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## TRANSFORMATION

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# Dell EMC Data Protection Portfolio

Cloud-enabled, Software-defined, VMware  
Integrated

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Dell EMC

# Data Protection Evolution



New Business Models



New Data Services



New Consumption Models



Software Defined Platform



Multi-dimensional Appliance



EDGE



CORE



PRIVATE CLOUD



PUBLIC CLOUD

MULTI-CLOUD

Any Source

Any Target

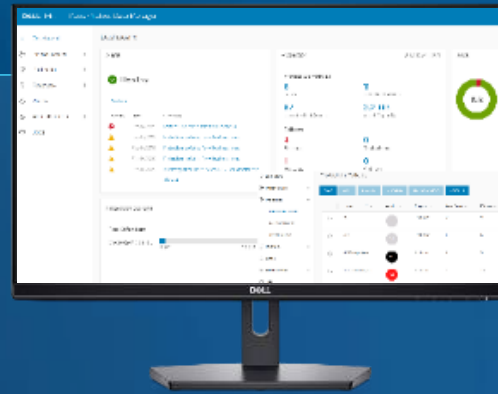
Any SLA

# Dell EMC Data Protection Portfolio

Comprehensive coverage across the data protection continuum



Data Protection Suite  
Data Domain



PowerProtect Software  
PowerProtect X400 Appliance



IDPA



# 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**

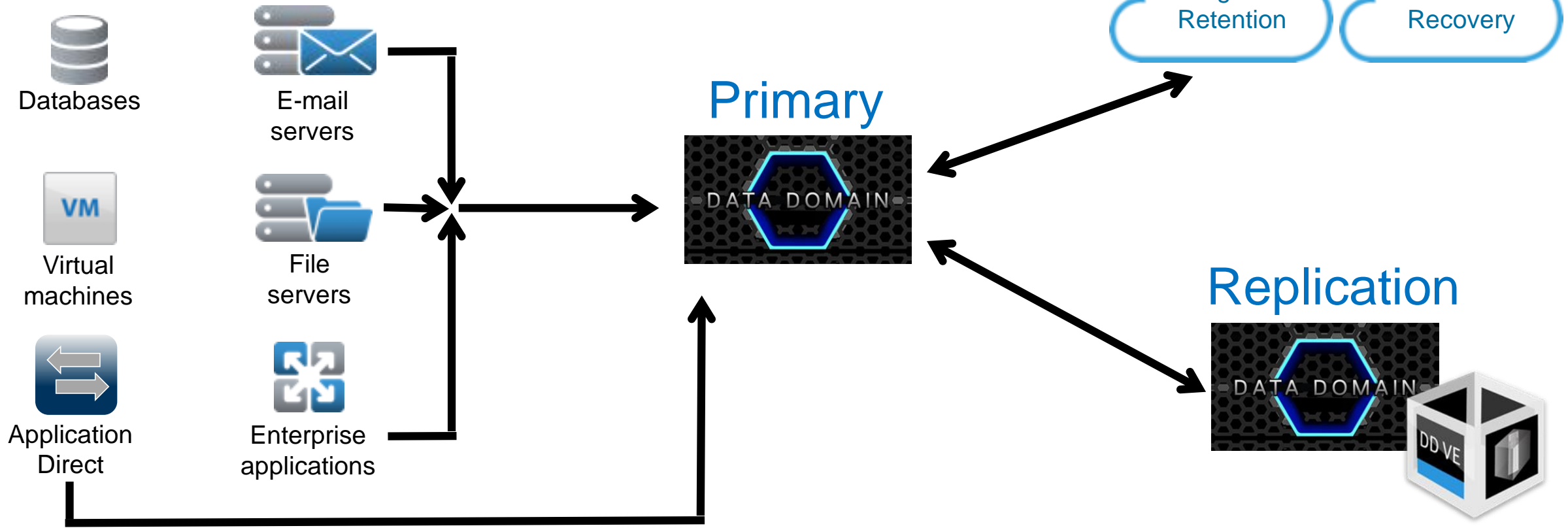


**#1**  
56.8% market share,  
more than 2.5x nearest  
competitor\*

# Key use cases

## Backup, Archive, Copy Reuse

- 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 © Copyright 2019 Dell Inc.

