Dell EMC Data Domain deduplication storage systems continue to revolutionize disk backup, archiving, and disaster recovery with high-speed, inline deduplication. This innovation continues with Dell EMC’s new generation of midsized and large enterprise Data Domain systems powered with a Flash SSD. 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

**Table 1. Data Domain controller performance and capacity**

<table>
<thead>
<tr>
<th></th>
<th>DD2200</th>
<th>DD6300</th>
<th>DD6800</th>
<th>DD9300</th>
<th>DD9800</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MAXIMUM THROUGHPUT</strong></td>
<td>3.8 TB/hr</td>
<td>8.5 TB/hr</td>
<td>14 TB/hr</td>
<td>20 TB/hr</td>
<td>31 TB/hr</td>
</tr>
<tr>
<td><strong>MAXIMUM THROUGHPUT (DD BOOST)</strong></td>
<td>4.7 TB/hr</td>
<td>24 TB/hr</td>
<td>32 TB/hr</td>
<td>41 TB/hr</td>
<td>68 TB/hr</td>
</tr>
<tr>
<td><strong>LOGICAL CAPACITY</strong></td>
<td>40-860 TB</td>
<td>1.8 - 8.9 PB</td>
<td>2.8 - 14.4 PB</td>
<td>7.2 - 36 PB</td>
<td>10 - 50 PB</td>
</tr>
<tr>
<td>W/ DD EXTENDED RETENTION²</td>
<td>-</td>
<td>-</td>
<td>5.6 - 28.8 PB</td>
<td>14.4 - 72 PB</td>
<td>20 - 100 PB</td>
</tr>
<tr>
<td>W/ DD CLOUD TIER²</td>
<td>-</td>
<td>-</td>
<td>8.4 - 43.2 PB</td>
<td>21.6 - 108 PB</td>
<td>30 - 150 PB</td>
</tr>
<tr>
<td><strong>MAX USABLE CAPACITY</strong></td>
<td>Up to 17.2 TB</td>
<td>Up to 178 TB</td>
<td>Up to 288 TB</td>
<td>Up to 720 TB</td>
<td>Up to 1 PB</td>
</tr>
<tr>
<td>W/ DD Extended retention²</td>
<td>-</td>
<td>-</td>
<td>Up to 576 TB</td>
<td>Up to 1.44 PB</td>
<td>Up to 2 PB</td>
</tr>
<tr>
<td>W/ DD Cloud Tier²</td>
<td>-</td>
<td>-</td>
<td>Up to 864 TB</td>
<td>Up to 2.16 PB</td>
<td>Up to 3 PB</td>
</tr>
<tr>
<td><strong>ES30 SHELVES</strong></td>
<td>-</td>
<td>3 TB, 4 TB</td>
<td>3 TB, 4 TB</td>
<td>3 TB, 4 TB</td>
<td>3 TB, 4 TB</td>
</tr>
<tr>
<td><strong>DRIVE TYPE</strong></td>
<td>SAS</td>
<td>SAS</td>
<td>SAS</td>
<td>SAS</td>
<td>SAS</td>
</tr>
<tr>
<td><strong>DS60 SHELF</strong></td>
<td>N/A</td>
<td>3 TB, 4 TB</td>
<td>3 TB, 4 TB</td>
<td>3 TB, 4 TB</td>
<td>3 TB, 4 TB</td>
</tr>
<tr>
<td><strong>DRIVE TYPE</strong></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. DD Cloud Tier and DD Extended Retention are mutually exclusive long-term retention solutions
3. The following systems support high availability active/standby configuration: DD9800, DD9300 and DD6800
### Table 2. Data Domain physical specifications and environmentals

<table>
<thead>
<tr>
<th></th>
<th>DD2200</th>
<th>DD6300</th>
<th>DD6800</th>
<th>DD9300</th>
<th>DD9800</th>
</tr>
</thead>
</table>
| **BUILT-IN NETWORKING** | 1x Mgmt port  
4x 1Gbe                   | 1x Mgmt port  
1x monitor port  
4x 10Gbe                  | 1x Mgmt port  
1x monitor port  
4x 10Gbe                  | 1x Mgmt port  
4x 10Gbe                  | 1x Mgmt port  
4x 1Gbe                   |
| **OPTIONAL NETWORKING W/ IO CARDS** | Up to 8x 1GbE  
The 10GbE card can auto-negotiate down to support 1GbE | Up to 4x quad-port 10GbE SLICs:  
Optical | Up to 4x quad-port 10GbE SLICs:  
Optical | Up to 4x quad-port 10GbE SLICs:  
Optical | Up to 4x quad-port 10GbE SLICs:  
Optical |
|                     | Up to 4x 8Gb FC  
Up to 4x dual ported 16Gbps FC | Up to 4x quad-port 10GbE SLICs (SLIC 1 inclusive)  
Up to 4x dual ported 16Gbps FC | Up to 4x quad-port 10GbE SLICs (SLIC 1 inclusive)  
Up to 4x dual ported 16Gbps FC | Up to 4x dual ported 16Gbps FC  
Up to 4x dual ported 16Gbps FC | Up to 4x dual ported 16Gbps FC  
Up to 4x dual ported 16Gbps FC |

