Symantec NetBackup™ 7.1

The Symantec NetBackup Platform: Complete protection for your information-driven enterprise

Overview

The Symantec NetBackup™ Platform simplifies the protection of your information-driven enterprise by automating advanced technologies and standardizing operations across applications, platforms, and virtual environments. That means being able to protect completely, store efficiently, recover anywhere, and manage centrally across heterogeneous operating systems and storage hardware including tape and disk. Integrated deduplication, replication, and patent-pending virtual machine protection helps customers improve storage efficiency, infrastructure use, and recovery times. A single console offers multi-site monitoring, analytics, and reporting, which allows customers to standardize operations and risk management. Used by companies around the world, Symantec NetBackup easily scales to protect the largest UNIX, Windows®, and Linux® environments.
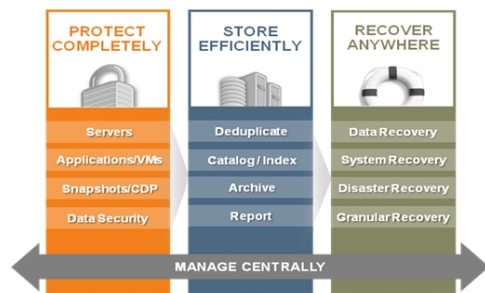

Figure 1: The NetBackup Platform provides the ability to protect completely, store efficiently, recover anywhere, and manage centrally.

The NetBackup Platform consists of the following Symantec products: NetBackup, NetBackup Appliances, NetBackup RealTime™, OpsCenter Analytics, and Enterprise Vault™.

Product highlights

- **Heterogeneous data protection—**Protection across heterogeneous operating systems, applications, hypervisors, and both disk and tape architectures

- **Centralized management**—Increase efficiencies by managing all data protection technologies and multiple NetBackup servers and domains from one location

- **Source and target data deduplication**—Easily deploy and manage deduplication wherever needed, from remote offices to the data center

- **Turnkey solution**—NetBackup appliances for quickly deploying NetBackup backup and deduplication technologies

- **Deep integration with storage appliances**—The NetBackup OpenStorage API enables centralized management of deduplication and replication

- **Complete and simple virtual machine protection**—Award-winning backup and recovery for VMware and Microsoft® Hyper-V environments

- **Fast, granular recovery of data from applications and hypervisors**—Quickly restore files, emails and other granular items from Microsoft Exchange, SharePoint®, and Active Directory® and for hypervisors such as VMware and Hyper-V

- **Highly scalable**—Benefit from a flexible, three-tiered architecture that scales with the needs of today's growing data center

- **Effective disaster recovery**—Fully automated and integrated system recovery with NetBackup Bare Metal Restore™, built-in replication, and offsite tape management

- **Comprehensive data security**—Flexible encryption technologies for maximum data security while in transit or in media

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Protect completely

Client protection

NetBackup provides a simple yet comprehensive selection of innovative clients and agents to optimize the performance and efficiency of your backup and recovery environment. These clients provide high-performance, online backup and recovery of business-critical databases and applications; enable backup and recovery operations over storage networks; and deliver high levels of data security and complete system-level recovery. Organizations can centrally manage all aspects of backup and recovery operations from an intuitive, graphical user interface (GUI), allowing consistent data protection policies to be established across the enterprise, regardless of the type and number of clients deployed.

Application protection

To ensure business-critical applications are not over- or underprotected, organizations must create a tiered protection strategy. The NetBackup Platform provides a variety of technologies to aid in the creation of a tiered protection strategy that is both reliable and cost-effective. Highlights include:

- **Application and database agents**[1] —For the protection of business-critical applications and databases, NetBackup provides application-aware agents that enable hot/online backup, wizard-based configuration, and support for application-specific tools such as Oracle® Recovery Manager (RMAN).

- **Snapshot integration**—For more sophisticated protection, NetBackup integrates with a variety of different disk array– and software-based snapshot methods, including off-host backup and instant recovery. The key benefit is that snapshots are managed in the same NetBackup policy, catalog, and schedule interface as tape or any other type of streaming backup.

