



The Veritas NetBackup Platform:
Delivering Next-Generation Data
Protection and an Introduction to
Veritas NetBackup 6.5

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Contents

Veritas NetBackup™ Platform—Next-Generation Data Protection

Introduction	4
Data-protection challenges	4
More data	4
Greater complexity	4
Growing demands	5
Fewer resources	5
Data-protection solutions: The problem of the “missing middle”	6
Current technologies leave a gap	6
New technologies fill the gap	7
But new technologies add new management challenges	8
A new vision from Symantec: The Veritas NetBackup Platform	10
The Veritas NetBackup Platform: Features plus integration	11
Evolves with the organization’s requirements	13
Selecting the Veritas NetBackup Platform	13

Veritas NetBackup Platform—Delivering Next-Generation Data Protection

Introduction

Although data-protection processes and technologies are among the most mature in all of information technology, the growing size, criticality, and complexity of data-protection environments—coupled with growth in the demands placed on them—are raising new challenges. The Veritas NetBackup Platform addresses these challenges by delivering next-generation data protection with centralized, end-to-end management for heterogeneous protection services.

Data-protection challenges

More data

The volume of data organizations must protect has increased steadily due to mergers and acquisitions, new disaster recovery and satellite data centers, and organic growth of existing data centers. Recent years have seen acceleration in the rate of data growth as more applications have become mission-critical. Existing applications demand more availability and speed of recovery in response to competitive and regulatory pressures. Offline applications like supply chain management are being brought online, and innovative revenue-generating applications in healthcare, online financial services, retail, and other markets are introduced constantly. Each of these new applications generates ever-greater volumes of digital data assets, including electronic messages, image and multimedia files, and even Voice over IP and video IP streams.

Greater complexity

The challenge of protecting so much information is compounded by the growing complexity of the infrastructure in which it is stored. Information is now backed up and archived across multiple geographic sites and remote offices. Even within a single data center, heterogeneous architectures—servers, storage, networks, and specialized applications and tools—share the burden of data protection and have their own user interfaces, policies, agents, and reporting tools that add administration complexity.

The Veritas NetBackup Platform: Delivering Next-Generation Data Protection and an Introduction to Veritas NetBackup 6.5

Growing demands

The twin burdens of data volume and complexity alone strain today's data-protection processes and technologies. But for many organizations, growing demands for availability push the need for a solution from urgent to critical. Backup windows shrink, leaving less time for data protection before operations suffer. Critical applications demand higher recovery point objectives (RPO) and shorter recovery time objectives (RTO), because delays and outages have become business-critical. New transaction processing applications require ever more granular recovery points, and rising demands for business continuity require ever faster recovery.

Even at the extremes of RPO and RTO, data-protection processes and technologies must provide accurate, reliable service. Missed RTO and RPO targets compromise critical business processes, violate SLAs, and irritate customers, business colleagues, and regulators. Backup and restore failures add risk and delay to data-protection processes, and compound the disasters they are meant to mitigate.

These availability demands are complicated by legal, regulatory, and policy requirements to protect private customer and proprietary company information throughout its life, by using encryption technologies, minimizing risks from handling and physical transport, and other methods. Availability and data-protection demands will only grow as compliance and discovery requirements become more stringent and IT risk management shifts from an IT operational to a business strategic focus. Government regulations are forcing organizations to establish data retention policies and procedures and be able to prove backup service-level compliance.

Fewer resources

Last—but far from least—all these challenges must be met using staff, infrastructure, and financial resources shared with other urgent and business-critical applications and processes. Mid-size and large firms already spend a significant portion of their storage budgets on data protection, and although very large firms spend less, they face more intense and faster-growing demands. So with IT budgets trending flat to down, data-protection solutions must accomplish much more with much less.

Data-protection solutions: The problem of the “missing middle”

Data-protection solutions are available at the extremes of RTO/RPO and price/performance, but many mainstream business-critical applications require better protection than low-end solutions can provide, although they do not justify the high costs of the more high-end technologies like array-based snapshots and replication.

