



WHITE PAPER

Symantec's Data Management Portfolio

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January, 2009

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IT Environment Challenges

Dramatic Changes

Organizations of all sizes have been undergoing dramatic changes over the last few years. With an increasingly mobile workforce and global marketplace, dependence on digital content and 24/7 access to information have fueled significant investments in IT infrastructure and a near-exclusive use of messaging systems, office productivity tools, and electronic data to conduct business. The by-product? Unabated data growth, which is causing considerable pain for IT organizations.

Some organizations face additional pressures. Many IT environments are characterized by distributed operations and data, a mix of structured and unstructured content, and a variety of physical and virtual components—all adding complexity. Social responsibility, as well as power and cooling challenges, may have also forced implementation of “Green” IT initiatives. Conforming to industry or regulatory standards and regulations for security, privacy, disclosure, and retention of information may be yet another business imperative to be addressed. Finally, current macro-economic conditions may be restricting capital budgets and constraining IT operational resources, making it even more important to drive efficiency and automation in IT.

Difficulty Keeping Pace

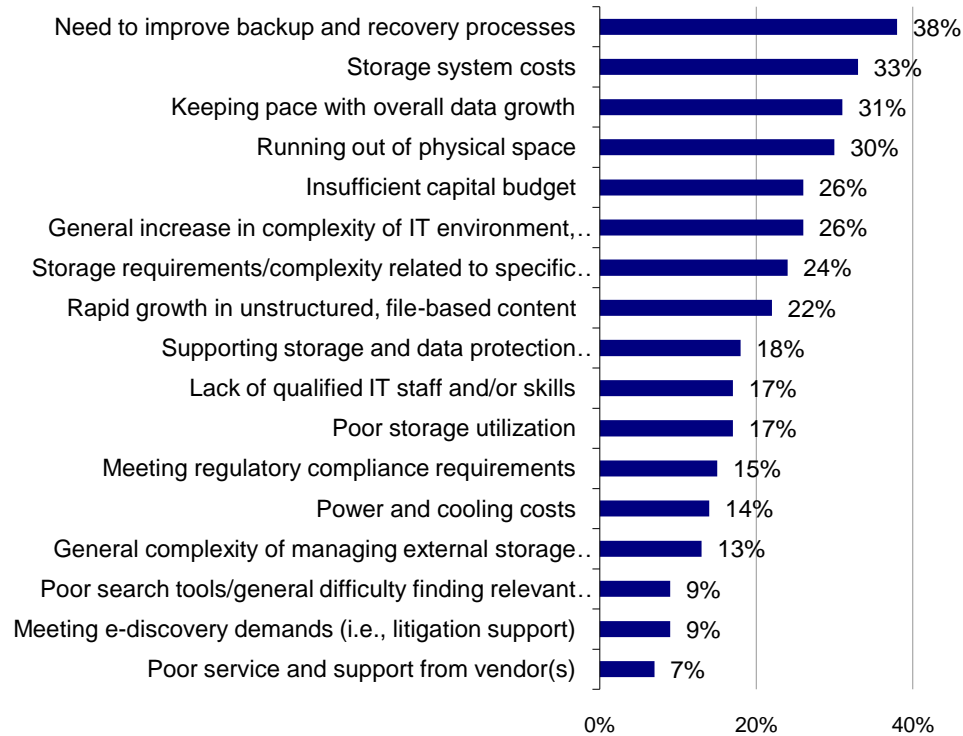
The relentless growth in the volume of data to be stored, managed, transferred, protected, and archived is staggering. Recent ESG research shows that double-digit data growth is straining storage infrastructure and management (see Figure 1),¹ with IT organizations often citing difficulty keeping pace. It has created a number of obstacles for IT, including maintaining continuous operations while also containing the cost of storage systems and media, reducing backup and recovery times, complying with regulatory mandates and litigation requests, and saving time and money.

These challenges are driving organizations to improve storage utilization, reduce costs, and advance their ability to protect and manage mission-critical and mission-supporting information resources to better meet business demands. IT organizations are seeking solutions that not only address specific, immediate business problems, but that do so in a way that is cost-effective and delivers rapid, measurable ROI.

¹ Source: ESG Research Report: *Medium-sized Business Server and Storage Priorities*, June 2008.