# 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

<b>Data Domain –</b> Physical Target Appliances	<b>DD3300</b>	<b>DD6300</b>	<b>DD6800</b>	<b>DD9300</b>	<b>DD9800</b>
<b>Backup Ingest</b>	7.0TB/hr	24TB/hr	32TB/hr	41TB/hr	68TB/hr
<b>Logical Capacity<sup>1</sup></b>	200TB-1.6PB 600TB-4.8PB	1.8-8.9PB	2.8-14.4PB 8.4-43.2PB	7.2-36PB 21.6-108PB	10-50PB 30-150PB
<b>Usable Capacity<sup>2</sup></b>	4-32TB 12-96TB	Up to 178TB	Up to 288TB Up to 864TB	Up to 720TB Up to 2.16PB	Up to 1PB Up to 3PB

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 (4TB)	DD3300 (8TB)	DD3300 (16TB)	DD3300 (32TB)
<b>Max Throughput (with DD Boost)</b>	2.3TB/hr	2.7TB/hr	5.5TB/Hr	7.0TB/hr
<b>Max Throughput (w/o DD Boost)</b>	1.9TB/hr	2.1TB/hr	4.2TB/Hr	4.2TB/hr
<b>Max Logical Capacity (Dedupe)</b>	200TB <sup>1</sup> 600TB <sup>2</sup>	400TB <sup>1</sup> 1.2PB <sup>2</sup>	800TB <sup>1</sup> 2.4PB <sup>2</sup>	1.6PB <sup>1</sup> 4.8PB <sup>2</sup>
<b>Max Useable Capacity</b>	4TB <sup>1</sup> 12TB <sup>2</sup>	8TB <sup>1</sup> 16TB <sup>2</sup>	16TB <sup>1</sup> 48TB <sup>2</sup>	32TB <sup>1</sup> 96TB <sup>2</sup>

<sup>1</sup> Total capacity on Active Tier only

<sup>2</sup> Total capacity with Cloud Tier

# Integrated Data Protection Appliance

**DELL**Technologies

# Dell EMC Integrated Data Protection Appliance (IDPA)

Backup servers  
& storage



Search &  
analytics<sup>1</sup>



Cloud  
DR + LTR



Powered by Intel® Xeon® Scalable Processors



Backup  
software



System  
management



Days



Hours

Easy to deploy & upgrade



NVMe  
flash

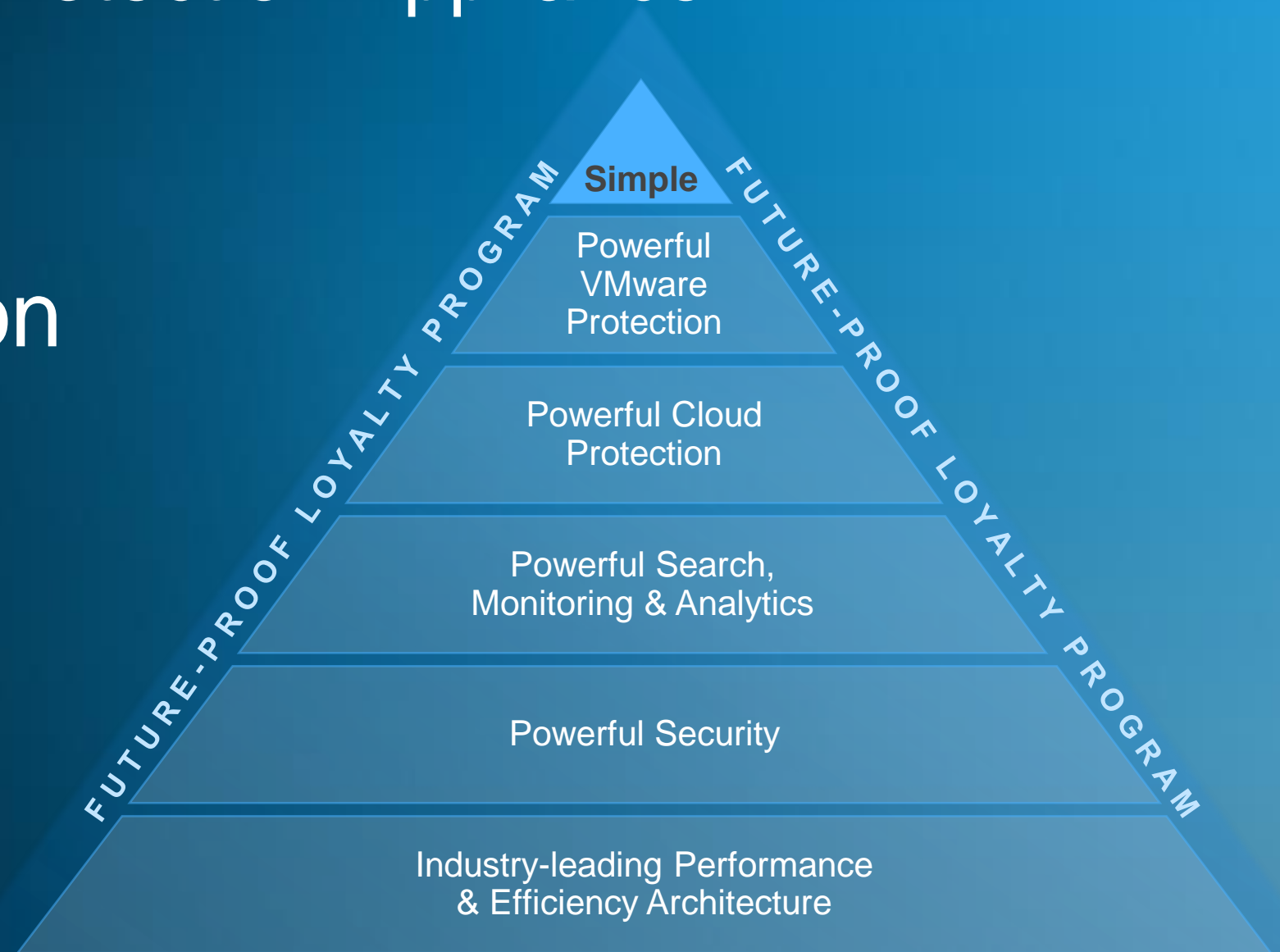
**NOW Starting** at 8TB in 2U to 1PB rack systems

