



Dell Software Group

# **DL4000 Sales and Technical FAQ**

Dell DSG Sales and Business Development

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## Acknowledgements

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# 1 Introduction

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## 1.1 Purpose

This document provides an overview of the Dell PowerVault DL4000 and answers the most frequently asked questions about general data protection, best practices, the appliance architecture, and licensing.

## 1.2 Audience

This document is intended for technical and non-technical sales representatives, including Inside Sales Reps and TSRs who need to understand the how-to basics of the Dell™ DL4000. Readers should have a working knowledge of data protection and backup best practices.

## 1.3 Background

The Dell™ DL4000, powered by AppAssure 5, offers you a smart way to protect data and applications in your growing environment. It provides peace of mind from knowing that you can get back to business as usual in minutes, not hours or days. The PowerVault DL4000 is designed to help safeguard the physical and virtual servers that power your business, whether they are in your home or branch office, server room, or private cloud.

Dell has two purpose-built-backup appliance (PBBA) system offerings—the DR4x00 target appliance and the DL4000, which is an integrated PBBA.

The DL4000 is a 1U backup form-factor that integrates 5.5TB of storage capacity and two standby virtual machines in the standard edition. It delivers snapshot, replication, encryption, deduplication and compression software to back up over 250x daily and recover applications and data within minutes. There is also a high-capacity edition which has more RAM, faster CPUs, and can support four standby virtual machines.

Beginning in Q3'FY14, the DL4000 offers both standard and high-capacity edition configuration options of up to 80.5TB with the addition of two PowerVault MD1200 expansion shelves. The DL4000 system provides customers turn-key disk-based backup and recovery with wizard-driven set up for rapid deployment (under 20 minutes\*). Hallmark functionality of the DL4000 includes self-hosted virtual standby (up to four in the high-capacity edition). In that regard, the DL4000 acts as a server in times of need and disaster recovery.

The DL4000 can provide a cost-efficient backup solution.

\* ESG Lab deployed the Dell PowerVault DL4000 in less than 20 minutes (see [ESG Lab Validation Dell DL4000 July 2013.](#))

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# Dell DL4000 Disk backup appliance

Turnkey appliance that's easy to deploy



## DL4000 powered by 12G Dell PowerEdge

- 5.5TB usable capacity RAID6 storage
- Preconfigured with AppAssure 5.3.4
- Expand capacity to 10, 20, 40, 60 or 80TB with 1 or 2 MD1200 expansion shelves
- Integrated inline, block level dedupe and compression combined with optimized backups for WAN replication
- Appliance configuration wizard for set-up and storage provisioning

## OS: factory installed Microsoft® Windows Server® 2012 Standard

### Operating Systems Supported:

- MS Windows XP, Vista, 7 and 8
- MS Windows Server 2003, 2008, 2008 R2, 2012 (all versions)
- RHEL 6.3 (32 and 64 bit), 6.4
- CentOS 6.3, 6.4
- Ubuntu 12.04, 13.04
- SuSE Linux Enterprise Server 11 SP2, SP3

Licenses: based on the back-end compressed and deduplicated stored data capacity and includes all AppAssure features



### The DL4000 offers:

- Designed for business resiliency
- Configured for maximum value
- Optimized for efficiency
- Snapshot based-backups providing RPO & RTO of minutes
- Recovery assurance
- Disaster recovery powered by standby VMs

### Enhances your environment:

- Turnkey data protection in an appliance form factor
- Eliminates backup and restore windows
- Reduces TCO by combining data protection and DR functionality with deduplication and compression

Data Protection



## 1.3.1 What are the differences between the DL and DR appliance series systems?

Both appliance systems perform data reduction. The DR4100 performs data reduction by using "internal software (based on Ocarina)," thus eliminating CPU overhead on the **backup software media server**. In turn, this reduces time it takes to back up data or "reduces the backup window" requirements for existing backup software (non-AppAssure).

A DL4000 appliance is supported by AppAssure 5 software and is designed to address the following five key elements of a backup architecture for mid-market customers.

