

# EMC AVAMAR BACKUP AND RECOVERY FOR NAS SYSTEMS

Industry leading deduplicated backup solution

## ESSENTIALS

- Provides fast, daily full backups with integrated deduplication
- Simple one-step recovery
- Eliminates lengthy, weekly full backups (level-0)
- Reduces burden on networks and NAS systems
- Increases NAS utilization rates
- Enables secure WAN replication via existing links
- Reduces tape and disk costs
- Provides centralized NAS backup management
- Integrates with EMC Data Domain systems
- Offers a scalable solution for NAS; also for virtual environments, remote offices, desktops/laptops, and business-critical applications

## FAST, RELIABLE PROTECTION FOR NAS

The EMC® Avamar® solution for network-attached storage (NAS) provides fast, daily full backups with integrated deduplication to significantly reduce backup time and the amount of data sent across networks and stored to disk. Avamar delivers innovative, enterprise-class backup, recovery, and disaster recovery in a cost-effective platform.

## PROTECTING NAS - TODAY'S REALITY

Businesses of all sizes rely on NAS systems to share and store valuable information. However, ongoing storage consolidation and exponential data growth make it difficult to meet short backup windows. Traditional NAS backup solutions with weekly full and incremental daily backups, the use of tape, and multi-step recovery are simply unable to keep up. This can lead to data loss, declining user productivity, constrained NAS performance, and overburdened IT staff.

Traditional NAS weekly full backups (level-0) often extend beyond the available backup window. And, in some cases, daily incremental (level-1) backups may take as long as level-0 full backups—especially if only a portion of a large file has changed (because the whole file must be moved). NAS consolidation and usage are often limited by the backup window, not storage capacity.

The use of tape is also challenging due to unreliable media and hardware, delays in offsite shipments, and the risk of losing unencrypted, sensitive data. The cost of NDMP backup software licenses for NAS backups can also be significant. Similarly, the common practice of storing snapshots and primary data on the same NAS system can lead to data loss. And while WAN replication is desired, large amounts of data and limited network bandwidth can make it nearly impossible.

Also, traditional NAS recovery is a tedious multi-step process, requiring the last good level-0 full backup and subsequent incrementals to reach the desired recovery point.



### Before Avamar

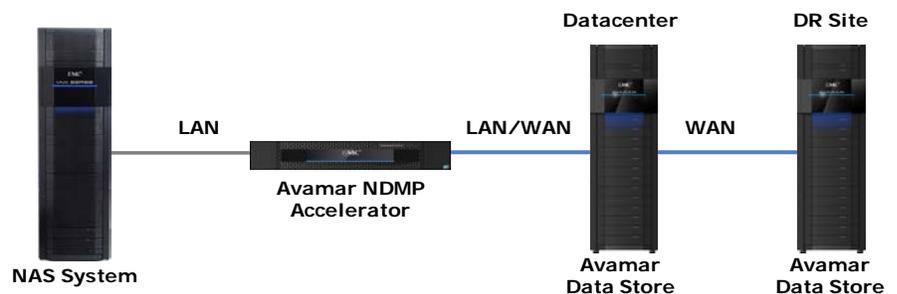
- Weekly full backups (level-0) extend beyond available windows
- Tedious, multi-step recovery

## EMC AVAMAR SOLUTION

Avamar delivers an industry-leading, innovative solution for NAS backup, recovery, and disaster recovery. Unlike traditional methods, Avamar's integrated deduplication reduces the size of backup data before it is transferred across the network and stored to disk. As a result, Avamar provides fast, daily full backups via existing network links—without the need for a dedicated, high-speed NDMP backup network. Avamar supports EMC Isilon, VNX, VNXe, Celerra, and NetApp NAS systems.

Avamar also deduplicates backup data across sites and servers to reduce total disk storage by up to 50x, enabling cost-effective long-term retention on Avamar Data Store servers and EMC Data Domain systems for specific applications.

With an Avamar NDMP Accelerator node, a level-0 backup is performed only once, during the initial full backup. Subsequent daily full backups are achieved by requesting only level-1 incremental dumps, enabling Avamar to dramatically reduce backup times and the impact on NAS resources and networks. Avamar eliminates backup bottlenecks and provides the freedom to consolidate storage and optimize NAS systems—without the hassle of limiting the number and size of files or volumes due to backup limits.



**“With Avamar, we get daily full backups in less than an hour across our existing network links...restore quality and speed also improved.”**

Bill Meek, Senior VP and Information Systems Manager, Broadway Bank

## SCALABILITY AND RELIABILITY

Unlike most solutions, Avamar uses a scalable grid architecture that provides linear performance and on-demand capacity increases by simply adding storage nodes. Each incremental node increases CPU, memory, I/O, and disk capacity for the entire environment. Existing backup data is automatically load-balanced across the newly added storage node while online.

Avamar uses a patented redundant array of independent nodes (RAIN) architecture that provides high availability across Avamar servers. In addition, Avamar system integrity is verified twice daily via internal system checkpoints. Avamar also verifies the recoverability of all backup data daily and backups can be efficiently replicated offsite to another Avamar server via existing WAN links. As a result, Avamar eliminates the risk of data loss caused by storing snapshots and primary data on the same NAS system or disk arrays, which often have no—or limited—high availability.

## EASY TO USE, EASY TO RECOVER

Avamar's centralized web-based management and at-a-glance dashboard views make it easy to protect hundreds of offices worldwide from a single location over existing network links. And with one-step recovery, Avamar eliminates the hassle of restoring full and subsequent incremental backups to reach the desired recovery point. Also, backup data can be encrypted in-flight and at rest for security.

### AFTER AVAMAR

Daily Full						
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- o Fast, daily full backups via existing networks and infrastructure
- o Eliminates recurring, time-consuming level-0 dumps
- o Simple, one-step recovery

Avamar enables even greater levels of NAS consolidation and facilitates larger NAS volumes without the risk of leaving data unprotected. And, there is no charge for NDMP licenses. With Avamar, IT managers can reduce the amount of time and resources spent on NAS backup, while reducing their total cost of ownership.

Developed to solve the challenges associated with traditional backup, Avamar backup software and systems with integrated data deduplication technology provide fast, daily full backups for the entire enterprise, including NAS, virtual environments, remote offices, desktops/laptops, and business-critical applications.

## CONTACT US

To learn more about how EMC products, services, and solutions can help solve your business and IT challenges, contact your local representative or authorized reseller—or visit us at [www.EMC.com](http://www.EMC.com).

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