<sup>1</sup>Based on Dell EMC internal testing, May 2018, compared to traditional deployments. Actual results will vary.

<sup>2</sup>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



# Power Built For VMware

## Comprehensive Data Protection Integration with vmware®



vSphere  
Web Client



vSphere  
vCenter



vCloud  
Director



vRealize  
Log Insight



vRealize  
Operations  
Manager



vRealize  
Automation

Protect up to 5x more VMs in 2U<sup>1</sup> ● Simple, cost effective to scale to more VMs ● Faster backups and recoveries

# Comprehensive IDPA Portfolio

Maximum choice and flexibility

	MIDSIZE & ROBO	MIDSIZE ENTERPRISE	LARGE ENTERPRISE	
	<b>DP4400</b>	<b>DP5800</b>	<b>DP8300</b>	<b>DP8800</b>
<b>BACKUP INGEST</b>	Up to 9 TB/hr	Up to 32 TB/hr	Up to 41 TB/hr	Up to 68 TB/hr
<b>LOGICAL CAPACITY<sup>3</sup></b>	240 TB to 4.8 PB <sup>1</sup> 720 TB to 14.4 PB <sup>2</sup>	960 TB to 14.4 PB <sup>1</sup> 2.8 to 43.2 PB <sup>2</sup>	1.9 to 36 PB <sup>1</sup> 5.7 to 108 PB <sup>2</sup>	6.2 to 50 PB <sup>1</sup> 18.6 to 150 PB <sup>2</sup>
<b>USABLE CAPACITY</b>	8 to 96 TBu <sup>1</sup> Up to 288 TBu <sup>2</sup>	96 to 288 TBu <sup>1</sup> Up to 864 TBu <sup>2</sup>	192 to 720 TBu <sup>1</sup> Up to 2.16 PBu <sup>2</sup>	624 TBu to 1 PBu <sup>1</sup> Up to 3 PBu <sup>2</sup>
<b>FORMAT</b>	2U Rack mountable	Rack	Rack	Rack

<sup>1</sup> Total capacity on active tier only.

<sup>2</sup> Total capacity with cloud tier for long-term retention.

<sup>3</sup> Logical capacity based on 10x to 50x deduplication

# Guaranteed.

## FUTURE-PROOF LOYALTY PROGRAM

**DELLEMC**

**DATA PROTECTION**

**DELLEMC**

**DATA PROTECTION**



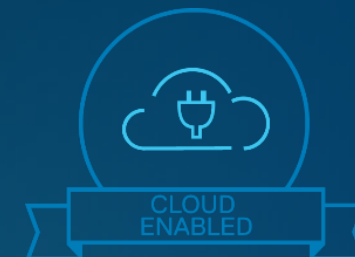
**3-YEAR SATISFACTION  
GUARANTEE**



**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

The Dell Technologies logo, featuring the word "DELL" in a stylized font with a diagonal line through the "E", followed by the word "Technologies".

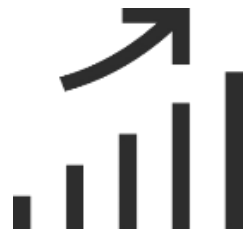


# Minimizing Data Protection Complexity



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Simplify with  
Integrated



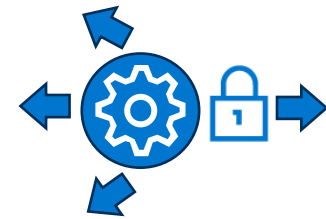
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Get prepared with  
Scale out