1. **RPO** – Recover data with five minutes or less of data loss
2. **RTO** – >1 minute required to recover critical services, such as Microsoft Exchange email
3. **Recovery Target** – Improve existing infrastructure by providing additional hardware for recovery
4. **Eliminate Setup** – Improve booting, configuring and provisioning backup system with a Configuration Wizard
5. **All-in-one Management** – Integrated server, storage and backup management for Fortune-100-like enterprise management

Dell has two backup-to-disk appliance system offerings. In the integrated segment Dell has its PowerVault DL4000. Complementing the integrated lineup is Dell's target PBBA system offering, the DR4100, which is a 2U, rack-based system available in raw capacities of 3.6TB, 7.2TB, 12TB, 24TB and

36TB configurations and is designed for medium enterprises and remote site protection. Facilitating medium enterprise deployment are PowerVault MD1200 expansion shelves in 12, 24 and 36 TB capacities for a total footprint of 108TB (raw capacity). The DR4100 provides inline deduplication, supports NFS, CIFS, RDA and OST protocols (included with base license). Hallmark functionality of the DR4100 is support of Dell and third-party backup applications, all necessary licenses (e.g. replication, Symantec OST, RDA) with non-disruptive deployment included in the base price. Recently Dell introduced the use of the Rapid Data Access (RDA) technology integrated with the DR4100 and NetVault Backup which enables source based deduplication and significantly boosts ingest performance to 7.5TB/hour.

## 2 General Data Protection

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### 2.1 What are the top five pieces of collateral I should share with my customer?

- [DL4000 Product Page](#)
- [DL4000 Product Announcement Video](#)
- [DL4000 Specification Sheet](#)
- [DL4000 Deployment Guide](#)
- [DL4000 User's Guide](#)

### 2.2 Are there any case studies or proof points for the DL4000?

Yes. Software.dell.com provides several proof points; for example:

[Taneja Group - AppAssure 5: Unified Platform For Business Resiliency](#)

[ESG Lab Validation Report: Dell PowerVaultDL4000 Appliance](#)

### 2.3 Where can I find competitive information for Symantec, Unitrends, EMC Avamar, and other competitors?

Feature	DL4000	BE3600	Unitrends <sup>*</sup>	Avamar
Backup SW	AppAssure	BackupExec	Unitrends	Avamar backup
Licensing	By capacity	By capacity	By capacity	By capacity
Operating System	Windows 2012 STD	Windows 2008R2	Unknown	RHEL4+
CPU/RAM	Std. 2x 6 core Intel, 64GB High-Capacity 2x 8 core 128GB	1x4core Intel 16GB	Varies	Varies
NICs	Std. 8x1GbE High-Capacity 4x1GbE, 2x10GbE	5x1GbE	1-8 1GbE +2x10GbE	1GbE
Management	Web Based	Web Based	Web Based	Web Based

Backend Storage	DAS; RAID6	DAS; RAID5	DAS	DAS
Storage Protected	DAS, SAN	DAS, SAN, NAS	DAS,SAN,NAS	DAS,SAN,NAS
Capacity	5.5-85.5TB	5.5TB	1-97TB	1.3 to 7.8TB
Tape Support	Yes using NVBU*	Yes	Yes	No
Scale out	No	No	No	Yes (RAIN)

\* In addition to tape backup with NetVault Backup, the DL4000 can copy an archive of backed up data to an NTFS share, or the backup application such as BackupExec or NetBackup can sweep to tape. Dell has a NetVault SKU (special limited feature licensing) for this use case.

## 2.4 How do I get a demo unit for my customer site?

Work with your channel manager, inside sales (ISR) or the ISR manager to get your customer on a demo unit.

## 2.5 What does a typical business case look like?

Company A is a Symantec customer that currently has a Symantec BE3600 onsite. During the summer of 2014, they will redesign most of their backup architecture and require backups as frequently as every five minutes, which BackupExec cannot provide. In addition, they want to stop using tape because they feel it is too hard to manage. Their current backups are unreliable and they need to ensure data recoverability. They are not a current Dell customer and must have a POC to consider the Dell DL4000.

We have specified a seed unit to be used in the POC that will accomplish their testing requirements. The opportunity we have at Company A is to replace their existing BE3600 appliance, which represents an annual opportunity size of \$200-\$250K.

## 2.6 How can I demo functional capabilities without a demo unit?

There are several options for providing a demo without a demo unit:

1. Send customers to <http://www.appassure.com/recorded-demos/>.
2. Set up an account at <http://demos.dell.com> and demo LIVE from your desktop

Note: practice is required prior to running live demos.

3. Channel partners may contact their channel account manager (CAM). The CAM can arrange a demo with someone on the internal channel support team.

