



# DELL POWERPROTECT DATA DOMAIN

PowerProtect Data Domain target storage appliances are designed and optimized for data protection—resulting in performance, efficiency and security advantages that simplify operations, reduce risk and lower costs. Data Domain delivers a fast, secure and efficient solution that is optimized for multi-cloud data protection and future demands.

The Data Domain appliances consist of the DD9910, DD9410, DD6900, DD6400, DD3300 and software-defined appliances with PowerProtect DD Virtual Edition (DDVE) for on-premises and Dell APEX Protection Storage for the public cloud.

	DD3300	DD6400	DD6900	DD9410	DD9910
<b>Max Throughput</b>	Up to 4.2 TB/hr	Up to 12.7 TB/hr	Up to 15 TB/hr	Up to 44 TB/hr	Up to 71 TB/hr
<b>Max Throughput (DD Boost)</b>	Up to 7.0 TB/hr	Up to 27.7 TB/hr	Up to 33 TB/hr	Up to 75 TB/hr	Up to 130 TB/hr
<b>Logical Capacity<sup>1</sup></b>	Up to 1.6 PB	Up to 11.2 PB	Up to 18.7 PB	Up to 49.9 PB	Up to 97.5 PB
<b>Logical Capacity with Cloud Tier</b>	Up to 4.8 PB	Up to 33.5 PB	Up to 56.1 PB	Up to 149.8 PB	Up to 293 PB
<b>Usable Capacity<sup>4</sup></b>	4 TB – 32 TB 3.5 TiB – 28.4 TiB	8 TB – 172 TB 7.1 TiB – 152.5 TiB	24 TB – 288 TB 21.3 TiB – 255 TiB	192 TB – 768 TB 170 TiB – 681 TiB	576 TB – 1.5 PB 511 TiB – 1.33 PiB
<b>Usable Capacity with Cloud Tier<sup>4</sup></b>	Up to 96 TB Up to 85 TiB	Up to 516 TB Up to 458 TiB	Up to 864TB Up to 766 TiB	Up to 2.3 PB Up to 2.0 PiB	Up to 4.5 PB Up to 4PiB
<b>ES40 Shelf</b>	N/A	8 TB 7.2K SAS	4 TB 7.2K SAS	N/A	N/A
<b>DS60 Shelf</b>	N/A	N/A	4 TB 7.2K SAS <sup>3</sup>	N/A	N/A
<b>DS600 Shelf</b>	N/A	N/A	4 TB 7.2K SAS	8 TB 7.2K SAS	8 TB 7.2K SAS
<b>FS25 Shelf</b>	N/A	N/A	3.8 TB SSD <sup>2</sup>	N/A	N/A
<b>FS240 Shelf</b>	N/A	N/A	N/A	3.8 TB SSD <sup>2</sup>	3.8 TB SSD <sup>2</sup>

<sup>1</sup>Logical capacity based on up to 50x deduplication (DD3300) and typically 65x deduplication (DD6400, DD6900, DD9410, DD9910) based on additional hardware-assisted data compression typically 30% more per TB when compared to the previous generation. Actual capacity & throughput depends on application workload, deduplication, and other settings.

<sup>2</sup>High Availability configuration only, in a standard configuration SSDs are in the controller. The following systems support a high availability active/standby configuration: DD9910, DD9410 and DD6900

<sup>3</sup>Supported but not for factory racked orders

<sup>4</sup>TiB/PiB values adjusted for estimated DDOS overhead. DDOS overhead can vary depending on metadata required for customer workloads.