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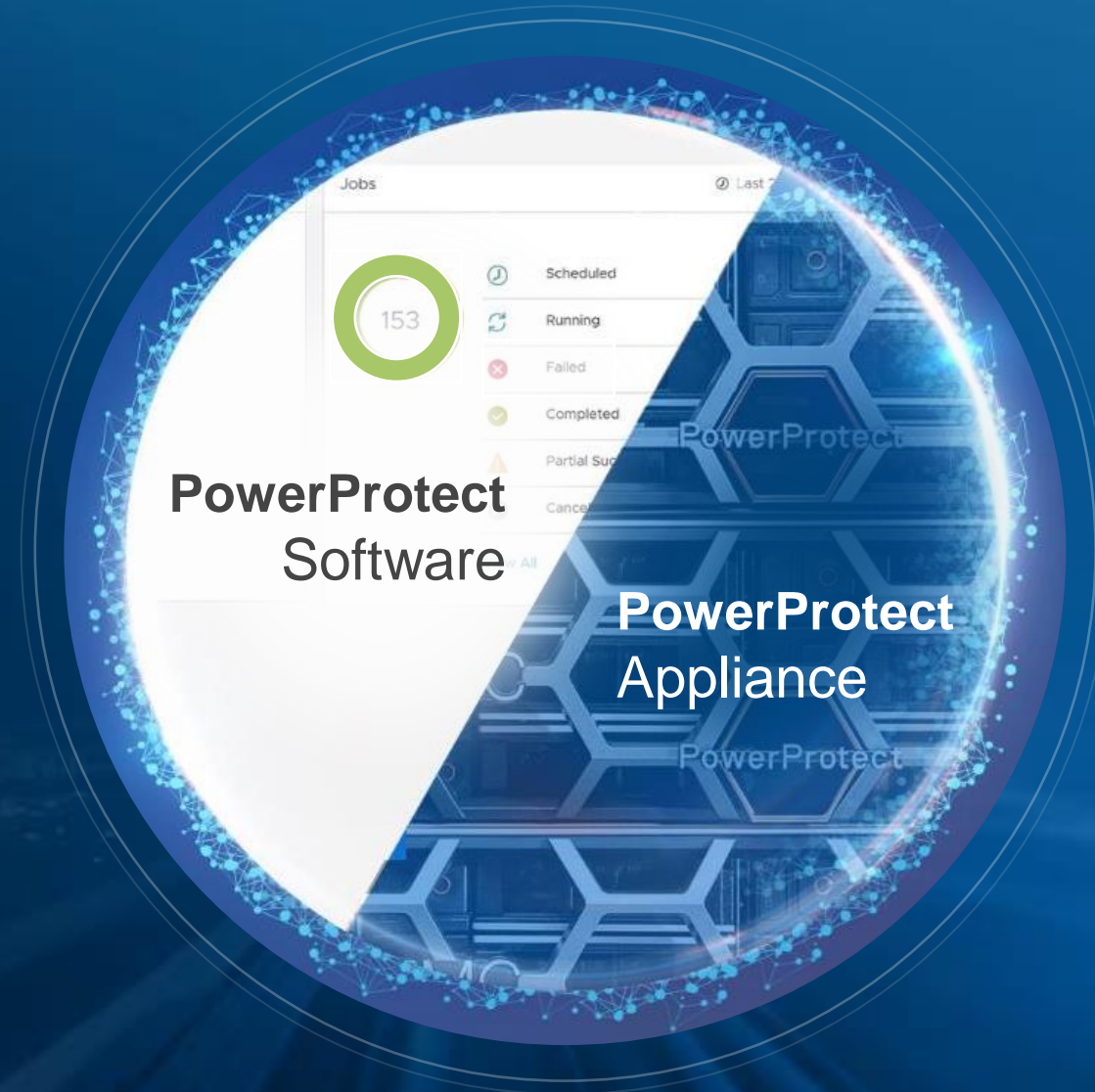
Empower data &  
application owners



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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**