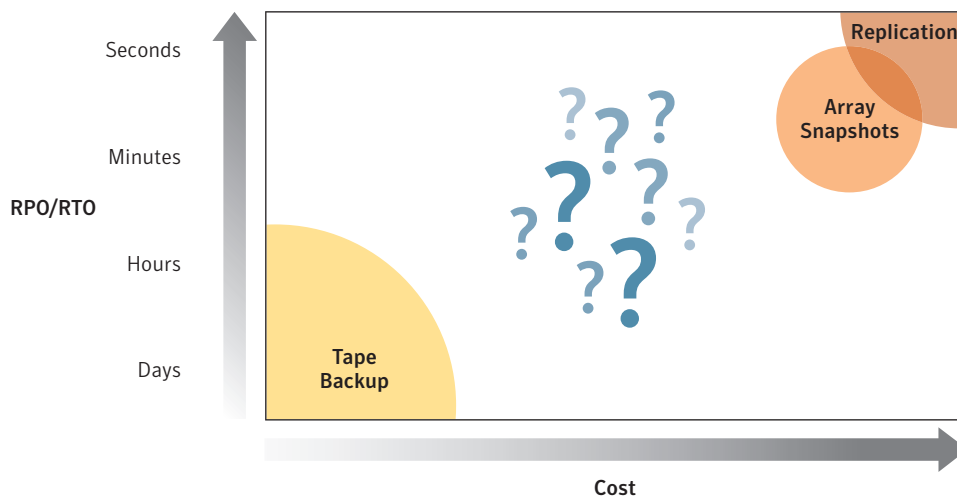


Figure 1. Protecting enterprise applications have created a create divide between low cost/high RPO/RTO with tape backup and high cost/low RPO/RTO with array snapshots and replication technologies.

Current technologies leave a protection gap

Enterprise applications run the gamut of business value and recovery point and recovery time objectives. On the one hand, lower-priority enterprise intranets and employee portals can tolerate low availability. But high-priority ERP and other transaction processing systems must recover instantaneously. The substantial middle ground includes applications of intermediate value and criticality, such as company Web sites, financial systems, email and other collaboration technologies, and departmental applications.

But traditional data-protection methods are tightly clustered at the extremes. At the high end, expensive mirroring, array snapshots, and replication technologies recover critical applications without loss in minutes or even seconds. At the low end, economical tape backups take hours or even days.

A closer look at Veritas NetBackup 6.5

The latest release of Veritas NetBackup v.6.5 adds the power of disk-based backup and deduplication to proven NetBackup core functionality, offering dramatic reductions in backup and recovery times, along with:

- Broad offering of disk-based data-protection technologies:
 - High performance backup to DAS, NAS, or SAN-based disk provide flexibility and performance. Other new features such as SharedDisk, Media Server Failover, Intelligent Capacity Management, and Lifecycle Policies can simplify management and recovery of data
 - Virtual tape library integration and support for advanced deduplication for dramatic improvements in storage economy
 - Support for mirroring and snapshot client instant recovery for critical applications
 - Proven data reduction and replication technologies
 - A path toward continuous data protection and even further cost reductions in high-performance data protection
- The broadest operating platform, application, and database coverage of any data-protection solution
 - Scalability to protect even the largest UNIX, Windows®, Linux®, and NetWare® environments
 - Support for NetApp, Oracle, SAP, SQL Server, and more, with granular recovery for VMware, SharePoint Portal Server, and Microsoft Exchange

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The Veritas NetBackup Platform: Delivering Next-Generation Data Protection and an Introduction to Veritas NetBackup 6.5

