Data Protection Evolution

New Business Models

New Data Services

New Consumption Models

Any Source

Any Target

Any SLA

Software Defined Platform

Multi-dimensional Appliance

EDGE  CORE  PRIVATE CLOUD  PUBLIC CLOUD

MULTI-CLOUD
Dell EMC Data Protection Portfolio

Comprehensive coverage across the data protection continuum

Data Protection Suite
- Data Domain

PowerProtect Software

PowerProtect X400 Appliance

IDPA

Powered by Intel® Xeon® Scalable Processors
Data Domain
Data Domain, Data Protection Storage

Leader in Purpose-Built Backup Appliance market

Enterprise data protection on-premises and in the cloud

Manageability
Performance
Natively Cloud Enabled
Reliable and Scalable
Enterprise Security

Source: IDC Quarterly Purpose-Built Backup Appliance Tracker - Final Historical, 2018Q4

56.8% market share, more than 2.5x nearest competitor*
Key use cases

Backup, Archive, Copy Reuse

- Databases
- E-mail servers
- File servers
- Enterprise applications

Virtual machines

Application Direct

Primary

Cloud-enabled

- Long-term Retention
- Disaster Recovery

Replication

- Up to 55x average data reduction rate
- Inflight encryption*
- Broad application ecosystem

*Based on July 2018 Dell EMC internal analysis of >15,000 Data Domain systems deployed worldwide. The backup software used was Dell EMC Avamar. Actual results may vary.
## Comprehensive Data Domain portfolio

**Software-defined Data Protection** for virtual and cloud environments

### Data Domain Virtual Edition

**Small to Mid-size Enterprise and ROBO**
- Speed (DD Boost): up to 11.2TB/hr for 96TB
- Usable capacity: 0.5 – 96TB
- Logical capacity: Up to 4.8PB

### Data Domain – Physical Target Appliances

<table>
<thead>
<tr>
<th></th>
<th>DD3300</th>
<th>DD6300</th>
<th>DD6800</th>
<th>DD9300</th>
<th>DD9800</th>
</tr>
</thead>
<tbody>
<tr>
<td>Backup Ingest</td>
<td>7.0TB/hr</td>
<td>24TB/hr</td>
<td>32TB/hr</td>
<td>41TB/hr</td>
<td>68TB/hr</td>
</tr>
<tr>
<td>Logical Capacity¹</td>
<td>200TB-1.6PB, 600TB-4.8PB</td>
<td>1.8-8.9PB</td>
<td>2.8-14.4PB, 8.4-43.2PB</td>
<td>7.2-36PB, 21.6-108PB</td>
<td>10-50PB, 30-150PB</td>
</tr>
<tr>
<td>Usable Capacity²</td>
<td>4-32TB, 12-96TB</td>
<td>Up to 178TB</td>
<td>Up to 288TB, Up to 864TB</td>
<td>Up to 720TB, Up to 2.16PB</td>
<td>Up to 1PB, Up to 3PB</td>
</tr>
</tbody>
</table>

**1:** Top row (Logical capacity based on up to 50x deduplication)  
Bottom row (Total capacity with Cloud Tier for long-term retention)

**2:** Top row (Total capacity on Active Tier only)  
Bottom row (Total capacity with Cloud Tier for long-term retention)
## Enhanced entry level offering with cloud enablement