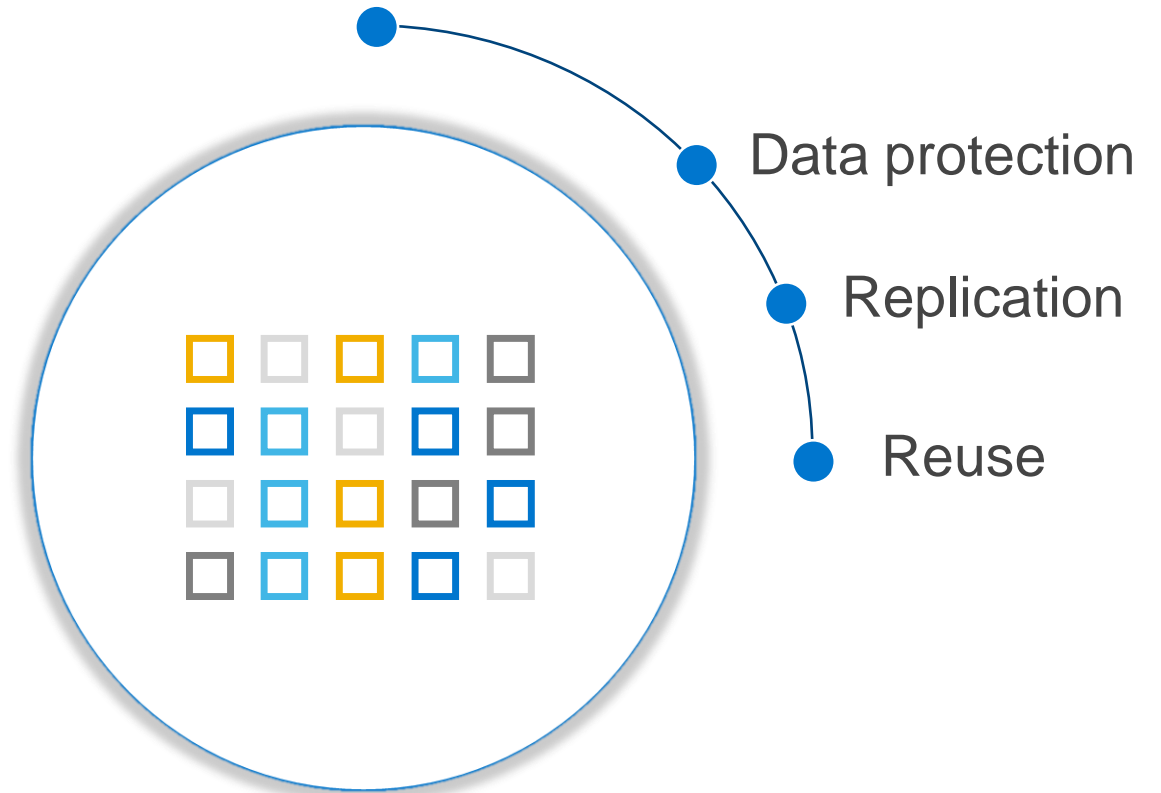


Protection, Replication and Reuse with built-in deduplication



# Software defined

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

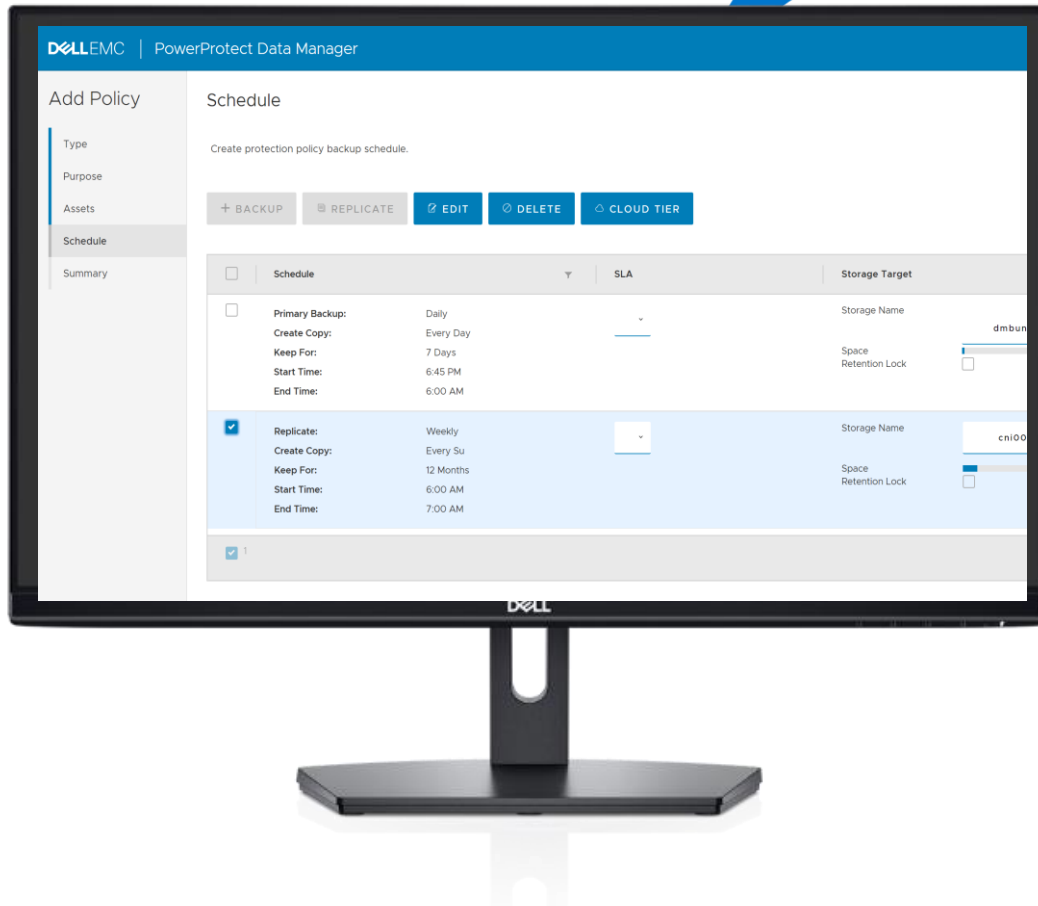


vmware®

ORACLE®

Microsoft®  
SQL Server®

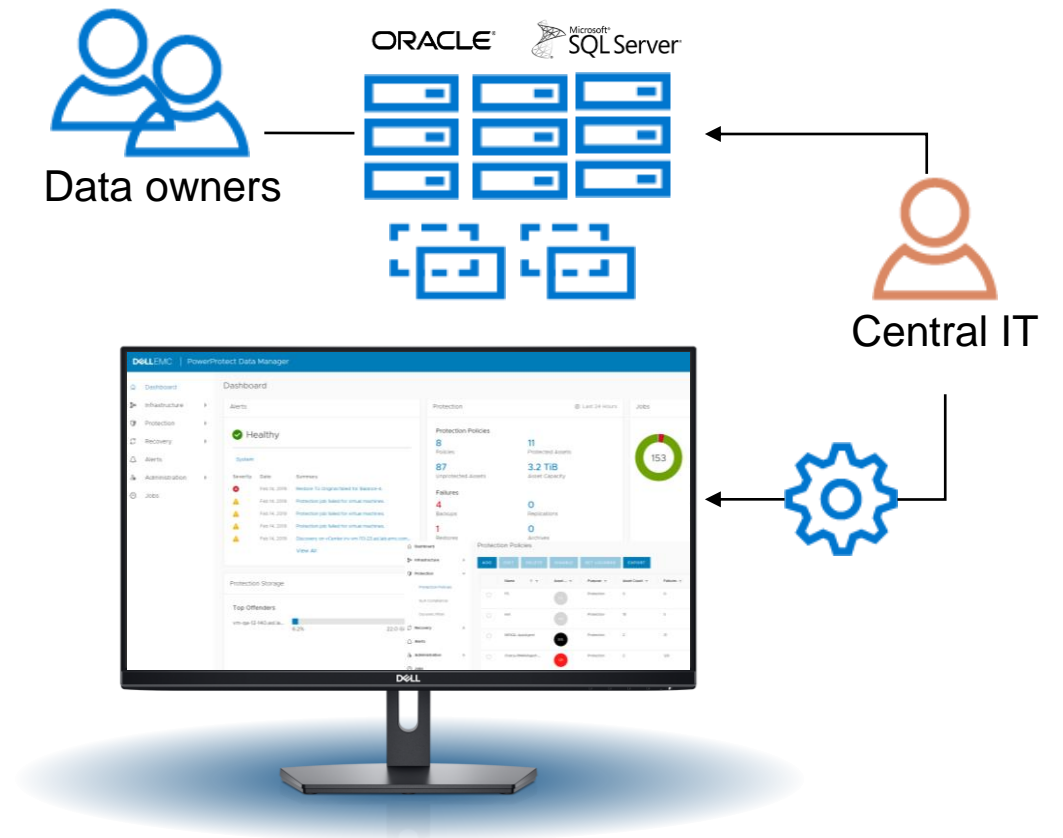
# Multi-cloud optimized



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

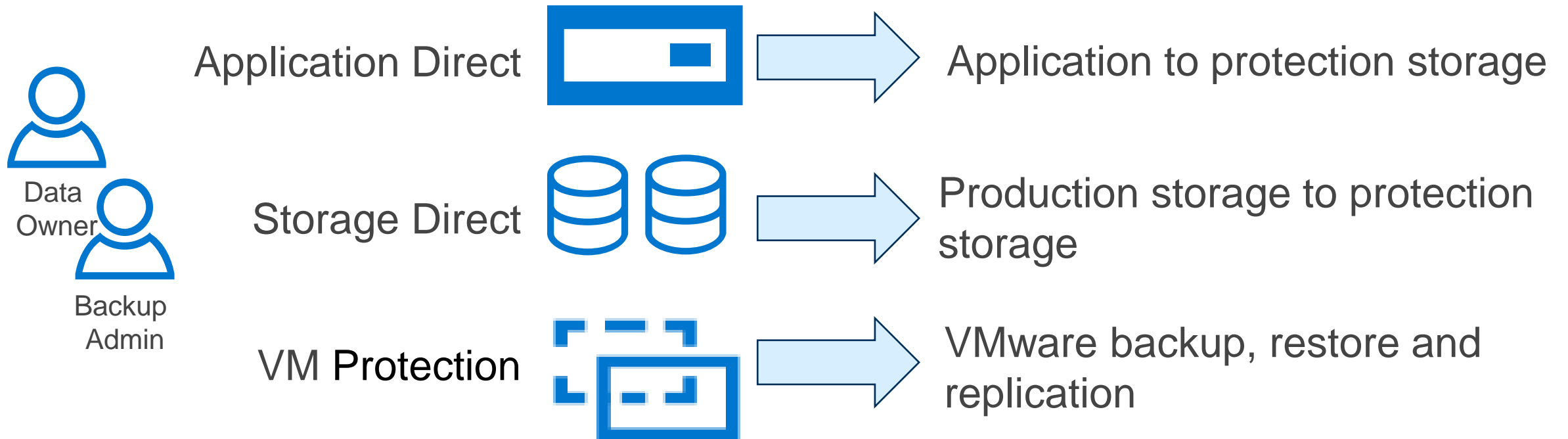