	DD3300	DD6400	DD6900	DD9410	DD9910
<b>Built-In Networking</b>	1x Mgm't port	1x Mgm't port	1x Mgm't port	1x Mgm't port 2x LOM	1x Mgm't port 2x LOM
<b>Required Networking (rNDC or OCP)</b>	4x 10G Base-T	4x 10G BASE-T or 4x 10G SFP+	4x 10G BASE-T or 4x 10G SFP+	4x 10G BASE-T or 4x 10/25G SFP+	4x 10G BASE-T or 4x 10/25G SFP+
<b>Optional Networking with I/O Cards</b>	The 10GBase-T card can auto- negotiate down to support 1GbE  Up to single dual- port 10GbE SLICs: Optical  Single quad-port 16Gbps FC HBA	Up to three quad port 10G Base-T, which can auto- negotiate down to support 1GbE  Up to three quad port 10G SFP+ (including rNDC)  Up to three dual port 25G SFP+  Up to one dual port 16Gb FC HBA	Up to four quad port 10G Base-T, which can auto- negotiate down to support 1GbE  Up to four quad port 10G SFP+ (including rNDC)  Up to three dual port 25G SFP+  Up to 3 quad port 16Gb FC HBA	Up to four quad port 10G Base-T, which can auto- negotiate down to support 1GbE  Up to four quad port 10/25G SFP28  Up to four dual port 100G QSFP  Up to four quad port 32Gb FC HBA	Up to four quad port 10G Base-T which can auto- negotiate down to support 1GbE  Up to four quad port 10/25G SFP28  Up to four dual port 100G QSFP  Up to four quad port 32Gb FC HBA
	DD3300	DD6400	DD6900	DD9410	DD9910
<b>Weight (Lbs)</b>	16 HDDs: 73 lbs	4SSDs/8HDDs: 73 lbs	6 SSDs: 73 lbs	9 SSDs: 75 lbs	14 SSDs: 77 lbs
<b>Dimensions</b>	17.1" x 29.6" x 3.5" 2U EIA rack units	17.1" x 29.6" x 3.5" 2U EIA rack units	17.1" x 29.6" x 3.5" 2U EIA rack units	17.1" x 28.5" x 3.4" 2U EIA rack units	17.1" x 28.5" x 3.4" 2U EIA rack units
<b>Power 100-120/200-240v~, 50/60 Hz</b>	16 HDDs: 429 VA	4SSDs/8HDDs: 524 VA	6 SSDs: 364 VA	9 SSDs: 735 VA	14 SSDs: 1356 VA
<b>Thermal Rating (Watts)</b>	16HDDs: 425 Watts	4SSDs/8HDDs: 516 Watts	6 SSDs: 352 Watts	9 SSDs: 694 Watts	14 SSDs: 1281 Watts
<b>Thermal Rating (BTU/Hr)</b>	16HDDs: 1450	4SSDs/8HDDs: 1760 btu/hr	6 SSDs: 1201 btu/h	9 SSDs: 2369 btu/h	14 SSDs: 3840 btu/h
<b>Operating Temperature/ Altitude<sup>3</sup></b>	10°C to 35°C, 35°C at 3,117 ft	10°C to 35°C, 35°C at 3,117 ft	10°C to 35°C, 35°C at 3,117 ft	10°C to 35°C, 35°C at 2,953 ft	10°C to 35°C, 35°C at 2,953 ft
<b>Non-Operating (Transportation) Temperature</b>	-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)
<b>Operating Humidity</b>	10% to 80% with 29°C (84.2°F) maximum dew point.	10% to 80% with 29°C (84.2°F) maximum dew point.	10% to 80% with 29°C (84.2°F) maximum dew point.	10% to 80% with 29°C (84.2°F) maximum dew point	10% to 80% with 29°C (84.2°F) maximum dew point
<b>Operation Acoustic Noise (Sound Power)</b>	LWAd: 7.8 bels	7.2 bels	7.2 bels	8.7 bels	8.7 bels
<b>Operation Acoustic Noise (Sound Pressure)</b>	LpAm: 67 db	61 db	52 db	76 db	76 db

## Statement of Compliance

Dell Information Technology Equipment is compliant with all currently applicable regulatory requirements for Electromagnetic Compatibility, Product Safety, and Environmental Regulations where placed on market.

Detailed regulatory information and verification of compliance is available at the [Dell Regulatory Compliance website](#).

## 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, DD Boost, DD Encryption, DD Extended Retention, DD Retention Lock, DD Virtual Tape Library (VTL) (for open systems and IBMi operating environments). Available add-ons include: DD Boost, Cloud Tier for long-term retention, Cloud Disaster Recovery, and DD Replicator.

### System management

PowerProtect DD Management Center, DD System Manager, SNMP, and command line management interface.

### Data management

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

## DS600 Expansion shelf

### External interface (host/expansion)

Four ports with four lanes per port (16 lanes) of 24Gb/s serial attached SCSI generation 4 (SAS-4) per Link Control Card (LCC). Allows the use of standard SAS-4 compatible Mini-SAS-HD cables.

### Connector type

Supports SAS-4 Mini SAS HD SFF-8674 connector

### SAS cable length

Up to 5 meters

### Disk drives

60-drive bays per DS600 expansion shelf, support low profile, one inch high, 3.5-inch form factor drives

Drive Choices: SAS (12 Gb/s), 4 TB\* or 8 TB

### 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 (87.5 cm)

Weight: 205.0 lbs (93 kg) (fully loaded)

### Operational

Power: (VA) 640 VA or 602W (200-240V, 50 to 60 Hz)

Thermal Rating: 2053 BTU/hr

### Environmental

ASHRAE A3 w/ ESD-50 excursion

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

Temperature gradient: 68° F/hr (20° C/hr)

Relative humidity extremes: 8% to 85% noncondensing

Elevation: 900m at 45C, 3050m at 33C

Non-Operating (Transportation) Temperature:

