

A CommVault® White Paper

The Benefits of Modernizing Your Data Protection

*CommVault's Single-Platform Data Management
Strategy Minimizes Cost and Complexity, and
Eases the Growing Burden of Backup and Recovery*

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Executive Summary

It's no secret that today's unprecedented data growth, datacenter consolidation and server virtualization are wreaking havoc with conventional approaches to backup and recovery. The rapidly intensifying demand for storage is putting a tight squeeze on enterprise resources—whether your organization is grappling with too much data to protect in operational windows, physical space constraints, or concerns around cloud computing, backup and recovery are becoming increasingly complex, cutting into staff time and budgets and slowing operations.

"The amount of actively managed storage continues to expand at around 20% per year, and we see a long tail of besieged IT staffs dealing with growth rates exceeding 50%," says industry analyst Kurt Marko in *InformationWeek Analytics' "State of Storage 2011"* report.¹

Clearly, conventional backup and recovery approaches are not robust enough to meet today's data and information management challenges, let alone those of tomorrow. A new strategy is essential.

According to Gartner, "...a fundamental sea change is occurring in the recovery market. For vendors to have long-term success, they must plan to address the legacy requirements of traditional backup and recovery, while looking to expand their integration with and exploitation of snapshot and replication technologies."²

Enter, Modern Data Protection from CommVault, which has been positioned in the "Leaders" quadrant in Gartner's 2011 "Magic Quadrant for Enterprise Disk-Based Backup/Recovery" report.³ Modern Data Protection provides unparalleled advantages with its innovative and holistic approach to data and information management.

CommVault's Simpana® software exemplifies this modern strategy: It contains individually licensable modules—all built on a single unifying code base and platform—to analyze, replicate, protect, archive, and search your enterprise data and information. By leveraging the strengths of a single platform, each module, deployed alone or in combination with other modules, delivers unsurpassed feature-for-feature performance against alternative point-level solutions.

¹ *InformationWeek Analytics "State of Storage 2011" Report*, February 2011.

² Gartner, Inc., *Magic Quadrant for Enterprise Disk-Based Backup/Recovery*, Dave Russell et al, January 28, 2011, page 9.

³ Gartner, Inc., *Magic Quadrant for Enterprise Disk-Based Backup/Recovery*, Dave Russell et al, January 28, 2011. The Magic Quadrant is copyrighted 2011 by Gartner, Inc. and is reused with permission. The Magic Quadrant is a graphical representation of a marketplace at and for a specific time period. It depicts Gartner's analysis of how certain vendors measure against criteria for that marketplace, as defined by Gartner. Gartner does not endorse any vendor, product or service depicted in the Magic Quadrant, and does not advise technology users to select only those vendors placed in the "Leaders" quadrant. The Magic Quadrant is intended solely as a research tool, and is not meant to be a specific guide to action. Gartner disclaims all warranties, express or implied, with respect to this research, including any warranties of merchantability or fitness for a particular purpose.



What's more, CommVault's Solving Forward® philosophy means Modern Data Protection where Simpana® software not only solves your current data management challenges but also builds in technology so you're poised to meet future demands.

Modern Data Protection: The Essentials

Imagine trying to cram all of your valuables into a rusty old metal box with a broken lock without any guarantee that you can access them again when you need them. If that's how you feel when you attempt to back up your corporate data—the company's crown jewels—with the same old backup software you've been using for decades, and risking massive data loss, it's time to explore the innovative approach called Modern Data Protection. First, some background.

"The exponential growth in the volume of digital information is resulting in almost unbridled growth in demand for storage capacity," says principal analyst Amy Larsen DeCarlo in a January 2011 Current Analysis report. "Nor is there any sign of a slowdown anytime in the near future, with some industry estimates that individual storage volumes could continue to grow 90 to 100 percent year over year for the foreseeable future."⁴

Indeed, as data rapidly becomes one of the enterprise's most valuable assets, determining how to analyze, replicate, protect, archive, search and recover it whenever necessary is quickly becoming more complicated. The key to wrangling today's data chaos under control is to reduce risk of loss, reduce operational complexity, and lower the cost of data management by developing a more complete, more granular understanding of your data. How to accomplish that? By leveraging management techniques designed to achieve efficiencies not previously possible.

Quite a challenge. In addition to the ever-intensifying data growth you're no doubt experiencing, and the pressure to control and manage that data in huge volumes, you're being hit with burgeoning virtual server deployments, applications with enormous data requirements, heightened business demand to reduce downtime, greater regulatory and governance requirements, and emerging "infrastructure as a service" models such as cloud storage. All of these factors impact your resources—time, money, and personnel—and make current data management circumstances, and the ability to plan for future data management needs, even more critical concerns.

