DELL Technologies

Spec Sheet

DELL POWERPROTECT DD SERIES APPLIANCES

The DD series is the ultimate protection storage appliance that is the next generation of Data Domain appliances.

The DD series delivers a fast, secure and an efficient solution that is optimized for multi-cloud data protection and future demands.

The DD series consists of the DD9900, DD9400, DD6900, DD6400, DD3300 and a software-defined appliance with PowerProtect DD Virtual Edition (DDVE).

	DD3300	DD6400	DD6900	DD9400	DD9900
Max Throughput	Up to 4.2 TB/hr	Up to 12.7 TB/hr	Up to 15 TB/hr	Up to 26 TB/hr	Up to 41 TB/hr
Max Throughput (DD Boost)	Up to 7.0 TB/hr	Up to 27.7 TB/hr	Up to 33 TB/hr	Up to 57 TB/hr	Up to 94 TB/hr
Logical Capacity[1]	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
Logical Capacity with Cloud Tier	Up to 4.8 PB	Up to 33.5 PB	Up to 56.1 PB	Up to 149.8 PB	Up to 293 PB
Usable Capacity	4TB – 32 TB	8 TB - 172 TB	24 TB – 288 TB	192 TB – 768 TB	576 TB – 1.5 PB
Usable Capacity with Cloud Tier	Up to 96 TB	Up to 516 TB	Up to 864TB	Up to 2.3 PB	Up to 4.5 PB
ES40 Shelf	N/A	8 TB 7.2K SAS	4 TB 7.2K SAS	8 TB 7.2K SAS[3]	8 TB 7.2K SAS[3]
DS60 Shelf	N/A	N/A	4 TB 7.2K SAS[3]	8 TB 7.2K SAS	8 TB 7.2K SAS
FS25 Shelf	N/A	N/A	3.8 TB SSD[2]	3.8 TB SSD[2]	3.8 TB SSD[2]

[1]Logical capacity based on up to 50x deduplication (DD3300) and typically 65x deduplication (DD6400, DD6900, DD9400, DD9900) 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.

[2]High Availability configuration only, in a standard configuration SSDs are in the controller. The following systems support a high availability active/standby configuration: DD9900, DD9400 and DD6900

[3]Supported but not for factory racked orders

	DD3300	DD6400	DD6900	DD9400	DD9900
Built-In Networking	1x Mgm't port	1x Mgm't port	1x Mgm't port	1x Mgm't port	1x Mgm't port
	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 10G SFP+	4x 10G BASE-T or 4x 10G SFP+
Optional Networking with I/O Cards	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 built-in) 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 built-in) 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 10G SFP+ (including built-in) Up to three dual port 25G SFP+ Up to 3 quad port 16Gb FC HBA	Up to four quad port 10G Base-T (including built-in), which can auto-negotiate down to support 1GbE Up to four quad port 10G SFP+ Up to four dual port 25G SFP+ Up to four dual port 100G Up to 4 quad port 16Gb FC HBA

	DD3300	DD6400	DD6900	DD9400	DD9900
Weight (Lbs)	16 HDDs: 73 lbs	4SSDs/8HDDs: 73 lbs	6 SSDs: 73 lbs	9 SSDs: 73 lbs	4 SSDs: 110 lbs
Dimensions	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 29.6” x 3.5” 2U EIA rack units	17.1” x 32.0” x 5.2” 3U EIA rack units
Power 100-120/200-240v~, 50/60 Hz	16 HDDs: 429 VA	4SSDs/8HDDs: 524 VA	6 SSDs: 364 VA	9 SSDs: 647 VA	4 SSDs: 1117 VA
Thermal Rating (Watts)	16HDDs: 425 Watts	4SSDs/8HDDs: 516 Watts	6 SSDs: 352 Watts	9 SSDs: 635 Watts	4 SSDs: 1111 Watts
Thermal Rating (BTU/Hr)	16HDDs: 1450	4SSDs/8HDDs: 1760 btu/hr	6 SSDs: 1201 btu/h	9 SSDs: 2167 btu/h	4 SSDs: 3791 btu/h
Operating Temperature/ Altitude[3]	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 3,117 ft	10°C to 35°C, 35°C at 3,117 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	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
Operation Acoustic Noise (Sound Power)	LWAd: 7.8 bels	7.2 bels	7.2 bels	7.6 bels	8.6 bls
Operation Acoustic Noise (Sound Pressure)	LpAm: 67 db	61 db	52 db	58 db	70 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. http://dell.com/regulatory_compliance

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.

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: 50º F to 95º F (10º C to 35º C)

Temperature gradient: 36º F/hr (20ºC/hr)

Relative humidity extremes: 20% to 80% noncondensing

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

Non-Operating (Transportation) Temperature:

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

Temperature gradient: 36º F/hr (20ºC/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.

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: 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)

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: 50º F to 95º F (10º C to 35º C)

Temperature gradient: 36º F/hr (20ºC/hr)

Relative humidity extremes: 20% to 80% noncondensing

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

Non-Operating (Transportation) Temperature:

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

Temperature gradient: 36º F/hr (20ºC/hr)

Relative humidity: 10% to 90% noncondensing

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

DD series 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 60cmx1200cm 42 U rack is also available