



EMC DATA DOMAIN DEDUPLICATION STORAGE SYSTEMS

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, you can reduce storage requirements by 10-30x, making disk cost-effective for onsite retention and highly efficient for network-based replication to disaster recovery sites.

Specifications

Data Domain Systems

Table 1. DATA DOMAIN CONTROLLER PERFORMANCE AND CAPACITY

	DD VE	DD2200	DD2500	DD4200	DD4500	DD7200	DD9500
MAXIMUM THROUGHPUT (OTHER)	16 TB- 2.1 TB/hr 96 TB- 4 TB/hr	3.8 TB/hr	5.6 TB/hr	10.6 TB/hr	10.6 TB/hr	12.6 TB/hr	27.7 TB/hr
MAXIMUM THROUGHPUT (DD BOOST)	16 TB- 5.6 TB/hr 96 TB- 11.2 TB/hr	4.7 TB/hr	13.4 TB/hr	25.6 TB/hr	25.6 TB/hr	28.3 TB/hr	58.7 TB/hr
LOGICAL CAPACITY¹	Up to 4.8 PB	40-860 TB	1.3–6.6 PB	1.8-9.4 PB	2.8-14.2 PB	4.2-21.4 PB	8.6-43.2 PB
LOGICAL CAPACITY W/ DD EXTENDED	N/A			3.7 - 18.9 PB	5.7 - 28.5 PB	8.5 - 42.8 PB	17.2-86.4 PB
MAX USABLE	Up to 96 TB	Up to 17.2 TB	Up to 133 TB	Up to 189 TB	Up to 285 TB	Up to 428 TB	Up to 864 TB
MAX USABLE CAPACITY W/ DD EXTENDED	N/A			Up to 378 TB	Up to 570 TB	Up to 856 TB	Up to 1.7PB
ES30 SHELVES	N/A	-	2 TB, 3 TB	2 TB, 3 TB	2 TB, 3 TB, 4TB ₃	2 TB, 3 TB, 4TB ₃	2 TB, 3 TB, 4TB ₃
DRIVE TYPE	N/A	SAS	SAS	SAS, SATA	SAS, SATA	SAS, SATA	SAS, SATA
DS60 SHELF	N/A	N/A	N/A	3 TB	3 TB, 4 TB ₃	3 TB, 4 TB ₃	3 TB, 4 TB ₃
DRIVE TYPE	N/A	N/A	N/A	SAS	SAS	SAS	SAS

1. 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. All capacity values are calculated using Base10 (i.e., 1TB = 1,000,000,000,000 bytes).

2. Throughput drawn running DD VE in the following environment with 16 TB & 96 TB instance: Host server: 2x Intel Xeon CPU (6 Cores each) @ 2GHz, 128GB memory, 2x10GbE NIC; Storage: DAS with 3TB 7200RPM SAS Drives, RAID6, Battery Powered HBA Cache Enabled, Disk Cache Disabled

3. No SATA Drive for 4TB drives

4. The following systems support High Availability Active/Standby configuration: DD9500

	DD VE	DD2200	DD2500	DD4200	DD4500	DD7200	DD9500
BUILT-IN NETWORKING	N/A	1x Mgm't port 4x 1Gbe	1x Mgm't port 4x 1Gbe, 2x 10Gbe	1x Mgm't port	1x Mgm't port	1x Mgm't port	1x Mgm't port 4x 1Gbe
OPTIONAL NETWORKING W/ IO CARDS	N/A	Up to 8x 1GbE Up to 4x 10GbE Up to 8x 10GBase-T Up to 4X 8Gb FC	Up to 12x 1GbE Up to 6x 10GbE Up to 12x 10GBaseT Up to 6x 8Gb FC	Up to 16x 1GbE Up to 8X 10GbE Up to 16 10Gbase-T Up to 8X 8Gb FC	Up to 16x 1GbE Up to 8X 10GbE Up to 16 10Gbase-T Up to 8X 8Gb FC	Up to 16x 1GbE Up to 8X 10GbE Up to 16 10Gbase-T Up to 6X 8Gb FC	Up to 16X 1GbE Up to 16X 10GbE Up to 8X 16Gb FC

Table 2. DATA DOMAIN PHYSICAL SPECIFICATIONS & ENVIRONMENTALS

	DD2200	DD2500	DD4200,DD4500,DD7200	DD9500
WEIGHT	7 HDDs: 65 lbs 12 HDDs: 73 lbs	7 HDDs: 57 lbs 12 HDDs: 65 lbs	80 lbs	117 lbs
DIMENSIONS	19" x 29" x 3.5" 2U EIA rack units	19" x 29" x 3.5" 2U EIA rack units	19" x 35.5" x 7" 4U EIA rack units	19" x 27.7" x 6.8" 4U EIA rack units
POWER 100-120/200-240V~, 50/60 HZ	7 HDDs: 406 VA 12 HDDs: 502 VA	7 HDDs: 451 VA 12 HDDs: 526 VA	800 VA (200-240V Only)	1,887 VA (200-240 V Only)
THERMAL RATING (WATTS)	7 HDDs: 394 Watts 12HDDs: 487 Watts	7 HDDs: 428 Watts 12HDDs: 500 Watts	760 Watts	1,793 Watts
THERMAL RATING (BTU/HR)	7 HDDs: 1,344 BTU/hr 12HDDs: 1,662 BTU/hr	7 HDDs: 1,462 12HDDs: 1,705	2,593 BTU/hr	6,118 BTU/hr
OPERATING TEMPERATURE/ ALTITUDE⁵	10°C to 35°C, 35°C at 7,500 ft	10°C to 35°C, 35°C at 7,500 ft	10°C to 35°C, 35°C at 7,500 ft	5°C to 35°C, 35°C at 7,500 ft
NON-OPERATING (TRANSPORTATION) TEMPERATURE	-40°C to +65°C (-40°F to +149°F)			
OPERATING HUMIDITY	20% to 80% non-condensing			
OPERATION ACOUSTIC NOISE (SOUND POWER)⁶	LWAd: 7.52 bels	LWAd: 7.52 bels	LWAd: 7.2 bels	LWAd: 7.2 bels
OPERATION ACOUSTIC NOISE (SOUND PRESSURE)⁶	LpAm: 65 db	LpAm: 58.4 db	LpAm: 56.4 db	LpAm: 56.4 db