Legacy approaches to data management have fallen behind in the areas of protection and recovery of these massive volumes, or addressed them in a piecemeal fashion. With enterprises in jeopardy of losing irreplaceable business data, and personnel and budgets stretched to the breaking point, traditional backup and recovery is broken.

⁴ Current Analysis "Cloud Computing Comes of Age" report, January 2011.

Some specifics:

- Most organizations today can't complete full or even incremental backups during their allotted backup windows
- Streaming backup for key applications requires more network and processor power, and more time, than is typically available
- Server virtualization projects and cloud initiatives cannot be fully implemented or started with legacy protection models
- Edge data is not systematically protected
- Managing backup activities is overly difficult because of a myriad of point products that have been cobbled together over time
- Recovery is slow, and far from granular—what's more, it's not a sure thing
- The full vision of tiered storage has not been realized.

The upshot: The enterprise needs an innovative, holistic approach to data protection.

CommVault is dedicated to helping you meet this challenge by redefining the backup and recovery market with a single solution that enables you to efficiently capture, move, retain, find and recover data from any storage tier. We call this: Modern Data Protection.

The Trouble With Legacy Backup

Legacy, point-level approaches that stream backups directly from production environments are fast losing their effectiveness because they can't solve the problems of massive data overload burdening today's IT environments. Enormous volumes of data lead to long backup windows, which often forces manual or complex snapshot and scripting methodologies that turn into extremely complicated and time-consuming recovery operations—stage older backups, mount, hunt and peck, and wait.

Even more frustrating, legacy backup doesn't globally address the proliferation of redundant data leading to excessive demands on network, storage and management resources. Legacy replication, if you can afford it, is complex, resource-intensive or tied to specific hardware. There is no granularity into the data you are protecting, and no integration with the applications creating that data; this limits your ability to restore and use protected data as well as increases the time to accomplish these tasks. Finally, legacy backup solutions are often dependent on a collection of loosely integrated tools and products that require scripting and individual management consoles. Not a pretty picture.

The Solution: Modern Data Protection

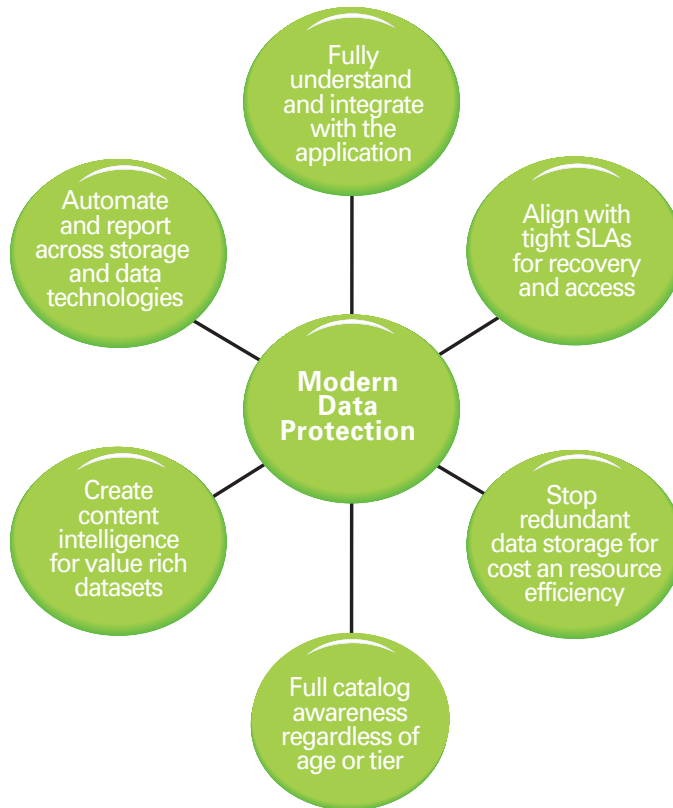


Figure 1: CommVault's Vision for Modern Data Protection: An innovative strategy to address current—and future—enterprise data management challenges

CommVault's strategy for meeting the challenges of data management in this new era is to venture beyond the models of the past—beyond the limitations of disconnected legacy solutions—with a single, modern platform that integrates application intelligence with heterogeneous hardware snapshots, indexing, deduplication, and replication to efficiently capture, move, retain, find and recover data from any storage tier. Making it even more appealing, this powerful, innovative solution is based on a single user interface and common code base that lets you improve recovery times, reduce costs, improve operations and consolidate budget line items.