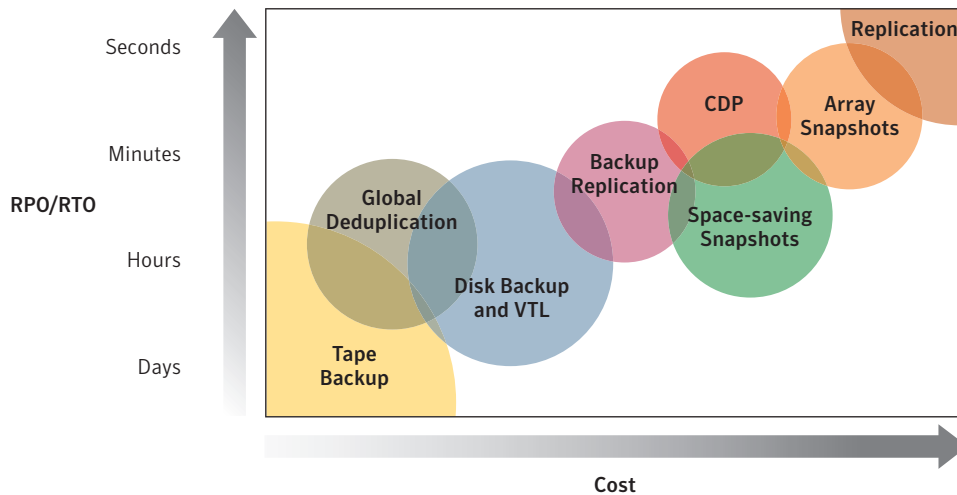


Figure 2. A wide variety of technologies have emerged to address the gap left between high-cost low-performance options such as tape, and expensive high-performance options such as snapshots and replication.

Intermediate applications force a difficult choice: waste resources using expensive technologies, or tolerate recovery delays, with significant business impacts.

New technologies fill the protection gap

New technologies have emerged to fill this protection gap, spanning the full range of price and performance and addressing lingering backup problems, by applying direct-access disk functionality and growing economy to the task of data protection. These technologies include:

- Disk backup and virtual tape libraries (VTL) that enhance or replace classic tape backup to take full advantage of disk performance advantages and improving economics
- Space-saving snapshots and continuous data protection (CDP) solutions that promise higher performance at reasonable cost for intermediate-priority applications
- Data deduplication that cuts network and storage costs dramatically, for backup of remote sites as well as systems in the data center
- Off-host snapshots and replication that use point-in-time copies, which are then backed up to cut RPO exposure and disaster recovery risks

A closer look at Veritas NetBackup 6.5 (continued)

- Flexibility and choice of any disk solution over any connection, optimized for price/performance
- Centralized management across all operating environments and disk technologies to optimize data-protection processes and improve staff utilization

Veritas NetBackup 6.5 extends proven NetBackup functionality with new capabilities such as:

- Deep integration with disk-based data-protection appliances through the NetBackup OpenStorage API
- Flexible Disk Option, to cut operational costs by disk volume pooling, across arrays of commodity disks
- Storage Lifecycle Policies, to simplify service-level management for backup and recovery operations and manage critical data on disk and tape throughout its lifecycle
- Bare-Metal Restore, now part of the NetBackup Standard Client, rebuilds systems from scratch within minutes

Veritas NetBackup 6.5 supports advanced new data-protection alternatives, including instant recovery of critical applications to any point in time, reduction of backup storage using data deduplication, and data protection with offsite all-disk-vaulting and disaster recovery.

The Veritas NetBackup Platform: Delivering Next-Generation Data Protection and an Introduction to Veritas NetBackup 6.5