## 2.7 Where can we find training for the DL4000?

- The DL4000 is based on Dell AppAssure 5 software. The online training for AppAssure 5 covers 95% of what you will need to know about the software used on the DL4000.
- See: <http://www.appassure.com/videos/> for additional AppAssure 5 product videos.

- Partners can navigate to the Dell Partner Direct Portal page:  
[http://partnerdirect.dell.com/sites/channel/en\\_us/trainings-and-certifications/cc/storage/pages/Storage.aspx](http://partnerdirect.dell.com/sites/channel/en_us/trainings-and-certifications/cc/storage/pages/Storage.aspx) .

Review the AppAssure Sales Overview:

Search on portal page for the AppAssure course: APP0412WBTS

Select Enroll on the far right, NetExam will open in a separate window.

Enter APP0412WBTS in the search box and press Enter.

Review the AppAssure Technical Overview:

Search on the Partner Direct portal page for course: APPT0512WBTT

Select Enroll on the far right, NetExam will open in a separate window,

Enter APPT0512WBTT in the search box and press Enter.

## **2.8 What if a customer wants to return a DL4000 because it is the wrong size, for a functional issue, or for other reasons?**

In rare cases customers want to return a DL4000. The DL4000 does have [a return policy \(30 days\)](#)

## 3 Product Architecture

### 3.1 How is encrypted data handled by the DL4000?

Application encrypted data compresses significantly less than equivalent unencrypted data. If transparent data encryption is used to encrypt an entire database, compressing backups might not reduce their size by much, if at all.

### 3.2 Can the DL4000 encrypt data and maintain deduplication/compression?

Yes. For example, a single DL4000 may back up finance data in a small business which requires the data to be encrypted after backup.

### 3.3 What chassis is the DL4000 based on?

The DL4000 system is based on a modified Dell R620 platform.

### 3.4 Does the DL4000 support NDMP?

No, The DL4000 and the AppAssure 5 software do not support NDMP.

### 3.5 Can the existing DL4000 appliances add an expansion chassis to capacity editions?

Yes, Dell is introducing new configurations for the DL4000 – Standard and High-Capacity editions. See the following for a summary:

#### DL4000 1.1 Appliance Specifications

- Platform based on Dell 12G server technology
- AppAssure v5.3.4
- Factory installed Microsoft® Windows Server® 2012
- Pre-Installed and auto-configured to eliminate setup and deployment errors
- Processors, memory, storage, RAID & disk speed optimized for backup & recovery
- 1U appliance with 10x 2.5" HDD
  - 2x 300GB SAS drives for OS (2.5", 10K, 6Gbps) RAID 1
  - 8x 1TB NL SAS for backup (2.5" 7.2K, 6Gbps)
- 5.5TB usable internal capacity RAID 6

#### Standard Edition

- Dual Intel 6-core processors
- 64GB memory
- 8 x 1 GbE ports
- Capacity expandable to 40TB with 1 MD1200
- 2 Standby Virtual Machines for Disaster Recovery

#### Performance Edition

- Dual Intel 8-core processors
- 128GB memory
- 2 x 10 GbE & 4 x 1 GbE NIC ports
- Capacity expandable to 80TB with 2 MD1200
- 4 Standby Virtual Machines for Disaster Recovery

### **3.8 Replication Architecture- Does the DL4000 support N:1 replication; for example, fan-in?**

The DL4000 supports the same replication models as AppAssure 5 within the limits of capacity and agent licenses; for example, 1:1, N:1 (See [Dell AppAssure: Server Data Replication Software](#)).

#### **3.8.1 Can a WAN acceleration/optimization device, such as Riverbed or Silverpeak, be in place between replicated DL4000 appliances?**

Yes, but it may not reduce replication traffic. AppAssure 5 implements read match write replication to ensure that no redundant blocks are replicated over and over.

## 4 Capacity Licensing

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### 4.1 What is the DL4000 capacity-based license?

The DL4000 capacity-based licensing is based on the amount data under protection. There are two primary models for capacity based licensing with backup solutions: front-end and back-end capacity license. Front-end capacity licenses meter usage based on the total amount of data ingested during backups. Back-end capacity licensing meters usage based on the back-end optimized stored data capacity or logical capacity of the storage after deduplication and compression have taken place. The DL4000 uses a back-end capacity-based license model.

