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 CONTROLLER PERFORMANCE AND CAPACITY

<table>
<thead>
<tr>
<th></th>
<th>DD2200</th>
<th>DD2500</th>
<th>DD4200</th>
<th>DD4500</th>
<th>DD7200</th>
<th>DD9500</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAXIMUM THROUGHPUT (OTHER)</td>
<td>3.8 TB/hr</td>
<td>5.6 TB/hr</td>
<td>10.6 TB/hr</td>
<td>10.6 TB/hr</td>
<td>12.6 TB/hr</td>
<td>27.7 TB/hr</td>
</tr>
<tr>
<td>MAXIMUM THROUGHPUT (DD BOOST)</td>
<td>4.7 TB/hr</td>
<td>13.4 TB/hr</td>
<td>25.6 TB/hr</td>
<td>25.6 TB/hr</td>
<td>28.3 TB/hr</td>
<td>58.7 TB/hr</td>
</tr>
<tr>
<td>LOGICAL CAPACITY</td>
<td>40-860 TB</td>
<td>1.3-6.6 PB</td>
<td>1.8-9.4 PB</td>
<td>2.8-14.2 PB</td>
<td>4.2-21.4 PB</td>
<td>8.6-43.2 PB</td>
</tr>
<tr>
<td>LOGICAL CAPACITY W/ DD EXTENDED</td>
<td>3.7 - 18.9 PB</td>
<td>5.7 - 28.5 PB</td>
<td>8.5 - 42.8 PB</td>
<td>17.2-86.4 PB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MAX USABLE</td>
<td>Up to 17.2 TB</td>
<td>Up to 133 TB</td>
<td>Up to 189 TB</td>
<td>Up to 285 TB</td>
<td>Up to 428 TB</td>
<td>Up to 864 TB</td>
</tr>
<tr>
<td>MAX USABLE CAPACITY W/ DD EXTENDED</td>
<td>Up to 378 TB</td>
<td>Up to 570 TB</td>
<td>Up to 856 TB</td>
<td>Up to 1.7PB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ES30 SHELVES</td>
<td>-</td>
<td>2 TB, 3 TB</td>
<td>2 TB, 3 TB</td>
<td>2 TB, 3 TB, 4TB²</td>
<td>2 TB, 3 TB, 4TB²</td>
<td>2 TB, 3 TB, 4TB²</td>
</tr>
<tr>
<td>DRIVE TYPE</td>
<td>SAS</td>
<td>SAS</td>
<td>SAS, SATA</td>
<td>SAS, SATA</td>
<td>SAS, SATA</td>
<td>SAS, SATA</td>
</tr>
<tr>
<td>DS60 SHELF</td>
<td>N/A</td>
<td>N/A</td>
<td>3 TB</td>
<td>3 TB, 4 TB²</td>
<td>3 TB, 4 TB²</td>
<td>3 TB, 4 TB²</td>
</tr>
<tr>
<td>DRIVE TYPE</td>
<td>N/A</td>
<td>N/A</td>
<td>SAS</td>
<td>SAS</td>
<td>SAS</td>
<td>SAS</td>
</tr>
</tbody>
</table>

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. No SATA Drive for 4TB drives
### Data Domain Controller Physical Specifications and Environmentals