# Self-service and governance

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

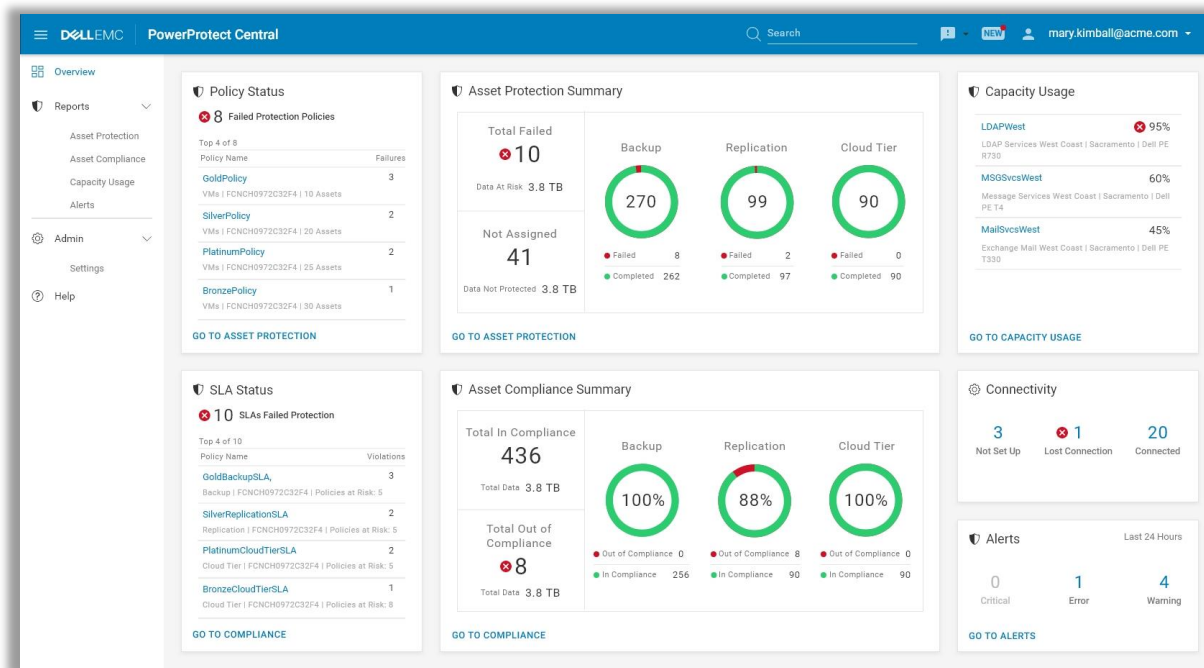


# Direct protection capabilities

## Governance, compliance and automation



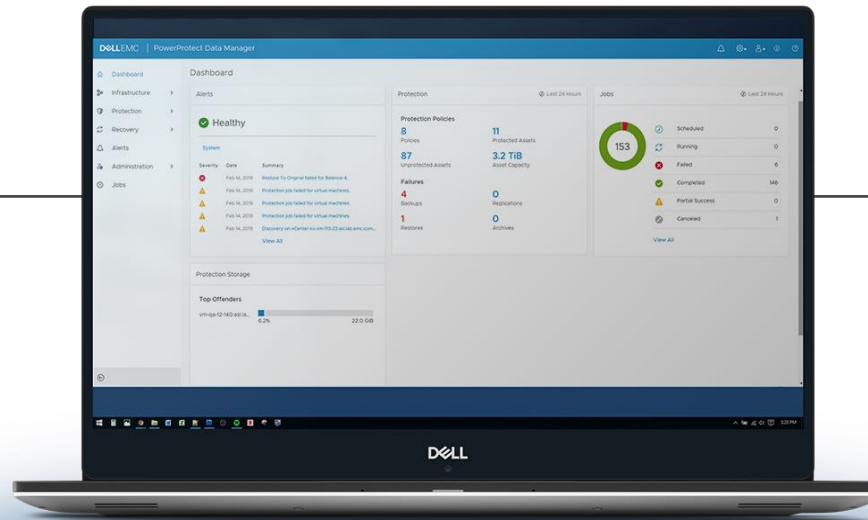
# SaaS-based management



- 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**

**All Flash**



**X400 Platform cube**

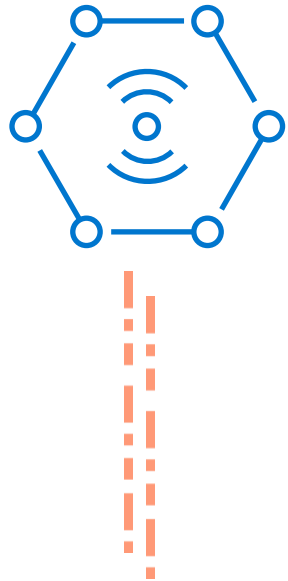