FIGURE 1. STORAGE ENVIRONMENT CHALLENGES

In general, what are your organization's greatest challenges with respect to its storage environment? (Percent of respondents, N=516, multiple responses accepted)



Source: Enterprise Strategy Group, 2008

Best-of-Breed vs. Single Source

Protecting and managing all of this data is not easy. As already established, businesses depend on it, there's a lot of it, it's often distributed, it may be structured or unstructured, it may reside in physical or virtual environments, users need access to it nearly all of the time, and sometimes there are restrictions pertaining to who has access to it and how long it is retained. What's needed are data management solutions that can meet today's everyday challenges, while still being flexible enough to adapt to the environmental changes and shifting business priorities of the future. And it would be a bonus if whatever solutions addressed existing problems didn't trigger new ones, such as complexity or increased costs, in the process.

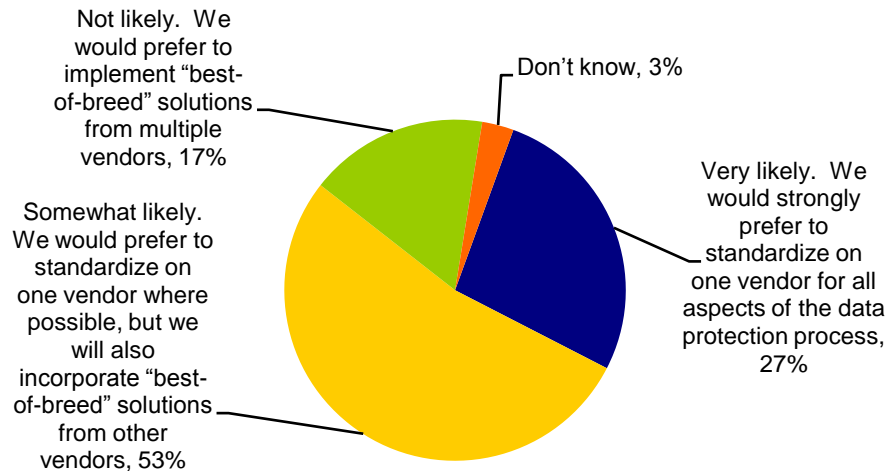
End-users often lean toward best-of-breed capabilities to solve data management issues. This may mean procuring, installing, and managing multiple point solutions from a variety of vendors, which, in turn, may mean additional complexity, greater management overhead, and issues of compatibility and interoperability.

On the other hand, by implementing integrated data management solutions from a single vendor, organizations can significantly decrease complexity and reduce capital and management/administrative costs. As such, organizations have shown significant interest in single-vendor solutions. For example, ESG research found that 80% percent of respondents were more likely to standardize on one vendor for all aspects of the data protection process rather than implement best-of-breed solutions from multiple vendors (see Figure 2).²

² Source: ESG Research Report, *Data Protection Market Trends*, January 2008.

FIGURE 2. BIAS TOWARD SINGLE VENDOR DATA PROTECTION SOLUTIONS

To the best of your knowledge, how likely is it that your organization will look to a single vendor to support its data protection processes?



Source: Enterprise Strategy Group, 2008

Symantec's Data Management Portfolio

Symantec is a single-source provider of end-to-end data management solutions. Its portfolio is broad and deep—covering data and system protection, archiving, reporting and online services—with many integration points between products. Symantec excels in delivering market-leading data management solutions to address the various sizes, budgets, and recovery objectives of today's organizations.

Backup Exec

Symantec Backup Exec provides tape-, disk-, and cloud-based protection for small to medium-sized organizations. With Backup Exec, IT can protect Windows, Linux, and UNIX system data, as well as VMware and Microsoft server virtualization environments. It has flexible options to protect workloads to meet the desired RTOs and RPOs, including file-based backup on a scheduled basis and image-level backup on a scheduled or continuous basis. With its Granular Recovery Technology, Backup Exec can restore specific files or application elements from database level backups of Microsoft Exchange, Active Directory, and SharePoint databases or image level backups from virtual machines running on Microsoft and VMware virtualization technologies. GRT eliminates the need to perform separate file level or individual object level backups, saving time and space. Organizations have the choice of transporting backup copies offsite for disaster recovery purposes via either tape media and third-party logistics or through Symantec Protection Network's online storage service.

Backup Exec System Recovery

In the event of a system failure or loss, recovering data is only half the solution. It could take hours to days for replacement hardware to be acquired, the operating system and applications to be installed, and settings to be configured before that data recovery process can begin. With every hour of downtime costing the company, having a rapid way to "jump-start" the recovery process is an imperative. That's where Backup Exec System Recovery can assist. It rapidly recovers systems to their pre-failure state—including recovery to dissimilar hardware. Through an image-level capture of live systems, Backup Exec System Recovery eliminates the need

to set aside a “backup window,” which, in traditional methods of backing up systems, might disrupt normal operations. Backup images can be stored on disk, removable media, or FTP locations. In the case of server virtualization environments, images may be moved between physical and virtual machines.