### What's New?
- 8TB model with in-place upgrade
- Fibre Channel VTL support

### Small Enterprise / ROBO

**Powered by Intel® Xeon® Scalable Processors**

### DD3300 Series

<table>
<thead>
<tr>
<th>Model</th>
<th>Max Throughput (with DD Boost)</th>
<th>Max Throughput (w/o DD Boost)</th>
<th>Max Logical Capacity (Dedupe)</th>
<th>Max Useable Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>DD3300 (4TB)</td>
<td>2.3TB/hr</td>
<td>1.9TB/hr</td>
<td>200TB¹ 600TB²</td>
<td>4TB¹ 12TB²</td>
</tr>
<tr>
<td>DD3300 (8TB)</td>
<td>2.7TB/hr</td>
<td>2.1TB/hr</td>
<td>400TB¹ 1.2PB²</td>
<td>8TB¹ 16TB²</td>
</tr>
<tr>
<td>DD3300 (16TB)</td>
<td>5.5TB/Hr</td>
<td>4.2TB/Hr</td>
<td>800TB¹ 2.4PB²</td>
<td>16TB¹ 48TB²</td>
</tr>
<tr>
<td>DD3300 (32TB)</td>
<td>7.0TB/hr</td>
<td>4.2TB/Hr</td>
<td>1.6PB¹ 4.8PB²</td>
<td>32TB¹ 96TB²</td>
</tr>
</tbody>
</table>

¹ Total capacity on Active Tier only
² Total capacity with Cloud Tier
Dell EMC Integrated Data Protection Appliance (IDPA)

- Backup servers & storage
- Search & analytics
- Cloud DR + LTR
- Backup software
- System management
- NVMe flash

NOW Starting at 8TB in 2U to 1PB rack systems

Powered by Intel® Xeon® Scalable Processors

Easy to deploy & upgrade

1 Based on Dell EMC internal testing, May 2018, compared to traditional deployments. Actual results will vary.
2 Based on Dell EMC internal analysis, May 2018, using Rubrik’s and Cohesity’s published data. Actual results will vary.
Integrated Data Protection Appliance

Data Protection without Compromise
Comprehensive Data Protection Integration with

vSphere Web Client
vSphere vCenter
vCloud Director
vRealize Log Insight
vRealize Operations Manager
vRealize Automation

Protect up to 5x more VMs in 2U¹  ●  Simple, cost effective to scale to more VMs  ●  Faster backups and recoveries

¹Based on Dell internal testing and comparing against Rubrik’s published performance data in 2U, February 2018
## Comprehensive IDPA Portfolio

Maximum choice and flexibility

<table>
<thead>
<tr>
<th></th>
<th>MIDSIZE &amp; ROBO</th>
<th>MIDSIZE ENTERPRISE</th>
<th>LARGE ENTERPRISE</th>
</tr>
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<tbody>
<tr>
<td><strong>DP4400</strong></td>
<td></td>
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<tr>
<td><strong>Backup Ingest</strong></td>
<td>Up to 9 TB/hr</td>
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<tr>
<td><strong>Logical Capacity</strong></td>
<td>240 TB to 4.8 PB(^1) 720 TB to 14.4 PB(^2)</td>
<td>960 TB to 14.4 PB(^1) 2.8 to 43.2 PB(^2)</td>
<td>1.9 to 36 PB(^1) 5.7 to 108 PB(^2)</td>
</tr>
<tr>
<td><strong>Usable Capacity</strong></td>
<td>8 to 96 TBu(^1)  Up to 288 TBu(^2)</td>
<td>96 to 288 TBu(^1)  Up to 864 TBu(^2)</td>
<td>192 to 720 TBu(^1)  Up to 2.16 PBu(^2)</td>
</tr>
<tr>
<td><strong>Format</strong></td>
<td>2U Rack mountable</td>
<td>Rack</td>
<td>Rack</td>
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<tr>
<td><strong>DP5800</strong></td>
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<tr>
<td><strong>Backup Ingest</strong></td>
<td>Up to 32 TB/hr</td>
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<td><strong>DP8300</strong></td>
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<tr>
<td><strong>Backup Ingest</strong></td>
<td>Up to 41 TB/hr</td>
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<td><strong>Logical Capacity</strong></td>
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<td><strong>DP8800</strong></td>
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<tr>
<td><strong>Backup Ingest</strong></td>
<td>Up to 68 TB/hr</td>
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1 Total capacity on active tier only.  
2 Total capacity with cloud tier for long-term retention.  
3 Logical capacity based on 10x to 50x deduplication
Guaranteed.

