

# Dell Data Protection | DR Series backup and deduplication appliances

Dell Data Protection | DR Series of backup and deduplication appliances support all the major backup software applications in use today and can lower your backup storage costs to as little as \$.16/GB while reducing your total cost of ownership. The purpose-built appliances achieve these results using patented Rapid technology as well as built-in, variable block-based deduplication and compression. The DR Series helps you:

- Reduce your backup storage footprint
- Speed up recovery
- Reduce or eliminate the need for physical tapes for backup
- Optimize network bandwidth by lowering the amount of data sent to disaster recovery sites

## Simple, affordable solutions

The DR Series systems are extremely efficient, high-performance, disk-based backup and recovery appliances available in both physical and virtual configurations. The DR Series appliances are simple to deploy and manage, and offer unsurpassed total cost of ownership (TCO) benefits.

Innovative system software and an all-inclusive licensing model provide optimal functionality and help eliminate the hidden costs of future feature upgrades. The DR Series appliances have a simple installation process with intuitive remote setup and management capabilities. In addition, they are available in a range of usable capacity points, making them ideal for small enterprise, remote office environments and larger enterprise settings.

## Harness the power of deduplication

Through the use of innovative Dell deduplication and compression technology, the DR Series systems can achieve data reduction levels up to 15:1. This reduction in data means that more backup data can be retained longer and within the same footprint.

As disk backup target repositories, the DR Series systems are specifically engineered to handle high-throughput streaming backup workloads, with all deduplication and compression operations being performed inline. This approach minimizes the impact on backup and recovery performance.

Backup more. Store less. Perform better.

### Benefits:

- Supports major backup applications for easy deployment.
- Lowers backup storage costs to as little as \$.16/GB using deduplication and compression.
- Speeds data ingest by up to 29TB/hr with built-in protocol accelerators.
- Decreases TCO with all-inclusive licensing that includes replication, encryption, protocol accelerators and all future feature releases.
- Enhances data protection with built-in software safeguards (early write verify and continuous data protection).
- Provides best-in-class hardware features (NVRAM, data integrity scans, RAID6 storage, hot spares).
- Contains built-in AES 256-bit encryption for data in motion or at rest.
- Allows backup to VTL libraries using iSCSI and NDMP protocols.
- Incorporates 13th generation of Dell PowerEdge servers (DR4300e, DR4300 and DR6300).
- Offers in-place capacity expansion (DR4300e).
- Delivers the highest density deduplication target appliances on the market today.



## Achieve extensive scalability

The DR4300e, DR4300 and DR6300 offer flexible and seamless capacity expansion using Dell PowerVault MD1400 expansion shelves. The DR4300e appliance starts at 4.5TB with in-place upgrade to 9.0TB and additional expansion to 27TB using one MD1400 expansion shelf. The DR4300 appliances start at 18TB and scale to as much as 108TB of usable capacity (after RAID6) using two MD1400 expansion shelves. With the latest release of the DR Operating System, Dell has added support for 8TB disk drives on the MD1400 expansion shelves, allowing the DR6300 to scale from 18TB up to 360TB of total usable capacity (after RAID6). This pay-as-you-grow model allows you to expand capacity based on your business demands and helps alleviate challenges in the backup workflow.

Data backed up to DR Series appliances are handled as virtual shares or containers — eight for the DR2000v, 32 for the DR4300e, 64 for the DR4300 or 128 for the DR6300. DR appliance software automatically partitions existing capacity of the base unit and all expansion shelves, relieving the user of performing any storage provisioning.

## Edge to core protection with virtual appliance

For cost-effective data protection for small, remote or branch offices, the DR2000v is an attractive choice since no additional hardware investments are necessary. This pure software solution<sup>1</sup> delivers most of the same benefits of a physical DR appliance, including deduplication, compression, replication and encryption at rest.

The DR2000v is implemented at the remote site for local data protection and recovery. For disaster recovery purposes, the DR2000v replicates deduplicated data remotely to a peer DR physical or virtual appliance. The DR2000v is offered in 1, 2, 4 or 12TB (with a maximum of eight containers) capacity points and may be ordered in packs of one or 10 licenses.

<sup>1</sup> DR2000v license must be linked to physical DR appliance.

<sup>2</sup> Please see online tech specs for additional software certifications.

## Virtual Tape Library support

If you need to send backed-up data to tape formats due to legacy application requirements or retention requirements, the Dell DR Series offers Virtual Tape Library (VTL) support using NDMP or iSCSI connectivity. A single DR Series appliance can support four VTL libraries or containers. Each container stores backed up data on virtual LTO-4 tape drives further subdivided into virtual cartridges.

