage pattern alerts to proactively resolve capacity management issues. Ad-hoc or scheduled reporting provides added flexibility.
Data Lifecycle Management across archive stores	Use Storage Policies to assign retention schedules and manage complete data lifecycles from the creation to the expiration or destruction of data.
Controls data growth	Improves performance through faster server and data access.
Browse all files per server	Eliminates searching for files in tape sets, which vastly improves and simplifies browsing.
Automatic restart of migration jobs	Saves time and ensures data migration by completing jobs.
Auto-discovery of files	Ensures accurate and complete data migration scheme. Every file type that fits the criteria (via policies) will be migrated.
Total media management	Enterprise-control of libraries, drives and media that is comprehensive, automated and transparent.

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Key Features and Benefits cont'd

Features	Benefits
Index Searching	Provides end-users with browse capabilities of the archive. Stub indexing ensures portability. Distributed indexing provides index protection. Indexing may also include Content Indexing and Data Classification options.
Flexible Recall	Data is available for automatic recall from any copy in a mixed-media environment, including disk, tape and optical. It is unnecessary to restage data to original format to recall.
Common Technology Engine	Leverage the CommVault Unified Console central browser interface to reduce training, media consumption, infrastructure and administrative costs.
Delete or Stub Option	Improves end-user flexibility.
Data Classification Enabler with File Systems	Automate different classes of data with different policies according to use and value, instead of by location. Data Classification Enabler is supported by the following agents: Microsoft® Exchange Mailbox Archiver, Exchange 2003 Mailbox, File Archiver for UNIX®, Online CI for Exchange, UNIX File System.
On Demand Selective Archive	As an alternative to rule-based collections, Selective Archiving provides the ability to archive against a predetermined list of items.
NetApp ONTAP Fpolicy integration	As files are moved to lower tiered disk, stubs are left in their place. Fpolicy transparently recalls data from stubbed files to the end-user to allow for reads. Client-less model eliminates the need for a client side driver. ONTAP® supports a mixed NFS/CIFS share.
Flexible Data Recovery Operations	Provides greater control over how and when data should be restored/recovered using data recovery operations, thus protecting against overwrites that were not intended to occur.
Re-Stub Recalled Files	Re-stub recalled files for NetWare® that have not changed and meet the migration rules to save time and space by not having to store duplicate copies of identical re-archived files.
Deletion/Erased of Archived Data	Ensures that erased data cannot be recovered once it is erased.
Merged Agents	To simplify the archiving and recovery of data residing on Windows® file systems and NAS file servers, the capabilities of the File Share Archiver Agent have been merged into the File Archiver for Windows Agent.

SIMPANA[®] software

CommVault[®] Simpana[®] Backup & Recovery, Archive, Replication, Resource Management and Search software is designed to work together seamlessly from the ground up, sharing a single code and common function set. This exclusive single-platform architecture enables unparalleled software efficiency, performance and reliability for unprecedented control over data growth, costs and risk.

Additional Solutions for File Server and NAS*

CommVault offers data management software built on the same software platform so that all capabilities work together. This makes it easy to add capabilities when and how you need them. For file systems and NAS devices, consider adding:

▶ **CommVault[®] Backup & Recovery**

- Protect file system data and ensure granular, object-level restore.
- Enable disaster recovery of file system databases and systems.
- Search and retrieve file system data and other backup copies along with archive copies, to meet expanding FRCP requirements that specify backup discovery.

▶ **Continuous Data Replicator (CDR)**

- Reduce the size of the data that needs to be replicated with CDR by adding Archive Management at the remote sites.
- Stubs are not "broken" by replication, but maintain capability to retrieve the data remotely.

▶ **Resource Management**

- Monitor and manage the amount of primary disk space being consumed by file system data to identify where Archive Management can help the most.
- Monitor and manage the amount of disk space being consumed by archives, backup copies and replication copies.
- Track and prove Archive Management ROI.

▶ **Vault Tracker[®] Software**

- Automate the rotation and tracking of removable media such as tapes.
- More easily manage archive-to-tape scenarios.
- Meet long-term retention with off-site requirements directly from the archive.

* CommVault[®] Archive solutions enable enterprise-wide storage management and eDiscovery with solutions for e-mail, collaboration, file system and Network Attached Storage (NAS) data. With built-in tiered storage and multi-platform support including: Microsoft[®] Exchange, Lotus Notes[®], and Microsoft SharePoint[®] data, comprehensive archive management is simplified. For more information, refer to the CommVault website at <http://www.commvault.com/products-archive.html>

System Requirements

Network Attached Storage

BlueArc[®], EMC[®] Celerra[®] and Network Appliance devices

Platforms

Microsoft[®] Windows[®] 2000, XP, Vista[®], 2003 and 2008, NetWare[®] 6.5, Linux[®] Red Hat, SuSE[®] and IRIX, UNIX[®] Solaris[™], AIX[®] and HP-UX[®], NAS (CIFS Shares), ONTAP[®] (CIFS, Mixed, NFS Shares) and DART (CIFS, NFS Shares). Clustering is supported.

Note: System Requirements are subject to change. For up-to-date System Requirements, please refer to product documentation on the CommVault website at <http://www.commvault.com>



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