



Introducing Tertiary Data Copies in Native and Heterogeneous NAS Environments

ADDRESSING THE CHALLENGES OF DATA PROTECTION

The data an organization collects and maintains is constantly at risk from corruption as well as accidental, erroneous, or malicious updates and deletions. Maintaining an off-site data copy, typically to a disaster recovery (DR) site, provides a time-tested recovery option in the event of a system failure, data loss, or corruption, or even a total site loss.

According to a global survey of IT decision-makers, 29% of enterprises had suffered data loss in the previous 12 months, costing them an average of \$914,000 per year. Furthermore, only 17% felt that their current data protection solutions would meet all future business challenges.

Unfortunately, replication to a DR facility, while essential as a foundational data protection strategy, is insufficient in completely protecting an organization's unstructured data. The potential for an outage or loss of the DR facility suggests additional replication to a third or even fourth site is essential.

The data copy process used to create additional off-site copies should be simple, fast, cost effective, and, above all, reliable. However, due to the disparity between network-attached storage (NAS) platforms and how end users access their data—without proper tools and methodology—numerous challenges will be encountered. Data replication for NAS is far more complicated than simply copying raw blocks of data. Beyond simply hosting a copy of the actual data, the remote site must also contain a regular mirror of the file system structure, the shares, and exports required for end-user and application access, and all network file system (NFS) and/or Server Message Block (SMB) permissions that control file access.

This whitepaper will examine how DobiReplicate® addresses the issues around creating and managing additional copies of NAS data as part of an organization's more extensive data protection and data availability strategies.

The ability to seamlessly and accurately replicate NAS data between disparate platforms is a key feature that sets DobiReplicate apart from all other NAS replication solutions.

SIMPLIFIED REPLICATION OF NAS DATA ACROSS DISPARATE PLATFORMS

Built on the industry-leading file and object mobility platform, DobiReplicate delivers comprehensive replication functionality down to the individual file level. It provides the ability to quickly and easily perform asynchronous replication of an organization's most critical data and metadata to any NAS platform or file server as well as any object platform via a NAS gateway.

Replicated copies of data are designed to mirror the data on a source system, so that the copied data can be used as a replacement for the source data in day-to-day production. However, as mentioned earlier, accomplishing a production-ready copy in a NAS environment can be a significant challenge, as data structure and access rights are managed at the data storage tier instead of the application server tier.

The ability to seamlessly and accurately replicate NAS data between disparate platforms is a key feature that sets DobiReplicate apart from all other NAS replication solutions. This ability provides complete flexibility when selecting a target for off-site data. As long as the platform supports the NFS and/or SMB protocols, DobiReplicate can safely, accurately, and easily replicate the data.



When considering data storage options, it is important to remember that while the cloud might be a good target for your NAS data, this type of effort requires a protocol translation. For NAS data to be replicated to cloud storage, a translation layer must exist to service the NFS and SMB file protocol requests on the front end, while using an object protocol to store and retrieve data on the back end. Your choice of solution will depend on the use case. If you require a copy of data purely for recovery purposes, Datadobi's file to object copy solution, DobiSync®, a complementary solution to DobiReplicate,

protects data natively to an object platform. If your intention is to host and serve data from the cloud, then a NAS gateway is required, as it will provide a full range of file services.

Whether the need is for failover/failback functionality, improved business continuity, or simply data availability and recovery, DobiReplicate provides the features required to create and manage accurate and usable tertiary copies of NAS data in both native platform and heterogeneous environments.



THE HIDDEN RISKS OF AN IN-FAMILY REPLICATION SOLUTION

To complement local data protection efforts, organizations typically replicate their production footprint to a DR site using an in-family replication solution provided by their NAS vendor. Since they have identical hardware and software at both sites, this offers the quickest and most complete initial off-site recovery option. However, it also introduces risk and lacks flexibility. Why?

In creating a complete copy of the original system at the DR site, in-family solutions must, by their nature, share configuration data with one another. This means that sensitive information, like local IP addresses of the production system, are exposed when transmitting data across a WAN to a remote site. In addition, in-family replication solutions limit target options as they only work with corresponding hardware platforms and corresponding OS versions. While in-family options are the best choice for primary site to DR replication efforts, DobiReplicate eliminates these risks and limitations, proving to be a better option when replicating copies to tertiary sites where the hardware, software, and configuration need not match. This provides maximum flexibility in a vendor-agnostic manner.