### 4.2 Why is the DL4000 moving to a capacity-based licensing model?

This licensing model is driven by the accelerated adoption of disk-based backup and the near-exponential growth in storage capacity. Using a back-end capacity-based license model allows customers to maximize the benefits of compression and deduplication provided by the DL4000. Customers can also extend data protection to servers that were unsustainable by using the per agent license model.

Compression and deduplication ratios are greatly affected by the type of data and the change rates. Using a back-end capacity-based model allows the customer to monitor and manage the backup repository instead of managing the characteristics of the front-end business applications that "own" the data, change rates, deduplication ratios, and so on.

### 4.3 What are the available models?

The DL4000 is available in two models: the Standard Edition and the High-Capacity Edition. At Point of Sale (POS), the Standard Edition is available in 5, 10, 20 and 40TB configurations, and the High-Capacity Edition is available in 20, 40, 60 and 80TB configurations.

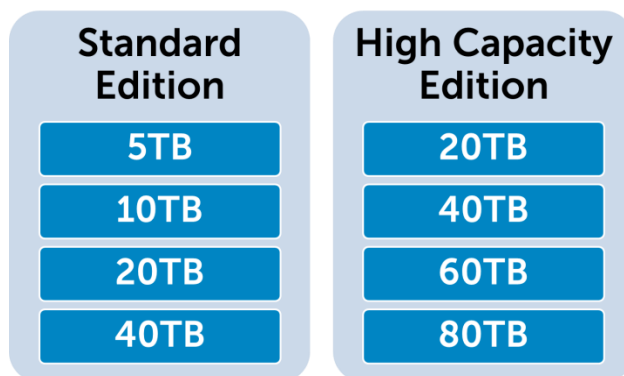


Figure 1 Figure 1 : DL4000 Capacity Points

*How are the capacities enforced?*

The license key contains information about the capacity licensed on the DL4000. The entitlement of the licensed capacity is managed and implemented by the license portal.

#### 4.4 What is a capacity upgrade?

Capacity upgrades allow the DL4000 to increase its licensed back-end capacity. Capacity upgrades are available after the point of sale (APOS) for select models of both Standard and the High-Capacity Editions using the built-in Dell PERC H810 expansion card. The Standard Edition supports one external MD1200 disk shelf, and the High Capacity Edition supports two MD1200 disk shelves. The upgrade consists of software license and the MD1200 disk shelves. Simply adding a MD1200 disk shelf to the DL4000 does not accomplish an upgrade because the MD1200 alone does not come with a DL4000 capacity usage license.

The following capacity upgrades are available for the DL4000 5TB Standard Edition, 20TB High-Capacity Edition and the 40TB High-Capacity Edition.

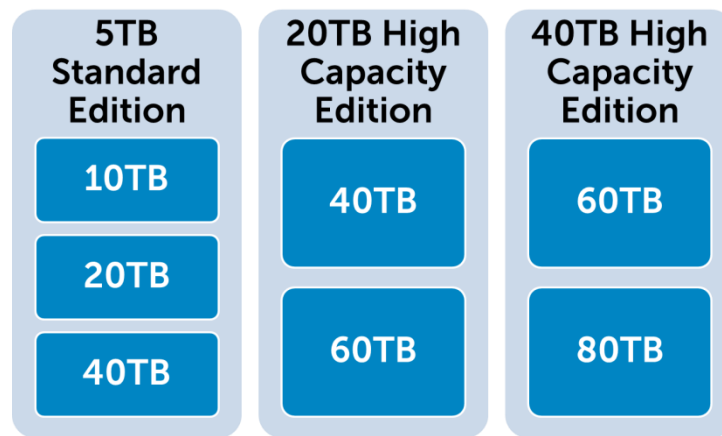


Figure 2 Figure 2 : Capacity Upgrades

#### 4.5 What capacity upgrades are available for the Standard Edition?

The Standard Edition can accommodate one external MD1200 disk shelf. The 5TB model of the Standard Edition can be upgraded to 10, 20 or 40TB.

