

CommVault® Simpana® Software with the Simpana SnapBackup™ Module

Combining the Power and Ease of Simpana Software with the Speed of Snapshots

Key Benefits

- ▶ Improves RPO/RTOs for critical data, even for the largest datasets and databases.
- ▶ Single unified client view and index integrates the client backup and snapshot management and recovery capabilities into a single platform.
- ▶ Unified policy-based management from the client—through snapshot and backup, across disk and tape.
- ▶ All snapshots are recovery-ready and leverage the inherent performance gains of storage array-based technology on recovery.
- ▶ Create multi-tier recovery-ready copies on second tier media from the initial snapshot copy without impacting production.
- ▶ Integrated data deduplication when the snapshots are copied to near-line or offline media.
- ▶ Automatic rules for maintenance tasks (for example, log management, snapshot aging, etc.) and single policy embedded in application or file system agents simplify management of backup and archival data.
- ▶ Integrity checking against the secondary copy for Exchange executed off-host to reduce production server load.
- ▶ Enables organizations to efficiently retain data across multiple disk tiers for longer periods and faster recovery.
- ▶ Recovery operations to leverage storage array-based revert to a point-in-time or restore to copy back data from any storage tier.
- ▶ Full application recovery or individual, granular file recovery.

The Business Challenge

Companies of all sizes continue to struggle with managing data growth in production, as well as backup and archival data stores. At the same time, many applications require 24/7 access to business-critical data, drastically reducing the amount of time available to backup critical business data. This places a tremendous pressure on IT to meet SLA commitments for data recovery.

Customers are looking to native array-based snapshot capabilities from vendors such as Dell EqualLogic, EMC and NetApp to help meet the need for speed of backup and, more important, speed of recovery. Some of these options require expensive additional storage for snapshots, while others are storage efficient but require additional time to rebuild data upon restore.

Inherently, snapshots enable customers to make frequent backups of their data for faster recovery. That very ability creates its own set of challenges as snapshot management can quickly become complex and time consuming. Separate solutions are typically employed to create and manage snapshots on the array and to leverage them for nightly backups. This makes it difficult to manage and enforce consistent backup policies or quickly locate specific backup data copies from among various storage tiers. This issue becomes

even more complex when applications are involved. Each application must be appropriately quiesced prior to creating the snapshot to ensure the data set is consistent and recoverable. Leveraging scripts and multiple solutions to drive this process from production array to backup medium breaks the application awareness. As a result, recovery from the snapshot copy or the backup copy requires several manual steps before the data is available to the production system for recovery. Smart use of snapshot capabilities should enhance recovery copy creation both for high speed array based snapshots and long term backup copies. This should happen with true integration and awareness into the data residing inside the snapshot and it should not complicate application data recovery. Organizations want an approach that speeds recovery and protection while simplifying data management.

The CommVault® Simpana® Software Solution

The CommVault SnapBackup™ module, an integral part of Simpana software, dramatically improves your ability to meet requirements for recovery point objectives (RPO) and recovery time objectives (RTO), without sacrificing your SLA backup commitments on the backend. The SnapBackup module makes it feasible to increase the number of recovery points kept in all of your storage tiers. This helps ensure that you're able to greatly in-

Key SnapBackup Capabilities

- ▶ **Centralized, Unified Management Control**—Works in tandem with popular array-embedded snapshot technologies to unify management and recovery operations across systems, applications and sites.
- ▶ **Eliminates Scripting**—Utilizes Simpana software's automated policy-based approach to eliminate manual scripting for creating, protecting and aging of application-aware snapshots across storage tiers.
- ▶ **Indexed Online Snapshot Copies**—Provides a catalogue view of the data residing on the array in snapshot copies for recovery purposes.
- ▶ **Heterogeneous Flexibility**—Enables script-less snapshot control of multiple hardware vendors simplifying storage transitions and upgrades.
- ▶ **Application Awareness**—Supports application-aware integration across storage tiers to ensure coherent data handling for leading messaging, database and application systems and file systems.