USE CASES FOR CREATING AND MANAGING ADDITIONAL COPIES OF NAS DATA

As illustrated, the use cases for a solution like DobiReplicate can vary greatly, depending on the organization's needs in terms of data recovery and data availability. Differing architecture options offer the opportunity for increased security and redundancy.

TERTIARY DATA COPY

The impact of a data loss or the risks associated with having an extended outage have prompted many organizations to keep a tertiary copy of data as a standard requirement for a complete data protection effort. This copy of data serves as both a copy from which restorative efforts can be made and, in many cases, also represents a system that can be brought online to function as a temporary production replacement if needed.



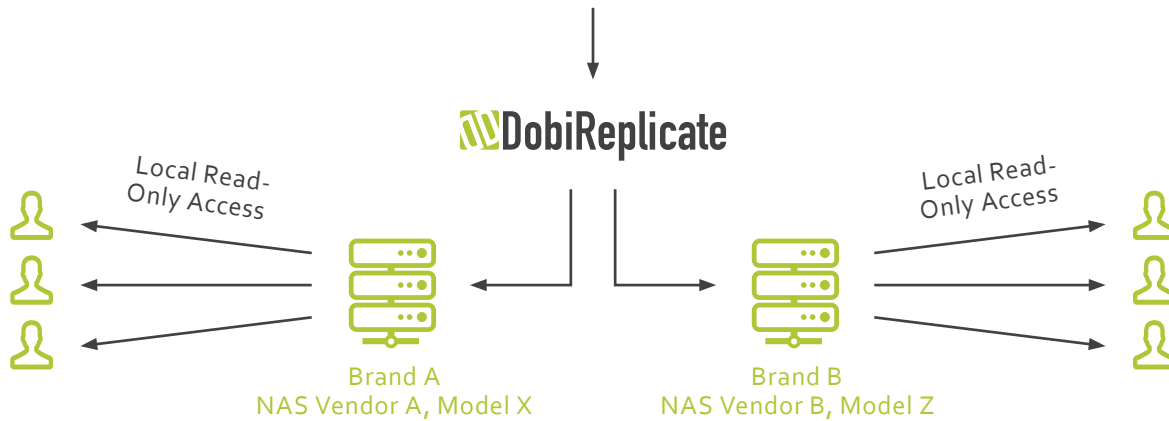
REMOTE OFFICE DATA AVAILABILITY

Maintaining a copy of data at a remote office for local use has two benefits. While it represents an additional copy of data that can be used for future restoration efforts, typically the justification for these copies is the elimination of network traffic



Any NAS

and improved response times when users are working against a local copy. DobiReplicate can keep remote office copies of data updated on a scheduled basis and read-only access can give local users timely access to information.



Primary Data Site

In-family
Replication



DR Data Site

MULTI-HOP AND AIR-GAPPED STRATEGIES

Multi-hop offers the opportunity to extend replication efforts beyond simple point A to B scenarios. The ability to extend beyond a single second or third copy offers additional redundancy options for an organization's most critical data.

The introduction of air gaps can offer increased protection by limiting outside access to only the number of hours each week required to bring a tertiary copy of data up to date.



Tertiary Data Site



Fourth Copy
Company's Most
Critical Data

DobiReplicate



Tertiary Copy



OTHER CONSIDERATIONS

A single replication solution dictates that any issue affecting a single technology source affects all implementations of it. Implementing a separate technology for a tertiary copy offers an alternative that may be immune to the issues affecting the primary replication solution. In addition, over time, the desired target for data may not match the platform where the production data resides, eliminating the possibility of using an “in-family” replication solution, and suggesting a need for a more flexible option.

FAST, ACCURATE, RISK-FREE DATA REPLICATION

Off-site data copy options for NAS storage platforms have historically been limited to vendor-specific, in-family replication and proprietary archiving solutions. A platform-independent option addresses the needs of organizations with heterogeneous requirements and other situations where in-family solutions are not ideal.

In the event of data loss, third, or even fourth off-site copies of data-critical tools are needed to maintain data availability and recoverability. Given the risks to the business, implementing these data protection options is no longer optional.

DobiReplicate provides replication software uniquely designed to offer a level of flexibility that was previously unavailable. This solution takes on the complexity of NAS data copy tasks and provides an end-to-end, automated, heterogeneous, multiprotocol solution. It is specifically architected to make today’s replication efforts quick and cost effective, ensuring safe, accurate, and worry-free outcomes.

FOR MORE INFORMATION

To request a demo of DobiReplicate or to learn more about Datadobi’s range of products and services, visit www.datadobi.com.