

# Veritas NetBackup PureDisk™ 6.5

## Next Generation Data Deduplication

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### Overview

Across the globe, enterprise information technology (IT) groups have begun a transition to disk-based data protection. As companies adopt disk and discover its benefits, they soon realize that they cannot keep all of their backup data on disk. Despite declines in the cost of disk storage, they still lack the available capacity to recover most data from disk locally in the data center. Data deduplication is a disk-based technology that enables companies to eliminate duplicate backup data and significantly decrease the storage, and in some cases bandwidth, consumption. However, successful adoption and use of deduplication requires consideration of more than just the storage benefits.

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### The Symantec Solution

Veritas NetBackup PureDisk offers customers a software-based data deduplication solution that integrates with NetBackup and provides customers with the critical features required to protect all their data – from the remote office, to virtual environments, to the data center. It reduces the size of backups with a deduplication engine that can be deployed for storage reduction, using integration with NetBackup, or for bandwidth reduction using PureDisk clients. An open architecture allows customers to easily deploy and scale NetBackup PureDisk using standard storage and servers.

### Key Features and Benefits

- Integration with NetBackup media server for scalable, high performance, load-balanced disk-backup
- Bandwidth efficient disk to disk replication that allows

complete independence from tape

- Up to 3.5 TB/Hr of aggregate throughput
- Choice of inline or post-process deduplication
- Total data lifecycle management driven by NetBackup policies
- Protection for up to a petabyte of data in one PureDisk storage pool (2)

(2) Assumes a standard 10x reduction of data with 100 TB max capacity per PureDisk storage pool. Actual results may vary depending on the data being backed up, data change rate, retention periods etc.

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### Integration with NetBackup makes disk-based recovery more cost effective

NetBackup PureDisk offers a data deduplication engine that integrates into the NetBackup server. It supports in-line deduplication of backup streams coming from clients as well as post-process deduplication of staged images. It provides customers with a means to retain backup data on disk for longer periods of time and to recover it more quickly. Through integration with NetBackup, PureDisk deduplication throughput can scale with the addition of media servers and it can leverage features such as storage lifecycle policies, media-server load-balancing, disk pools, and media-server failover. This combination of features can improve performance and simplify administration.

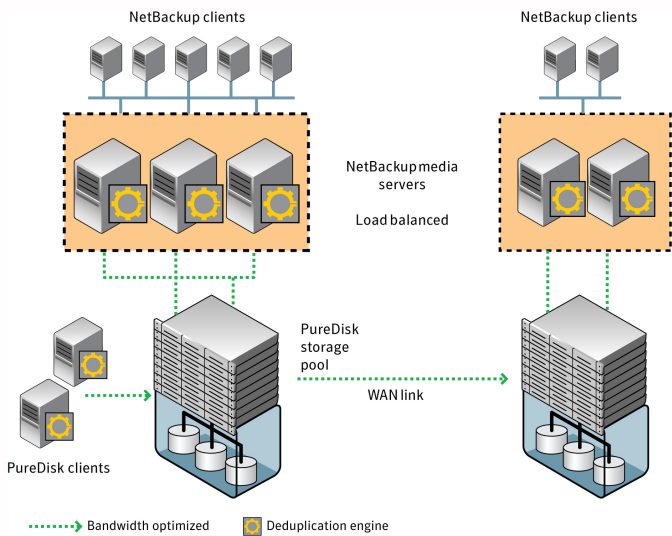
- Supports LAN and SAN-based backups
- Supports in-line and post-process deduplication with

NetBackup storage lifecycle policies

- Scale deduplication performance with additional NetBackup media servers

PureDisk Deduplication Option Backup Throughput			
# of PureDisk Nodes	# of NBU Media Servers	Usable Capacity	Maximum Throughput
1	2	16TB	2.5TB/Hr
2	2	32TB	2.8TB/Hr
4	4	64TB	3.5TB/Hr

Assumes multi-stream NBU backups  
Backup data set consisting of typical enterprise mix (file and folder, databases, mail)  
Best possible performance achieved over 10GigE Ethernet  
Hard drives configured in a RAID 6 configuration