The ultimate benefit: Modern Data Protection frees you to focus your critical time and resources on your organization’s broader business goals, by simplifying the data and information management process so you can “do more with less” and ensure that you’re poised to meet future storage demands.

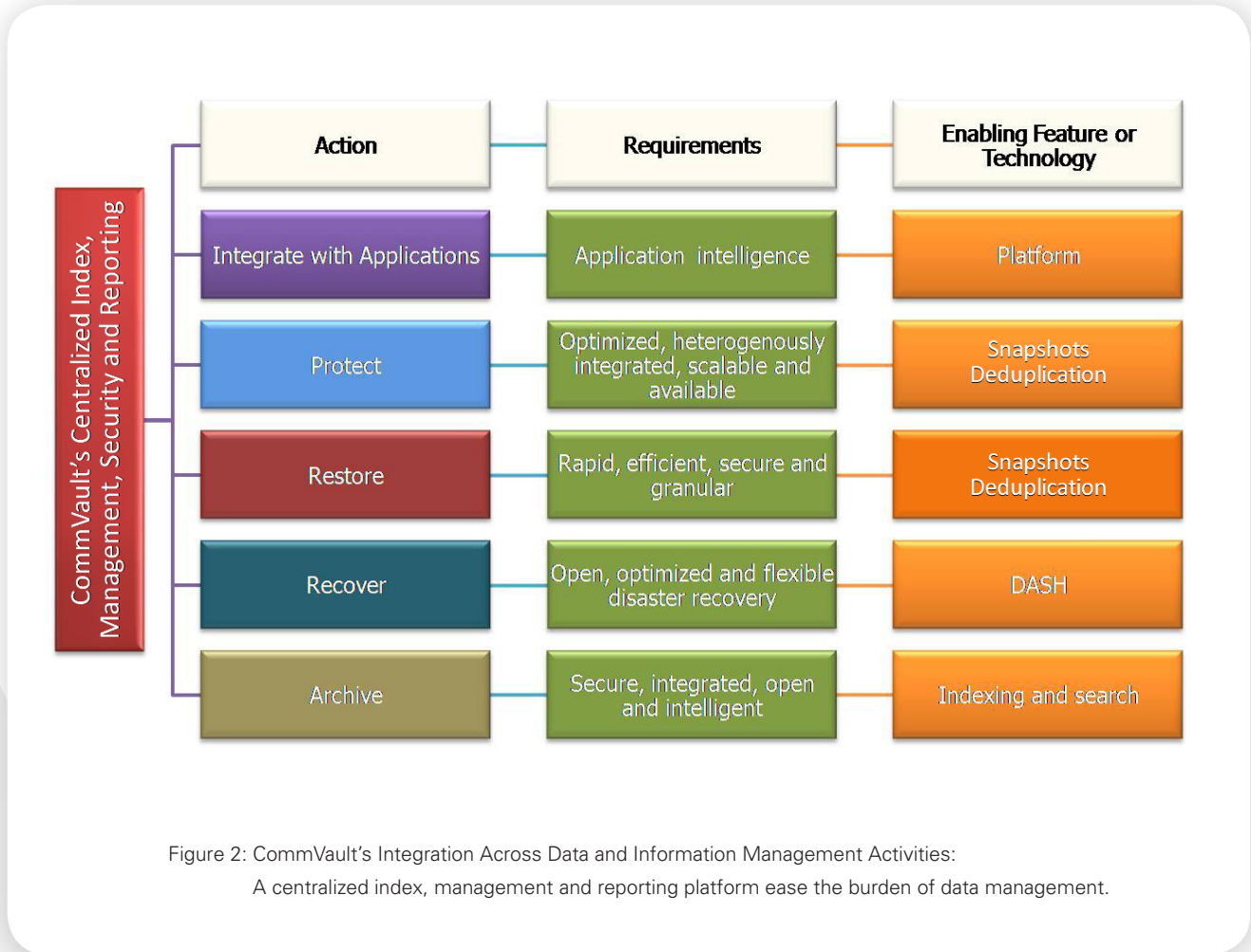


Figure 2: CommVault’s Integration Across Data and Information Management Activities:
A centralized index, management and reporting platform ease the burden of data management.

Each aspect of CommVault’s Modern Data Protection strategy relates to an action essential to data backup and recovery. Together, these actions form the basis of your approach to data and information management and inform the technologies you’ll use.

