Overview
This solution overview will outline the challenges associated with managing and protecting the overwhelming amount of data that is created on a daily and even hourly basis. During these tough economic times, customers face a difficult challenge: making the most out of their already-purchased resources—especially, existing hardware and network infrastructure. In the face of skyrocketing digital asset growth, it is all the more critical that they plan for maximizing overall utilization of existing resources. If the existing hardware is unable to meet the data protection requirements; organizations are looking to consolidate resources in order to reduce capital and operational expenditures.

The Symantec NetBackup™ 7.5 and NetBackup appliances provide solutions that help customers grow their data capacity cost-effectively and intelligently, including deduplication solutions from the remote office and branch office to the data center, as well as virtual machines.

NetBackup Intelligent Deduplication with Symantec V-Ray technology
Traditional approaches to deduplication are CPU intensive, require excessive hardware resources and often need additional media server resources to boost deduplication performance. Without an understanding or clear view of the data stream, such techniques have to find the object boundaries in order to identify duplicate data by scanning the entire data stream one byte at a time, guess the object boundaries, and then determine the optimum block size for that particular object in the stream. In other words, because these techniques can’t really see into the data stream it ‘guesses’ at the optimum dedupe algorithm and try to adjust the moving target block size dynamically at the expense of heavy resource utilization.

NetBackup Intelligent Deduplication radically transforms traditional deduplication by applying the best approach for a specific backup without the need for computationally intensive processing. Symantec™ V-Ray technology is the intelligence that provides NetBackup deduplication with the unique ability to exactly identify the data formats and object boundaries. Using this visibility, NetBackup Intelligent Deduplication automatically selects the most optimal deduplication algorithm, with backups experiencing storage savings up to 50x.

Deduplicate everywhere to reduce cost of storing information
Deduplication has the power to transform information management: it is great for backup and archiving; and it even makes server virtualization manageable. Deduplication should live in every part of the information architecture. But ultimately, Symantec recommends deduplicating data as close to the source as possible. Deduplicating information closer to the source will decrease network traffic and reduce the storage footprint, helping to make backups more successful. With NetBackup, you can deduplicate everywhere as shown below.
NetBackup client deduplication closer to source
Removing redundant data globally as close to the source as possible maximizes the benefits of deduplication. NetBackup 7.5 and all NetBackup appliances offer source deduplication at the client, built right into the product for fast, secure, 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, thereby freeing up more client resources for production services in both physical and virtual environments. In case of virtual environments, deduplication can also be done at an offhost system closer to the source thereby avoiding the need for production virtual machines doing the deduplication and streaming of backups.

Source dedupe delivers:
- Up to 10x faster backups
- Up to 60 percent reduction in disk I/O
- Up to 70 percent reduction in CPU
- Up to 75 percent reduction in memory

NetBackup media server deduplication at the target
NetBackup 7.5 has target deduplication built right into the media server. With no separate install required, setup is as easy as clicking a box. Unlike third party deduplication appliances, which carry an extra layer of complexity because they are not built into the backup application, NetBackup 7.5 media server deduplication is embedded into NetBackup; no dedicated server or storage is needed. The NetBackup media server offers inline deduplication by processing data streams in flight; requires no extra staging disks for processing, which leads to more optimal use of storage. NetBackup storage lifecycle policies allow post-process deduplication as well. Furthermore, NetBackup 5200 series appliances from Symantec offer a convenient appliance form-factor to deploy and maintain NetBackup and NetBackup media server deduplication.

Media server dedupe delivers:
- Up to 30 percent increase in backup speeds
- Up to 50x reduction in storage
- Cost reduction by utilizing commodity disk and servers

Deduplicate with appliances, using NetBackup OpenStorage (OST)
An OpenStorage application program interface (API) for NetBackup is available through our STEP partner program. There is no need to emulate tape with virtual tape libraries (VTLs), because the OST API allows NetBackup to see disk as disk—which enables users of intelligent disk appliances who use NetBackup to get better integration. Finally, day-to-day management can be executed from the NetBackup interface, enabling greater ease of use and making it possible to leverage the advanced feature set of the intelligent disk appliance, such as deduplication, replication, optimized synthetics, direct to tape, etc.

NetBackup 5000 series appliances from Symantec provide all the benefits of NetBackup OpenStorage. Besides, these appliances offer more than what third party target deduplication devices can do. These appliances provide turnkey deduplication solution for existing NetBackup media servers while also providing client-direct capability. NetBackup clients can directly write to NetBackup 5000 series
appliances, thereby eliminating media servers from the data path as a bottleneck. NetBackup 5000 series provide end-to-end global deduplication that can be scaled out at three different dimensions, viz. scale-out at 5000 series appliances, scale-out at media servers and scale-out at clients.

**Deduplicate in remote and branch offices**
In remote and branch offices, the traditional backup infrastructure and process are not sufficient. These outdated processes are typically decentralized from the data center and use tape-based data protection as the preferred medium. NetBackup client deduplication is WAN optimized, making it ideal for large and small remote sites.

NetBackup client deduplication delivers:
- Decreased data footprint for remote and branch offices
- Centralized data protection on disk
- Built-in WAN resiliency for unstable links
- WAN-optimized deduplication

NetBackup 5220 appliances serve as all-in-one backup appliances for remote and branch offices. These appliances can be standalone or may be made part of an existing NetBackup domain at the central office.

NetBackup 5220 backup appliance delivers:
- Decreased data footprint for remote and branch offices with built-in deduplication
- Centralized management while providing local LAN based faster restores, reduces operational expenditure
- WAN-optimized replication to central site for disaster recovery readiness

**NetBackup Accelerator**
**Full backups completed in the time it takes to do an incremental backup**—Tackle the challenge of backing up hundreds of millions of files, or the need to perform thousands of backups simultaneously, all of which are starting to run up against or exceed backup windows. A single click from the NetBackup unified management console, NetBackup Accelerator can perform a full backup at the speed and cost of an incremental backup without sacrificing the fast recovery time associated with full backups and help meet the ever more demanding backup and recovery SLAs.

NetBackup Accelerator delivers:
- Superior Recovery Point Objectives and Recovery Time Objectives
- Reduction of required backup window
- Minimizes the resources required for perform full backups

**Summary**
NetBackup Intelligent Deduplication with V-Ray technology provides resource efficient deduplication during backups. Symantec believes deduplication should be everywhere, at the client or the target. Symantec NetBackup and NetBackup appliances have deduplication built in, allowing customers to put deduplication closer to the source to recognize the benefits of deduplication where they need it the most.

NetBackup Accelerator reduces traditional full backup times to the speed of incremental backups, thereby reducing the stress of achieving RTO/RPO of the most demanding SLAs.
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.

Symantec World Headquarters
350 Ellis St.
Mountain View, CA 94043 USA
+1 (650) 527 8000
1 (800) 721 3934
www.symantec.com