DELL Technologies

Spec Sheet

DELL EMC POWERPROTECT DD SERIES APPLIANCES

Dell EMC PowerProtect DD Series Appliances is the ultimate protection storage appliance that is the next generation of the existing Dell EMC Data Domain appliances. PowerProtect DD is the #1 customer choice of data protection and is now setting the bar for data management from edge to core to cloud.

PowerProtect DD appliances deliver a fast, secure and an efficient solution that is optimized for multi-cloud data protection and meets future demands via a multi-dimensional appliance portfolio.

PowerProtect DD Series Appliances comprises of PowerProtect DD9900, PowerProtect DD9400, PowerProtect DD6900, PowerProtect DD3300 and a software-defined appliance with PowerProtect DD Virtual Edition (DDVE).

	DD3300	DD6900	DD9400	DD9900
Max Throughput	Up to 4.2 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 33 TB/hr	Up to 57 TB/hr	Up to 94 TB/hr
Logical Capacity[1]	Up to 1.6PB	Up to 18.7PB	Up to 49.9PB	Up to 81.3PB
Logical Capacity with Cloud Tier	Up to 4.8PB	Up to 56.1PB	Up to 149.8PB	Up to 211PB
Usable Capacity	4TB – 32TB	48TB – 288TB	192TB – 768TB	576TB – 1.25PB
Usable Capacity with Cloud Tier	Up to 96TB	Up to 864TB	Up to 2.3PB	Up to 3.25PB
ES40 Shelf	N/A	4TB 7.2K SAS	8TB 7.2K SAS[3]	8TB 7.2K SAS[3]
DS60 Shelf	N/A	4TB 7.2K SAS[3]	8TB 7.2K SAS	8TB 7.2K SAS
FS25 Shelf	N/A	3.84TB SSD[2]	3.84TB SSD[2]	3.84TB SSD[2]

[1]Logical capacity based on up to 50x deduplication (DD3300) and up to 65x deduplication (DD6900, DD9400, DD9900) based on additional hardware-assisted data compression of up to 30% better than 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	DD6900	DD9400	DD9900
Built-In Networking	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+
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 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	DD6900	DD9400	DD9900
Weight (Lbs)	16 HDDs: 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 32.0” x 5.2” 3U EIA rack units
Power 100-120/200-240v~, 50/60 Hz	16 HDDs: 429 VA	6 SSDs: 519 VA	9 SSDs: 715 VA	4 SSDs: 1236 VA
Thermal Rating (Watts)	16HDDs: 425 Watts	6 SSDs: 488 Watts	9 SSDs: 686 Watts	4 SSDs: 1187 Watts
Thermal Rating (BTU/Hr)	16HDDs: 1449	6 SSDs: 1730 btu/h	9 SSDs: 2358 btu/h	4 SSDs: 4228 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
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) 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	7.6 bels	8.6 bls
Operation Acoustic Noise (Sound Pressure)	LpAm: 67 db	52 db	58 db	70 db

[3] Derate 1.1°C/1,000 ft above 7,500 ft to 10,000 ft

Statement of Compliance

Dell EMC 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

PowerProtect DD Virtual Edition performance and capacity

	DDVE* at 16TB	DDVE* at 96TB
Max Throughput	Up to 2.1 TB/hr	Up to 4 TB/hr
Max Throughput (DD Boost)	Up to 5.6 TB/hr	Up to 11.2 TB/hr
Logical Capacity	Up to 800TB	Up to 4.8PB
Logical Capacity with Cloud Tier	Up to 2.4PB	Up 14.8PB
Max Usable Capacity	Up to 16TB	Up to 96TB
Max Usable Capacity with Cloud Tier**	Up to 48TB	Up to 288TB

***** Throughput drawn running DDVE with 16TB & 96TB 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

****** DDVE can run on-prem or in the cloud up to 96TB. DDVE runs on VMware, Hyper-V or KVM on-prem, and on AWS, VMware Cloud, Azure, Google Cloud Platform, AWS GovCloud and Azure Government Cloud. Cloud Tier is supported only with DDVE installed on-prem.

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.

PowerProtect DD 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

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

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 60cmx120cm 42 U rack will be available in Q1 2020

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 meter

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: 44.6 lbs (20.2 kg)

Operational

Power (VA): 325VA or 301W, (100-240V ~, 47 to 63 Hz)

Thermal Rating: 1027 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 meter

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): 980 VA or 931W (200-240V ~, 47 to 63 Hz)

Thermal Rating: 3177 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 meter

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): 312VA or 293W, (100-240V ~, 47 to 63 Hz)

Thermal Rating: 1000 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)