The process starts with application awareness—CommVault uses its in-depth knowledge of applications and file systems to provide granularity into the data you are protecting, and to enable consistent, rapid copying of that data. Next, snapshot technology forms the core of the new data protection process. You must be able to create instant, application-aware recovery copies, even from heterogeneous hardware snapshots. And you



need to be able to safeguard your critical information as you bridge the gap from physical to virtual server environments; rapidly deploy, grow and scale virtual servers; and implement critical applications within those environments. Modern snapshot integration improves recovery time and executes upon stringent Data SLAs, while dramatically reducing backup windows by offloading production resources for backup operations.

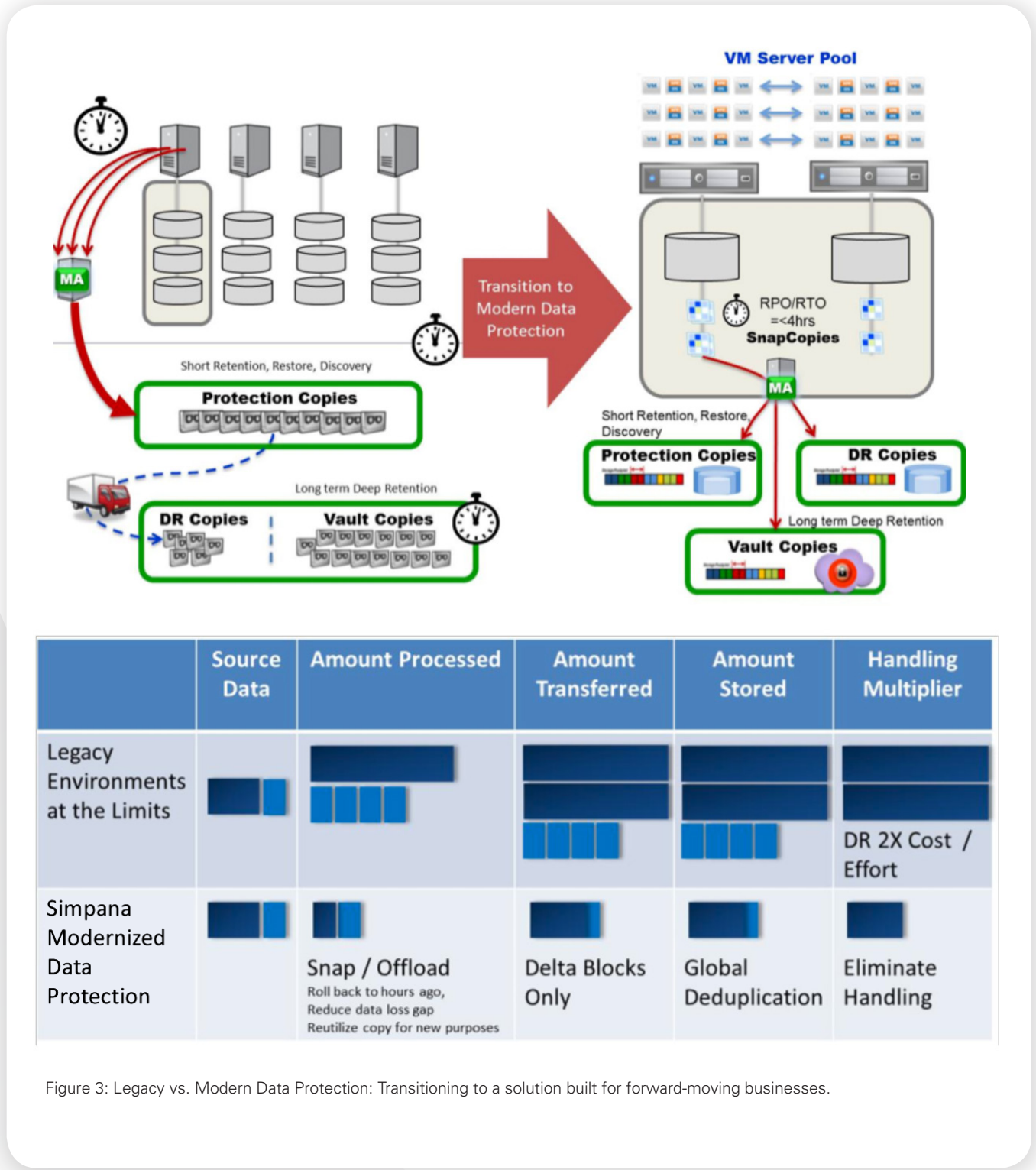
Once you have snapshot copies of your data, embedded, global deduplication (a cornerstone to any Data Reduction strategy) eliminates redundant data to increase network efficiency and reduce storage infrastructure costs. This happens at the source and across the enterprise, without the need for rehydration during restores or off site, to maximize efficiency. Source-side deduplication can reduce up to 90% of the data moved over the network and as much as 50% of the time required to perform backups. With Simpana software, a single, virtual disk target can retain deduplicated backup and archive copies for efficient retention and fast restores.