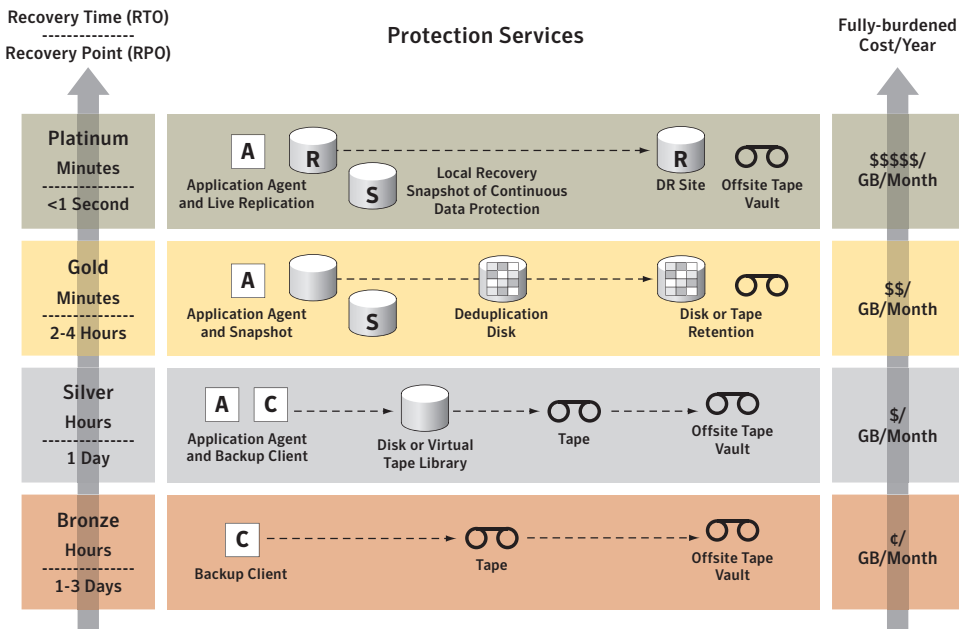


Figure 3. Emerging data-protection technologies are bringing into practice the use of protection service levels to marry the critical nature of the data to the type of technology used to protect it.

These technologies capitalize on new disk capabilities and economics to reduce the cost of basic protection, and match backup service levels to application and information priorities. They help address the fundamental goal of IT risk management, and match the costs of risk mitigation to the risk-adjusted value of information assets.

But new technologies add new management challenges

If technology were all, IT managers could consider the “missing middle” problem on the verge of solution. But the number and variety of new data-protection technologies raise management challenges that threaten to overwhelm their advantages.

These new options require multiple supporting technologies in the form of agents on managed servers that compromise server and network performance, and require administrative effort to install and maintain. Multiple management and user interfaces cut staff efficiency. And heterogeneous vendor hardware and software solutions virtually guarantee discrepancies among management consoles that magnify staffing and training burdens and cost precious time during recovery.

The Veritas NetBackup Platform: Delivering Next-Generation Data Protection and an Introduction to Veritas NetBackup 6.5

Multiple storage performance tiers complicate management further. Processes required to manage virtual tape libraries are radically different from those needed for snapshots, for example. Differences in the underlying technologies, reflected through separate management consoles, force staff to “shift gears” constantly or call in specialists when managing data-protection processes across tiers.