NetBackup Data Protection with PureDisk Data Deduplication

NetBackup enables disk-to-disk, disk-to-tape, and disk-to-disk-to-tape data protection. IT organizations can establish different backup and recovery policies depending on the location and type of workloads to be protected. Data on Windows, Linux, and UNIX systems—including virtual machines running on VMware and Microsoft hypervisors—in a data center or distributed in remote or branch offices can be centrally managed with NetBackup. It provides file- or image-level backup/recovery to or from disk, physical tape, or virtual tape.

For disk-based backup, NetBackup PureDisk data deduplication can be applied to optimize the capacity of data stored and transferred across the WAN, LAN, and SAN. Full backup and virtual machine images represent a lot of redundant data, affecting the amount of data traversing the network, the footprint of disk storage, and power and cooling requirements for secondary storage. These constraints may impact the frequency of backups performed and the length of time they are retained on disk, which, in turn, could affect IT's ability to minimize downtime and data loss. NetBackup PureDisk deduplication addresses these issues by deduplicating within and across backups to deliver savings in bandwidth and storage capacity.

Veritas Backup Reporter

Veritas Backup Reporter adds another layer of visibility into the backup environment—above and beyond the basic information (events, storage assets, performance metrics, capacity trending, SLA and compliance metrics, etc.) provided by backup applications. It collects, aggregates, and stores data about the systems, platforms, devices, and backup processes in the data protection environment in a relational database—without requiring the installation of agents. Instead of manually collecting log data and analyzing it to determine the root cause, Veritas Backup Reporter offers hundreds of out-of-the-box and customized reports to automate and speed the forensic process. And, Veritas Backup Reporter doesn't provide a myopic view of the environment as data is aggregated across domains from a variety of backup vendors' solutions.

Symantec Protection Network Online Backup and Online Storage Services

Symantec Protection Network (SPN) is Symantec's software-as-a-service (SaaS) platform, enabling the delivery of services via a Web-based application and information storage “in the cloud.” Today, SPN services include online backup and online storage for offsite backup copies. SPN online backup captures data based on specified policies, transfers it to SPN's data center storage, and retains it for the term of the service plan—basic (1 year) or premium (7 years). Subscribers eliminate the need for on-premise capital investments and operational staff. SPN online storage is a cloud-based electronic vault for backups, eliminating the need to create physical media and transport it offsite for disaster recovery purposes.

Enterprise Vault Data Archiving, Migration, and Long-Term Retention

Enterprise Vault archives, manages, and enables discovery of corporate data scattered across any number of applications, including messaging systems (e-mail and instant message), file servers, and content management and collaboration systems. It captures content, assigns and enforces retention periods, and indexes information as it is archived for enhanced search and retrieval. Why is this necessary? It addresses system optimization and complies with regulatory mandates. The quantity of e-mail systems, users, messages per user, and message retention periods have created message stores that are experiencing relentless growth—which in turn impacts application performance and primary and secondary storage capacity (and TCO). Pruning the environment to reduce the burden is a challenge directly addressed by e-mail archiving solutions. The other challenge—supporting compliance and litigation events—is also addressed as Enterprise Vault maintains unalterable copies of e-mail and attachments for mandated timeframes and facilitates the rapid retrieval of electronic evidence.

Veritas Cluster Server High Availability

Downtime tolerance for most organizations is at a minimum and for many, implementing preventative measures is the only way to ensure business continuity. Veritas Cluster Server is a high availability solution that protects physical and virtual machines, providing automated failover to local or remote physical or virtual machines and ensuring continued access to their applications. Supporting Windows, Linux, UNIX, and VMware environments, Veritas Cluster Server offers a Web-based central console for monitoring, managing, and reporting. Administrators can also test disaster recovery scenarios without affecting primary systems or applications.

Symantec Stands Apart

Symantec stands apart, not only for the depth and breadth of solutions in its portfolio, but also for its many unique and innovative features. With a “save money, save time” mantra, Symantec has introduced and evolved its products and features with administrative efficiency and optimization in mind. The aforementioned single source preference of many organizations and the associated benefits, coupled with features that drive down TCO, distinguish Symantec's data management portfolio from competing solutions.

Data- and System-Level Protection

Symantec provides users with a comprehensive recovery portfolio—one that includes both system protection and a range of data protection options. System-level recovery goes beyond bare metal recovery (which the company also provides) by capturing system state information—saving organizations valuable reinstallation and configuration time—and supporting dissimilar hardware as target recovery systems.

