NetApp
Go further, faster

Solution > Infrastructure > **Business Continuity**

NetApp SnapMirror Solution for Disaster Recovery and More

KEY BENEFITS

Disaster recovery and testing
Maintain access to critical data even in a major site-wide outage.

Business intelligence
Offload production networks and systems by running complex analyses on replicated data.

Data distribution
Fast, efficient movement of data from one location to another across all storage tiers.

Development and test
Clone replicated data on demand for accelerated application development.

Virtualization
Integrated end-to-end disaster recovery from host to storage for virtual environments.

REPLICATION, EVOLVED

Organizations are constantly looking to maximize investments and do more with what they already have. NetApp® SnapMirror® has been used by thousands of customers worldwide to protect and accelerate their business by replicating their critical data across global networks at high speeds. SnapMirror efficient thin replication is used primarily for disaster recovery, providing the ability to quickly recover from adverse natural or human-made events.

As economic pressures increase, IT organizations are becoming more creative with the powerful capabilities of SnapMirror and realizing the benefits of NetApp efficiency technologies to take advantage of the ability to nondisruptively create replicas of live data, improving utilization from the equipment at disaster recovery sites and achieving better efficiencies overall. So whether it is disaster recovery, business intelligence, data distribution, or development and test, SnapMirror provides return on investment with up to 60% lower TCO.

STANDARDIZED MULTIPURPOSE REPLICATION SOLUTION

Nondisruptive disaster recovery testing

Disaster recovery plans are typically infrequently tested because most organizations need to take down all their systems, usually on a weekend, and bring up the remote sites. Even when they are tested, applications frequently fail to come up as expected. With so many changes going on in the data center, there is opportunity for error in setting up the DR paths, which makes testing even more important. SnapMirror enables nondisruptive DR testing by allowing servers and applications in the secondary site to be brought up and connected to “real” data; it just happens to be a space-saving virtual copy of replicated data. This can all be done during normal working hours with no disruption to users or production systems.

"SnapMirror is the backbone of our disaster recovery plan, and we rely on and trust it to protect our critical customer financial data. It has provided the data protection we need, and we have also been able to leverage its network compression capability to realize benefits across our networks. Using SnapMirror's compression capability we've been able to increase existing bandwidth utilization by 66%, saving an estimated $10,000."

Adam Clifton
Sr. Systems Administrator, North American Banking Company

Business intelligence

Businesses can make greater use of their DR infrastructure investments, improve network responsiveness, and gain a competitive advantage by running complicated data-mining queries on replicated data rather than on the production network. Companies can get the insightful analysis they need in order to make high-value decisions without affecting users or applications on the production network.

Data distribution

SnapMirror can be used to provide updated copies of data wherever and whenever they are needed. The ability to efficiently move data from one location or storage tier to another is already used by many organizations to update remote sites with the latest information such as records, catalogs, software levels, inventories, Web content, or development data.

Faster development and test

New applications are developed for many reasons. It might be to drive new or increased revenue streams; to help customers, partners, or suppliers do business more easily; or perhaps to improve productivity. Whatever the reason, getting to production faster helps the business. When clones of replicated "live" data are used, application development is accelerated, and testing is more complete. Looking at combined budgets for DR and development and test can help IT organizations deploy solutions that better meet the overall needs of the business.

70% REDUCTION IN NETWORK BANDWIDTH UTILIZATION

In addition to extending the use of existing tools for multiple purposes, the tools need to be made as efficient as possible. Improved efficiency delivers better performance, higher service levels, and more flexibility. SnapMirror has always minimized network bandwidth usage through transferring only changed blocks and more recently with source deduplication.

Bandwidth consumption has now been effectively reduced by an additional 70%, accelerating transfers through SnapMirror native network compression. The reduced need for bandwidth means that organizations can more effectively meet the ever increasing demands on networks, reduce the cost of leased lines, or consume more bandwidth at no additional cost.

Offload backup

To minimize the load on production networks and systems, backup to disk or tape can easily be performed on a replicated copy without interruption to applications or users. This form of backup also makes better use of the DR infrastructure.

90% STORAGE EFFICIENCY EXTENDED

Helping move toward the green data center

The native technologies in NetApp Data ONTAP® enable a significant reduction in the amount of storage required and in virtualized environments deliver up to 90% storage efficiency, resulting in lower power and cooling requirements and postponing additional storage purchases. Being green might be fashionable and the right thing to do for the planet, but it also makes hard business sense.