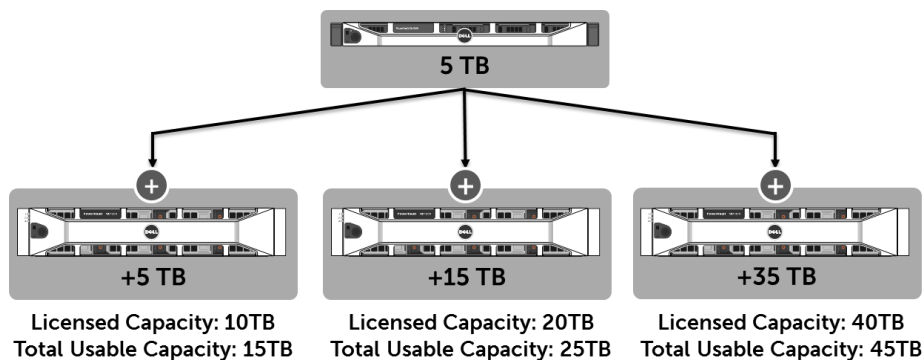


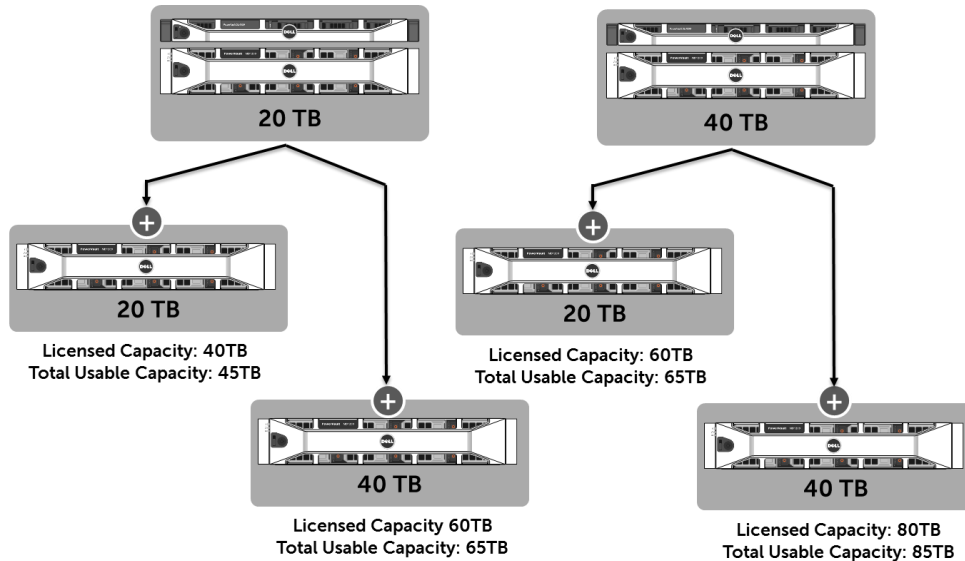
Figure 3 Figure 3 : Capacity Upgrades for the DL4000 5TB Standard Edition

- The 5TB upgrade for the DL4000 Standard Edition with 5TB consists of the following:
  - A 5TB capacity license

- 1 x MD1200 with 12x1 TB hot-pluggable NL SAS 7200RPM hard disk drives configured with RAID6
  - Capacity allocated for data protection is 5TB
  - Capacity available for virtual standby or archiving is 5TB.
  - Net licensed capacity is 10TB
- The 15TB upgrade for the DL4000 Standard Edition with 5TB consists of the following:
    - A 15TB capacity license
    - 1 x MD1200 with 12x2 TB hot-pluggable NL SAS 7200RPM hard disk drives configured with RAID6
    - Capacity allocated for data protection is 15TB
    - Capacity available for virtual standby or archiving is 5TB.
    - Net licensed capacity is 20TB
- The 35TB upgrade for the DL4000 Standard Edition with 5TB consists of the following:
    - A 35TB capacity license
    - 1 x MD1200 with 12x4 TB hot-pluggable NL SAS 7200RPM hard disk drives configured with RAID6
    - Capacity allocated for data protection is 35TB
    - Capacity available for virtual standby or archiving is 5TB.
    - Net licensed capacity is 40TB

#### **4.6 What capacity upgrades are available for the High-Capacity Edition?**

The High-Capacity Edition can accommodate two external MD1200 disk shelves. The 20TB model of the High-Capacity Edition can be upgraded to 40 and 60TB. The 40TB model of the High-Capacity Edition can be upgraded to 60 and 80TB.