**X400H Hybrid Capacity cube**

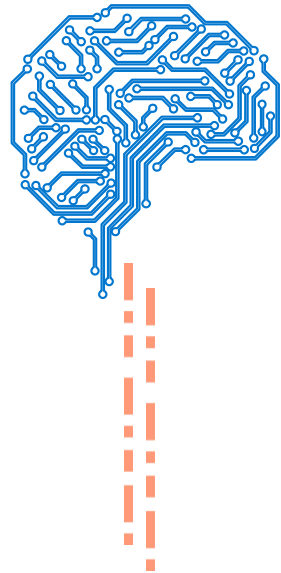
**Hybrid**

# Protect with Confidence

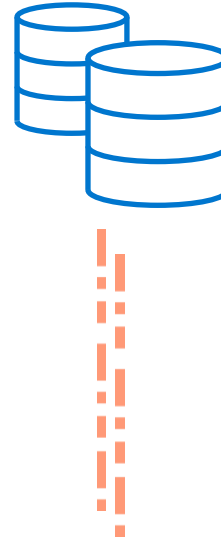
Isolated fault domains



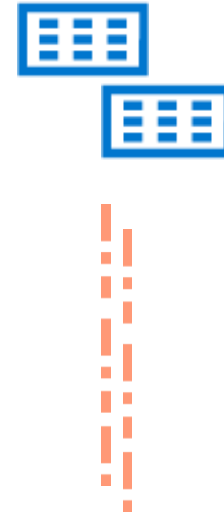
Redundant network design



Platform cube tolerated up to 2 simultaneous failures



Scale out cube survives up to 2 simultaneous failures



**Built for Resiliency**

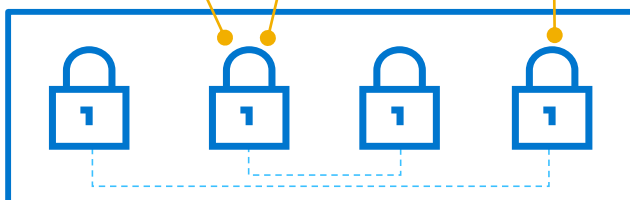