SaaS- and Cloud-Based Repositories

Symantec doesn't take a one-size-fits-all approach when it comes to data protection. The company offers a variety of methods to capture copies of data for backup, and supports an abundance of options for storing those copies. As enabling technologies have become available and the cost of bandwidth has decreased, it's become more feasible to exploit Web-resident services and cloud-based storage for tasks such as backup. Symantec initially launched its SaaS platform with two solutions: an online backup service and a cloud-based storage option for backups performed with on-premise software, creating new options for customers. The possibilities for exploiting Symantec's SaaS platform and cloud storage to deliver and support any of its perpetually-licensed on-premise solutions are endless.

Sub-File-Level Data Deduplication

Relentless data growth is stressing IT environments at every level. Reducing the capacity of data copied, transferred, and stored just makes sense. Symantec offers different features and solutions for optimizing storage capacities (incremental and differential backup strategies, archiving and compression, to name a few). However, one of the more innovative and impactful technologies is data deduplication. As previously mentioned, data deduplication identifies and eliminates redundancy, creating efficiencies in the capacity of data transferred and stored. What is compelling about Symantec's deduplication is that it segments files into small chunks, identifies the unique changed segments, and only transfers and stores the unique data. Sub-file-level deduplication within and across data sources can generate significant savings.

Multi-Vendor Business-Level Reporting

IT is charged to manage more with less, meet SLAs, maintain compliance, maximize TCO, and drive operational improvements—on top of any other daily tasks. IT organizations have realized the value of visibility into the various components of their data protection ecosystem and processes. Reporting tools—especially those with a cross-domain view—are invaluable for administrators. Symantec recognized the importance of not only monitoring and reporting on the success/failure and speeds and feeds of operations, but also of the business-

level reports that aid in planning. Veritas Backup Reporter went beyond the scope of its own data protection portfolio to report on non-Symantec backup applications, addressing those organizations with a mix of backup solutions in their environment.

Granular Recovery Technology

Symantec offers a unique technology that minimizes secondary storage requirements and saves administrators valuable time during a recovery: its Granular Recovery Technology. The backup application performs a single-pass backup of data—in Exchange, SharePoint, Active Directory, VMware, or Microsoft Hyper-V environments—while still maintaining the ability to recover individual objects such as:

- Files or folders from image-level backups of virtual machines
- Individual items in Exchange, such as entire databases, public folders, individual mailboxes, or individual objects within mailboxes (e-mail, task, attachment, calendar item, etc.)
- Individual items in Active Directory (without requiring an authoritative or non-authoritative full restore), including individual objects or attributes
- Individual items in SharePoint, including documents, lists, sites, sub-sites, and content databases

The on-disk representation of data and fast, random access for recovery enables Symantec to meet the most stringent backup window and RTO objectives.

OpenStorage Technology

Many organizations have adopted disk-based backup architectures to improve the speed and reliability of backup and recovery. These implementations may include standard disk arrays, virtual tape libraries, or target disk systems with data deduplication features. For many environments, adopting an all-disk strategy is not always practical; tape creation is still necessary or even mandatory to meet cost points as well as to fulfill regulatory and disaster recovery requirements. To aid in this process, Symantec developed its OpenStorage Technology API that lets intelligent disk storage appliance vendors (virtual tape library and disk targets with deduplication and replication) interact with NetBackup media servers to provide visibility into the duplicate copies made and stored by the appliance. NetBackup media servers maintain knowledge and control over copies and migrations, but allow intelligent disk to drive the tape infrastructure, creating efficiency in time and the amount of data that traverses the network.

Summary

Information systems and electronic data are the lifeblood of organizations of all sizes today. Therefore, maintaining access to systems and data via protection and management solutions is crucial to a company's success. IT organizations, faced with infrastructure complexity on multiple levels, compliance requirements, and "do more with less" mandates driving them to automate, simplify, and optimize data protection environments are challenged to find a solution that meets their size, budget, and recovery objective requirements.

Best-of-breed solutions that can address high-standards AND introduce simplicity and ease-of-purchase, -use, and -management are well positioned. Symantec's portfolio of data protection and archiving solutions satisfies not only the data management feature and technology requirements of IT organizations, but also provides an added level of assurance via single-source vendor efficiencies. Symantec—the company, as well as its product portfolio—has a number of characteristics that make it stand out from competing solutions and deliver significant value.

Symantec's end-to-end data management offerings allow organizations to evolve from simple backup and recovery to data management of large, complex, and distributed environments. Adopting additional Symantec portfolio products can extend and enhance existing investments. Standardizing on a single vendor for data protection is cited as desirable and beneficial by end-users.



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