VTL containers are set up for an appliance using a new container configuration wizard that lets you establish containers using NAS, NDMP or iSCSI connectivity.

## Reap the rewards of business continuity

One of the primary benefits of backup-to-disk appliances is the ability to recover data in the event of disaster. By saving storage space through deduplication and compression, greater amounts of data can be kept online longer, and businesses can meet their recovery time and recovery point objectives while also lowering capital and administrative costs.

Through the use of the DR Series replication functionality, the benefits of data deduplication can extend across the enterprise to provide a complete backup and disaster recovery solution for multi-site environments. By replicating only deduplicated data from one DR appliance to another, network bandwidth requirements are reduced and disaster recovery time is optimized.

Replication enables better disaster tolerance without the operational costs associated with transporting tapes off site, and it can be scheduled to occur during non-peak periods. During replication, ingest data is prioritized over replication data to help ensure optimal backup windows.

When you need additional security, the Dell DR Series supports Encryption at Rest using industry-standard 256-bit Advanced Encryption Standard (AES) and internal encryption keys generated

by the appliance. The encryption can be performed inline (while data is being ingested) or post-process — after the data has been stored on disk.

## Management simplicity

As part of the DR Series software, the graphical user interface, Global View, is part of the DR Series operating system and provides an overview of a network of DR physical and virtual appliances, including system stats, hardware and software alerts, storage capacity/savings and important system information such as system and software versions.

Global View allows administrators to monitor a network of up to 64 DR appliances from a single screen for a seamless view of status across the enterprise. The DR Series appliance software automatically monitors the health of the hardware and verifies the integrity of the system software. Critical hardware and software issues can be sent by email for immediate notification.

## Flexibility to meet your needs

As purpose-built backup target appliances, the DR Series systems are specifically designed to perform the functions of deduplication and compression. Optimized for this purpose, they support a broad range of leading backup software solutions, such as Dell NetVault Backup and vRanger, as well as Veritas™ NetBackup® and Backup Exec®, CommVault® Simpana®, Microsoft® Data Protection Manager®, Veeam, EMC Networker, IBM TSM, Oracle RMAN, ArcServe, Hewlett Packard® Data Protector®, Bridgehead®, Amanda® and Atempo Time Navigator.<sup>2</sup>

## Accelerate backup operations with Dell DR Rapid technology

A distinguishing feature of the DR Series is DR Rapid — a technology offered through a set of plug-ins that comes standard with every appliance. The plug-ins are engineered by Dell and can be installed on the client servers or media servers connected to a Dell DR Series appliance. They help optimize performance using source-based deduplication and support Veritas OST



