EMC DATA DOMAIN DD800 SERIES

Deduplication storage for backup and archive at enterprise data centers

ESSENTIALS

Scalable Deduplication Storage

- Fast, inline deduplication with up to 14.7 TB/hour of throughput

- Provides up to 28.5 PB logical storage for long-term backup retention

- 10 to 30 times average reduction in backup storage required

Easy Integration

- Supports leading backup and archive applications

- Supports leading enterprise applications for database, email, content management, and virtual environments

- Simultaneous use of EMC Data Domain Boost, VTL, CIFS, NFS, and NDMP

Multisite Disaster Recovery

- 99 percent bandwidth efficiency for network-based replication

- Flexible replication topologies for tape-free DR or tape consolidation

- Replication from up to 180 remote sites

- Encrypted replication

Ultra-safe Storage for Reliable Recovery

- Inline write/read verification, continuous fault detection and healing

- Dual disk parity RAID 6

Operational Simplicity

- Power, cooling, and space efficiencies for green operation

- Deploy both backup and archive applications on a single system

Encryption and Secure Data Retention

- Inline encryption for data-at-rest

- Meets IT governance and regulatory compliance standards for archive data

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

A single EMC Data Domain DD890 system achieves single-stream throughput of up to 1.44 TB/hour—performance that is imperative for protecting large, business critical databases in the data center. The DD890 provides aggregate throughput of up to 14.7 TB/hour using multiple backup policies.

Data Domain systems store each unique data sequence once and save significant physical storage capacity by substituting small references for each identical redundant sequence. The DD800 series offers an average of 10 to 30 times backup storage reduction, enabling cost-efficient retention on disk for high-speed recoveries. Using the EMC Data Domain Extended Retention software option, customers can leverage the DD860 for long-term retention of backups on disk and minimize reliance on tape infrastructure. Using DD Extended Retention software with the DD860 provides up to 28.5 PB of logical capacity for long-term backup retention.

EASY INTEGRATION

The Data Domain DD800 series is qualified with leading enterprise backup and archiving applications and easily integrates into your existing storage infrastructure, requiring no changes to data center infrastructure or distributed office backup and archiving policies. These systems support simultaneous data access methods through NFS and CIFS file service protocols over Ethernet, or 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 DD800 series system for both backup and archive workloads. This improves the efficiency across backup and archive applications and data types, as well as reduces management overhead by combining multiple applications' storage on a single system.

MULTISITE DISASTER RECOVERY

EMC Data Domain Replicator software enables network-efficient and encrypted replication to a remote site for disaster recovery, remote office data protection, or multisite tape consolidation. The DD890 supports replication fan-in from Data Domain systems installed at up to 180 remote offices. Cross-site deduplication minimizes the required bandwidth

between all sites, since only the first instance of data is transferred across any of the WAN segments. Datasets are effectively shrunk by 99 percent, to a size where network-efficient replication is fast and reliable. 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.

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.

OPERATIONAL SIMPLICITY

EMC Data Domain systems are simple to install and manage. To get started, simply connect an appliance to the backup server as either a file server via Ethernet or as a virtual tape library (VTL) via Fibre Channel. EMC Data Domain Boost is also supported; all three interfaces can be used simultaneously.

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 and old 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.
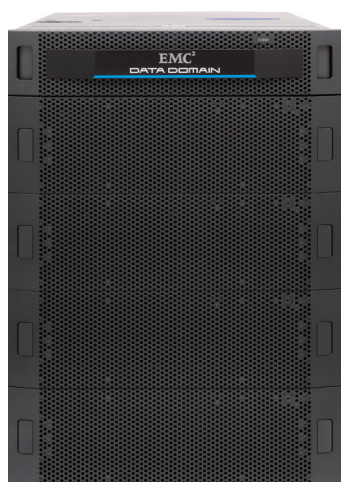
SPECIFICATIONS

DD800 Series Specifications	DD860	DD890
Logical Capacity, Standard [1, 3]	1.4 PB – 5.7 PB[9]	2.9 PB
Logical Capacity, Redundant [2, 3]	7.1 PB – 28.5 PB[9]	14.2 PB
Maximum Throughput (Other)	5.1 TB/hr[5]	8.1 TB/hr[8]
Maximum Throughput (DD Boost) [6]	9.8 TB/hr	14.7 TB/hr
Power Dissipation [7]	608 W	551 W
Cooling Requirements [7]	2,075 BTU/hr	1,881 BTU/hr