- **Continuous data protection and replication**—To optimize disaster recovery efficiency, NetBackup can automatically manage the replication of a deduplicated backup image across the WAN from one NetBackup master server domain to another. Backup images are available for immediate recovery from any domain or global location with minimal storage footprint or bandwidth impact. For more advanced protection, NetBackup integrates with NetBackup RealTime[2] to perform continuous data protection (CDP) and live IP-based replication to dramatically lower recovery-point objectives (RPOs) and recovery-time objectives (RTOs) for both local protection and longer-distance disaster recovery across physical and virtual environments.

Data security

NetBackup provides flexible technologies to secure data, including access and authorization control and disk and tape encryption methods. Highlights include:

- Source/Client encryption for the highest security as data is protected while in transit and in media.
- Media Server Encryption Option provides more flexibility for backup to tape and leverages the NetBackup media server, thereby avoiding client performance impact.
- Centralized and integrated key management service for encrypted tape drives.

Complete and simple virtual machine protection

Virtualization has created both new opportunities and challenges in the data center, including slower backup and recovery, increased storage consumption, and yet another technology to learn and manage.

[1.] For more information, please refer to the NetBackup 7 Clients and Agents data sheet.
[2.] For more information, please refer to the NetBackup RealTime 7 data sheet.

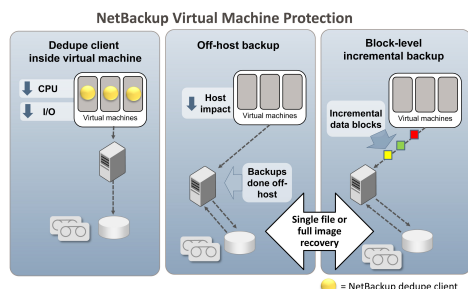Confidence in a connected world. ✓Symantec.

Figure 2. NetBackup provides centralized protection across virtual machine environments.

NetBackup 7 delivers simple and comprehensive data protection for virtual environments by building on the successful foundation of its award-winning VMware support. Virtual machine protection is simplified by centralizing the backup across both Microsoft Hyper-V and VMware, speeding up backup times through hypervisor integration (for example, vStorage API), deduplication, and incremental technologies, as well as delivering highly efficient single file restore.

Feature	Benefit
Image-level backup and instant file-level recovery	A single, efficient backup, great for disaster recovery while retaining the ability to discover and easily recover such items as a single PowerPoint or Word document
Incremental and off-host backup support for VMware and Hyper-V	Less data is sent over the network, backups are more successful and faster, and they require fewer storage resources, increasing overall efficiencies
Instant file-level recovery from incremental, block-level backups of VMware vSphere	Automatic discovery of individual files without having to re-assemble and mount the .vmdk image file first, making recoveries focused and fast
Automatically find and protect new or moved VMs	Automatically discover and protect new or moved virtual machines without changing backup policies
Protect highly critical VMware environments	Recover a virtual machine to any point in time using continuous data protection via NetBackup RealTime integration with VMware vCenter
Resource-efficient backups also available via the NetBackup deduplication client	Deduplication of the virtual machine image further reduces the storage footprint, saving backup time and storage resources

Table 1. Features and benefits of NetBackup Virtual Machine Protection

Store efficiently

Deduplicate everywhere

NetBackup delivers deduplication everywhere, for remote sites or data centers, and is ideal for the protection of virtual environments.
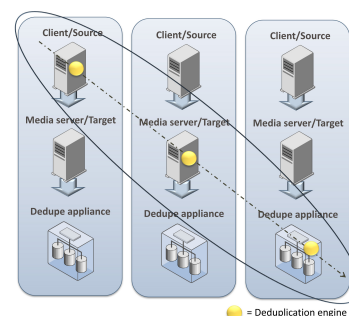

Figure 3. NetBackup deduplication allows you to choose your desired deduplication point--source, target or integration with appliances via NetBackup OpenStorage API.