<table>
<thead>
<tr>
<th></th>
<th>DD2200</th>
<th>DD2500</th>
<th>DD4200, DD4500, DD7200</th>
<th>DD9500</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Weight</strong></td>
<td>7 HDDs: 65 lbs</td>
<td>7 HDDs: 57 lbs</td>
<td>80 lbs</td>
<td>117 lbs</td>
</tr>
<tr>
<td></td>
<td>12 HDDs: 73 lbs</td>
<td>12 HDDs: 65 lbs</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Dimensions</strong></td>
<td>19” x 29” x 3.5” 2U EIA rack units</td>
<td>19” x 35.5” x 7” 4U EIA rack units</td>
<td>19” x 27.7” x 6.8” 4U EIA rack units</td>
<td></td>
</tr>
<tr>
<td><strong>Power</strong></td>
<td>7 HDDs: 406 VA</td>
<td>7 HDDs: 451 VA</td>
<td>800 VA (200-240 V Only)</td>
<td>1,887 VA (200-240 V Only)</td>
</tr>
<tr>
<td></td>
<td>12 HDDs: 502 VA</td>
<td>12 HDDs: 526 VA</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Thermal Rating</strong></td>
<td>7 HDDs: 394 Watts</td>
<td>7 HDDs: 428 Watts</td>
<td>760 Watts</td>
<td>1,793 Watts</td>
</tr>
<tr>
<td><strong>(Watts)</strong></td>
<td>12 HDDs: 487 Watts</td>
<td>12 HDDs: 500 Watts</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Thermal Rating</strong></td>
<td>7 HDDs: 1,344 BTU/hr</td>
<td>7 HDDs: 1,462 BTU/hr</td>
<td>2,593 BTU/hr</td>
<td>6,118 BTU/hr</td>
</tr>
<tr>
<td><strong>(BTU/HR)</strong></td>
<td>12 HDDs: 1,662 BTU/hr</td>
<td>12 HDDs: 1,705</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Operating</strong></td>
<td>10°C to 35°C, 35°C at 7,500 ft</td>
<td>10°C to 35°C, 35°C at 7,500 ft</td>
<td>5°C to 35°C, 35°C at 7,500 ft</td>
<td></td>
</tr>
<tr>
<td><strong>Temperature/Altitude</strong></td>
<td>3°C to 35°C, 35°C at 7,500 ft</td>
<td>3°C to 35°C, 35°C at 7,500 ft</td>
<td>5°C to 35°C, 35°C at 7,500 ft</td>
<td></td>
</tr>
<tr>
<td><strong>Non-operating</strong></td>
<td>-40°C to +65°C (-40°F to +149°F)</td>
<td>-40°C to +65°C (-40°F to +149°F)</td>
<td>-40°C to +65°C (-40°F to +149°F)</td>
<td></td>
</tr>
<tr>
<td><strong>(Transportation)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Humidity</strong></td>
<td>20% to 80% non-condensing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Operation</strong></td>
<td>LWAd: 7.52 bels</td>
<td>LWAd: 7.2 bels</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acoustic Noise</strong></td>
<td>LpAm: 65 db</td>
<td>LpAm: 58.4 db</td>
<td>LpAm: 56.4 db</td>
<td></td>
</tr>
<tr>
<td><strong>(Sound Power)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>(Sound Pressure)</strong></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

3. Derate 1.1°C/1,000 ft above 7,500 ft to 10,000 ft
DATA DOMAIN CONTROLLER REGULATORY APPROVALS

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<tbody>
<tr>
<td>SAFETY</td>
<td>UL 60950-1, CSA 60950-1, EN 60950-1, IEC 60950-1, GS, SABS, GOST, IRAM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EMISSIONS</td>
<td>FCC Class A, EN 55022, CISPR 22, VCCI, BSMI, MIC, ICES-003</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IMMUNITY</td>
<td>EN 55024, CISPR 24</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POWER LINE HARMONIS</td>
<td>EN 61000-3-2</td>
<td></td>
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</tr>
</tbody>
</table>

SOFTWARE

SOFTWARE FEATURES
Global CompressionTM, Data Inulnerability 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
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: 800 BTU/hr, 235 Watts
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

Non-Operating (Transportation) Temperature:
Ambient temperature: -40o F to 149o F (-40o C to 65o F)
Temperature gradient: 450 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 DS30 expansion shelf, support low profile, one inch high, 3.5-inch form factor drives Drives Choices*
SAS (6 Gb/s), 3 TB & 4TB, 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)

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)