EMC DATA DOMAIN BOOST FOR AVAMAR

Increase backup performance with advanced Avamar integration

ESSENTIALS

Faster Backups and Greater Resource Utilization

- Direct backup to Data Domain systems dramatically increases throughput
- Up to 14.7 TB/hr aggregate throughput performance
- Reduced network bandwidth utilization—up to 99 percent bandwidth reduction

Single Point of Management

- Configuration wizards, reporting, monitoring, and alerting
- Supports Data Domain Appliance Series and Data Domain Archiver

Avamar Managed Replication

- 99 percent bandwidth efficiency
- Cost-efficient disaster recovery
- Multisite tape and disk consolidation
- Enables faster 'time-to-DR' readiness
- Encrypted replication

Ultra-Safe Storage for Reliable Recovery

- Data Domain Data Invulnerability Architecture
- Continuous fault detection and self healing

NEXT-GENERATION DATA PROTECTION

Today's data protection solutions need to protect diverse enterprise environments with various data types and workloads including enterprise applications, file systems, VMware® environments, remote offices, desktops, and laptops.

EMC® Avamar® enables fast, efficient backup and recovery for these workloads by reducing the size of backup data at the client before it is transferred across the network and stored. Unlike traditional backup, Avamar delivers daily full backups in a fraction of the time. Avamar deduplicates backup data globally across your virtual and physical servers, desktops, laptops, and remote offices worldwide to reduce the total required storage by up to 95 percent. As a result, Avamar provides the benefits of efficient retention of backup data on disk while dramatically lowering capital and operating expenses, including floor space, power, and cooling.

Similarly, EMC Data Domain® deduplication storage systems deduplicate data inline—during the backup process—so that the backup data lands on disk already deduplicated, requiring a fraction of the disk space of the original dataset. Data Domain systems easily integrate with existing backup applications including Avamar. Avamar integrates with Data Domain via EMC Data Domain Boost (DD Boost) software to allow users to enjoy the Data Domain systems' scale and performance as well as the network efficiencies enabled by Avamar.

DD Boost for Avamar extends the optimization capabilities of EMC backup and recovery solutions to accelerate performance, enhance replication control, and simplify administration.

FASTER BACKUPS, GREATER RESOURCE UTILIZATION, AND REDUCED BANDWIDTH DEMAND

DD Boost significantly increases performance by distributing parts of the deduplication process to the Avamar client, which simplifies replication management and serves as a solid foundation for additional integration between Avamar and Data Domain systems.

Prior to DD Boost, Avamar clients could only send data to an Avamar Data Store or Avamar Virtual Edition. With the DD Boost Library integrated in Avamar clients, the Avamar client can send unique data segments directly to the Data Domain system. DD Boost enables Avamar clients to send specific data types that are better suited to high-speed inline deduplication to Data Domain systems. These data types include: Microsoft® SQL Server®, SharePoint®, Exchange, Oracle, and VMware image data. All other data types are still sent to the Avamar Data Store. This enables users to deploy specific approaches to deduplication for different data types and manage the entire infrastructure from a single interface. This "best of both worlds" approach to deduplication consolidates management and dramatically reduces backup windows and network traffic as well as backup storage required.

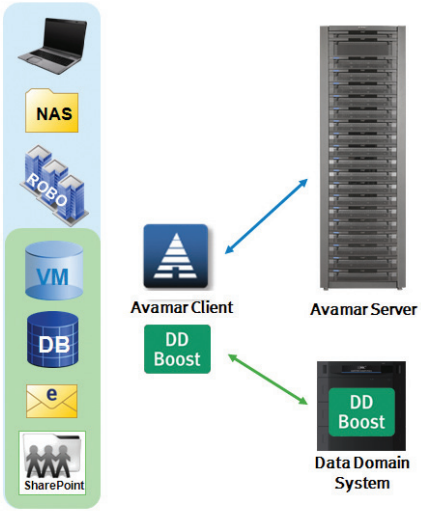

Figure 1: EMC Data Domain Boost for Avamar

SINGLE POINT OF MANAGEMENT

Adding Data Domain systems into an Avamar environment is as simple as selecting the target device from the Avamar management console. Once selected, Avamar makes it easy to administer and monitor the Data Domain system by providing useful reports such as deduplication ratios for backup data and exposing SNMP events and usage statistics specific to Data Domain systems. DD Boost for Avamar delivers higher levels of performance, management, and ease of use than ever before, helping to accelerate next-generation backup.

