

Symantec's Next-Generation of Data Protection: NetBackup 6.5

Date: June, 2007

Author: Lauren Whitehouse, Analyst

Abstract: In releasing its latest iteration of NetBackup, Symantec has made good on its promise to innovate around the use of disk as a major component of the backup process. NetBackup 6.5 abounds with flexibility and choice, delivering advanced features such as data de-duplication and point-in-time recovery. However, NetBackup's role as the framework for a unified recovery platform could be its most significant advancement yet.

Disk Dominates

In a recent study, ESG Research found that 72% of respondents are backing up primarily to disk, whether as the final repository for data or a staging area on the way to tape.¹ The speed and reliability of disk-based backup/recovery are the primary drivers for this shift.

NetBackup, a longtime leader in tape-based backup, has been taking steps to adapt to this paradigm shift. The acquisition of Data Center Technologies and its PureDisk product by Veritas in 2005 (just prior to the acquisition of Veritas by Symantec) delivered backup technology that embraced disk and offered de-duplication capabilities. More recently, the company published its NetBackup API to backup target vendors, providing third-party companies a view into the data being transmitted from NetBackup's media server to the target device, thereby enabling these third-party vendors to add more intelligence and advanced features to their target disk devices.

In its new 6.5 release, NetBackup takes yet another step to further its integration of disk into the backup process. This release provides a lot of choices for backup target devices as well as a variety of backup methods through its client agents. A number of powerful new features have been added to the NetBackup platform, such as media server load balancing and storage lifecycle policy management. Additionally, Symantec simplified its licensing model while also introducing an option for capacity-based licensing.

Several of the company's core infrastructure products—snapshot, replication, de-duplication and, later this year, continuous data protection (CDP)—are coming together within the NetBackup "platform" in what Symantec calls its "Storage United" vision. Symantec's Storage United initiative is driving the integration of both new and existing capabilities (for example, de-duplication and snapshot) into a single, centralized data protection management framework based on NetBackup.

Pick and Choose

Symantec has made strides to unlock the true power of disk in a backup environment with NetBackup 6.5, incorporating multiple options for integrating disk into the backup process.

- The PureDisk Deduplication Option provides a single, scalable commodity disk pool with de-duplication capabilities. Data captured with a PureDisk or NetBackup client can share capacity-optimized disk.
- The Flexible Disk Option enables backup to commodity disk (SAN, NAS or DAS) and includes advanced features, such as disk that is shared and pooled between multiple media servers (much like tape devices are shared today), provisioning and intelligent expiration. These features ensure that the

¹ ESG Research: *VTL Adoption and Market Trends*, March 2007.

most important data remains on the least amount of volumes for as long as possible before being deleted (and only after being written to tape).

- The aforementioned OpenStorage API enables deeper integration with intelligent backup devices and eliminates the need for virtual tape emulation. NetBackup can be in control and aware of de-duplication and replication processes that occur post-process on the target device.
- The VTL Option supports virtual tape library appliances, offering virtual to physical tape duplication that is managed and tracked by NetBackup.

NetBackup 6.5 also includes advanced features common to all of its disk options. Its Storage Lifecycle Policies allow for automatic migration between storage tiers, ensuring high-value data is retained on disk for fast recovery. Media servers are all peers and client backup is directed through the least active media server. Media server load balancing also provides high availability, improved performance and lower administrative overhead.

On the client side, NetBackup 6.5 offers an assortment of data backup options. In addition to the standard NetBackup and PureDisk clients, NetBackup's Enterprise Clients include the SAN Media Server client as well as some new enterprise offerings, including:

- **The Snapshot Client** provides centralized management of consolidated snapshots taken from tier one vendors' storage arrays.
- **The SAN Client** enables fast backup over a FC SAN, with aggregate performance through the media server in the 500 MB/s range.
- **The CDP Client** delivers better recovery objectives and eliminates the "backup window."

Pricing and licensing has also been addressed in the new release—with licensing now simplified from a multitude of choices to a handful of SKUs. End-users select from one or more client-side NetBackup agent and infrastructure licenses. There are also add-on solutions for encryption at the media server and backup reporting (the standalone Veritas Backup Reporter product).

On the client side, end-users can choose from either a Standard or an Enterprise client license. There are also options for application-specific and workstation/laptop backup.