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

Relative humidity: 10% to 95% noncondensing

Elevation: Maximum 12,000 m (39,370 ft)

\*DD6900 only

## 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.

### Connector type

SFF-8088 connectors (mini-SAS)

### SAS cable length

Up to 5 meters

### Disk drives

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

Drive Choices: SAS (12 Gb/s), 4 TB or 8 TB

### 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): 785 VA or 770W (200-240V ~, 47 to 63 Hz)

Thermal Rating: 2627 BTU/hr

### Environmental

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

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

Relative humidity extremes: 20% to 80% noncondensing

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

Non-Operating (Transportation) Temperature:

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

Temperature gradient: 45° F/hr (25° C/hr)

Relative humidity: 10% to 90% noncondensing

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

## ES40 Expansion shelf

### External interface (host/expansion)

Dual 4 lane 12Gb/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 meters

### Disk drives

15-drive bays, supports, 3.5-inch form factor 4 TB 7.2K SAS drives

### Dimensions

Height: 5.25 in (13.33 cm)

Width: 17.5 in (44.45 cm)

Depth: 14 in (35.56 cm)

Weight: 68 lbs (30.8 kg)

### Operational

Power (VA): 272VA or 232W, (100-240V ~, 47 to 63 Hz)

Thermal Rating: 792 BTU/hr

### Environmental

Ambient temperature: 50° F to 95° F (10° C to 35° C)

Temperature gradient: 36° F/hr (20° C/hr)

Relative humidity extremes: 20% to 80% noncondensing

Elevation: -50 to 10000 ft (-16 to 3050 m)

Non-Operating (Transportation) Temperature:

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

Temperature gradient: 36° F/hr (20° C/hr)

Relative humidity: 10% to 90% noncondensing

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

## FS25 SSD shelf

### External interface (host/expansion)

Dual 4 lane 12Gb/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 meters

### Disk drives

25-drive bays, supports, 2.5-inch form factor  
3.84 TB SSD drives

### Dimensions

Height: 3.40 in (8.46 cm)

Width: 17.5 in (44.45 cm)

Depth: 13.0 in (33.02 cm)

Weight: 22.0 lbs (10.0 kg)

### Operational

Power (VA): 187VA or 136W, (100-240V ~, 47 to 63 Hz)

Thermal Rating: 464 BTU/hr

### Environmental

Ambient temperature: 50° F to 95° F (10° C to 35° C)

Temperature gradient: 36° F/hr (20°C/hr)

Relative humidity extremes: 20% to 80% noncondensing

Elevation: -50 to 10000 ft (-16 to 3050 m)

Non-Operating (Transportation)

Temperature:

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

Temperature gradient: 36° F/hr (20°C/hr)

Relative humidity: 10% to 90% noncondensing

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

## FS240 SSD shelf

### External interface (host/expansion)

Dual 4 lane 24Gb/s serial attached SCSI 4 (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 meters

### Disk drives

24-drive bays, supports, 2.5-inch form factor  
3.84 TB SSD drives

### Dimensions

Height: 3.40 in (8.46 cm)

Width: 17.5 in (44.45 cm)

Depth: 19.6 in (33.02 cm)

Weight: 46 lbs (21 kg)

### Operational

Power (VA): 343A or 336W, (100-240V ~, 47 to 63 Hz)

Thermal Rating: 1147 BTU/hr

### Environmental

Ambient temperature: 50° F to 95° F (10° C to 35° C)

Temperature gradient: 36° F/hr (20°C/hr)

Relative humidity extremes: 20% to 80% noncondensing

Elevation: -50 to 10000 ft (-16 to 3050 m)

Non-Operating (Transportation)

Temperature:

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

Temperature gradient: 36° F/hr (20°C/hr)

Relative humidity: 10% to 90% noncondensing

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

## 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 or four (Single Phase DD9900 HA with 4x DS60 or DD9900/DD9900 HA with 5x DS60)

### Plug types

L6-30P, 56PA322, 332P6W, 3750DP, L7-30, 60309, CS-8365C, 9P54U2T, 3P-Wye, or 3P-Wye Flying Leads

### PDU Power capacity

single-phase, 24A, 200-240 V~, 50/60 Hz

three-phase 3W+G, 40A, 200-240 V~, 50/60 Hz (3P-Delta)

three-phase 3W+N+PE, 24A, 200-240 V~, 50/60 Hz (3P-Wye)

### Dimensions

40U available rack capacity

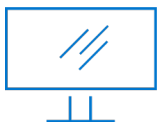
Height: 75 in (190.8 cm)

Width: 24.0 in (61.1 cm)

Depth: 39.0 in (99.2 cm)

Weight: 380 lbs (173 kg) when empty

\*A 60.0 cm x 120.0 cm 42 U deep rack is also available



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