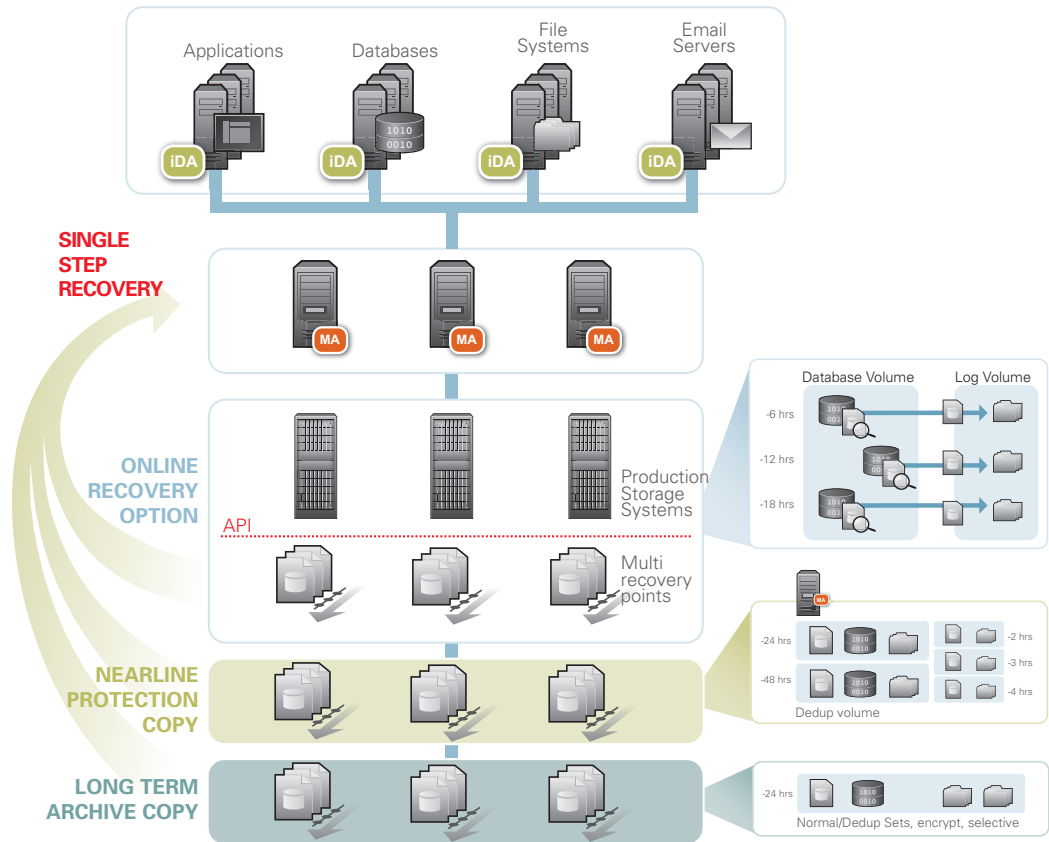


Diagram 1: Overview of the Migration and Recovery Process (showing creation of secondary data protection snapshots, migration to lower-cost storage tiers including tape, auxcopy for validation, and most importantly, multiple recovery options/points from multiple tiers).

create your disk-based retention periods and decrease data restore and recovery times across all storage tiers.

The SnapBackup module is designed to work with native storage array snapshot capabilities for even the largest of databases and applications, such as Microsoft Exchange Server, SQL Server and Oracle. Simpana software combines the speed of snapshot backups with the speed of application-aware snapshot recovery from any storage tier—spanning multiple vendors and data management architectures—all from a singular management console.

Fast and Simplified Data Backup, Management and Recovery

The Simpana SnapBackup module leverages native array-based snapshots using the next-generation data management capabilities in its Simpana software. Unlike traditional streaming backup methods that can take hours to complete, the SnapBackup module quickly

acquiesces the application or file system, triggers the array-based snapshot and returns the system to a fully operational state within minutes. Critical applications are paused for only a few seconds, instead of hours or more, with snapshots as fully recoverable as traditional backups. Snapshots may be mounted on a proxy server and validated as part of a secondary process to ensure the snapshot is a valid, application-consistent recovery copy. It may then be leveraged to create a deduplicated backup copy automatically as a part of the standard backup windows in an off-host fashion.

Organizations can replace selective and infrequent backups with multiple recovery points throughout the day, reducing both RPO and RTO. This enables you to minimize the backup impact on production systems, while realizing faster full-file and application recovery. Depending on your configuration, automatic rules for maintenance tasks (for example, proxy copy validation, log management or snapshot aging)

and a single embedded policy further simplify management. Administrators may select from full application recovery or may leverage CommVault software's Offline Mining Tools for individual, granular file recovery as their needs dictate, without the need for manual steps to make the data available to the application, database or file system.

Unified Recovery Management

SnapBackup software delivers on the CommVault vision for Unified Recovery Management, delivering data availability through an integrated, singular approach to data management. It wraps snapshot backups with more efficient secondary tiered storage into a simplified recovery view that helps align to your specific service levels. Our approach relies on consolidated policies and automation to help make management simple and easy, and point-in-time recovery that is transparent to the complexities of where the recovery data source is hosted.