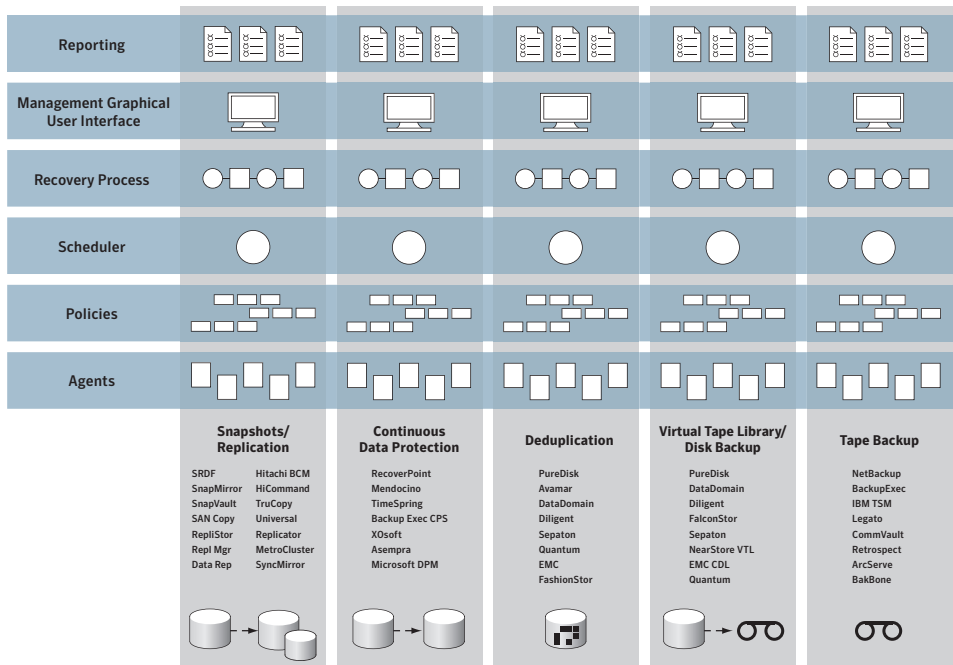


Figure 4. The management complexity of heterogeneous data-protection technologies, such as unique processes for scheduling, recovery and reporting, can overwhelm their cost/performance advantages.

Different types and priorities of information also demand multiple data-protection processes. Backup and recovery policies, schedules, recovery processes, and reports complicate management, and create hiring, training, and staff utilization challenges.

Additional problems associated with some of the new backup technologies include:

- High prices and proprietary lock-in for some hardware data-protection products
- Fragmented data-protection approaches focused on applications instead of data center strategies

A closer look at PureDisk Deduplication

At the heart of NetBackup PureDisk lies flexible deduplication technology, a highly scalable software-based storage system, and integration with NetBackup for greater functionality. PureDisk deduplication technology can be deployed into backup environments in two different places. It can be deployed at the start of the backup process by placing a PureDisk agent on the server; or it can be employed, without agents, at the end of the backup process when the NetBackup Media server writes data to disk.

- Can reduce bandwidth consumed by traditional network based backups by up to 500x
- Can reduce backup storage consumption by 10 to 50 times as compared to traditional tape-based backup methods

NetBackup PureDisk Deduplication

Option*: Integrates PureDisk deduplication technology into the NetBackup Media Server to reduce storage costs associated with disk-based data protection and enable flexible disaster recovery.

- Reduce the size of backup images using deduplication
- Manage replication of NetBackup data stored in PureDisk to alternate locations
- Recover data using familiar NetBackup interface

NetBackup PureDisk: This stand-alone solution uses client-based deduplication to deliver bandwidth efficient, storage-optimized data protection for distributed data in remote offices, data centers, and virtual environments. Integration with NetBackup enables export of data to tape and efficient backup of the PureDisk environment.

*Available in late 2007.

The Veritas NetBackup Platform: Delivering Next-Generation Data Protection and an Introduction to Veritas NetBackup 6.5

- High-risk investment strategies that favor backups for new applications over risk mitigation for the current business
- Isolated, feature-focused data-protection products that are not integrated into overall data management, security, and other critical processes

As a result, attempts to fill the missing middle by adding new backup technologies may merely replace old cost/performance problems with new management, performance, and budget problems.

An integrated solution from Symantec: The Veritas NetBackup Platform

Symantec's realization of next-generation data protection is embodied in its new Veritas NetBackup Platform, which helps to address the management challenge, offering:

- Multiple protection services chosen to help meet the RPO/RTO and cost requirements of individual applications, for effective deployment of backup solutions across the entire spectrum of price and performance
- Multiple world-class protection technologies across a broad array of operating systems, databases, applications, and vendor storage platforms
- Centralized management from end-to-end of the backup environment, including both disk and tape

The Veritas NetBackup Platform prepares organizations to take full advantage of improving disk economies and transition to future backup environments, without replacing existing investments in tape-based technologies and processes.

Symantec's disk-based data-protection strategy continues to lead the market with the company's major release of Veritas NetBackup 6.5. This release supports all major data-protection technologies, with continued improvement of backup to native disk and virtual tape libraries, as well as support for new and better data-protection appliances and virtual tape libraries. The solution sets the stage for continuous data protection, to help improve backup economies for the most valuable information assets. Finally, Veritas NetBackup 6.5 can simplify management of the most complex backup environments, unifying tiered backup infrastructure under a single new policy layer.

