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.

Data Domain Systems

Specifications

DATA DOMAIN CONTROLLER PERFORMANCE AND CAPACITY

<table>
<thead>
<tr>
<th></th>
<th>DD160</th>
<th>DD620</th>
<th>DD640</th>
<th>DD670</th>
<th>DD860</th>
<th>DD890</th>
<th>DD990</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Throughput (Other)</td>
<td>667 GB/hr</td>
<td>1.1 TB/hr</td>
<td>2.3 TB/hr</td>
<td>3.6 TB/hr</td>
<td>5.1 TB/hr</td>
<td>8.1 TB/hr</td>
<td>15.0 TB/hr</td>
</tr>
<tr>
<td>Maximum Throughput (DD Boost)</td>
<td>1.1 TB/hr</td>
<td>2.4 TB/hr</td>
<td>3.4 TB/hr</td>
<td>5.4 TB/hr</td>
<td>9.8 TB/hr</td>
<td>14.7 TB/hr</td>
<td>31.0 TB/hr</td>
</tr>
<tr>
<td>Logical Capacity</td>
<td>40 – 195 TB</td>
<td>83 – 415 TB</td>
<td>0.32 – 1.6 PB</td>
<td>0.6 – 2.7 PB</td>
<td>1.4 – 7.1PB</td>
<td>2.9 – 14.2 PB</td>
<td>5.7 – 28.5PB</td>
</tr>
<tr>
<td>Logical Capacity w/ DD Extended Retention</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>5.7 – 28.5 PB</td>
<td>-</td>
<td>20 – 100 PB</td>
</tr>
<tr>
<td>Max ES30 Shelves Supported (1TB HDD)</td>
<td>-</td>
<td>-</td>
<td>2</td>
<td>4</td>
<td>12</td>
<td>16</td>
<td>24</td>
</tr>
<tr>
<td>Max ES30 Shelves Supported (2TB HDD)</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>2</td>
<td>6</td>
<td>12</td>
<td>24</td>
</tr>
<tr>
<td>Max ES30 Shelves Supported (3TB HDD)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>16</td>
</tr>
<tr>
<td>Max ES30 Shelves Supported (2TB HDD) w/ DD Extended Retention</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>24</td>
<td>-</td>
<td>56</td>
</tr>
<tr>
<td>Max ES30 Shelves Supported (3TB HDD) w/ DD Extended Retention</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>56</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).
### DATA DOMAIN CONTROLLER PHYSICAL SPECIFICATIONS AND ENVIRONMENTALS

<table>
<thead>
<tr>
<th>Weight</th>
<th>Dimensions</th>
<th>Power</th>
<th>Thermal Rating (Watts)</th>
<th>Thermal Rating (BTU/hr)</th>
<th>Operating Temperature/Altitude</th>
<th>Non-Operating (Transportation) Temperature</th>
<th>Operating Humidity</th>
<th>Operation Acoustic Noise (Sound Power)</th>
<th>Operation Acoustic Noise (Sound Pressure)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 HDDs: 49lbs 12 HDDs: 57lbs</td>
<td>19” x 22” x 3.5” 2U EIA rack units</td>
<td>100-120/240 V , 50/60 Hz</td>
<td>7 HDDs: 331 Watts 12 HDDs: 339 Watts</td>
<td>7 HDDs: 1,061 BTU/hr 12 HDDs: 1,157 BTU/hr</td>
<td>10°C to 35°C, 35°C at 7,500 ft</td>
<td>-40°C to +65°C (-40°F to +149°F)</td>
<td>20% to 80% non-condensing</td>
<td>LWad: 7.0 bels</td>
<td>-</td>
</tr>
<tr>
<td>7 HDDs: 51lbs 12 HDDs: 58lbs</td>
<td>19” x 29.5” x 3.5” 2U EIA rack units</td>
<td>7 HDDs: 451 VA 12 HDDs: 526 VA</td>
<td>7 HDDs: 428 12HDDs: 500</td>
<td>7 HDDs: 1,462 12HDDs: 1,705</td>
<td></td>
<td></td>
<td></td>
<td>LWAd: 7.52 bels</td>
<td>LpAm: 56.4 db</td>
</tr>
<tr>
<td>66lbs</td>
<td>16.7” x 27.7” x 6.8” 4U EIA rack units</td>
<td>724 VA</td>
<td>688 Watts</td>
<td>2,347 BTU/hr</td>
<td>5°C to 35°C, 35°C at 7,500 ft</td>
<td></td>
<td></td>
<td>LWAd: 7.4 bels</td>
<td>LpAm: 58 db</td>
</tr>
<tr>
<td>52lbs</td>
<td></td>
<td>640 VA</td>
<td>608 Watts</td>
<td>2,075 BTU/hr</td>
<td></td>
<td></td>
<td></td>
<td>LWAd: 7.52 bels</td>
<td>LpAm: 56.4 db</td>
</tr>
<tr>
<td>110lbs</td>
<td></td>
<td>580 VA</td>
<td>551 Watts</td>
<td>1,881 BTU/hr</td>
<td></td>
<td></td>
<td></td>
<td>LWAd: 7.52 bels</td>
<td>LpAm: 56.4 db</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1,400 VA</td>
<td>1,400 Watts</td>
<td>6,924 BTU/hr</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

### DATA DOMAIN CONTROLLER REGULATORY APPROVALS

<table>
<thead>
<tr>
<th>Safety</th>
<th>Emissions</th>
<th>Immunity</th>
<th>Power Line Harmonics</th>
</tr>
</thead>
<tbody>
<tr>
<td>UL 60950-1, CSA 60950-1, EN 60950-1, IEC 60950-1, GS, SABS, GOST, IRAM</td>
<td>FCC Class A, EN 55022, CISPR 22, VCCI, BSMI, MIC, ICES-003</td>
<td>EN 55024, CISPR 24</td>
<td>EN 61000-3-2</td>
</tr>
</tbody>
</table>
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 (DD860 and DD990 only, cannot be used in conjunction with EMC Data Domain Encryption), 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 System Manager, EMC Data Domain Management Center, SNMP, and command line management interface

DATA MANAGEMENT
NFS v3 over TCP, CIFS and DD Boost over 1 GbE or 10 GbE, 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
• SATA I (3 Gb/s) 3TB, 7200 RPM*
• SATA I (3 Gb/s) 2 TB, 7200 RPM
• SATA I (3 Gb/s) 1 TB, 7200 RPM
• Integrated SAS expander module
• Point-to-point disk connectivity
* ES30 expansion shelf with 3 TB drives is only available for the Data Domain DD990

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): 100-120/200-240 V~, 50/60 Hz 280 VA
Thermal Rating: 800 BTU/hr, 235 Watts
Operating Temperature/Altitude: 10°C to 35°C (50°F to 95°F)
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: 6.5 bels
• Sound Pressure, LpAm: 48.5 dB