# Automated Protection

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

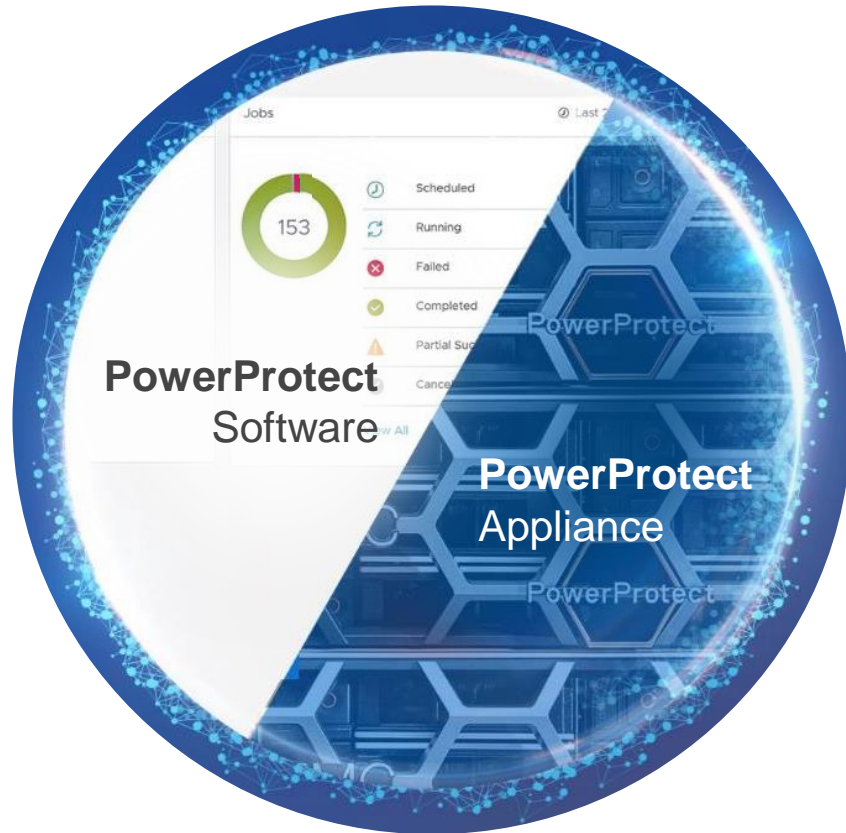
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Easily monitor and analyze your appliance

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



# DELL Technologies



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Pivotal.

RSA

Secureworks®

virtustream.

vmware®