A closer look at Veritas Backup Reporter

Veritas Backup Reporter provides advanced backup reporting for business-level trending and analysis. It addresses key data protection management challenges by delivering insights into data protection:

- Operations, to help optimize resource utilization and eliminate the costs of script maintenance
- Compliance, by documenting recoverability for regulators and validating performance under service-level agreements
- Costs, by aligning backup operations with business goals, matching storage resources to information value, and justifying new resources when appropriate
- Environments, by managing backup and recovery operations across geographic sites and data-protection products, for worldwide operational visibility and control

Veritas Backup Reporter supports disciplined management of backup operations for improved efficiency, with a centralized view of multiple backup applications, including Veritas NetBackup, NetBackup PureDisk and Backup Exec, as well as other non-Symantec backup products. The solution identifies growth trends as an aid to resource planning, and is thoroughly customizable with data views by line of business, backup domain, or application and drill-down analysis to support different stakeholder audiences.

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The Veritas NetBackup Platform: Delivering Next-Generation Data Protection and an Introduction to Veritas NetBackup 6.5

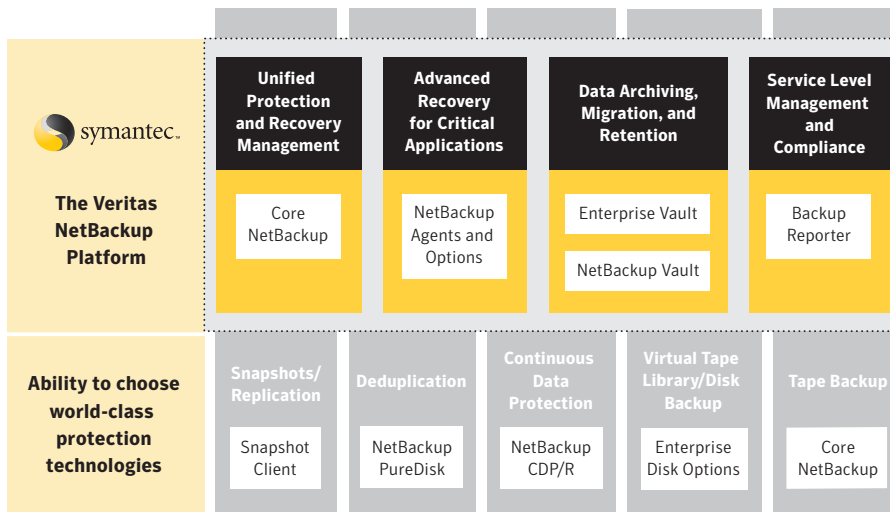


Figure 5. The Veritas NetBackup Platform unifies backup tools and services, and introduces new data-protection capabilities.

The Veritas NetBackup Platform: Features plus integration

Built around the core data protection of Veritas NetBackup 6.5, the NetBackup Platform offers advanced next-generation data-protection features:

- Unified protection and recovery management across a wide range of tools and services from a major new release of Veritas NetBackup, with next-generation disk capabilities. By unifying the protection management strategy, it helps to rationalize all those agents, catalogs, schedulers, policies, GUI's, and reporting tools from a variety of protection technologies into one cohesive management framework
- PureDisk™ Deduplication Option, proven in remote offices and now offering storage economies through advanced deduplication at data center scale (see sidebar)

A closer look at Veritas Backup Reporter (continued)

For organizations that manage backup and recovery operations according to service-level agreements with internal and external customers, Veritas Backup Reporter helps both parties understand the operational implications of SLA requirements. Threshold-based reporting, trending, and analysis help document compliance using reports customized to individual agreements, supporting the management of backup as a business. It helps align IT operations with client and business requirements. For service providers, this means aligning customers' expectations with their resource consumption; for IT departments, it means providing an objective mechanism to analyze costs and chargebacks for business units. For all users, it helps build a financial model that aligns costs and service levels in backup operations.

