

Network ApplianceTM SnapMirror[®] Software

Global data availability and disaster recovery.

Key Features

- FAST DATA REPLICATION AND FAILOVER Minimizes downtime costs in case of a failure at the primary site.
- ACCESS TO MIRRORED DATA
 Enables offloading tape backup, doubling the value of your disaster recovery investment.
- VOLUME OR QTREE
 REPLICATION

Mirrors selected data sets, dramatically reducing networking infrastructure requirements.

REPLICATION SYNCHRONICITY
 LEVEL

One product to control frequency of replication (async, sync, and semi-sync).

• MORE EFFICIENT NETWORK UTILIZATION

Cuts the costs of data replication and disaster recovery.

• EASY SETUP

Needs virtually no added IT resources; allows frequent testing of the disaster recovery plan.

The Challenge: Instant Access to Mission-Critical Data

Today, global enterprises need to protect and quickly recover data in the event of natural or man-made disasters, operator errors, or technology and application failures. They also need an efficient way to distribute data to remote locations. Without an effective data protection and distribution strategy, operations can be brought to a standstill, resulting in millions of dollars of lost revenue.

The Solution: NetApp SnapMirror Software

Exceptionally powerful, yet easy to use and administer, NetApp SnapMirror software delivers the disaster recovery and data distribution solution that today's global enterprises need. By replicating data at high speeds over a LAN or a WAN, SnapMirror software provides the highest possible data availability and fastest recovery for mission-critical applications.

SnapMirror technology mirrors data to one or more network filers. It continually updates the mirrored data to keep it current and available for disaster recovery, offloading tape backup, read-only data distribution, testing on nonproduction filers, online data migration, and more. If your enterprise is geographically dispersed and all locations need access to the same data set, such as training videos, CAD tools, and the like, SnapMirror can distribute the same data to all locations. By automatically updating this data and allowing local access to mirrored data, SnapMirror can dramatically improve employee productivity and efficiency.

Preserves Valuable Network Bandwidth

NetApp SnapMirror software has many bandwidth-saving features that lower the infrastructure cost of data replication and disaster recovery. You can perform an initial full-volume transfer using tapes, and then use the tapes to populate data in remote locations. After that, you need only update the new and changed blocks incrementally over the network. By replicating only a subset of the entire filer data, SnapMirror significantly reduces network bandwidth requirements. In addition, SnapMirror takes checkpoints during data transfers. If the system goes down, the transfer restarts from the most recent checkpoint. SnapMirror also performs intelligent resynchronization, which eliminates the need for full transfers when recovering from a broken mirror or loss of synchronization. If data on the mirrored copy was modified during application testing, it can be quickly resynchronized with the production data by copying the new and changed data blocks from the production system to the mirrored copy.

SOFTWARE

Network Appliance gives you the industry's most reliable storage software solutions, optimized specifically for the job, easy to use and administer, and deliver the lowest TCO and maximum ROI.

Configuration Flexibility

NetApp SnapMirror deploys easily into any networking infrastructure with enough bandwidth to handle the data transfers. The ability to use multiple transports (FC and IP) allows for greater use of existing equipment and better availability since you can failover between paths.

SnapMirror provides high disaster recovery protection by allowing the customer to choose the right level of synchronicity (sync, semi-sync, and async). For instance, with the sync option, the replicated data at the remote site is always up-to-date and ready for use after a failure. This simplifies disaster recovery and reduces system downtime. Semisync allows customers to determine for how many I/O operations or how long the replicated site can be out of sync with the source, based on their site needs. Or with async, schedule transfers whenever you want-every minute, hour, or day. You can establish the frequency that works best for each site. The schedule can be easily modified and changes can be made effective immediately. You can also choose different filer configurations for the source and mirrored systems. The source system can be a clustered filer with 6TB of storage mirroring 2TB of mission-critical data to a different filer

model. In addition, cascade and multihop mirroring let a NetApp SnapMirror target volume serve as a source to other targets, with each mirror pair running on its own schedule to meet site-specific requirements. Cascade mirroring is the perfect solution if you need to replicate data over a distance—for instance from New York to Paris, Rome, and London. You can duplicate the New York data to London, then use lower-cost links to replicate the data from London to Paris and Rome.

Easy to Use and Cost-Effective

Users can set up SnapMirror in minutes and handle administration and operations through the easy-to-use DataFabric[®] Manager (DFM) graphical user interface. Filers are SnapMirror software-ready and need no added software installation. Built-in SNMP support enables easy integration with an SNMP framework.

About Network Appliance

See how NetApp SnapMirror can bring global data availability and disaster recovery solutions to your enterprise network. Simply visit our Web site at *www.netapp.com.* And let us show you what "The evolution of storage.[™]" means for your business.

SNAPMIRROR CAN BE USED FOR:

DISASTER RECOVERY

MIRROR DATA TO REMOTE LOCATIONS FOR FAILOVER.

DATA DISTRIBUTION

USE CASCADING OR MULTIHOP TO SEND DATA SETS TO GLOBAL LOCATIONS.

• REMOTE DATA ACCESS

APPLICATIONS CAN ACCESS MIRRORED DATA IN READ-ONLY MODE.

ONLINE DATA MIGRATION

MINIMIZE DOWNTIME ASSOCIATED WITH DATA MIGRATION.

- DATA REPLICATION USE MIRRORED DATA FOR ISOLATED TESTING PURPOSES.
- SYNCHRONOUS DATA REPLICATION KEEP CRITICAL DATA IN SYNC ACROSS SITES.

LOAD BALANCING

SPREAD LOAD AMONG MORE CLIENTS BY ACCESSING MIRRORED DATA.

COMPLIANT DATA PROTECTION
 SUPPORTS FULLY COMPLIANT REPLICATION
 BETWEEN WORM VOLUMES WHEN USING
 SNAPLOCK[™] SOFTWARE.



Figure 1) SnapMirror: Cascaded Configuration

Using SnapMirror, data can be efficiently and cost-effectively replicated to remote sites for disaster recovery or data distribution.



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