| **WEIGHT (LBS)** | 7 HDDs: 65 lbs  
12 HDDs: 73 lbs | 7 HDD: 74 lbs  
12 HDD: 82 lbs | 4 HDD / 2 SSD: 68  
4 HDD / 4 SSD: 70 | 4 HDD / 5 SSD: 71  
4 HDD / 8 SSD: 76 | 8 SSD: 112 lbs  
15 SSD: 117 lbs |
| **DIMENSIONS** | 19” x 29” x 3.5”  
2U EIA rack units | 19” x 30.5” x 3.4”  
2U EIA rack units | 19” x 30.5” x 3.4”  
2U EIA rack units | 19” x 30.5” x 3.4”  
2U EIA rack units | 19” x 27.7” x 6.8”  
4U EIA rack units |
| **POWER** | 406 VA  
502 VA | 7 HDD / 1 or 2 SSD: 773 VA  
12 HDD / 1 or 2 SSD: 773 VA | 4 HDD / 2 SSD: 794 VA  
4 HDD / 4 SSD: 794 VA | 4 HDD / 5 SSD: 866 VA  
4 HDD / 8 SSD: 866 VA | 1887 VA  
(200-240 V) |
| **THERMAL RATING (WATTS)** | 394 Watts  
487 Watts | 7 HDD / 1 or 2 SSD: 530 Watts  
12 HDD / 1 or 2 SSD: 530 Watts | 4 HDD / 2 SSD: 560 Watts  
4 HDD / 4 SSD: 560 Watts | 4 HDD / 5 SSD: 645 Watts  
4 HDD / 8 SSD: 645 Watts | 1887 Watts |
| **THERMAL RATING (BTU/HR)** | 1,344  
1,662 | 7 HDD / 1 or 2 SSD: 1,808"  
12 HDD / 1 or 2 SSD: 1,808" | 4 HDD / 2 SSD: 1,910"  
4 HDD / 4 SSD: 1,910" | 4 HDD / 5 SSD: 2,200"  
4 HDD / 8 SSD: 2,200" | 6118 |
| **OPERATING TEMPERATURE/ALTITUDE** | 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 | 10°C to 35°C,  
35°C at 7,500 ft | 10°C to 35°C,  
35°C at 7,500 ft |
| **NON-OPERATING (TRANSPORTATION) TEMPERATURE** | 40°C to +65°C  
(-40°F to +149°F) | 40°C to +65°C  
(-40°F to +149°F) | 40°C to +65°C  
(-40°F to +149°F) | 40°C to +65°C  
(-40°F to +149°F) | 40°C to +65°C  
(-40°F to +149°F) |
| **OPERATING HUMIDITY** | 20% to 80% non-condensing | 20% to 80% non-condensing | 20% to 80% non-condensing | 20% to 80% non-condensing | 20% to 80% non-condensing |
| **OPERATION ACOUSTIC NOISE (SOUND PRESSURE)** | LpAm: 65 db | LpAm: 67.6 db | LpAm: 67.6 db | LpAm: 67.6 db | LpAm: 56.4 db |

5. Derate 1.1°C/1,000 ft above 7,500 ft to 10,000 ft
### Table 3. Data Domain controller regulatory approvals

<table>
<thead>
<tr>
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<th>DD6800</th>
<th>DD9300</th>
<th>DD9800</th>
</tr>
</thead>
<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>
</tr>
<tr>
<td>EMISSIONS</td>
<td>FCC Class A, EN 55022, CISPR 22, VCCI, BSMI, MIC, IEC-003</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>
</tr>
<tr>
<td>POWER LINE HARMONIS</td>
<td>EN 61000-3-2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table 4. Data Domain Virtual Edition performance and capacity

<table>
<thead>
<tr>
<th></th>
<th>DD VE* at 16 TB</th>
<th>DD VE* at 96 TB</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAXIMUM THROUGHPUT</td>
<td>2.1 TB/hr</td>
<td>4 TB/hr</td>
</tr>
<tr>
<td>MAXIMUM THROUGHPUT (DD BOOST)</td>
<td>5.6 TB/hr</td>
<td>11.2 TB/hr</td>
</tr>
<tr>
<td>LOGICAL CAPACITY</td>
<td>Up to 800 TB</td>
<td>Up to 4.8 PB</td>
</tr>
<tr>
<td>LOGICAL CAPACITY W/ DD CLOUD TIER</td>
<td>Up to 2.4 PB</td>
<td>Up to 14.8 PB</td>
</tr>
<tr>
<td>MAX USABLE CAPACITY</td>
<td>Up to 16 TB</td>
<td>Up to 96 TB</td>
</tr>
<tr>
<td>MAX USABLE CAPACITY W/ DD CLOUD TIER</td>
<td>Up to 48 TB</td>
<td>Up to 288 TB</td>
</tr>
</tbody>
</table>

*Throughput drawn running DD VE with 16 TB & 96 TB instances: 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.

### 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, Data Domain Boost, Data Domain Encryption, Data Domain Extended Retention, Data Domain Replicator, Data Domain Retention Lock optional software, Data Domain Virtual Tape Library (for open systems and IBM i operating environments) and Data Domain Cloud Tier for long-term retention.

#### System management

- Data Domain Management Center, 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

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): 280VA or 235W, (100-240V ~, 47 to 63 Hz)
Thermal Rating: 800 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

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): 980 VA or 931W (200-240V ~, 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)