

Appliance Series

DD880: Deduplication Storage for the Core Data Center

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
- > Replication from up to 180 remote sites
- > 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 and cooling efficiencies for green operation
- > Reduced hardware footprint
- > Supports any combination of backup and archive applications in a single system

Today's traditional disk backup systems provide minimum benefit for backup environments. Traditional disk cannot cost efficiently retain backup data for any length of time, and backup data is too large to be replicated over a Wide Area Network (WAN). They also fail to replace tape automation technology because they lack the requisite economic and operational qualities.

Data Domain has revolutionized disk backup and remote office data protection with patented high-speed, inline deduplication. Backup data can be reduced in size by an average of 10-30x, so disk backup storage is now cost-effective for long-term onsite retention and highly efficient for network-based replication to disaster recovery sites.

Scalable Deduplication Storage

The Data Domain DD880 is the industry's highest throughput, most cost-effective and scalable deduplication storage solution for disk backup and network-based disaster recovery (DR).

Enterprise Performance and Capacity

The high-throughput, inline deduplication data rate of the DD880 is a direct benefit of the Data Domain Stream-Informed Segment Layout (SISL) Scaling Architecture. A single



DD880 System

DD880 system achieves single-stream throughput of up to 1.28 TB/hour, performance that is imperative for protecting large, business critical databases in the data center. This performance is achieved by

a CPU-centric approach to deduplication, which minimizes the number of disk spindles required to achieve throughput needed for critical single-stream operations.

The DD880 provides aggregate throughput of up to 5.4 TB/hour using multiple backup policies, so organizations struggling to meet backup windows will benefit from the DD880's high throughput rate. Data protection and archive capacities are supported up to 3.5 PB of logical storage per system, enough to satisfy most enterprise data sets and backup policies.

Massive Data Reduction

Data Domain systems store each unique data sequence only once and save significant physical storage capacity by substituting small references for each identical redundant sequence. Backup data, for example, is ideal for

this technology, and Data Domain is the only vendor to offer the benefits of data reduction and the throughput to meet backup windows.

The Appliance Series offers an average of 10-30x data reduction for enterprise recovery images, enabling cost-efficient retention on disk for high-speed and more reliable recoveries. Snapshot technology further enables extended local and offsite retention on disk.

Easy Integration

The Data Domain DD880 is qualified with all leading enterprise backup software and archiving applications and easily integrates into the existing storage infrastructure without change for either data center or distributed office data protection.

Designed specifically for data protection, the DD880 is purpose-built storage for enterprise backup and archive data. Organizations achieve higher efficiencies across backup and archive applications having multiple data types, while management overhead is reduced by combining data from multiple applications into a single storage system.

Multi-Site Disaster Recovery

Connect an appliance to your backup software's media server as either a file server via Ethernet or a virtual tape library (VTL) via Fibre Channel. Symantec OpenStorage is also supported; all three interfaces can be used simultaneously. It takes just minutes to start backing up and recovering data. If required, duplicating to tape is simple using your existing software for offsite protection and long term retention. For other data protection workloads, simply copy and paste files or use an archiving application to move data to the appliance.

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Data Domain Replicator software is also ideal for network-efficient replication to another site for disaster recovery, remote office data protection or multi-site tape consolidation.

The DD880 supports replication fan-in from Data Domain systems installed at up to 180 remote offices. Deduplication is 'global' across all of the remote sites, minimizing the required bandwidth, since only the first instance of data is transferred across any of the WAN segments. Data sets are effectively shrunk by 99%, to a size where network-efficient replication is operationally feasible.

Ultra-Safe Storage for Reliable Recovery

Data Domain Data Invulnerability Architecture provides the industry's best defense against data integrity issues.

Continuous recovery verification along with extra levels of data protection continuously detect and protect against data integrity issues during the initial backup and throughout the data lifecycle. Unlike any other enterprise array or file system, each appliance ensures recoverability is verified and then continuously re-verified.

The systems are configured with dual disk parity RAID-6, so two disks can fail simultaneously and the system will remain healthy. Fans and power supplies are redundant and easy to replace for added system resilience.

Operational Simplicity

Data Domain systems are very simple to install and manage resulting in lower administrative and operational costs.

All Data Domain systems have an automatic call-home system reporting capability, called Auto-Support, which provides email notification of complete system status.

This non-intrusive alerting and data collection capability enables proactive support and service without administrator intervention, further simplifying ongoing management.

SPECIFICATIONS	DD880
Capacity: Raw ³	Up to 96 TB
Logical Capacity: Standard ^{1, 3, 4}	1.4 PB
Logical Capacity: Redundant ^{2, 3, 4}	3.5 PB
Maximum Throughput ⁵	5.4 TB/hr
Power Dissipation ⁶	1248 W
Cooling Requirement ⁶	4259 BTU/hr

- Mix of typical enterprise backup data (file systems, databases, mail, developer files), full backup weekly, incremental backup daily, to system capacity.
- Mix of typical enterprise data (file systems, databases, mail, developer files), full backup daily, to system capacity.
- All capacity values are calculated using Base 10 (i.e., 1 TB = 1,000,000,000,000 bytes) and the maximum raw capacity configuration.
- Includes support for add-on shelves.
- Maximum throughput achieved using OpenStorage and 10 Gb Ethernet.
- Controller only.

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

SYSTEM EXPANSION

Up to 96 TB raw capacity

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

HARDWARE PLATFORM

4U 19-inch, rack mountable, 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

90 lbs (40.8 kg)

System Dimensions (WxDxH)

19" x 27.8" x 7" (48.3 cm x 70.6 cm x 17.8 cm)
4 EIA units

Minimum Clearance

Front, with bezel closed: 1" (2.5 cm)
Rear: 5" (12.7 cm)

Power (VA)

200-240 V~, 50/60 Hz
1248 VA

System Thermal Rating

4259 BTU/hr

Operating Temperature

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

Max 7.0 BA, sound power at rear of unit when all drives seek simultaneously

REGULATORY APPROVALS

Safety: UL 60950-1, CSA 60950-1, EN 60950-1, IEC 60950-1, GS, SABS, GOST, IRAM
Emissions: FCC Class A, EN 5022, CISPR 22, VCCI, BSMI, MIC, ICES-003
Immunity: EN 55024, CISPR 24
Power Line Harmonics: EN 61000-3-2