EMC DATA DOMAIN DD160

Deduplication storage for small enterprise data centers and remote offices

NEXT-GENERATION BACKUP, RECOVERY, AND ARCHIVING

EMC® Data Domain® deduplication storage systems continue to revolutionize disk backup, archiving, and disaster recovery with high-speed, inline deduplication. By consolidating backup and archive data on a Data Domain system, storage requirements can be reduced in size by 10 to 30 times, making disk cost-effective for onsite retention, and highly efficient for network-based replication to disaster recovery sites.

SCALABLE DEDUPLICATION STORAGE

All Data Domain systems derive their performance advantages from the EMC Data Domain Stream-Informed Segment Layout (SISL™) scaling architecture. This CPU-centric approach minimizes the number of disk spindles required to achieve the throughput performance needed for critical single-stream operations. Data Domain systems save significant physical storage capacity by substituting small references for each identical redundant sequence, enabling cost-efficient retention on disk for fast, reliable recoveries.

EASY INTEGRATION

The Data Domain DD160 is qualified with leading enterprise backup software and archiving applications and easily integrates into existing storage infrastructure without change for small enterprise data centers and remote offices. All Data Domain systems support simultaneous data access methods. Connect the DD160 to your backup server through NFS and CIFS file service protocols over Ethernet, or by using virtual tape library (VTL) emulation over Fibre Channel. These systems are also supported as a disk-based target using application-specific interfaces such as EMC Data Domain Boost. DD Boost enables advanced integration for environments with EMC Avamar®, EMC NetWorker®, EMC Greenplum®, Oracle RMAN, Quest vRanger, and Symantec OpenStorage. Users can leverage the same DD160 system for both backup and archive workloads. This improves efficiency across backup and archive applications as well as reduces management overhead by combining storage from multiple applications onto a single, easy-to-manage system.

REMOTE OFFICE BACKUP AND RECOVERY

IT resources for backup and recovery are typically centralized in the data center. As a result, backup strategies and execution are often neglected at remote sites even though information at these sites may be as important as information found in the primary data center. The DD160 provides a simple backup and recovery solution for remote offices, providing cost-efficient retention on disk for fast, reliable recoveries. Network-efficient replication of remote office data to a primary data center is simplified with the inclusion of EMC Data Domain Replicator software. Tape backups at remote offices can be eliminated, reducing costs and management while accelerating the return on investment.

EMC²®

ULTRA-SAFE STORAGE FOR RELIABLE RECOVERY

The EMC Data Domain Data Invulnerability Architecture provides the industry's best defense against data integrity issues. Inline write and read verification protects against, and automatically recovers from, data integrity issues during data ingest and retrieval. Capturing and correcting I/O errors inline during the backup process eliminates the need to repeat backup jobs, ensuring backups complete on time and satisfy service-level agreements. Unlike other enterprise arrays or file systems, continuous fault detection and self-healing features protect data throughout its lifecycle on all Data Domain systems.
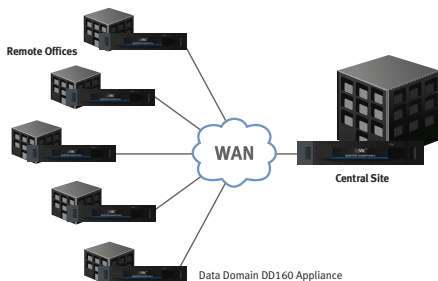
MULTISITE DISASTER RECOVERY

Replication capabilities are included as part of the core feature set of the DD160. With DD Replicator software, you can send remote office data offsite over existing networks, for centralized management or for disaster recovery. Multiple, geographically distributed offices can simultaneously send selected backup and archive data to a central location enabling a flexible, enterprise-wide site recovery and retention model. Cross-site deduplication further improves network efficiency by eliminating the need to transfer common data already received. 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.

OPERATIONAL SIMPLICITY

Data Domain systems are simple to install and manage, resulting in lower administrative and operational costs. All Data Domain systems have an automatic call-home system reporting capability, called autosupport, which provides email notification on complete system status. This non-intrusive alerting and data collection capability enables proactive support and service without administrator intervention, further simplifying ongoing management.

ENCRYPTION AND SECURE DATA RETENTION FOR BUSINESS-CRITICAL DATA

The proliferation of publicized data loss, coupled with new governance and compliance regulations, is driving the need for customers to encrypt their data-at-rest. The EMC Data Domain Encryption software option provides organizations with enhanced security for data that resides on their Data Domain systems using industry-standard RSA® BSAFE FIPS 140-2 validated cryptographic libraries. Centralized encryption key lifecycle management is optionally available with the RSA Data Protection Manager to deliver a robust, encryption key lifecycle management solution for the entire enterprise.