1. Mix of typical enterprise backup data (file systems, databases, email, developer files), full backup weekly, incremental backup daily, to system capacity.
2. Mix of typical enterprise data (file systems, databases, email, developer files), full backup daily, to system capacity.
3. All capacity values are calculated using Base 10 (i.e., 1 TB = 1,000,000,000,000 bytes).
4. Includes support for add-on shelves.
5. Maximum throughput achieved using OST and 10 Gb Ethernet.
6. Maximum throughput achieved using DD Boost and 10 Gb Ethernet.
7. Controller only.
8. Maximum throughput achieved using VTL interface and 8 Gbps Fibre Channel.
9. Requires DD Extended Retention software option.

SOFTWARE

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

SOFTWARE FEATURES

Global Compression™, Data Invulnerability Architecture including inline verification and integrated dual disk parity RAID 6, snapshots, telnet, FTP, SSH, email alerts, scheduled capacity reclamation, Ethernet failover and aggregation, Link Aggregation Control Protocol (LACP), VLAN tagging, IP aliasing: EMC Data Domain Boost, EMC Data Domain Virtual Tape Library (for open systems and IBM i operating environments), EMC Data Domain Encryption, EMC Data Domain Replicator, EMC Data Domain Retention Lock, and EMC Data Domain Extended Retention software option for DD860

SYSTEM MANAGEMENT

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

DATA ACCESS

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

SYSTEM EXPANSION

DD890

- Up to twelve expansion shelves with 2 TB drives
- Up to sixteen expansion shelves with 1 TB drives
- Support for a mix of expansion shelves with 2 TB drives or 1 TB drives up to maximum external storage capacity
- Support for a mix of ES30 and ES20 shelves up to maximum external storage capacity

DD860

- Up to six expansion shelves with 2 TB drives
- Up to twelve expansion shelves with 1 TB drives
- Support for a mix of expansion shelves with 2 TB drives or 1 TB drives up to maximum external storage capacity
- Support for a mix of ES30 and ES20 shelves up to maximum external storage capacity

SYSTEM EXPANSION USING DD EXTENDED RETENTION

- Supported on DD860
- Up to 24 ES30 or ES20 expansion shelves up to the maximum external storage capacity
- Support for a mix of expansion shelves with 2 TB drives or 1 TB drives up to the maximum external storage capacity, not to exceed maximum of 24 shelves total
- Support for a mix of ES30 and ES20 shelves up to the maximum external storage capacity, not to exceed maximum of 24 shelves total

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, 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, and 2 copper 10/100/1000 Ethernet ports standard. Optional dual-port optical 1 Gb Ethernet, quad-port copper 1 Gb Ethernet, dual-port copper or optical 10 Gb Ethernet, and dual-port 8 Gb Fibre Channel.

System Weight

52 lbs (23.6 kg)

System Dimensions (W x D x H)

19" x 29.5" x 3.5" (48.3 cm x 74.9 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; DD890: 580 VA

DD860: 640 VA

System Thermal Rating

DD890: 1,881 BTU/hr

DD860: 2,075 BTU/hr

Operating Temperature /Altitude

5°C to 35°C (41°F to 95°F), derate 1.1°C/1000
feet above 7,500 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

Declared noise emission values per ISO 9296:
Sound power, LWAd: 7.52 bels
Sound pressure, LpAm: 56.4 db

DATA DOMAIN RACK

Power Configuration

Two power domains (base and extended), each
redundant

Power Inlet Count

Either two (for redundant base configuration) or
four (for redundant extended configuration)

Plug Types

NEMA L6-30P or IEC 60309 332P6

Power Capacity

200-240 V~, single-phase, 47-63 Hz

4,800 VA (base configuration)

9,600 VA (extended configuration)

AC Protection

30 A site circuit breaker on each power domain

Rack Dimensions

40U available rack capacity

Height - 75 in (190.8 cm); Width - 24.0 in (61.1
cm); Depth - 39.0 in (99.2 cm)

Weight - 380 lb (173 kg) when empty

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.

EMC²