**Figure 4** Figure 4 : Capacity Upgrades for the DL4000 20TB and 40TB High-Capacity Editions

- The 20TB upgrade for the DL4000 High-Capacity Edition with 20TB consists of the following:
  - A 20TB capacity license
  - 1 x MD1200 with 12x2 TB hot-pluggable NL SAS 7200RPM hard disk drives configured with RAID6
  - Capacity allocated for data protection is 20TB
  - Net licensed capacity is 40TB
- The 40TB upgrade for the DL4000 High-Capacity Edition with 20TB consists of the following:
  - A 40TB capacity license
  - 1 x MD1200 with 12x4 TB hot-pluggable NL SAS 7200RPM hard disk drives configured with RAID6
  - Capacity allocated for data protection is 40TB
  - Net licensed capacity is 60TB
- The 20TB upgrade for the DL4000 High-Capacity Edition with 40TB consists of the following:
  - A 20TB capacity license
  - 1 x MD1200 with 12x2 TB hot-pluggable NL SAS 7200RPM hard disk drives configured with RAID6
  - Capacity allocated for data protection is 20TB
  - Net licensed capacity is 60TB
- The 40TB upgrade for the DL4000 High-Capacity Edition with 40TB consists of the following:
  - A 40TB capacity license
  - 1 x MD1200 with 12x4 TB hot-pluggable NL SAS 7200RPM hard disk drives configured with RAID6
  - Capacity allocated for data protection is 40TB
  - Net licensed capacity is 80TB

#### 4.7 Does the DL4000 support conversion of Agent licenses to capacity licenses?

Conversions from the previous DL4000 agent-based licensing to capacity-based licensing available in Q2 FY15 are as follows

Model	5TB	10 TB	20 TB	40 TB	60 TB	80TB
Standard (0-1xMD1200)	✓	✓	✓	✓		
High Capacity (1- 2xMD1200)			✓	✓	✓	✓

The upgrade options after the point of sales are listed below:

Source Model Standard	Upgrade to 10TB	Upgrade to 20TB	Upgrade to 40TB
5TB	1xMD1200 with 12x1TB Drives (10TB)	1xMD1200 with 12x2TB Drives (20TB)	1xMD1200 with 12x4TB Drives (40TB)
10TB	N/A	N/A	N/A
20TB	N/A	N/A	N/A
Source Model High Capacity	Upgrade to 40TB	Upgrade to 60TB	Upgrade to 80TB
20TB	1xMD1200 with 12x2TB Drives (20TB)	1xMD1200 with 12x4TB Drives (40TB)	N/A
40TB	N/A	1xMD1200 with 12x2TB Drives (20TB)	1xMD1200 with 12x4TB Drives (40TB)
60TB	N/A	N/A	N/A
80TB	N/A	N/A	N/A

Please note the following about all standard and high-capacity editions:

- Usable capacity for deduplicated backed up data is based on RAID6 which allocates hot spares. Raw quantities of disk space in the expansion shelves do not reflect the final usable capacity for backed up data. Keep this in mind when determining which edition to recommend to your customer.

For help in sizing the appropriate model of the DL4000, please see [Sizing AppAssure 5 Deployment](#).

## 4.8 Is it possible to scale-out/pool together multiple DL4000's in one location?

No each DL4000 must be managed separately.

## 4.9 What performance can we generally expect from a DL4000 in terms of RTO and RPO?

The DL4000 1 is enabled by Dell AppAssure 5 software. The Standard Edition is designed to back up as many as sixty (60) individual servers (physical and/or virtual). Performance can be measured in at least three ways that impact customers' businesses:

- **RTO** – The DL4000 delivers a >60x increase in a recover time objective versus a recovery that typically takes an hour (60 minutes).
- **RPO** – The DL4000 delivers a >250x increase in recovery point objective versus a backup that completes once (1) per day.
- **Recovery Target** – The DL4000 can become an active part of a server infrastructure by hosting a virtual version of the most critical servers. This included capability is called **Virtual Standby**. **Note:** Most customers require about five minutes to bring a virtual standby online.

For example, a customer says they perform one backup per day and it takes 120 minutes to recover data or a server. You can calculate improvements as follows:

- **RPO improvement** = # of current backups per day/288
  - 1 backup per day/288 equals 288x improvement
- **RTO improvement** = # of minutes to recovery/1
  - 120 minutes to recover/1 equals 120x improvement
- **Recovery target improvement** = # of minutes to complete a full server restoration/5
  - 120 minutes to restore/5 equals 24x improvement

## 4.10 Can we use AppAssure 5 software licenses with DL4000?

No, you cannot. AppAssure software licensed separately from the appliance agent licenses are not compatible.