With the downtime of business critical applications kept to a minimum throughout the day, organizations may realize increased productivity while reaping the benefits of rapid backup and recovery. The CommVault Simpana SnapBackup module seamlessly automates snapshot control and management as a part of backup and restore operations, and administration requirements are minimal. Leveraged use of existing storage devices and storage efficiencies also helps reduce the need for additional infrastructure or added headcount, minimizing the impact on your IT budget.

Key Features and Benefits

Features	Benefits
Faster recovery point creation without scripting	Utilizes the speed and efficiency of the underlying storage array snapshot engine to enable the creation of more frequent recovery points to be used in protecting an application, without the need to create and maintain scripts. Recovery Point Objective (RPO) is a measure of the time between each recovery point image.
Hardware agnostic snapshot management framework	Employs a hardware agnostic framework that allows seamless transition and control across multiple storage array platforms with maximum freedom in infrastructure planning and choice.
Customizable, automated snapshot controls	Offers optional controls to direct custom post-snapshot operations, such as mounting a snapshot to a proxy server or recovery copy movement to tape, integrity checks, and even granular mining.
Intuitive snapshot search and browse	Catalogs snapshots, transforming them into point-in-time views that are easily searched, browsed and restored.
Blended recovery support	Supports incremental log backups with snapshots to enable a split protection strategy—copying the database or application (e.g. every 6 hrs) and transaction logs (e.g. every 15 minutes)—helping meet stricter recovery point objectives. Automatically associates relevant transaction logs to recover to a specific point in time.
Seamless snapshot copy continuum	Organizes online protection copy and recovery copy creation/management as a seamless data copy lifecycle set. Supports tiered data recovery copies, based on a set of declining recovery performance requirements over time, while also helping meet retention requirements.
Application aware backup and recovery	Integrates with CommVault data protection agents, which leverage native APIs, utilities and frameworks, for application-aware backups and application-level restores, directly from any recovery copy, across online, near-line or offline media. Works with CommVault Offline Mining Tools to enable object-level recovery from applications, such as Microsoft Exchange Server, SQL Server and Active Directory.
Seamless copy management	Models each recovery copy as a standard data lifecycle copy. Supports aging, expiration and deletion of online protection copies and policy-based automation for creating and migrating recovery copies to secondary storage, including tape.
Centralized administration	Provides centralized control and policy management, alerting and operational reporting across distributed sites and heterogeneous storage infrastructure.

Additional Solutions to Use with CommVault® Simpiana® Software

CommVault® Simpiana® software offers data management software built on the same software platform so that all capabilities work together. The SnapBackup™ module requires CommVault Simpiana backup and recovery software. This makes it easy to add capabilities when and how you need them. To add to the Simpiana SnapBackup module, consider:

▶ **Archive**

- Reduced cost and growth of primary storage systems
- Legal discovery and compliance readiness

▶ **Replication**

- Remote office data centralization as a seamless extension of backup
- Disaster recovery flexibility

▶ **Search**

- Information Access and eDiscovery of Electronically Stored Information (ESI)
- Simplify, speed and reduce the cost of enterprise-wide discovery from a single console

▶ **Resource Management**

- Analysis of primary storage growth requirements
- Analysis of secondary storage growth requirements

▶ **Virtual Server Data Protection**

- Flexible backup and recovery options for VMware and Microsoft virtual platforms
- Agent-less backup of virtual machines

▶ **Remote Office and Branch Office Data Protection**

- Leverage multiple options for protecting remote office data based on RTO/RPO and recovery SLAs
- Optimize disk and network utilization with client-site deduplication

▶ **Workstation Backup and Recovery Solution**

- Centralizes data protection to data residing at the edge on end-user desktops and laptops
- Ensures preservation of end-user files and data in efficient, searchable, long-term archives

▶ **Data Deduplication**

- Reduced costs and recovery time with optimized dedupe across all backup and archive data stores
- Expand use of dedupe capabilities to tape-based storage combined with fast, direct recoveries

System Requirements

- ▶ The CommVault SnapBackup module works in conjunction with snapshot engines for the following storage arrays:
 - Dell EqualLogic PS Series (iSCSI)
 - EMC Symmetrix (Fibre Channel)
 - EMC CLARiiON (Fibre Channel)
 - NetApp (Fibre Channel and iSCSI)
- ▶ Provides support for file systems including Windows, UNIX and Linux.
- ▶ Simpiana SnapBackup software integrates with Microsoft Volume Shadow Copy Service (VSS) managing the use of VSS snapshot provider technology.
- ▶ Provides support for leading messaging, databases and application systems, including Microsoft Exchange Server, Microsoft SQL Server, Oracle and SAP (on Oracle).

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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software

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