AVAMAR MANAGED REPLICATION

Data Domain systems provide network-efficient, automated, encrypted replication for disaster recovery (DR). DD Boost integration allows Avamar to manage EMC Data Domain Replicator software. Avamar can seamlessly manage replication directly from the Avamar Administrator GUI. It is a simple process to schedule Data Domain replication operations as well as to keep track of backups and retention policies for both the data center and the DR site. Remote backups are immediately visible to the Avamar client and available for recovery.

If confidentiality is required, deduplicated and compressed data can be encrypted in-flight when being replicated between Data Domain systems, independent of the replication topology used.

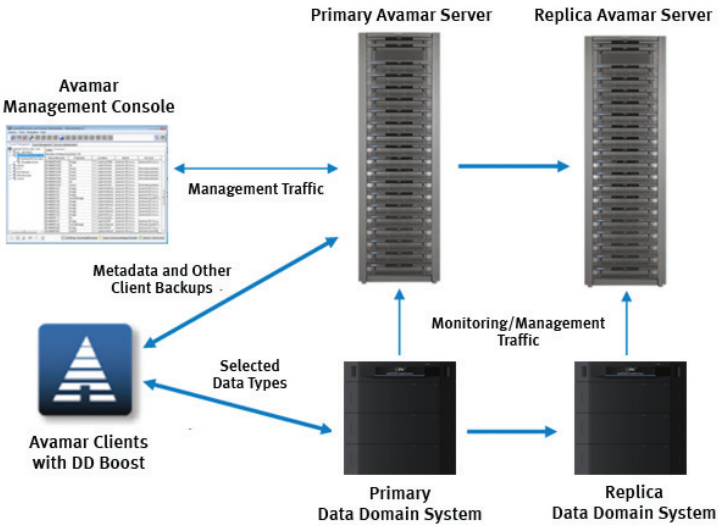

Figure 2: Avamar manages Data Domain systems

ULTRA-SAFE STORAGE FOR RELIABLE RECOVERY

All data stored on Data Domain systems is protected by the EMC Data Domain Data Invulnerability Architecture, which includes continuous verification, continuous fault detection and healing, and other resiliency features—all transparent to the backup application. DD Boost for Avamar extends this protection to the Avamar clients by generating checksums on the data before it is stored on Data Domain system. The checksums are transferred along with the data. The Data Domain system receiving the data computes new checksums on the incoming data and then compares them to the computed values from DD Boost for Avamar for verification purposes. This ensures end-to-end verification of data.

In addition, for data stored on the Avamar Data Store, Avamar's redundant array of independent nodes (RAIN) architecture and daily system integrity checks provide system protection against node failure for high reliability and accessibility. Together, these capabilities ensure data is recoverable throughout its lifecycle.

Features	Benefits
Direct backup from Avamar clients to Data Domain systems	Significant reduction in backup time Up to 14.7 TB/hr aggregate throughput performance Improved network bandwidth utilization Enables faster “time-to-DR” readiness
Scalable deduplication storage	Extended retention providing up to 14.2 PB of logical storage 10-30x data reduction
Seamless integration	Wizard-based discovery and configuration Centralized management and operational simplicity
Avamar-managed replication	Facilitates Data Domain replication 99 percent bandwidth reduction Cost-effective disaster recovery Encryption of replication session between Data Domain systems
Advanced load balancing and link failover	Scalable link aggregation at the application layer Seamless load balancing of jobs among available ports Link failover keeps backups operational in case of temporary network glitches or failures Interoperability with standard Ethernet switch configurations
Data Invulnerability Architecture	Ultra-safe storage for reliable recovery End-to-end data integrity

SPECIFICATIONS

SOFTWARE

EMC Avamar 6.0 or later

EMC Data Domain Boost 2.3

EMC Data Domain Operating System 4.9 or later

EMC Data Domain Replicator

HARDWARE

EMC Data Domain Appliance Series

EMC Data Domain Archiver

APPLICATION PLUG-INS

Avamar Backup Plug-in for Microsoft Exchange VSS

Avamar Backup Plug-in for Microsoft SharePoint VSS

Avamar Backup Plug-in for Microsoft SQL Server

Avamar Backup Plug-in for Oracle

Avamar Backup for VMware

NETWORK CONNECTIVITY

IP connectivity between Avamar agents and Data Domain systems

CONTACT US

To learn more about how EMC products, services, and solutions help solve business and IT challenges, contact your local representative or authorized reseller—or visit us at www.EMC.com.

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