Data Sheet: Data Protection

Symantec NetBackup™ RealTime 7

Continuous Data Protection and Replication

Overview

Businesses must find better ways to protect against data loss and improve recovery times for critical applications while also creating disaster recovery plans that they are confident in. Recent advances in both storage and backup technologies have incrementally improved the performance and ease of local backup and recovery, as well as longer-distance disaster recovery; but despite these advances, many organizations struggle to use them since they come from multiple products and multiple vendors, making them complex and expensive. Many of these critical applications use methods such as array based snapshots with replication in combination with backups to tape and deduplicated disk. Businesses need a solution that allows them to combine all of these techniques and improve service levels without increasing complexity or cost in the data center.

The Symantec solution

Symantec NetBackup RealTime allows organizations to perform continuous data protection (CDP) and live IP-based replication, which dramatically lower recovery-point objectives (RPOs) and recovery-time objectives (RTOs) to near zero for both local protection and longer-distance disaster recovery. NetBackup RealTime can perform CDP and replication across any application and storage array while being integrated with NetBackup for specific applications agents, which means it is the first and only solution to offer CDP, snapshots, replication, deduplication, and streaming to tape all in one.

Key features and benefits

- **Continuous data protection** for business-critical applications, which eliminates backup windows and enables any point-in-time recovery
- **Disaster recovery using IP-based replication** between different storage tiers or vendors in order to remove the costs, management overhead, and risks of shipping tape between locations
- **A new form of recovery** using virtualized disk volumes called “TimeImages” that allow for recovery, migration, or testing of terabytes of production data in seconds without requiring any additional storage space
- **Integration with NetBackup** for off-host protection using NetBackup application agents and a single interface for all types of protection—tape, deduplication, snapshots, continuous data protection and replication

Better backup with continuous data protection

NetBackup RealTime provides application protection by continuously streaming a copy of every changed block of data to disk storage under the control of a NetBackup RealTime server. This enables all these changes to be maintained, in order, in a journal to give administrators the ability to recover the applications to any point in time, thereby reducing data loss to near zero. Since the data being protected is tracked continuously, there is no longer a backup window or backup schedule—it is always on. Protection from logical software and physical hardware corruption is also now possible since the NetBackup RealTime storage can be in a separate disk enclosure.

Disaster recovery using replication

NetBackup RealTime provides block-level IP-based replication between any NetBackup RealTime servers. As changed blocks of data from the protected clients are sent to a local NetBackup RealTime server over Fibre Channel, they are relayed on to another NetBackup RealTime server over an IP WAN connection. The blocks are compressed before being sent across the WAN so they are bandwidth optimized. On the remote side, the blocks are reconstructed even if they are received out-of-order due to latency issues. Replication works in a near-synchronous or asynchronous fashion by automatically throttling to the correct type, depending on the WAN connection speed. NetBackup RealTime servers have the ability to failover and failback across any multiple of NetBackup RealTime servers located in various data centers. In the event of a disaster, the failover will track the changes in the alternate remote location away from the disaster so the data can be migrated back to the original location when brought back online. This failover capability can be manually controlled in the NetBackup RealTime interface or automatically with an integrated replication agent for Veritas™ Cluster Server from Symantec.

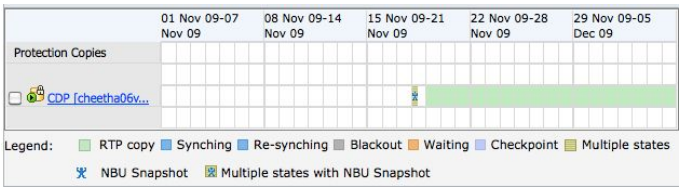

Figure 1. NetBackup RealTime provides an easy way to manage any point-in-time recovery

Replication and local CDP of NetBackup master servers and their corresponding catalogs are free of charge; this allows for live replication and disaster recovery of the critical NetBackup environment without having to schedule hot catalog backups.

Recover terabytes in seconds

NetBackup RealTime not only significantly changes how backup is done but also speeds up recovery by using an entirely different technology. With traditional backup methods, the data is copied and processed by compressing it in a tar or zip format. Deduplication takes this further by removing unique block segments. All of these steps require that the recovery remove the backup process by untaring, unzipping, or rehydrating a deduplicated image. The result is that the recovery will take some amount of time since the backup data can't be used directly in its native format. It also means that the size of the backup that is being recovered is directly proportional to the time it takes to do that recovery—bigger backup means longer recovery.

NetBackup RealTime stores data in a raw block format that can be used directly. The NetBackup RealTime server presents virtual disk volumes (VLUNs) called "TimeImages" that can be mounted on any host with access to the NetBackup RealTime server. These read/writable volumes are like synthetic mirrors of the production volume since they are a combination of the original copy or mirror that NetBackup RealTime took with any additional changes in the journal up to any point in time that is selected. The size of these volumes does not matter for the recovery time because mounting terabytes, gigabytes, or megabytes all takes the same few seconds. And since the data is in a raw format, it can be used for mounting copies of production volumes to test the latest

application patches, for migrating data when switching storage array vendors, and for building applications or anything else needing live production data.

NetBackup integration for heterogeneous protection

CDP and replication products have existed for some time already, but NetBackup RealTime is the first to offer the benefits of CDP and replication as a part of the world's most popular backup product: NetBackup. NetBackup RealTime can be run as a standalone solution, but it works best when combined with NetBackup. This enables NetBackup RealTime to become a snapshot engine for NetBackup so that any client backups that are protected with NetBackup now come from NetBackup RealTime instead of from the clients directly. This off-host backup means there is no longer a backup impact when taking a snapshot of the protected client since NetBackup RealTime already has a copy of the data. Instead, a bookmark is inserted into the NetBackup RealTime server after the application is placed in backup mode using a NetBackup application agent for Exchange®, SQL, Oracle®, SAP, and more. The application-consistent point in time is then recorded without needing to move data. Snapshots can be scheduled to take place as often as needed since they do not take any storage in NetBackup RealTime. Dozens of hourly snapshots can be kept because the physical storage space needed is only the unique block changes between them.

System and platform support

NetBackup RealTime servers is delivered as a software appliance, meaning they include a built-in operating system in addition to the NetBackup RealTime software. A NetBackup RealTime server can be installed on a broad range of x86 server and storage combinations. In addition to NetBackup RealTime servers, protection is done through the combination of the NetBackup standard client with the addition of the NetBackup RealTime client host splitter. The following is a list of supported operating systems and applications (at the time of publishing) for the NetBackup RealTime client host splitter:

- Operating systems
  - Microsoft® Windows® Server 2003, 2008 (both 32-bit and x64 editions)
  - Sun® Solaris® 9, 10 for SPARC platform
- Applications
  - Microsoft Exchange Server 2003, 2007
  - Oracle Databases
  - SAP
  - Any application in a crash-consistent format *

* ***Note*** *that the list of applications that NetBackup RealTime supports are for doing application-consistent snapshots using backup API's or interfaces that those applications offer, such as Volume Shadow Copy Service (VSS) or Oracle RMAN. Any application can be protected at a block storage level regardless of whether it is listed here or not, but it would be in a crash- or power-loss-consistent format.*

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

Confidence in a connected world.

12/09 20009756-1