Dell EMC Data Protection Portfolio
Cloud-enabled, Software-defined, VMware Integrated

PK Gupta
Global Presales Lead
Data Protection Solutions
Dell Technologies
Data Protection Evolution

New Business Models
New Data Services
New Consumption Models

Software Defined Platform
Multi-dimensional Appliance

Any Source
Any Target
Any SLA

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

#1

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

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

Backup, Archive, Copy Reuse

- Databases
- E-mail servers
- File servers
- Virtual machines
- Application Direct
- Enterprise applications

Cloud-enabled

- Long-term Retention
- Disaster Recovery

Replication

- Primary

- 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 – Physical Target Appliances**

<table>
<thead>
<tr>
<th>Model</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</td>
<td>1.8-8.9PB</td>
<td>2.8-14.4PB</td>
<td>7.2-36PB</td>
<td>10-50PB</td>
</tr>
<tr>
<td></td>
<td>600TB-4.8PB</td>
<td></td>
<td>8.4-43.2PB</td>
<td>21.6-108PB</td>
<td>30-150PB</td>
</tr>
<tr>
<td>Usable Capacity²</td>
<td>4-32TB</td>
<td>Up to 178TB</td>
<td>Up to 288TB</td>
<td>Up to 720TB</td>
<td>Up to 1PB</td>
</tr>
<tr>
<td></td>
<td>12-96TB</td>
<td></td>
<td>Up to 864TB</td>
<td>Up to 2.16PB</td>
<td>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)

**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
### Enhanced entry level offering with cloud enablement

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

#### DD3300 (4TB) vs. DD3300 (8TB) vs. DD3300 (16TB) vs. DD3300 (32TB)

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

¹ Total capacity on Active Tier only
² Total capacity with Cloud Tier
Integrated Data Protection Appliance
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

- Powerful Search, Monitoring & Analytics
- Powerful Security
- Powerful Cloud Protection
- Powerful VMware Protection
- Simple

Industry-leading Performance & Efficiency Architecture
Power Built For VMware

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>MID SIZE &amp; ROBO</th>
<th>MID SIZE 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>Backup Ingest</td>
<td>Up to 9 TB/hr</td>
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</tr>
<tr>
<td>Logical Capacity</td>
<td>240 TB to 4.8 PB¹</td>
<td>960 TB to 14.4 PB¹</td>
<td>1.9 to 36 PB¹</td>
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<tr>
<td></td>
<td>720 TB to 14.4 PB²</td>
<td>2.8 to 43.2 PB²</td>
<td>5.7 to 108 PB²</td>
</tr>
<tr>
<td>Usable Capacity</td>
<td>8 to 96 TBu¹</td>
<td>96 to 288 TBu¹</td>
<td>192 to 720 TBu¹</td>
</tr>
<tr>
<td></td>
<td>Up to 288 TBu²</td>
<td>Up to 864 TBu²</td>
<td>Up to 2.16 PBu²</td>
</tr>
<tr>
<td>Format</td>
<td>2U Rack mountable</td>
<td>Rack</td>
<td>Rack</td>
</tr>
<tr>
<td><strong>DP5800</strong></td>
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<td></td>
<td></td>
</tr>
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<td>Backup Ingest</td>
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<td>18.6 to 150 PB²</td>
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<tr>
<td>Usable Capacity</td>
<td>96 to 288 TBu¹</td>
<td>192 to 720 TBu¹</td>
<td>624 TBu to 1 PBu¹</td>
</tr>
<tr>
<td></td>
<td>Up to 864 TBu²</td>
<td>Up to 2.16 PBu²</td>
<td>Up to 3 PBu²</td>
</tr>
<tr>
<td>Format</td>
<td>Rack</td>
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</tr>
<tr>
<td><strong>DP8300</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Backup Ingest</td>
<td>Up to 41 TB/hr</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Logical Capacity</td>
<td>1.9 to 36 PB¹</td>
<td>1.9 to 36 PB¹</td>
<td>6.2 to 50 PB¹</td>
</tr>
<tr>
<td></td>
<td>5.7 to 108 PB²</td>
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<tr>
<td>Format</td>
<td>Rack</td>
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<td>Rack</td>
</tr>
<tr>
<td><strong>DP8800</strong></td>
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<tr>
<td>Backup Ingest</td>
<td>Up to 68 TB/hr</td>
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<tr>
<td>Logical Capacity</td>
<td>6.2 to 50 PB¹</td>
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</table>

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

DATA PROTECTION
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
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

- X400 Platform cube
- X400F All Flash Capacity cube
- X400 Platform cube
- X400H Hybrid Capacity cube

All Flash

Hybrid
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
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 wherever 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