5. Derate 1.1°C/1,000 ft above 7,500 ft to 10,000 ft

6. DD4200 Operation Acoustic Noise differs – Sound Power = LWAd: 7.52 bels, Sound pressure = LpAm: 58.4 db

Table 3. DATA DOMAIN CONTROLLER REGULATORY APPROVALS

	DD2200	DD2500	DD4200	DD4500	DD7200	DD9500
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 HARMONIS	EN 61000-3-2					

SOFTWARE

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 Encryption, EMC Data Domain Extended Retention (DD4200, DD4500, DD7200, DD9500 only), EMC Data Domain Replicator, EMC Data Domain Retention Lock optional software and EMC Data Domain Virtual Tape Library (for open systems and IBM i operating environments)

SYSTEM MANAGEMENT

EMC Data Domain Management Center, EMC Data Domain System Manager, SNMP, and command line management interface

DATA MANAGEMENT

NFS v3 over TCP, CIFS and DD Boost over 1 GbE or 10 GbE or Fibre Channel, tape library emulation (VTL) over Fibre Channel, and NDMP Tape Server

DATA DOMAIN RACK

POWER CONFIGURATION

Single phase is standard, optional 3-phase

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

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 lbs (173 kg) when empty

ES30 EXPANSION SHELF

EXTERNAL INTERFACE (HOST/EXPANSION)

Dual 4 lane 6 Gb/s serial attached SCSI II (SAS) ports per Link Control Card (LCC)— one for host and one for expansion

CONNECTOR TYPE

SFF-8088 connectors (mini-SAS)

SAS CABLE LENGTH

Up to 5 meter

DISK DRIVES

15-drive bays per ES30 expansion shelf, support low profile, one inch high, 3.5-inch form factor drives Drives Choices*

SAS (6 Gb/s), 3 TB or 2 TB, & 7200 RPM

SATA (3 Gb/s), 3 TB or 2 TB or 1 TB, & 7200 RPM

Integrated SAS expander module for shelves with SATA drives Point-to-point disk connectivity

* See Data Domain Controller Performance and Capacity section for Shelves & Drive Type Supported for each controller

DIMENSIONS

Height: 5.25 in (13.34 cm)

Width: 19.0 in (48.3 cm)

Depth: 14.0 in (35.56 cm)

Weight: 68 lbs (30.8 kg)

OPERATIONAL

Power (VA): 200-240 V~, 47 to 63 HZ

Thermal Rating: 3177 BTU/hr

Operating Temperature:

Ambient temperature: 41o F to 104o F (5o C to 40o C)

Temperature gradient: 18o F/hr (10o C/hr)

Relative humidity extremes: 20% to 80% noncondensing

Elevation: -50 to 7500 ft (-16 to 2300 m)

Non-Operating (Transportation) Temperature:

Ambient temperature: -40o F to 149o F (-40o C to 65o F)

Temperature gradient: 45o F/hr (25oC/hr)

Relative humidity: 10% to 90% noncondensing

Elevation: -50 to 35,000 ft (-16 to 10,600 m)

DS60 EXPANSION SHELF

EXTERNAL INTERFACE (HOST/EXPANSION)

Quad 8 lane 12 Gb/s serial attached SCSI II (SAS) ports per Link Control Card (LCC)— Half of each port is blocked allowing the use of standard mini-SAS-HD connectors – one port is used for the host connection and the other is used for expansion. The host controller runs at 6Gb/s to the DS60

CONNECTOR TYPE

SFF-8088 connectors (mini-SAS)

SAS CABLE LENGTH

Up to 5 meter

DISK DRIVES

60-drive bays per DS60 expansion shelf, support low profile, one inch high, 3.5-inch form factor drives Drives Choices*

SAS (6 Gb/s), 3 TB or 4 TB, & 7200 RPM

Integrated SAS expander module for shelves with SATA drives Point-to-point disk connectivity

* See Data Domain Controller Performance and Capacity section for Shelves & Drive Type Supported for each controller

DIMENSIONS

Height: 8.75 in (22.23 cm) 5U (4U plus 1U cable management tray).

Width including rails: 17.50 in (44.45 cm)

Depth (chassis only): 34.5 in (87.63 cm)

Maximum depth (fully configured): 36.4 in (92.46 cm)

Weight: 225.0 lbs (90.7 kg) (with FRUs installed)

OPERATIONAL

Power (VA): 200-240 V~, 47 to 63 HZ

Thermal Rating: 3177 BTU/hr

Operating Temperature:

Ambient temperature: 41o F to 104o F (5o C to 40o C)

Temperature gradient: 18o F/hr (10o C/hr)

Relative humidity extremes: 20% to 80% noncondensing

Elevation: -50 to 7500 ft (-16 to 2300 m)

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CONFIGURE AND QUOTE DATA DOMAIN



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