Feature	DR4300e	DR4300	DR6300	DR2000v
Form factor	2U	2U	2U	n/a
Internal storage	Redundant OS storage on dedicated disks (inside chassis) 12 3.5" drives, Near Line SAS—hardware RAID 6 configuration (11 drives + 1 hot spare)	Redundant OS storage on dedicated disks (inside chassis) 12 3.5" drives, Near Line SAS—hardware RAID 6 configuration (11 drives + 1 hot spare)	Redundant OS storage on dedicated disks (inside chassis) 12 3.5" drives, Near Line SAS—hardware RAID 6 configuration (11 drives + 1 hot spare)	Uses storage disks resident in the server hosting the virtual appliance (VMware ESXi (5.0, 5.1 or 5.5), Microsoft Hyper-V (2008R2, 2012, 2012R2))
Protocol support	NFS, CIFS, Rapid NFS, Rapid CIFS, OST, RDA, NDMP, iSCSI	NFS, CIFS, Rapid NFS, Rapid CIFS, OST, RDA, NDMP and iSCSI	NFS, CIFS, Rapid NFS, Rapid CIFS, OST, RDA, NDMP and iSCSI	NFS, CIFS, Rapid NFS, Rapid CIFS, OST, RDA
Networking	One Network Daughter Card option per node: 2 port 10GbE + 2 port 1GbE (base T or SFP+ or SFP+ w/cables); 4 port 1GbE; 4 port 10GbE (SFP+ or SFP+ w/cables)  Plus one optional add-on NIC: 4 port 1GbE; 2 port 10GbE; 2 port 10GbE (base T or SFP+ or SFP+ w/cables)	One Network Daughter Card option per node: 2 port 10GbE + 2 port 1GbE (base T or SFP+ or SFP+ w/cables); 4 port 1GbE; 4 port 10GbE (SFP+ or SFP+ w/cables)  Plus one optional add-on NIC: 4 port 1GbE; 2 port 10GbE; 2 port 10GbE (base T or SFP+ or SFP+ w/cables)	One Network Daughter Card option per node: 2 port 10GbE + 2 port 1GbE (base T or SFP+ or SFP+ w/cables); 4 port 1GbE; 4 port 10GbE (SFP+ or SFP+ w/cables)  Plus one optional add-on NIC: 4 port 1GbE; 2 port 10GbE; 2 port 10GbE (base T or SFP+ or SFP+ w/cables)	2 x 1GbE ports
Systems management	iDRAC 8 Enterprise	iDRAC 8 Enterprise	iDRAC 8 Enterprise	n/a
Physical dimensions	2U RAC-mountable chassis; H: 8.73 cm (3.44 in.) x W: 48.2 cm (18.98 in.) x D: 75.58 cm (29.75 in.)	2U RAC-mountable chassis; H: 8.73 cm (3.44 in.) x W: 48.2 cm (18.98 in.) x D: 75.58 cm (29.75 in.)	2U RAC-mountable chassis; H: 8.73 cm (3.44 in.) x W: 48.2 cm (18.98 in.) x D: 75.58 cm (29.75 in.)	n/a
Rack weight	36.5 kg, (80.47 lb.), maximum configuration	36.5 kg (80.47 lb.), maximum configuration	36.5 kg (80.47 lb), maximum configuration	n/a
Capacity points	4.5TB (67.5TB logical) <sup>3</sup> 9.0TB (135TB logical) <sup>3</sup>	18TB (270TB logical) <sup>3</sup> 36TB (540TB logical) <sup>3</sup>	18TB (270TB logical) <sup>3</sup> 36TB (540TB logical) <sup>3</sup> 54TB (810TB logical) <sup>3</sup> 72TB (1.08PB logical) <sup>3</sup>	Available in 4 post-RAID configurations: 1TB, 2TB, 4TB and 12TB. <sup>4</sup>  Each DR4300 or DR4300e can support up to 32 DR2000v licenses. Each DR6300 can support up to 64 DR2000v licenses.
Expansion unit capacity <sup>5</sup>	One expansion shelf maximum: 9TB post RAID (135TB logical) <sup>3</sup> 18TB post RAID (270TB logical) <sup>3</sup>	2 shelf maximum: 18TB post RAID (270TB logical) <sup>3</sup> 36TB post RAID (540TB logical) <sup>3</sup>	4 shelf maximum: 18TB post RAID (270TB logical) <sup>3</sup> 36TB post RAID (540TB logical) <sup>3</sup> 54TB post RAID (810TB logical) <sup>3</sup> 72TB post RAID (1.08PB logical) <sup>3</sup>	n/a
Wattage	750 W (redundant power supply)	1100 W (redundant power supply)	1100 W (redundant power supply)	n/a
Voltage	100 VAC to 240 VAC, auto ranging, 50Hz to 60Hz, 10 A-5A	100 VAC to 240 VAC, auto ranging, 50Hz to 60Hz	100 VAC to 240 VAC, auto ranging, 50Hz to 60Hz	n/a
Heat dissipation	2891 BTU/hr (maximum) (750 W PSU)	4100 BTU/hr maximum (1100 W PSU)	4100 BTU/hr maximum (1100 W PSU)	n/a
Regulatory model	E31S Series	E31S Series	E31S Series	n/a
Maximum throughput	21TB/hr with Rapid protocols <sup>6</sup>	22TB/hr with Rapid protocols <sup>6</sup>	29TB/hr with Rapid protocols <sup>6</sup>	1.4TB/hr with RDA or OST <sup>7</sup>
Backup software certifications	Dell AppAssure 5.x (Archive Repository Support only), NetVault Backup, vRanger; CommVault Simpana; Veritas Backup Exec and NetBackup; ARCserve; EMC Networker; Microsoft Data Protection Manager; Veeam; IBM TSM; Oracle RMAN; HP Data Protector; Bridgehead; Amanda, Atempo Time Navigator	Dell AppAssure 5.x (Archive Repository Support only), NetVault Backup, vRanger; CommVault Simpana; Veritas Backup Exec and NetBackup; ARCserve; EMC Networker; Microsoft Data Protection Manager; Veeam; IBM TSM; Oracle RMAN; HP Data Protector; Bridgehead; Amanda, Atempo Time Navigator	Dell AppAssure 5.x (Archive Repository Support only), NetVault Backup, vRanger; CommVault Simpana; Veritas Backup Exec and NetBackup; ARCserve; EMC Networker; Microsoft Data Protection Manager; Veeam; IBM TSM; Oracle RMAN; HP Data Protector; Bridgehead; Amanda, Atempo Time Navigator	Dell AppAssure 5.x (Archive Repository Support only), NetVault Backup, vRanger; CommVault Simpana; Veritas Backup Exec and NetBackup; ARCserve; EMC Networker; Microsoft Data Protection Manager; Veeam; IBM TSM; Oracle RMAN; HP Data Protector; Bridgehead; Amanda, Atempo Time Navigator