NetBackup client deduplication

Removing redundant data, as close to the source as possible, maximizes the benefits of deduplication. NetBackup 7 has client deduplication built right into the product for fast, secure, and efficient backup and recovery. Client deduplication removes redundant data at the source, which leads to lower CPU, I/O, and memory utilization compared to a traditional backup, freeing up more client resources for production services. Client deduplication can deliver up to 10x faster backups. Highlights include:

- **Native deduplication embedded in NetBackup**—Client deduplication is built right into NetBackup, so no separate appliance is required.

- **Application support**—Client deduplication is ideal for standard file data; however, it can also be useful for application and databases that are supported by NetBackup.

- **Virtual machine protection**—Using a NetBackup client inside a virtual guest reduces the backup impact on the overall virtual infrastructure by deduplicating the data at the source, thereby sending only unique data and changes over the network.

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NetBackup media server deduplication

NetBackup has target deduplication built right into the media server which allows it to be used with existing disk. Setup is as easy as clicking a box. The NetBackup media server offers inline deduplication by processing the data streams in flight requiring no extra staging disks for processing, leading to optimal use of storage. Through NetBackup's storage lifecycle policies, you have the option to implement post-process deduplication. Highlights include:

- **Faster backups**—NetBackup target deduplication removes redundant data inline, before storing to disk; therefore, much less data is moved and eventually stored to the final destination.

- **Reduce the cost of storage**—NetBackup enables organizations to leverage commodity disk and servers which can enable a more cost-effective and flexible solution.

- **Reduce storage consumption—**Organizations can get up to a 20x reduction in overall storage versus traditional tape-based approaches.

- **Faster restores**—With deduplication keep more versions of data locally, online, eliminating the need to perform individual restores from tape.
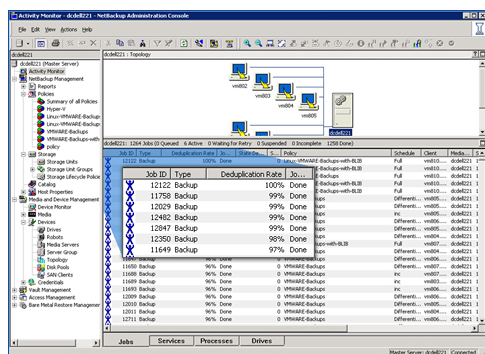

Figure 4. NetBackup allows for easy monitoring of backup job deduplication ratios and status.

Operational Simplicity and Easy Integration
NetBackup Appliances

Symantec understands the shifting needs of the data center and offers the NetBackup appliances as an additional option for customers to leverage with their backup and deduplication strategy. To help data centers maximize on their investment of time and budget, Symantec has compiled the hardware, software and support so that customers don't need to source multiple vendors to configure one solution. And setup can be done in minutes rather than days or weeks.

The NetBackup appliances simplify the deployment of Symantec's award-winning backup and recovery solution as well as the data deduplication solution, and is ideal for customers looking for turnkey solutions for their fast growing IT environments. The appliances enable efficient, storage-optimized data protection for the data center, remote office and virtual environments.

- **NetBackup™ 5000** appliance series (5000 and 5020), offers scalable deduplication appliance solutions for the enterprise that provides operational simplicity, effective utilization of bandwidth and storage, and high performance. Easily fits into existing NetBackup environments[3]

- **NetBackup™ 5200** appliance, based on NetBackup 7, enables easy expansion of existing NetBackup environments while reducing the overall backup storage footprint with a built-in deduplication option[4]

[3.] For more information, please refer to the NetBackup 5000 Series Appliance data sheet.
[4.] For more information, please refer to the NetBackup 5200 Appliance data sheet.

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Integration with 3rd party deduplication appliances via NetBackup OpenStorage

Many deduplication appliances are essentially virtual tape libraries which are based on disk technology, but emulate tape. The NetBackup OpenStorage[5] API allows NetBackup to see disk as disk. The whole concept of tape emulation goes away, allowing users of storage appliances with OpenStorage better utilization and the ability to leverage the advanced feature set including deduplication, optimized duplication, virtual synthetics, and direct to tape.

