



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 appliance family includes the DD9910, DD9410, DD6410, and All-Flash Ready Node, plus the [Data Domain Virtual Edition](#) software-defined appliance for in-cloud and on-premises.

	All-Flash Ready Node	DD6410	DD9410	DD9910
Max Throughput (DD Boost)	Up to 56.4 TB/hr	Up to 66.8 TB/hr	Up to 75 TB/hr	Up to 130 TB/hr
Logical Capacity¹	Up to 11 PB	Up to 16.6 PB	Up to 49.9 PB	Up to 97.5 PB
Logical Capacity with Cloud Tier	N/A	Up to 49.9 PB	Up to 149.8 PB	Up to 293 PB
Usable Capacity⁴	220 TB 200 TiB	12 TB – 256 TB 10.9 TiB – 232.8 TiB	192 TB – 768 TB 170 TiB – 681 TiB	576 TB – 1.5 PB 511 TiB – 1.33 PiB
Usable Capacity with Cloud Tier⁴	N/A	Up to 768TB Up to 698.5 TiB	Up to 2.3 PB Up to 2.0 PiB	Up to 4.5 PB Up to 4PiB
ES120 Shelf	N/A	8 TB 7.2K SAS	N/A	N/A
DS600 Shelf	N/A	N/A	8 TB 7.2K SAS	8 TB 7.2K SAS
FS240 Shelf	N/A	N/A	3.8 TB SSD ²	3.8 TB SSD ²

¹Logical capacity based on up to 50x deduplication (Data Domain All-Flash Ready Node, Data Domain Virtual Edition); and up to 65x deduplication on the DD6410, DD9410, and DD9910, which includes additional hardware assisted data compression of typically 30%. Actual capacity & throughput depends on application workload, deduplication and other settings.

²High Availability configuration only, in a standard configuration SSDs are in the controller. High availability active/standby configuration is supported with DD9910 and DD9410.

³Supported but not for factory racked orders

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

	All-Flash Ready Node	DD6410	DD9410	DD9910
Built-In Networking	1x Mgm't port 2x LOM	1x Mgm't port 2x LOM	1x Mgm't port 2x LOM	1x Mgm't port 2x LOM
Required Networking (rNDC or OCP)	2x dual port 25G SFP+	4x 10G BASE-T or 4x 10/25G SFP+	4x 10G BASE-T or 4x 10/25G SFP+	4x 10G BASE-T or 4x 10/25G SFP+
Optional Networking with I/O Cards	N/A	Up to two quad port 10G Base-T or two quad port 25G SFP+ One quad port 10G Base-T or dual port 10/25G SFP+ Up to two 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	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

	All-Flash Ready Node	DD6410	DD9410	DD9910
Weight (Lbs)	Up to 79.6 lbs	Up to 96.5 lbs	9 SSDs: 75 lbs	14 SSDs: 77 lbs
Dimensions	17.1" x 28.5" x 3.5" 2U EIA rack units	17.6" x 32.9" x 3.4" 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
Power 100-120/200-240v~, 50/60 Hz	24 + BOSS SSDs; 1326 VA	4 SSDs 20 HDDs; 800 VA	9 SSDs: 735 VA	14 SSDs: 1356 VA
Thermal Rating (Watts)	24 + BOSS SSDs; 1260 Watts	4 SSDs 20 HDDs; 760 Watts	9 SSDs: 694 Watts	14 SSDs: 1281 Watts
Thermal Rating (BTU/Hr)	24 + BOSS SSDs; 4297 btu/h	4 SSDs 20 HDDs; 2592 btu/h	9 SSDs: 2367 btu/h	14 SSDs: 4368 btu/h
Operating Temperature/ Altitude (No Direct Sunlight)	10°C to 35°C, 35°C at 2,953 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
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)
Operating Humidity	10% to 80% with 29°C (84.2°F) max. dew point.	8% at -12C min. dew point to 80% at 21°C (69.8°F) max. dew point.	10% to 80% with 29°C (84.2°F) max. dew point.	10% to 80% with 29°C (84.2°F) max. dew point.
Operation Acoustic Noise (Sound Power)	8.7 bels	7.8 bels	8.7 bels	8.7 bels
Operation Acoustic Noise (Sound Pressure)	76 db	67 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)

ES120 Expansion shelf

External interface (host/expansion)

Two ports with four lanes per port (8 lanes) of 24Gb/s serial attached SCSI generation (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

12-drive bays, supports, 3.5-inch form factor 8 TB 7.2K SAS drives

Dimensions

Height: 3.4 in (8.68 cm)

Width: 17.5 in (44.45 cm)

Depth: 21.5 in (54.5 cm)

Weight: 56.39 lbs (25.58 kg)

Operational

Power (VA): Up to 195VA or 193W, (100-240V ~, 47 to 63 Hz)

Thermal Rating: Up to 659 BTU/hr

Environmental

Ambient temperature: 41° F to 95° F (5° C to 35° C)

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

Relative humidity extremes: 8% to 85% noncondensing

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

Non-Operating (Transportation):

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

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

Relative humidity: 5% to 95% with 27° C (80.6° F) max dewpoint

Elevation: Up to 39,370 ft (12,000 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

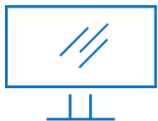
Height: 75 in (190.8 cm)

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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