- A Standard client license includes the basic client for NetBackup and PureDisk, encryption and heterogeneous bare metal recovery (BMR). There is also new BMR support for Solaris10, AIX 5.3, SUSE SLES9 and Red Hat 4.
- An Enterprise client license includes all of the features of a Standard client, plus the Snapshot client, SAN client, VMware client, SAN Media Server client and CDP client.
- For application-specific backup, all standalone agents for applications have been bundled together in the Application and Database Pack, with the exception of the SAP client, which remains separate.
- The Desktop and Laptop Option and the Workstation client are also available.

In keeping with the flexibility theme of this release, NetBackup's pricing model has also been augmented to deliver choice. End-users can license NetBackup as they do today on an a-la-carte basis, or instead they can license NetBackup infrastructure (media servers, master servers, and tape and disk options) by data capacity (on a front-end client basis, i.e., non-de-duplicated data). End-users are welcome to switch to the capacity-based pricing model and switch back without penalty if it's not for them. This new capacity-based infrastructure model offers three tiers of functionality, each at an increasing \$/TB price: Standard, Enterprise and two Premium options.

- The Standard Infrastructure tier provides support for physical tape and tape-specific features, including Library-based Tape Drive, Shared Storage Option for Tape, Vault and StorageTek Virtualization Option.
- The Enterprise Infrastructure tier includes everything in the Standard Infrastructure, plus support for disk-based backup, including NDMP support, OpenStorage Option, Advanced Disk Option and the VTL Option.
- The Premium Infrastructure for PureDisk includes everything in the Standard Infrastructure, plus support for more advanced disk-based backup with PureDisk (single instance storage and global de-duplication).

- The Premium Infrastructure for CDP includes everything in the Standard Infrastructure, plus support for continuous data protection (available later this year).

It's also worth noting that NetBackup offers efficient backup in virtual server environments, such as VMware. NetBackup's VMware client (available in the Enterprise client license) enables capture of a virtual machine snapshot to any NetBackup storage target (disk, tape or PureDisk storage). End-users can perform an image recovery for rapid disaster recovery or a more granular file-level recovery.

While the list of new features in NetBackup 6.5 is exciting, equally impressive are the steps Symantec is taking to address the management complexity plaguing many IT shops that have augmented their tape-based backup strategy with one or more disk-based data protection technologies. By combining any number of standalone solutions into its protection environment to address recovery challenges, IT may have increased complexity, administrative overhead and, potentially, costs while also decreasing the efficiency of resource utilization. Symantec's Storage United strategy addresses this pain point. Its goal is to minimize agent technology and provide a unified recovery management framework—reducing administrative complexity with a single catalog, scheduler and policy framework. Its integration of PureDisk, snapshot and CDP products are proof points to this vision, as well as its OpenStorage API, which insures that no matter what vendor is performing what function, NetBackup remains in the driver's seat.

The Bottom Line

With all of the new features added to NetBackup, it's surprising that this wasn't a 7.0 release. The intent is probably to issue a "dot-zero" version when the company goes the final 10 yards and fully integrates all of its technologies—for example, the NetBackup and PureDisk client integration, full CDP integration and archiving (Enterprise Vault) integration (which end-users should expect down the road).

The trend of backing up to disk has won over the majority of end-users and NetBackup's disk backup features are compelling enough to warrant the nuisance of upgrading. Some NetBackup customers may elect to wait until their disk target vendor has taken advantage of NetBackup's OpenStorage API, while others may want to immediately leverage 6.5 capabilities: consistent and efficient backup strategies for both physical and virtual environments, performance improvements with the SAN Agent, the ability to employ multiple backup policies, global de-duplication and capacity-based licensing/pricing.

Symantec has taken the right steps to bring its next-generation data protection platform from whiteboard to the market. In some ways, Symantec is playing catch-up with some of its competitors who have built their own unified recovery platforms from the ground up, or have integrated CDP or archive earlier. However, because others have laid the groundwork, it won't be difficult for Symantec to sell the concept to its constituents—everyone gets the benefits of consolidation.

NetBackup is still the reigning market champion, so customers will cut them slack even if they are later than others in bringing some features to market. Now that the story is superior to many competitive offerings, Symantec should be able to focus on growing revenue opportunities and bringing customers further into the integrated Symantec vision. The value to customers seems clear and if they can execute successfully, they will make it much easier for customers to consume more Symantec products while simultaneously making it much more difficult for competitors to encroach on their installed base.