USE CASE	BENEFITS
Disaster recovery with flexible, nondisruptive DR testing	Replicate data to one or more NetApp storage systems to minimize downtime costs in case of a primary site failure. FlexClone® integration allows DR plans to be tested without effect on production.
Business intelligence providing an enhanced competitive advantage	Running extensive analysis might be critical for the business but hard on the performance of production networks. Production networks can be offloaded from intensive data mining by running complex analyses on replicated data.
Data distribution for cost, performance, and efficiency	It might be array migration at the turn of a lease, moving data from Fibre Channel to SATA storage, consolidation of remote offices, or simply setting up a new location; SnapMirror provides a fast, efficient, and flexible method to move data.
Faster development and test through availability of recent production data	Replicated data can be quickly cloned at the DR site and used in dev/test for accelerated application deployment. Colocation of DR and dev/test environments can significantly improve utilization of DR facilities, and on-demand dev/test clones provide as many data copies as needed to get to production faster.

Deduplication

Built-in source deduplication enhances storage efficiency, minimizes bandwidth usage, and helps control data growth. Eliminating redundant data objects and referring to the original reduce the amount of space required, with corresponding benefits in backup and replication.

Thin provisioning

This important technology can be applied in both physical and virtual environments. Applications are virtually allocated storage, but that storage is only consumed when something is written. NetApp Provisioning Manager can automate thin provisioning based on policy.

50% REDUCTION IN MANAGEMENT OVERHEAD

SnapMirror uses Snapshot™ technology, and, like other NetApp solutions, SnapMirror works the same way across different tiers of NetApp storage, network protocols, and replication modes. This means that operations are consistent for simplicity and efficiency in staff training.

Global management and reporting

Policy-based Protection Manager provides administrators with an elegant management console to quickly configure and control consistent data protection operations across the enterprise. SnapMirror administration and management are both powerful and intelligent in their simplicity, providing the ability to easily manage across different array types and protocols with the same set of tools.

SnapManager for Oracle® and SnapManager for Microsoft® SQL Server® deliver reduced storage costs and streamlined management and enable restoration of any size database in minutes.

Intelligent mirror resynchronization

One of the most powerful features of SnapMirror is intelligent resynchronization. Because the system is based on embedded space-saving Snapshot copies, if there is just one consistent Snapshot copy on two volumes that have had their mirror broken, then they can be resynchronized with only the changed data to avoid moving the entire data set.

Improved flexibility

Multiple options for disaster recovery include synchronous, asynchronous, and semisynchronous replication to tune to the required RPO. Additionally, SnapMirror can be set up "many to one" or "one to many" and in a cascade: for example, synchronous replication to a nearby site and asynchronous across country or around the globe.

PROVEN, TESTED, AND INTEGRATED WITH INDUSTRY LEADING PARTNERS

Extend SnapMirror capabilities into VMware, Microsoft, and Citrix virtual environments

The benefits of SnapMirror in a physical server environment are equally applicable in a virtual infrastructure. Integration of NetApp SnapMirror with VMware® Site Recovery Manager delivers rapid, reliable, and affordable automated disaster recovery. Together, these products provide customers with a robust disaster recovery solution that reduces the risk, cost, and complexity associated with traditional disaster recovery approaches. Enhanced application protection makes sure that

when virtual machines fail over to a secondary site, they have immediate access to the replicated data.

Microsoft Hyper-V™, together with NetApp storage, provides an optimum solution for a virtualized data center. In addition to the ability to back up and restore virtual machines instantaneously, SnapMirror provides a cost-effective solution for disaster recovery. Storage can be provisioned as fast as the virtual machines with automated processes that reduce human error in addition to eliminating labor-intensive tasks. Thin provisioning provides high storage utilization to complement the server utilization that pushes organizations to virtualization in the first place.

Organizations using Citrix XenServer for their virtual infrastructure can take advantage of the integration of NetApp technologies to simplify tasks such as provisioning cloned virtual machines, scheduling Snapshot copies, and managing replication, for example. The integration with XenServer applies to both block-level and file-level storage for maximum flexibility.

Make sure of application consistency with DB2, Oracle, SAP, and Microsoft applications

Application Snapshot and replication consistency is critical in database environments; SnapManager® editions for databases and other applications are integrated with the core native technologies in the application to deliver comprehensive data protection. When an application-consistent Snapshot copy is created, the backup image can be mirrored to a remote site using SnapMirror.

Applications developed on these databases can be brought to production much faster through the creation of on-demand clones. These application-consistent clones effectively take up no more storage and have no effect on the application, but allow businesses to speed their time to revenue.

PARTNER FOR ACCELERATION

When you partner with our Professional Services and Global Support teams, you gain access to our extensive storage expertise, innovative technologies, and best practices. You can accelerate the return on your infrastructure investments and get the most business benefit from them. We respond quickly to your problems, no matter where in the world they occur, and, with one of the most flexible support programs in the industry, you always get just the support you need for your unique IT and business requirements.

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