PureDisk Integration with NetBackup (with replication)

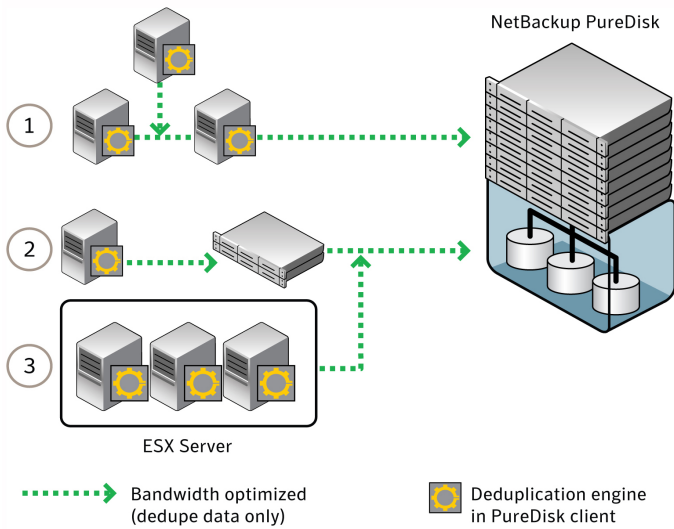
**Bandwidth Efficient Multi-Site Disaster Recovery Integrated with NetBackup**

NetBackup PureDisk integration with NetBackup also enables customers to reduce their reliance on tape for disaster recovery with secure, replication of backup data. Because NetBackup PureDisk dramatically reduces the size of backups and only moves unique segments of data, it provides a bandwidth efficient means to transfer large amounts of data to disaster recovery sites. More importantly, NetBackup manages all copies of backup data based on defined policies which expedites restores from these DR copies and simplifies expiration of old data both from the data center and the disaster recovery site.

**Bandwidth Optimized Protection of Remote Offices & Virtual Environments**

Traditional network-based methods are increasingly insufficient for protecting both remote office and virtual servers. NetBackup PureDisk clients can perform source data deduplication at the client which enables companies to overcome network limitations and centralize backup data into the data center.

- Eliminate a distributed backup infrastructure
- Efficient backup of virtual machines
- Manage and recover remote office data with a web-based interface.



- (1) Distributed servers protected—no backup application
- (2) Same + remote PureDisk storage for faster recovery
- (3) ESX or other virtual systems (guest-level protection)

Multiple uses for PureDisk source-based deduplication

### Manage Backup Storage Growth with an Open and Scalable Storage System

PureDisk provides an open, reliable and scalable disk solution to store backup data. Customers can use DAS or SAN storage as a target for deduplicated data and a wide range of enterprise servers or virtual machines to host NetBackup PureDisk software. PureDisk storage capacity and performance scales with the addition of storage nodes and it performs deduplication across all nodes in a cluster. The market leading Veritas Cluster Server and Storage Foundation (Volume Manager and File System) are integrated in the PureDisk storage system to provide automatic node failover, redundant storage paths, and ease of storage management. PureDisk deduplicated data can be replicated to a secondary storage pool or backed up

efficiently with NetBackup to guarantee data recoverability.

- Easily increase capacity and performance with additional server nodes while maintaining deduplication benefits
- Integrated Veritas Storage Foundation technologies for high availability, server-failover and storage management
- Deploy PureDisk into VMware

Examples of PureDisk Storage Pool Capacity Configurations			
Storage Nodes per Storage Pool	12	6	4
Max Usable Storage/node (TBs)	8	8	16
Total Usable Capacity (TBs)*	96	48	64
Est. Retention Capacity @ 10:1 (PBs)**	960 TBs	480 TBs	640 TBs
Est. Retention Capacity @ 50:1 (PBs)***	4.8 PBs	2.4 PBs	3.2 PBs

\* All capacity values calculated with Base 10 arithmetic (i.e., 1 TB = 1000 GB), RAID 5 requirements not calculated here. Usable disk capacity refers to available disk space after RAID.  
\*\* Based on a sample of enterprise data (file systems, mixed OSs). Actual storage reductions may vary based on data types and full/incremental/differential ratios.  
\*\*\* This configuration applies to data center backups.

