

DDX Controller Series

High-speed, Inline Deduplication for the DDX Array Series

Key Benefits

Scalable Deduplication Storage

- > Fast, inline deduplication with up to 5.4 TB/hour of throughput
- > Extended retention providing up to 3.5 PB of deduplication storage
- > 10-30x data reduction average

Easy Integration

- > Supports leading backup and archive applications from:
 - Symantec EMC
 - HP IBM
 - Microsoft CommVault
 - BakBone CA
 - Atempo
- > Supports leading enterprise applications including:
 - > Database: Oracle, SAP, DB2, SQL
 - > Email: Microsoft Exchange
 - > Virtual environments: VMware
 - > Content management: Microsoft SharePoint
- > Simultaneous use of VTL, NAS and Symantec OpenStorage (OST)

Multi-site Disaster Recovery

- > 99% bandwidth reduction
- > Flexible replication topologies
- > Multi-site tape consolidation
- > Remote site replication
- > Cost-efficient disaster recovery

Ultra-safe Storage for Reliable Recovery

- > Continuous recovery verification
- > Continuous fault detection and healing
- > Dual disk parity RAID-6

Operational Simplicity

- > Lower administrative costs
- > Power, cooling and space efficiencies for green operation
- > Reduced hardware footprint
- > Supports any combination of backup and archive applications in a single system

The DDX Controller Series powers the Data Domain DDX Array Series, the industry's highest throughput, highest performance deduplication storage systems for the data center.



DD880 Controller

All DDX controllers use Data Domain high-speed, inline deduplication technology which yields an average of 10-30x data reduction. The result is cost-efficient disk-based data retention for fast, reliable recoveries and longer term retention. DDX controllers scale to support data capacities of up to 3.5 PB of logical storage per controller for a typical enterprise data set

and backup policy, and provide up to 5.4 TB/hour of throughput.

DDX controllers are qualified with all leading enterprise backup and archive software and easily integrate into the existing infrastructure.

The DDX Controller Series is available with integrated dual disk parity RAID-6 protected storage or can be configured as a gateway to manage third-party enterprise storage systems.

| SPECIFICATIONS | DD565 | DD660 | DD690g | DD690 | DD880 |
|--|---------------|-------------|---------------|-------------|-------------|
| Capacity: Raw ^{3,4} | Up to 23.5 TB | Up to 36 TB | Up to 35.5 TB | Up to 48 TB | Up to 96 TB |
| Logical Capacity: Standard ^{1,3,4} | 320 TB | 520 TB | 710 TB | 710 TB | 1.4 PB |
| Logical Capacity: Redundant ^{2,3,4} | 810 TB | 1.31 PB | 1.77 PB | 1.77 PB | 3.5 PB |
| Maximum Throughput ⁵ | 1.1 TB/hr | 2 TB/hr | 2.7 TB/hr | 2.7 TB/hr | 5.4 TB/hr |
| Power Dissipation ⁶ | 644 W | 575 W | 564 W | 564 W | 1248 W |
| Cooling Requirement ⁶ | 2198 BTU/hr | 1962 BTU/hr | 1925 BTU/hr | 1925 BTU/hr | 4259 BTU/hr |

1. Mix of typical enterprise backup data (file systems, databases, mail, developer files), full backup weekly, incremental backup daily, to system capacity.

2. Mix of typical enterprise data (file systems, databases, mail, developer files), full backup daily, to system capacity.

3. All capacity values are calculated using Base10 (i.e., 1TB = 1,000,000,000,000 bytes).

4. Includes support for add-on shelves.

5. Maximum throughput is achieved using OpenStorage and 10 Gb Ethernet.

6. Controller only.

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SOFTWARE

Data Domain Operating System (DD OS) 4.7 or later

Software Features

Global Compression, Data Invulnerability Architecture including end-to-end verification (ongoing) and integrated dual disk parity RAID-6, snapshots, telnet, FTP, SSH, email alerts, scheduled capacity reclamation, Ethernet failover and aggregation, Data Domain OpenStorage, Replicator and Retention Lock optional software

Management

Data Domain Enterprise Manager, GUI, SNMP and command line management interface

Protocols

NFS v3 over TCP, CIFS, Symantec OpenStorage, tape library emulation (VTL) over Fibre Channel

HARDWARE PLATFORM

19-inch, rack mountable, for use in 4-post rack, hot-plug disks, redundant fans, redundant power supplies, serial port, 2 copper 10/100/1000 Ethernet ports and optional dual port copper or optical 1 Gb Ethernet and dual-port copper or single-port optical 10 Gb Ethernet

System Weight

DD565: 78 lbs (35.5 kg)
DD660: 66 lbs (30 kg)
DD690/DD690g: 51 lbs (23 kg)
DD880: 90 lbs (40.8 kg)

System Dimensions (WxDxH)

DD565: 19" x 27" x 5.2"
(48.3 cm x 68.6 cm x 13.2 cm)
3 EIA units
DD660/DD690/DD690g: 19" x 29.5" x 3.5"
(48.3 cm x 74.9 cm x 8.9 cm)
2 EIA units
DD880: 19" x 27.8" x 7"
(48.3 cm x 70.6 cm x 17.8 cm)
4 EIA units

Minimum Clearances

Front, with bezel closed: 1.56" (4.0 cm)
Rear: 5" (12.7 cm)

SYSTEM EXPANSION

DD565: 23.5 TB raw capacity; 16 TB external

- Up to two 8 TB expansion shelves

DD660: 36 TB raw capacity; 24 TB external

- Up to three 8 TB expansion shelves
- Up to one 16 TB expansion shelf and one 8 TB expansion shelf

DD690: Up to 48 TB raw capacity

- Up to six 8 TB expansion shelves
- Up to three 16 TB expansion shelves
- Support for a mix of 8 TB and 16 TB expansion shelves up to 48 TB raw capacity

DD690g: Up to 35.5 TB raw capacity

DD880: Up to 96 TB raw capacity

- Up to six 16 TB or 8 TB expansion shelves
- Support for a mix of 16 TB and 8 TB expansion shelves up to 96 TB raw capacity

OPERATIONAL SPECIFICATIONS

Power (VA)

100-120 / 200-240 V~, 50/60 Hz
DD565: 644 VA
DD660: 575 VA
DD690/DD690g: 564 VA
DD880: 200-240 V~, 50/60 Hz, 1248 VA

System Thermal Rating

DD565: 2198 BTU/hr
DD660: 1962 BTU/hr
DD690/DD690g: 1925 BTU/hr
DD880: 4259 BTU/hr

Operating Temperature

DD565: 5°C to 35°C (41°F to 95°F)
DD660/DD690/DD690g/DD880: 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

DD565: Max 7.5 BA, sound power at rear of unit when all drives seek simultaneously
D660/DD690/DD690g/DD880: Max 7.0 BA, sound power at rear of unit when all drives seek simultaneously

EXTERNAL STORAGE FOR GATEWAY CONTROLLERS

Interface

PCI-based Fibre Channel fabric and Fibre Channel-Arbitrated Loop (FC-AL) / 1 to 4 Gb/sec

Connectivity

Direct-attached; Fibre Channel SAN fabric attached

REGULATORY APPROVALS

Safety: UL 60950-1, CSA 60950-1, EN 60950-1, IEC 60950-1, GS, SABS, GOST, IRAM
Emissions: FCC Class A, EN 55022, CISPR 22, VCCI, BSMI, MIC, ICES-003
Immunity: EN 55024, CISPR 24
Power Line Harmonics: EN 61000-3-2