Next, Modern Data Protection provides the flexibility to maintain copies of your data on different storage tiers to meet different retention and recovery needs, ensure appropriate levels of protection over time, and enhance efficiency overall. It lets you seamlessly and automatically store some snapshots near the original data for quick, granular restore; move older backups off to less costly storage tiers; and preserve some copies as long as you need or are required to keep them. Integrated replication in data management software enables this flexibility by efficiently moving full or incremental block changes from hardware snapshot copies; it also significantly reduces the backup window while offloading server and network resources. These replicated copies can be contained in one content-aware, indexed store for both protection and archiving, which allows you to use existing or commodity disk, or even cloud storage services, to lower the total cost of ownership for retained backup and archive data, and to increase IT and business agility.

Automation, role-based security and reporting are also core tenets that factor into your Modern Data Protection strategy. To reduce storage and storage management costs, for instance, almost all manual activities should be eliminated through policy-based approaches and centralized administration that automate the movement of backup and archive data to the most cost-effective storage locations. Whether you are a Fortune 100 company or a small or midsize shop, security is paramount, so a modern data solution must provide not only the means with which to secure data, both in flight and at rest, but also the flexibility to let administrators selectively define which data different types of users are authorized to see and manipulate. Intuitive, global reporting is integral to the solution so you can better manage backup and recovery resources, develop a deeper understanding of your environment, and plan appropriately as needs evolve.

Ultimately, of course, it doesn't matter how good your backup process works if you can't recover data fast and efficiently. So the last key element in a Modern Data Protection solution is recovery management. A centralized control that enables granular recovery of files, emails or documents from any storage tier improves recovery time and recovery point objectives.

CommVault® Simpana® Software Delivers Modern Data Protection



	Source Data	Amount Processed	Amount Transferred	Amount Stored	Handling Multiplier
Legacy Environments at the Limits					DR 2X Cost / Effort
Simpana Modernized Data Protection		 Snap / Offload Roll back to hours ago, Reduce data loss gap Reutilize copy for new purposes	 Delta Blocks Only	 Global Deduplication	Eliminate Handling

Figure 3: Legacy vs. Modern Data Protection: Transitioning to a solution built for forward-moving businesses.



CommVault comes through on its promise to partner with you in meeting the challenges of enterprise backup and recovery in this era of rapidly evolving data and information management. By embracing Modern Data Protection and CommVault, you will be able to:

- Reduce storage and storage management costs by leveraging your existing investments more efficiently, delaying costly storage and network upgrades, and enabling additional storage options, such as more cost-effective DAS, SAN and NAS disk tiers, tape, cloud and object-based storage to meet your needs
- Simplify the complex by eliminating manual scripting and processes; automating tasks that discover, deploy, and protect within your environment; and leveraging policy-based data protection and management
- Manage data protection, recovery, and placement in heterogeneous hardware and heavily virtualized environments easily through application and storage-aware snapshots and persistent, global cataloging across storage tiers
- Speed protection and recovery through the use of snapshots, global, embedded deduplication, and efficient cataloging
- Ensure data is protected and managed in the best possible way to meet your corporate, regulatory, and governance requirements as a result of integrated archive, eDiscovery, and data protection options in one solution that can seamlessly cover distributed client systems, remote/branch offices, and the central data center
- Rely on automated alerts, security, standard, and customized search options as well as easy-to-use storage resource management reporting to make your dynamic environment more understandable and your data and information more manageable.

CommVault's Simpana® software eliminates the frustrations caused by poorly integrated legacy data management products, instead providing the benefits of a Modern Data Protection solution built on a single platform that enables you to analyze, replicate, protect, archive, and search data effectively and efficiently from any storage tier. The granularity it offers into your data gives you the clarity that's been so sorely lacking in today's chaotic data management state, enabling you to lower costs, reduce risk of loss and reduce operational complexity. CommVault Simpana software's forward-thinking, holistic approach offers unrivaled advantages over legacy data management systems and ensures that your organization is well poised for the unstoppable data growth still ahead.



Resources

- Simpana® 9 Backup and Recovery
- Gartner's 2011 "Magic Quadrant for Enterprise Disk-Based Backup/Recovery" report
- Simpana® 9 Virtual Server Protection
- Simpana® 9 Deduplication
- CommVault Professional Services
- *InformationWeek Analytics'* "State of Storage 2011" report
- Current Analysis' "Cloud Computing Comes of Age" report



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