Improve backup and recovery speed with archiving

Data reduction for primary storage is equally important and follows Symantec's strategy to deduplicate as close to the source as possible. The solution for reducing primary data growth at the source is Enterprise Vault, a recognized leader in archiving and E-Disovery.

The combination of data protection with archiving enhances traditional backup and recovery. NetBackup and Enterprise Vault provide integration for automatic, policy-based migration of archived data from disk managed by Enterprise Vault to tape or other media managed by NetBackup. For protection of an Enterprise Vault environment, NetBackup provides an agent that automatically discovers the various servers and components within an Enterprise Vault environment.

Recover anywhere

NetBackup provides a variety of technologies that ensure data can be recovered quickly, even instantly, from anywhere, and with minimal data loss.

Bare Metal Restore (BMR)

Integrated and included at no extra charge, Bare Metal Restore provides all the files and services necessary to perform system recovery, including the ability to perform diskless network booting, temporary OS installation, and disk configuration. This feature boasts a complete system recovery time of approximately 15 minutes on any platform.

Effective disaster recovery

The NetBackup Platform provides a variety of ways to move data offsite to a disaster recovery location in the event a data center is no longer available, whether due to environmental or other factors.

- **Offsite tape media management**[6] —The NetBackup Vault Option automates and tracks the moving of tape media offsite to a disaster recovery location.
- **Replication of deduplicated data**—NetBackup provides automatic replication of data securely from one NetBackup master server domain to another and managed centrally from the NetBackup GUI. While backup data is now globally available for immediate recovery from any location -- bandwidth and back-end storage are optimized in that only unique data is replicated. For long-term storage, data can be migrated to a tape device at the DR location.
- **Live block-level replication**—NetBackup RealTime[7] provides live block-level asynchronous or synchronous replication with NetBackup. If used for the protection of the NetBackup catalog, it is free of charge.

Granular Recovery Technology

NetBackup's patent-pending Granular Recovery Technology enables fast recovery of files, emails, and other granular objects from environments such as Microsoft Exchange, Active Directory, SharePoint, VMware, Hyper-V, Red Hat, and SUSE Linux. This means that the image can be backed up once, stored once, yet enable two types of restores—the full image for disaster recovery or a granular file.

[5.] For more information, please refer to the NetBackup 7 Options data sheet.
[6.] For more information, please refer to the NetBackup 7 Options data sheet.
[7.] For more information, please refer to the NetBackup RealTime 7 data sheet.

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Manage centrally

Symantec OpsCenter provides a centralized console for operational monitoring and reporting for visibility and control across a heterogeneous data protection environment. Highlights include:

- **Customized alerting and real-time monitoring**—Manage by exception with easy-to-use sort and filter capabilities for better troubleshooting, work prioritization, and control of the backup environment.
- **Cross domain monitoring and management**—Bridge together multiple NetBackup domains and multiple product versions for easier management and control.
- **Point and click operational reporting**—Quickly identify tape drive utilization, success rates and unprotected environments across NetBackup, Symantec Backup Exec, and Enterprise Vault environments.
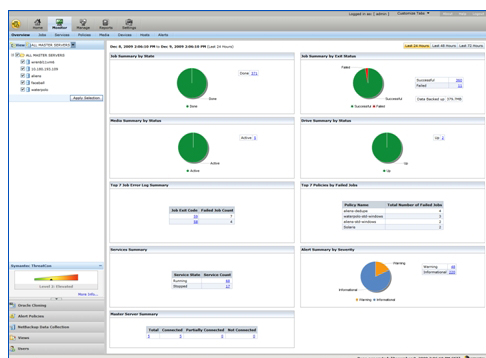

Figure 5. OpsCenter provides an intuitive Web interface for centralized operational management and reporting.

