

# EMC DATA DOMAIN BOOST FOR NETWORKER

## Increase backup performance with advanced NetWorker integration

### ESSENTIALS

#### Faster Backups and Greater Resource Utilization

- Distributed deduplication process dramatically increases throughput
- Up to 26.3 TB/hr aggregate throughput performance
- Efficient CPU utilization on NetWorker storage nodes and application servers
- Improved network bandwidth utilization—up to 99 percent bandwidth reduction

#### NetWorker Managed Replication

- Clone-controlled replication with support for separate retention policies
- Complete catalog awareness of all replicated copies
- Scheduled cloning for tape
- Enables faster 'time-to-DR' readiness
- Encrypted replication

#### Seamless Integration with NetWorker

- Single point of management—configuration wizards, reporting monitoring and alerting
- Support for Data Domain Appliance Series, Data Domain Global Deduplication Array, and Data Domain Archiver

### NEXT-GENERATION DATA PROTECTION

EMC® NetWorker® provides unified data protection for both traditional and next generation backup. Today's data protection solutions need to operate across a very diverse landscape, managing multiple tiers of data protection from tape, to disk, to snapshots and replication, across a variety of applications within both physical and virtual environments, providing comprehensive scheduling and policies for both operational and disaster recovery (DR) scenarios.

To drive complexity and cost out of this expanding data protection environment, a common management console is needed. NetWorker has emerged as a powerful application that provides this centralized command and control, or single management interface, necessary to facilitate greater simplification and seamless management to meet today's new requirements.

NetWorker controls this centralized, broad protection, bridging the gap between traditional backup and deduplication backup, and allows new technologies to be introduced non-disruptively into complex environments. NetWorker's versatility makes it the ideal backup software for a range of environments, from large data centers to remote offices.

EMC Data Domain® deduplication storage systems integrate easily with existing infrastructures and can be used seamlessly with a variety of data movers and application workloads.

Data Domain systems enable users to enjoy the retention and recovery benefits of inline deduplication as well as the offsite disaster recovery protection of network-efficient replication over the wide area network (WAN).

The combination of Data Domain systems and NetWorker software is even more powerful with EMC Data Domain Boost software, which accelerates performance, enhances replication control, and simplifies administration.

### FASTER BACKUPS, GREATER RESOURCE UTILIZATION, AND REDUCED BANDWIDTH DEMAND

Data Domain Boost significantly increases performance by distributing parts of the deduplication process to NetWorker storage nodes or applications hosts, and serves as a solid foundation for additional integration between NetWorker and Data Domain systems.

Prior to DD Boost, NetWorker would send all data, unique or redundant, to a Data Domain system for deduplication processing. With the DD Boost Library (see Figure 1 below) installed, a NetWorker storage node or application host server sends only unique data segments to the requisite Data Domain system.

By sending only unique data to the Data Domain system, DD Boost decreases the backup load on storage nodes and application servers since sending data is significantly more CPU intensive than the distributed deduplication process. In addition to performance improvements, this also reduces data transferred over the LAN.

This optimized efficiency enables substantially more backups from a single NetWorker storage node, reduces impact of backup processes on storage nodes and application servers, and helps reduce the total cost of ownership by leveraging existing Ethernet networks and server hardware.

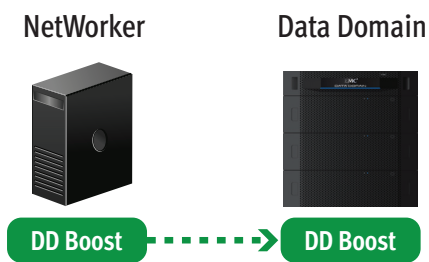


Figure 1: EMC Data Domain Boost for NetWorker

## CENTRALIZED REPLICATION MANAGEMENT

Data Domain systems provide network-efficient, automated, encrypted replication for DR, and remote office data protection. DD Boost integration allows NetWorker to manage EMC Data Domain Replicator software. NetWorker can seamlessly manage replication directly from the NetWorker Management Console, using NetWorker clone-controlled replication capabilities. It is a simple process to schedule Data Domain Replicator operations and keep track of savesets and retention policies for both local and remote sites. Remote savesets are immediately visible to the local NetWorker server 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.