As aged data is archived, IT organizations can use the EMC Data Domain Retention Lock software option to meet the secure data retention and immutability requirements for their archive data. DD Retention Lock Governance edition helps administrators meet corporate governance policies for data retention by allowing adjustment of retention parameters to support changing business policies. For the most demanding restrictions from regulatory standards for data integrity and retention, DD Retention Lock Compliance edition provides SEC17a-4f compliance and ensures that all file and email archive data in a locked state cannot be deleted or overwritten under any circumstances.

Remote Offices

WAN

Central Site

Data Domain DD160 Appliance

The DD160 comes equipped with EMC Data Domain Replicator software, which provides network-efficient replication so remote office data can be sent offsite over existing networks for centralized management or for disaster recovery. Tape backups can be eliminated at remote offices, reducing costs and simplifying data protection.

SPECIFICATIONS

Data Domain DD160 Appliance	
Logical Capacity, Standard[1, 2]	40 TB
Logical Capacity, Redundant[1, 3]	195 TB
Max. Throughput (DD Boost)[4]	1.1 TB/hr
Max. Throughput[5]	667 GB/hr
Power Dissipation	339 W
Cooling Requirement	1157 BTU/hr

1. All capacity values are calculated using Base 10 (i.e., 1 TB = 1,000,000,000,000 bytes).

2. Mix of typical enterprise backup data (file systems, databases, email, developer files). The low end of capacity range represents a full backup weekly or monthly, incremental backup daily or weekly, to system capacity. The top end of the range represents full backup daily, to system capacity.

3. Mix of typical enterprise data (file systems, databases, email, developer files), full backup daily, to system capacity.

4. Maximum throughput achieved using DD Boost and 1 Gb Ethernet.

5. Maximum throughput achieved using NFS and 1 Gb Ethernet.

SOFTWARE

EMC Data Domain Operating System (DD OS) 5.2 or later

Software Features

Global Compression™, Data Invulnerability Architecture including inline verification and RAID 6, snapshots, telnet, FTP, SSH, email alerts, scheduled capacity reclamation, Ethernet failover and aggregation, Link Aggregation Control Protocol (LACP), VLAN tagging, IP aliasing, and EMC Data Domain Replicator included; EMC Data Domain Boost, EMC Data Domain Virtual Tape Library (for open systems and IBM i operating environments), EMC Data Domain Encryption, and EMC Data Domain Retention Lock optional software

System Management

EMC Data Domain Enterprise Manager, SNMP, and command line interface

Data Access

NFS v3 over TCP, CIFS, DD Boost, NDMP Tape Server, tape library emulation (VTL) over Fibre Channel, and NDMP Tape Server

REGULATORY APPROVALS

Safety: UL 60950-1, CSA 60950-1, EN 60950-1, IEC 60950-1, GS, SABS, GOST, IRAM
Emissions: FCC Class A, EN 55022, CISPR 22, VCCI, BSMI, MIC, and ICES-003
Immunity: EN 55024, CISPR 24
Power Line Harmonics: EN 61000-3-2

HARDWARE PLATFORM

2U 19-inch, rack mountable, use in 4-post rack, hotplug disks, redundant fans, redundant power supplies, serial port, 2 copper 10/100/1000 Ethernet ports, optional dual-port copper or optical 1 Gb Ethernet and quad-port copper 1 Gb Ethernet, optional dual-port 4 Gb Fibre Channel HBA

System Weight

7 drives 49 lbs (22.1 kg); 12 drives: 57 lbs (25.8 kg)

System Dimensions (W x D x H)

19" x 22" x 3.5" (48.3 cm x 55.9 cm x 8.9 cm)
2 EIA units

Minimum Clearance

Front, with bezel closed: 1.56" (4.0 cm)
Rear: 5" (12.7 cm)

Power

(VA) 100-120/200-240 V~, 50/60 Hz; 7 drives: 330 VA; 12 drives: 373 VA

System Thermal Rating

7 drives: 1061 BTU/hr; 12 drives: 1157 BTU/hr

Operating Temperature

10°C to 35°C (50°F to 95°F). 35°C at 7500 feet, derate 1.1°C/1000 feet above 7500 feet to 10,000 feet

Operating Humidity

20% to 80%, non-condensing

Non-Operating (Transportation) Temperature

-40°C to +65°C (-40°F to +149°F)

Operating Acoustic Noise

Max 7.9 BA sound power at 25° C when all drives seek simultaneously

EMC²®