Advanced business-context reporting with OpsCenter Analytics

Easily upgrade OpsCenter to OpsCenter Analytics[8] via a license key for advanced and integrated business-context reporting so content can be customized for the intended audience such as line of business, by geography or application across a heterogeneous environment. Highlights include:

- **Reporting across third-party applications—**Centralize and normalize reporting across both Symantec and third-party backup applications such as EMC NetWorker and IBM Tivoli Storage Manager.
- **Long-term data retention for trending and analysis—**Better predict backup and email archive storage consumption by tracking growth rates over time, including pre and post deduplication for easier ROI tracking.
- **Service level compliance, cost analysis and chargeback—**Threshold-based reporting to help ensure service level compliance and the ability to consolidate and allocate costs across backup and archive services using pricing models that are defined to help meet the business need.

8. For more information, please refer to the OpsCenter Analytics data sheet.

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Flexible deployment offerings for environments of all sizes and levels of sophistication

NetBackup is available in three editions to support organizations ranging from SMBs to large enterprises (see Table 2).[9]

Edition	Target market	Architecture	Number of supported clients	Available agents and options	Bundled
NetBackup Enterprise Server	Enterprise to large enterprise	3-tier (client, media server, master server)	Unlimited	All	No
NetBackup Server	Mid-market to enterprise	2-tier (client, media server)	Unlimited	All except for the Shared Storage Option and Enterprise Client	No
NetBackup Starter Pack	SMB	2-tier (client, media server)	5, 20, or 40	All except for the Shared Storage Option and Enterprise Client	Yes, includes server, clients, tape drive, and database agent(s)

Table 2. The NetBackup editions comparison

Additional NetBackup features and benefits

Performance

- **Synthetic backups**—Enable quick client restore from a single backup image for decreased application host impact and less network bandwidth
- **Advanced disk staging**—Facilitates faster backups and restores since there is no tape device latency, and non-multiplexed backup images can be used for faster recovery

- **Checkpoint/Restart**—Allows a failed backup or recovery job to be resumed from the last checkpoint
- **Multiplexed backup**—Writes multiple data streams from one or more clients/servers to a single tape drive for optimum performance
- **Inline copy**—Enables the creation of multiple concurrent backup images, each with unique retention attributes, run either simultaneously with or after completion of the primary backup

Media management

- **Automatic robotic/tape drive configuration**—Reduce tape drive configuration time with the automatic generation of drive names and configuration of swapped tape drives
- **Media sharing**—Allows multiple NetBackup media servers to actively share a given tape media for write purposes
- **Broad tape device**—Supports all leading tape device providers, including Dell, Exabyte, HP®, IBM®, Overland Data, Qualstar, Quantum, Sony, Spectra Logic, and Sun® StorageTek

Agents and options for databases, applications, disk, tape, and disaster recovery

NetBackup agents[10]

NetBackup agents optimize the performance of critical databases and applications, including IBM DB2, Informix, Lotus® Notes and Lotus Domino® Server, Microsoft Active Directory, Microsoft Exchange Server, Microsoft SharePoint® Portal Server and Microsoft Office SharePoint Server, Microsoft SQL Server, MySQL, Oracle, SAP, Sybase, and Symantec Enterprise Vault.

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9. NetBackup Server does not support NetBackup Enterprise Client or features enabled by the Enterprise Client such as array-based snapshots, and advanced protection of VMware (vStorage API), and Microsoft Hyper-V.

10. For more information, please refer to the NetBackup Clients and Agents data sheet.

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NetBackup options[11]

NetBackup options enhance data protection environments with features that include virtual tape library support, deduplication, offsite tape media management, and more.

More Information

Visit our website

http://enterprise.symantec.com

To speak with a Product Specialist in the U.S.

Call toll-free 1 (800) 745 6054

To speak with a Product Specialist outside the U.S.

For specific country offices and contact numbers, please visit our website.

About Symantec

Symantec is a global leader in providing security, storage and systems management solutions to help consumers and organizations secure and manage their information-driven world. Our software and services protect against more risks at more points, more completely and efficiently, enabling confidence wherever information is used or stored.

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[11.] For more information, please refer to the NetBackup Options data sheet.

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