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Wir unterstützen Sie kompetent und persönlich!



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089 4208 - 2020

Dell EMC Data Protection

Innovation without Compromise

TO CRAME SE

Christian Stein

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D¢LLTechnologies

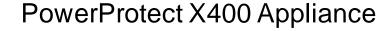
Agenda



Dell EMC data protection portfolio



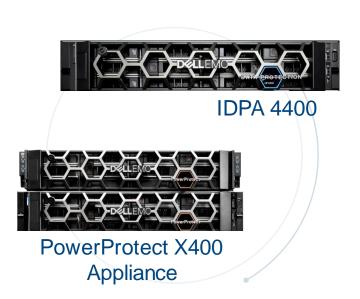
Integrated Data Protection Appliance (IDPA) DP4400





PowerProtect DD Series

Dell EMC Data Protection Portfolio





PowerProtect DD



PowerProtect Data Manager







in Data Protection Appliance & Software*

PROVEN AND TRUSTED

Dell EMC Data Protection





High performance & Ease of growth



High efficiency & Low cost-to-protect

Solution-level Simplicity | Single Vendor Worldwide Support

^{*}Based on combined revenue from the IDC 3Q19 Purpose-Built Backup Appliance (PBBA) Tracker, with select Storage Software segments from the 3Q19 Storage Software and Cloud Services Qview.

Data Protection for Small and Mid-size Organizations

CHALLENGES



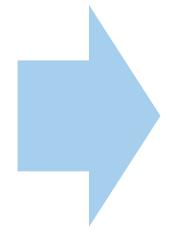
Increase in data volumes, users, apps



Cloud extensibility



Do more with less



REQUIREMENTS



Simplicity for quick time-to-value



Multi-Cloud agility



Low cost-to-protect



High performance

IDPA DP4400

DP4400. Simply Powerful.

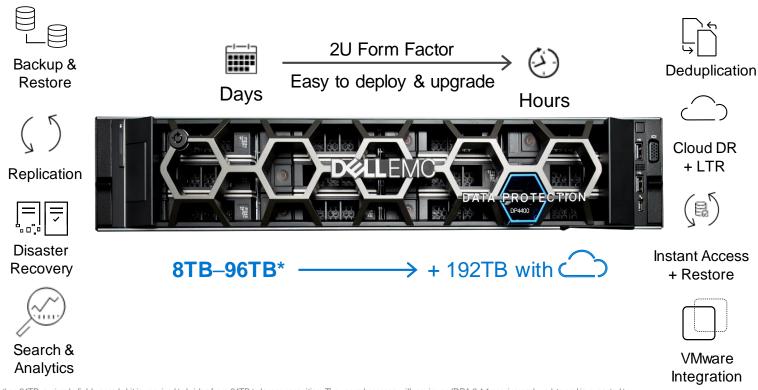
	DP4400	DP5800	DP8300	DP8800
Backup Ingest	Up to 9 TB/hr	Up to 32 TB/hr	Up to 41 TB/hr	Up to 68 TB/hr
Logical	80 TB to 4.8 PB1	960 TB to 14.4 PB1	1.9 to 36 PB1	6.2 to 50 PB1
Capacity ³	Up to 14.4 PB ²	Up to 43.2 PB ²	Up to 108 PB ²	Up to 150 PB ²
Usable	8 to 96 TBu ^{1,5}	96 to 288 TBu1	192 to 720 TBu1	624 TBu to 1 PBu
Capacity	Up to 288 TBu ²	Up to 864 TBu ²	Up to 2.16 PBu ²	Up to 3 PBu ²

¹ Total capacity on active fier only ²Total capacity with cloud fier add-on for long-term retention ³ Logical capacity based on 10x to 50x deduptication



¹ Based on ESG Technical Review commissioned by Dell Technologies, "Efficiently Protect Virtual Environments with Integrated Data Protection Appliances from Dell EMC", January 2020, comparing Dell EMC IDPA DP5800 vs. a leading competitive hyperconverged data protection appliance solution from Vendor X. Actual results may vary.

Simplicity in an all-in-one solution



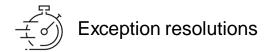
^{*} If starting at less than 24TB, a simple field upgrade kit is required to bridge from 24TB to larger capacities. The upgradeprocess will require an IDPA 2.4.1 service pack update and is expected to take up to 90 minutes to complete.