Integration with the Veritas NetBackup Platform and industry-spanning compatibility help Veritas Backup Reporter deliver end-to-end visibility and business-level reporting from any backup environment.

The Veritas NetBackup Platform: Delivering Next-Generation Data Protection and an Introduction to Veritas NetBackup 6.5

- Advanced recovery for critical applications:
 - Create tiers of protection for applications, depending on business requirements
 - Snapshot technology that establishes a foundation for continuous data protection
 - Deliver granular recovery for critical applications such as VMware, Oracle®, SAP, Microsoft® Exchange, Microsoft SharePoint® Portal Server, and more
 - Bare Metal Restore, rebuilds servers from scratch quickly after catastrophic failure
- Data archiving, migration, and retention
 - Integration with Symantec Enterprise Vault™ for archiving
 - Archiving support in PureDisk and tape vaulting
 - Manage storage lifecycle policies for NetBackup from a single central location
- Advanced tools for service-level management and compliance
 - Veritas Backup Reporter (see sidebar) to align and track backup and recovery operations according to business goals
 - NetBackup Operations Manager, the Web-based interface to NetBackup 6.5, offering real-time monitoring management, alerting, and troubleshooting across NetBackup domains and technologies including disk, tape, VTLs; and operating system, database, and hardware platforms
 - Veritas NetBackup Encryption, including both client-based encryption for the highest security, and unique media server encryption centralized key management and minimal impact on client performance
- Deploy and manage existing technologies as well as emerging ones from one platform
 - Current technologies, including replication, snapshots, virtual tape libraries, native disk backups and tape backups
 - Emerging performance and economic alternatives, including snapshots and continuous data protection alternatives

The Veritas NetBackup Platform: Delivering Next-Generation Data Protection and an Introduction to Veritas NetBackup 6.5

Evolves with the organization's requirements

The Veritas NetBackup Platform addresses users' adoption preferences as the industry continues to evolve from tape to disk-based backup technologies. The NetBackup Platform expands the scope and performance of data protection, with backup and quick recovery from Tier 1 arrays, advanced disk-staging and pooling of shared storage and NetBackup media servers, and high-speed SAN clients for backup and restore to disk over fibre channel in SAN environments. Manage advanced deduplication and replication capabilities in intelligent backup appliances from one console to dramatically reduce backup storage requirements. From basic disk to emerging data-protection technologies, the NetBackup Platform will enable customers to incorporate new technologies for advanced data-protection processes, including continuous data protection and additional snapshot methods and array support to improve the economies of high-end data protection.

Finally, the Veritas NetBackup Platform will enable customers to incorporate new advanced data-protection technologies, including continuous data protection and additional snapshot methods and array support to improve the economies of high-end data protection.

Selecting the Veritas NetBackup Platform

The Veritas NetBackup Platform unlocks the power of disk, without abandoning well-established, mature tape-based processes, to improve backup operations and reliability and help customers better manage their RTO and RPO objectives. NetBackup delivers next-generation data protection to efficiently migrate to disk for improved performance, provide advanced recovery for critical applications, and better manage the retention of backup data by automating the movement of data across its lifecycle. To increase storage efficiencies, leverage deduplication and replication, and proactively monitor and manage backup service levels to help ensure compliance. By choosing the Veritas NetBackup Platform, you benefit from centralized, end-to end management of heterogeneous protection services—all backed by proven Symantec leadership and support.

About Symantec

Symantec is a global leader in infrastructure software, enabling businesses and consumers to have confidence in a connected world.

The company helps customers protect their infrastructure, information, and interactions by delivering software and services that address risks to security, availability, compliance, and performance. Headquartered in Cupertino, Calif., Symantec has operations in 40 countries. More information is available at www.symantec.com.

For specific country offices and contact numbers, please visit our Web site. For product information in the U.S., call toll-free 1 (800) 745 6054.

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