### What's New in PureDisk 6.5

**Deduplication for the Data Center:** NetBackup PureDisk Deduplication Option enables deduplication & replication of NetBackup images from existing NetBackup clients

**NetBackup PureDisk has extended the total usable storage/node** to 16TB for Data Center Backups. This translates into storage reduction and a greater utilization of what you already have invested in.

**Automated, Online Failover** of all server components using Veritas Cluster Server ensures consistent disk-based backups

**Doubled storage capacity** per server node from 4TB to 8TB useable storage for remote and virtual machine

protection use cases

**Improved speed of PureDisk clients** with multi-streaming

**Expanded support** for client-side deduplication

- More Clients: Mac OS, HP-UX 11.23, Red Hat 5.0
- More Applications: Microsoft Exchange 2007
- New Platforms: NetApp Network Attached Storage

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### Other Features & Benefits

**Flexible Data Deduplication Engines** can be used in a client or within NetBackup to improve storage reduction by storing remote-office and data center data in one PureDisk storage pool.

**Multi-site disaster recovery** allows customers to consolidate backup data from multiple sites pool into one central storage pool for disk-based recovery.

**Assured Data Recoverability** comes from the ability to backup your deduplicated data.

- Deduplicated disaster recovery copy using PureDisk replication controlled by NetBackup
- Optimized disaster recovery policy to protect deduplicated data through NetBackup

**Tape Export Features** to support long-term retention or compliance policies.

- Write and manage backup data from NetBackup to tape using standard NetBackup processes
- Leverage NetBackup Vault for long-term retention and management of tapes & barcodes

**Multilayer security** for access, management, and restores

of backup data from PureDisk clients

- Authenticate application access with Microsoft® Active Directory® or LDAP
- Configure flexible user roles, including visible scope and functional access
- Prevent administrators from browsing or restoring backup data with Data Lock

**Hardware Agnostic** approach allows any commodity servers and storage to be used with PureDisk which helps to keep the total cost of ownership low.

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### High Availability Options for PureDisk Storage Pool

- Hardware or Software Based RAID 1 or 5 with Veritas Storage Foundation
- Redundant storage paths with Veritas Storage Foundation
- Automate server fail-over with Veritas Cluster Server

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### System and Platform Support

NetBackup PureDisk is a software appliance that can be installed on a broad range of server/storage combinations. In addition to a server with PureDisk software, deduplication of backup data requires either a NetBackup PureDisk client or a NetBackup client and a NetBackup media server.

### NetBackup Media Server Deduplication

This feature requires a NetBackup 6.5 media server with the PureDisk deduplication plug-in running on one of the following operating systems - Windows, Red Hat, SuSE, or Solaris.\*

## Data Sheet: Data Protection Veritas NetBackup PureDisk™ 6.5

- Any NetBackup client
- Any NetBackup application or database agent

### **PureDisk client platform support\***

- Microsoft Windows - Windows 2000 Server, Windows Server 2003, Windows Storage Server 2003
- Linux - Red Hat Enterprise Server and SuSE Linux Enterprise Server
- UNIX - IBM AIX (on Power 3, 4, 5), Solaris on Sparc, HP-UX on (PA-RISC and Itanium)
- Mac OS

### **PureDisk application agent support\***

- Microsoft Exchange Server 2007
- Microsoft SQL 2005 Server
- Microsoft Exchange 2003 Server
- Microsoft SQL 2000 Server

\* Always check the NetBackup PureDisk compatibility list on the Symantec support site for the latest information on supported versions and patch levels.

### **Advanced backup and reporting across multiple backup applications**

- Available with Veritas Backup Reporter

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### *Symantec World Headquarters*

20330 Stevens Creek Blvd.

Cupertino, CA 95014 USA

+1 (408) 517 8000

1 (800) 721 3934

[www.symantec.com](http://www.symantec.com)

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