FUTURE-PROOF
LOYALTY PROGRAM

3-YEAR SATISFACTION GUARANTEE
UP TO 55:1 DATA PROTECTION DEDUPLICATION GUARANTEE

INVESTMENT PROTECTION
CLOUD MOBILITY, PROTECTION, DATA SERVICES & MANAGEMENT

PREDICTABLE SUPPORT PRICING
CLOUD-ENABLED INFRASTRUCTURE
PowerProtect Software & PowerProtect Appliance
Minimizing Data Protection Complexity

Simplify with Integrated

Get prepared with Scale out

Empower data & application owners

Application level data protection with IT governance
Dell EMC PowerProtect Software & Appliance
Dell EMC PowerProtect Software

Next generation Data Management software platform

Software defined

Cloud optimized

Self service

SaaS-based monitoring

Modern services based architecture

Protection, Replication and Reuse with built-in deduplication
Software defined

- Flexible consumption options
- Built-in deduplication
- Optimized data placement enabled by machine learning

Data protection
Replication
Reuse

vmware®  ORACLE®  Microsoft® SQL Server™
Multi-cloud optimized

- Extend data to the cloud
  - Long-term retention and disaster recovery
- No additional gateway
  - Maximize investment and expanding capacity

Cloud DR by End of 2019
Self-service and governance

- Empower both data owners and central IT teams
- Direct backup and recovery from native applications
- Automated discovery & provisioning
- IT operations oversight and governance control
Direct protection capabilities

Governance, compliance and automation

Application Direct → Application to protection storage

Storage Direct → Production storage to protection storage

VM Protection → VMware backup, restore and replication
SaaS-based management

- Easy to analyze and troubleshoot
  - Monitoring
  - Reporting
- Get started in minutes with nothing to install
Next Generation Data Management

SIMPLICITY
• User Interface
• Workflows
• Centralization
• Protection Life Cycle

AUTOMATION
• Storage configuration
• App agent configuration
• Compliance
• Storage Management
PowerProtect X400 Appliance

Multi-dimensional Data Management appliance powered by Data Domain’s deduplication
Powered by Intel® Xeon® Scalable Processors

- Simple to Install, Use and Upgrade
- Multi-Dimensional scale-up & Scale-out Flexibility
- Hybrid or All Flash
- Linear Performance and Capacity
- Machine Learning Data Placement
Simple to Install, Use, and Upgrade

Customer Site Prep
Software Factory Installed & Pre-deployed
UI Guided Customer Configuration & Policy Setup

Protect with confidence

Box to Backup Simplicity
Next Generation, Multi-Dimensional Appliance

PowerProtect X400 integrates PowerProtect Software for midsized to enterprise customers
Powered by Intel® Xeon® Scalable Processors

All Flash
- X400 Platform cube
- X400F All Flash Capacity cube

Hybrid
- X400 Platform cube
- X400H Hybrid Capacity cube
Protect with Confidence

Isolated fault domains

Redundant network design

Platform cube tolerated up to 2 simultaneous failures

Scale out cube survives up to 2 simultaneous failures

Built for Resiliency
Automated Protection
Automation of routine processes streamlines protection and helps defend against human error

Onboard assets automatically
Discover and classify new VMware VMs, Oracle on Linux, and SQL workloads

Hands-off protection
Automatically assign new databases to preconfigured protection plans

Provision and configure end to end
Automated provisioning of protection storage as Oracle and SQL self-service backup destinations
SaaS-based Reporting for Operational Intelligence

Compliance & predictive analytics

Easily monitor and analyze your appliance

Most often used Reports where ever you need
PowerProtect Software, delivered how you want it

PowerProtect Software | PowerProtect X400 Appliance | Part of the Data Protection Suite

- Data Management
- Backup and Recovery
- Disaster Recovery
- Continuous Replication
- Centralized Management
- Monitoring and Reporting
- Cyber Recovery