<sup>3</sup> All capacity values are calculated using Base 10 (i.e., 1TB = 1,000,000,000,000 bytes). Logical capacity based on overall deduplication ratio average of 15:1.

<sup>4</sup> Resource requirements: 4 virtual CPU cores, 8GB RAM, 200GB in addition to VM capacity.

<sup>5</sup> Expansion unit must be greater than or equal to size of base unit and requires installation of the required expansion shelf license.

<sup>6</sup> Expected performances when using RDA, Rapid NFS or Rapid CIFS, 10GbE and multiple backup or client server connections.

<sup>7</sup> Throughput achieved for DR2000v using 4 clients x 2 streams.



Edge to Core protection — The DR2000v software-based virtual appliance gives you the flexibility to easily protect data residing at local or branch locations

Scalability — Gain more than five petabytes of logical capacity (based on dedupe ratios of 15:1) with the DR6300

Pay-as-you-grow expansion — Support for up to one (DR4300e), two (DR4300) or four (DR6300) Dell PowerVault MD1400 expansion shelves (available in 9TB, 18TB, 36TB, 54TB or 72TB usable capacities after RAID)

Ease deployment and enhance flexibility with support for legacy backup applications and Virtual Tape Libraries

New DR4300e allows in-box expansion from 4.5TB to 9TB

(RDA for OST), Dell NetVault Backup and vRanger (RDA for NVBU and vRanger), and backup applications using NFS or CIFS (Rapid NFS/Rapid CIFS).

The primary advantage of DR Rapid is it enables the client or media server to be the source of the deduplication process by performing chunking and hash computations before sending unique data blocks to the appliance, thus boosting overall performance.

DR Rapid with Veritas' Open Storage Technology (RDA for OST) supports Veritas Backup Exec or NetBackup. RDA for Dell NetVault Backup enables deeper integration by providing the ability to catalog and log remote copies of data to optimize backup and replication management.

For those backup applications using the NFS or CIFS protocol, DR Rapid includes the industry's first source-side deduplication for NFS and CIFS — Rapid NFS and Rapid CIFS. Similar to the other DR Rapid plug-ins, Rapid NFS and Rapid CIFS sit on either the client servers or media servers and can help boost to as much as 29TB/hour.<sup>8</sup>

### Future-proof your data center

The DR Series appliances<sup>9</sup> change the economics of disk-based protection by trimming storage costs, mitigating risk and reducing complexity in the infrastructure. By accelerating and streamlining the backup process, the Dell DR Series appliances help ensure information restores are delivered in a convenient and accurate manner — in time with business needs.

The deduplication and compression features within the DR Series are cornerstone technologies of Dell's data protection vision. Future products within this architecture will continue to leverage the same deduplication/compression capabilities.

### Find the answers

Reduce IT complexity and costs and eliminate inefficiencies by making IT and business solutions work harder for you through Dell Services. The Dell Services team takes a holistic view of your needs and designs data protection solutions for your environment and business objectives while leveraging proven delivery methods, local talent and in-depth domain knowledge for the lowest TCO.<sup>10</sup>

Learn more at [software.dell.com/products/dr-series-disk-backup-appliances](http://software.dell.com/products/dr-series-disk-backup-appliances).

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### About Dell Software

Dell Software helps customers unlock greater potential through the power of technology — delivering scalable, affordable and simple-to-use solutions that simplify IT and mitigate risk. This software, when combined with Dell hardware and services, drives unmatched efficiency and productivity to accelerate business results. [www.dellsoftware.com](http://www.dellsoftware.com).

<sup>8</sup> Expected performance when using RDA, Rapid NFS or Rapid CIFS, 10GbE and multiple backup or client server connections.

<sup>9</sup> This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit ([www.openssl.org](http://www.openssl.org)).

<sup>10</sup> Availability and terms of Dell Services vary by region. For more information, visit [www.dell.com/servicesdescriptions](http://www.dell.com/servicesdescriptions).

#### Dell Software

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