### 4.10.1 Is there an upgrade path for existing DL customers? Existing AppAssure customers?

No. But finance is working on an upgrade path.

### 4.10.2 What happens if a DL customer downloads a core and puts it on a stand-alone server?

The new core would not be supported and cannot protect agents as you need a service tag to obtain a license key.

#### 4.11 Is there a limit to the number of servers that are protected by the capacity editions?

With the capacity editions the software is not bound to agents (agent-unbounded). While there are no agent licensing limits, there are practical limits to the number of servers supported dictated by memory/CPU. Check the [AppAssure configuration guide](#) for large and enterprise environment sizing tips.

#### 4.12 Can we replicate a DL4000 to an AppAssure Core software system?

Yes; see the use case details that follow.

Use Case	Role	Primary	Secondary	Comments
Warm to Disaster Recovery Site (off site replication). Primary site protects servers, Disaster Recovery site does not protect any servers and is only for replication purposes and recovery of protected servers if primary is unavailable. Scenarios 1-4 shown.	Licensing	Must be licensed for any servers protected	Replication only; does not protect any servers. No license required	Replication only
	1	Core Software	Core Software	Supported
	2	Core Software	DL4000	Supported - license required during DL purchase DL4000 license and non-DL4000 Core software licenses cannot be shared
	3	DL4000	Core Software	Supported - good solution for a Disaster Recovery site if you don't need more than five licenses on the primary DL4000 appliance
	4	DL4000	DL4000	Supported - DL4000 license can all be applied to primary, this is a good Disaster Recovery solution when more than five licenses are needed on the primary DL4000.

Use Case	Role	Primary	Secondary	Comments
Warm to Warm Replication (cross replication). Primary and secondary sites are used to protect local servers. Each site is used for replication of the other site to enable recovery of protected servers. Scenarios 1-4 shown.	Licensing	Must be licensed for any servers protected	Must be licensed for any servers protected	Each site is protecting local servers with cross replication, no Core failover or WAN protection
	1	Core Software	Core Software	Supported
	2	Core Software	DL4000	Supported - DL4000 license and non-DL4000 Core software licenses cannot be shared
	3	DL4000	Core Software	Supported - DL4000 license and non-DL4000 Core software licenses cannot be shared
	4	DL4000	DL4000	Supported

## 5 Best Practices

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### 5.1 Is there a DL4000 sizing calculator to determine the total capacity required based on a customer's storage environment?

No, but there are guidelines in [Sizing AppAssure 5 Deployment](#). General guidance is to estimate the amount of data to be protected and multiply by a factor of 1.2 to arrive at the total capacity needed to protect a year's worth of data with a 10% change rate.

- Start with the edition that fits your current backup storage requirements including incremental backups based on change rate – one year of data multiplied by 1.2 (if this gets the customer to greater 80% of actual needs, then it is suggested that the customer go up to the next size).
- Navigate to the following link that has an AppAssure 5 sizing calculator:  
<http://www.appassure.com/support/KB/sizing-appassure-5-deployments/>

Consider deduplication. Deduplication rates may vary based upon the data being backed up. Most customers experience a 15:1 ratio of backup volume to deduped volume. Note: The editions can be upgraded to add more capacity after point of sale (APOS).

### 5.2 Do we have the dedupe ratios for data sets (home files, databases, etc)?

Yes, in the [AppAssure 5 User Guide](#). Excerpt: AppAssure 5 provides true global deduplication that dramatically reduces your physical disk capacity requirements by offering space reduction ratios exceeding 15:1, while still meeting the data storage requirements. AppAssure True Scale inline block-level compression and deduplication with line speed performance, along with built-in integrity checking, prevents data corruption from affecting the quality of the backup and archiving processes.

### 5.3 Do we have setup guides for the DL4000?

Yes, see the [DL4000 Deployment Guide](#) and [DL4000 Setup Guide](#).

### 5.4 Can the DL4000 write data directly to tape?

No, The DL4000 cannot write directly to tape.

**Note:** Other options may appear as a function of the data protection roadmap in 2HCY13.

## 6 Support

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Support: There are one to five year options and renewals available providing that the hardware and software match. See <http://www.dell.com/support/troubleshooting/us/en/19/Product/powervault-dl4000> for more troubleshooting and support tips.



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