## Data Domain Software for EMC NetWorker

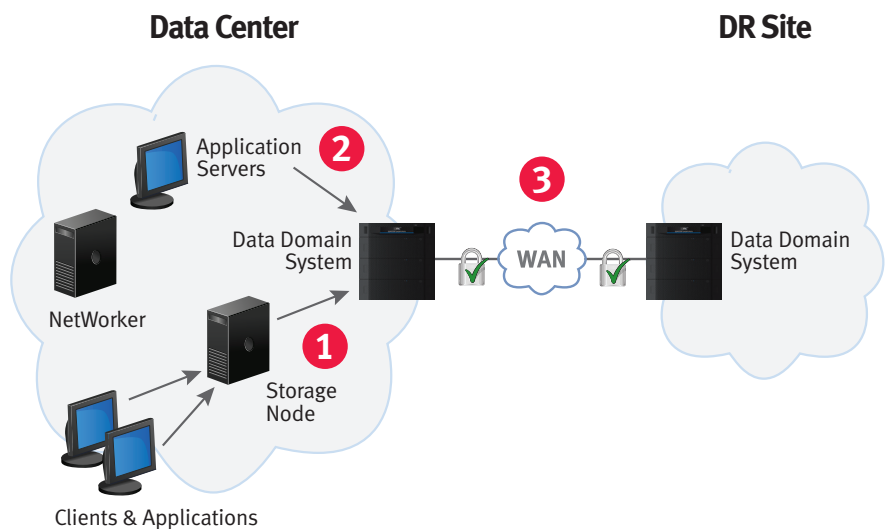


Figure 2: NetWorker Manages Data Domain Replicator Software

1. Optimized storage node speeds client backup and maximizes Data Domain system ingest
2. DD Boost-enabled application server clients send deduplicated data directly to the Data Domain system
3. Clone-controlled replication creates a DR copy across low bandwidth WAN

## SINGLE POINT OF MANAGEMENT

Adding Data Domain systems into a NetWorker environment has been simplified through the adoption of easy to use device configuration wizards that step you through the setup process. Once installed, NetWorker makes it easy to administer the Data Domain system by providing useful reports such as deduplication ratios for backup clients and savesets, and exposing SNMP events and usage statistics specific to Data Domain systems.

Data Domain deduplication storage systems integrate seamlessly into existing NetWorker backup environments with the flexibility to be implemented into NAS (IP network) and SAN (VTL)\* infrastructures, as well as with various backup policies and workloads.

DD Boost for NetWorker delivers higher levels of performance, management, and ease of use than ever before, helping to accelerate next-generation backup to improve reliability, lower costs, and ensure you stay ahead of your data protection needs.

## ULTRA-SAFE STORAGE FOR RELIABLE RECOVERY

Systems with DD Boost for NetWorker benefit from the EMC Data Domain Data Invulnerability Architecture: continuous verification, continuous fault detection and healing, and other resiliency features—all transparent to NetWorker.

DD Boost for NetWorker extends this protection to NetWorker by generating checksums on the data that it sends to the Data Domain system. The checksums are then 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 NetWorker for verification purposes. This ensures end-to-end verification of data.

Features	Benefits
<b>Distributed segment processing</b>	<ul style="list-style-type: none"> <li>Significant reduction in backup time</li> <li>Up to 26.3 TB/hr aggregate throughput performance</li> <li>Improved network bandwidth utilization</li> <li>Efficient CPU utilization on storage nodes and application hosts</li> <li>Less time required to restart failed backup jobs</li> <li>Enables faster “time-to-DR” readiness</li> </ul>
<b>Scalable deduplication storage</b>	<ul style="list-style-type: none"> <li>Extended retention providing up to 28.5 PB of logical storage</li> <li>10-30x data reduction on average</li> </ul>
<b>Seamless integration</b>	<ul style="list-style-type: none"> <li>Wizard-based discovery and configuration</li> <li>Centralized management and operational simplicity</li> </ul>
<b>NetWorker-managed replication</b>	<ul style="list-style-type: none"> <li>Facilitates hierarchical clone-controlled replication and tape consolidation</li> <li>99 percent bandwidth reduction</li> <li>Cost-effective disaster recovery</li> <li>Encrypted replication between Data Domain systems</li> </ul>
<b>Advanced load balancing and link failover</b>	<ul style="list-style-type: none"> <li>Scalable link aggregation at the application layer</li> <li>Simplified configuration</li> <li>Optimize throughput of multiple links</li> <li>Link failover keeps backups operational in case of temporary network glitches and failures</li> </ul>
<b>Data Invulnerability Architecture</b>	<ul style="list-style-type: none"> <li>Ultra-safe storage for reliable recovery</li> <li>End-to-end data integrity</li> </ul>

## SPECIFICATIONS

### EMC SOFTWARE

Data Domain Operating System 5.0 or later  
 Data Domain Replicator  
 NetWorker 7.6 SP1 or later  
 NetWorker Module for Microsoft 2.3 or later  
 NetWorker Module for Databases and Applications 1.2 or later  
 NetWorker Module for SAP 4.2 or later

### EMC HARDWARE

Data Domain Appliance Series  
 Data Domain Global Deduplication Array  
 Data Domain Archiver

### STORAGE NODE PLATFORMS

Oracle Solaris 9/10 (SPARC)  
 IBM AIX 5.3, 6.1 (POWER)  
 Red Hat Enterprise Linux 4/5 (x86, x86\_64)  
 SuSE Linux Enterprise Server 9, 10, 11 (x86, x86\_64)  
 Windows Server 2003 (x86, x86\_64)  
 Windows Server 2008 (x86, x86\_64)  
 Windows Server 2008 R2 (x86\_64)

### APPLICATIONS

Microsoft Exchange  
 Microsoft SharePoint  
 Microsoft SQL  
 DB2  
 Informix  
 Lotus  
 Oracle  
 SAP  
 Sybase

## CONTACT US

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