Dell | EMC DD670

Scalable backup to disk with integrated deduplication

Many organizations are looking for ways to improve the reliability, ease and speed of their data backup and recovery. Disk-based backup is an option that can address these needs, but it faces cost and management challenges when it comes to expanding data growth and offsite protection. Data deduplication is a technology that can tackle these concerns by removing duplicate copies of data, thereby bringing the cost of disk backup closer to that of tape. The Dell / EMC DD670 is a scalable backup to disk solution with integrated deduplication that is designed to be easy to implement, to help improve data protection and to reduce recovery time.

Mature solution that is easy to implement and manage

You can eliminate the frustrations of backup and feel confident that your organization's most valuable asset, your data, is protected and available by deploying disk-based backup with integrated deduplication from Dell™, EMC® and Data Domain® that has been proven through more than 12,000 installed systems with 4,300 customers. Implement without redesigning your entire backup environment thanks to support for almost any backup and archive software and heterogeneous hardware. Wizard-based controls make set-up and management easy allowing you to focus time and resources on your organizational goals instead of backup.

The DD670 enables easy capacity expansion as your needs grow by adding up to four ES20 hard drive shelves with 16 1TB drives each or two ES20 shelves with 16 2TB drives each. Thanks to the scalability of the DD670, you can protect up to 1.12PB of logical capacity with up to 76TB of raw capacity and a 20x dedupe ratio*.

Improve data protection and recovery time while lowering costs

Disk backup with high throughput inline deduplication can help ensure that you are prepared for challenges associated with protecting your growing volumes of data. The DD670 allows you to store more data in a nearline setting for longer and in a smaller footprint than with other backup options and helps you simplify your backup environment by displacing tape, moving it from backup to long-term archive. You can achieve 90-97% backup data reduction with a typical 10-30x deduplication ratio. The DD670 is designed from the ground up around dedupe and has a variable block deduplication algorithm which helps you achieve optimal capacity savings. In addition, you can meet your organization's enterprise data compliance needs by enabling the EMC Data Domain Retention Lock, EMC Data Domain Encryption and data shredding optional features of the DD670.

Enhance disaster recovery with efficient replication

Be up and running faster in the event of a disaster by using the DD670 to provide network-efficient replication for disaster recovery. You can realize up to a 99% bandwidth reduction for replication, in a typical backup environment with a 5-10% incremental change rate, via the DD Series deduplication technology. Lower bandwidth costs can make replication a viable DR solution to protect your organization should the unexpected happen and can help you alleviate burdens on remote/branch offices by centralizing and automating data protection back to the main office using EMC Data Domain Replicator software. The DD670, thanks to its ability to expand with the addition of ES20 hard drive shelves, can provide you a platform for protecting ever-growing central office data as well as a replication target for other DD units in branch/remote offices.

Ensure data integrity

The Data Domain Data Invulnerability Architecture provides one of the industry's best defenses against data integrity issues. Continuous fault detection and healing and end-to-end verification of data recoverability at time of backup protect against data integrity issues through the data life cycle. In addition, the DD670 utilizes redundant system components and a RAID 6 architecture to protect against data loss from hardware failures.

Flexible deployment options

The DD670 is easy to implement and flexible for changing needs thanks to support for several different connectivity protocols, including CIFS, NFS, NDMP, DD Boost and Fibre Channel Virtual Tape Library (VTL). The Fibre Channel VTL option facilitates using the DD670 as a data vault on your FC SAN and offers full VTL functionality for seamless integration into existing backup/archive approaches. It can support up to 64 virtual tape libraries at any one time. The EMC Data Domain Boost option extends the backup optimization benefits of Data Domain deduplication storage solutions by distributing parts of the deduplication process to the backup server, extending the backup optimization benefits of the DD670, dramatically increasing throughput speeds, minimizing backup LAN load, and improving backup server utilization versus without DD Boost.

Solutions designed for your unique needs

Dell offers a suite of end-to-end consulting services to help you understand deduplication technology, quantify the benefits and design a deduplication solution to effectively meet your needs. Dell takes an enterprise-wide view of your storage infrastructure in areas of backup, recovery and archive to determine how deduplication can add value. These services are designed to help you find a "better path" to deduplication, to save time and money and reclaim your IT resources.

Feature	Dell | EMC DD670
Raw capacity	Up to 76 TB
Logical capacity*	Up to 1.2 PB
Maximum throughput	Up to 5.4 TB/hr[1]
Connectivity options (standard)	CIFS, NFS, NDMP
Connectivity Options (optional)	Data Domain Boost (for use with Symantec OpenStorage and EMC Networker environments), and tape library emulation (VTL) over Fibre Channel (FC8)
Ports	2 copper 10/100/1000 Ethernet ports are standard. Up to 3 optional dual port copper or optical 1Gb or 10Gb Ethernet NICs
Chassis	DD670: Rack mounted twelve drive enclosure consuming only two units (2U) of rack space ES20: Rack mounted sixteen drive expansion shelf consuming only three units (3U) of rack space
Hardware data protection	RAID 6 and dual redundant power supplies and fans
Management	EMC Data Domain Enterprise Manager, GUI, SNMP, and command line management interface
Included software	EMC Data Domain Operating System (DD OS) 4.9 or later
Included software Features	Global Compression, Data Invulnerability Architecture including end-to-end verification (ongoing), snapshots, telnet, FTP, SSH, email alerts, scheduled capacity reclamation, Ethernet failover and aggregation
Optional software	Data Domain Replicator: Enables full suite of replication functionality Data Domain Retention Lock: Enables compliance features such as WORM and data shredding Data Domain Encryption: Enables strong encryption of backup data for enterprise compliance Data Domain Boost: Enables enhanced integration with Symantec OpenStorage and EMC NetWorker to provide faster backups, better resource utilization and improved management versus without DD Boost. Data Domain Virtual Tape Library: Enables using the solution as a Fibre Channel Virtual Tape Library
Environmental	Minimum Clearances: DD670 and ES20: Front, with bezel closed: 1.56" (4.0 cm); Rear: 5" (12.7 cm) Power (VA): DD670 : 100-120 / 200-240 V~, 50/60 Hz. 724 VA ES20 : 100-120 / 200-240 V~, 50/60 Hz. 438 VA System Thermal Rating: DD670: 12 drives: 2471 BTU/hr, 688 Watts ES20: 16 drives: 1433 BTU/hr, 420 Watts Operating Temperature: DD670 and ES20: 10°C to 35°C (50°F to 95°F) Operating Humidity: DD670 and ES20: 20% to 80%, non-condensing Non-operating (Transportation) Temperature: DD670 and ES20: -40°C to +65°C (-40°F to +149°F) Operating Acoustic Noise: DD670: Max 7.4 BA sound power at rear of unit when all disks seek simultaneously ES20: Max 58 dB LpA average measured at bystander positions
Dimensions (WxDxH)	DD670: 66 lbs (30 kg). 19" x 27" x 3.4" (48.3 cm x 69.6 cm x 8.8 cm) ES20: 78 lbs (35.5 kg). 19" x 23" x 5.1" (48.3 cm x 59 cm x 13.1 cm)
Power dissipation	DD670: 688W ES20: 420W

* Logical capacity is the amount of undeduplicated data that could be backed up over time with a typical 20x dedupe ratio and 55.9TB usable capacity after RAID and formatting. Different data types, change rates, duration of storage and backup schemes (full vs. incremental) will impact dedupe ratio and logical capacity.

[1] 5.4TB/hr maximum throughput achieved using DD Boost and 10Gb Ethernet.

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