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Simplicity is Easy Management

IDPA System Manager Modern UI







Policy management



Reporting



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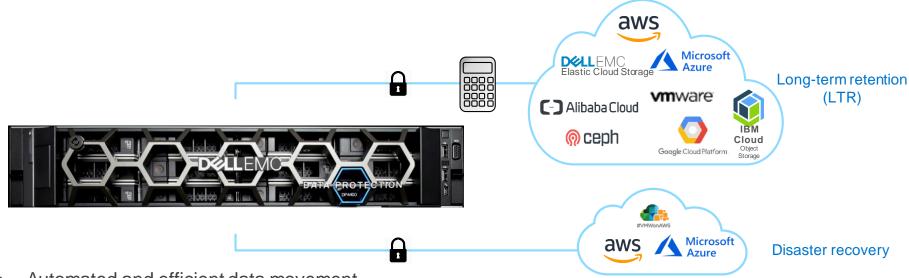


Simplicity is protection everywhere

Any application, multi-hypervisor and cloud Integration with VMware, SQL, Oracle native management tools



Power is cloud



- Automated and efficient data movement
- Eliminates the need for cloud gateway
- API extensible for simplified management
- All-in-one cloud appliance for backup, recovery, replication, search and analytics

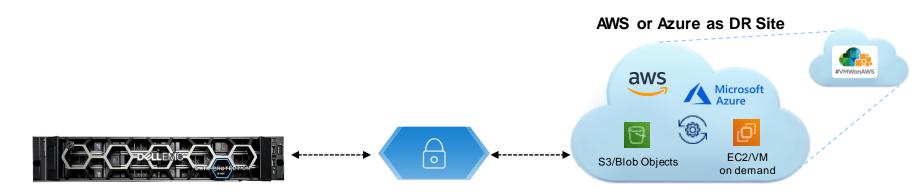
UP TO 2X usable capacity in the cloud

with Cloud Tier

12

Power is cloud disaster recovery

Efficient with End-to-End Orchestration



Integrated Cloud DR

3 clicks to failover¹

Protect in AWS, Azure or VMware Cloud on AWS

2 clicks to failback¹

According to Dell internal testing, February 2020.

Power is built for VMware

Comprehensive Data Protection Integration with **which**













vSphere Web Client vSphere vCenter

vCloud Director vRealize Log Insight vRealize Operations Manager vRealize Automation

Seamless VMware Integration

- Simple, cost effective to scale to more VMs
 - Faster backups and recoveries

What's New with DP 2.5

Centralized Management, Enhanced Security, Expanded Ecosystem Offerings for all IDPAs

Dell EMC, the market leader of the Data Protection Appliance & Software Market, is introducing improvements to the Integrated Data Protection Appliance (IDPA) portfolio with the IDPA 2.5 release, delivering usability, security and expanded ecosystem support.

The IDPA 2.5 update incorporates improved functionality provided by the **DD OS 7.1, Avamar 19.1, DP Central 19.2, and Cloud DR 19.2** software releases, bringing consistency across all IDPA models.

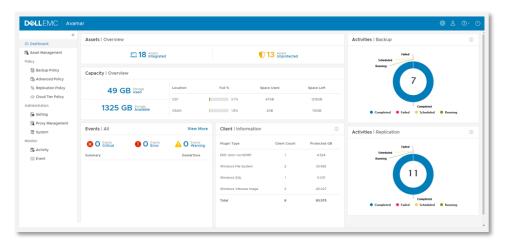
The key highlights of this announcement are:

- Increased Usability
 - Improved functionality provided by DP Suite 19.2, DD OS 7.1 and Cloud DR 19.2 software releases
 - Fitness Analyzer: Visual guide to server health and functionality
 - · Speed up deployment and upgrades
- · Enhanced Security
 - Built for strict federal requirements (FIPS 140-2 data at rest encryption, IPv6 dual-stack connectivity, VPAT)
 - · ESXi software and firmware updated to latest releases
 - Secure erasure capability
- · Expanded Ecosystem
 - · Protect the latest applications and workloads, in distributed environments



SIMPLIFY MANAGEMENT WITH SINGLE DASHBOARD

New with IDPA 2.5 (March 2020)

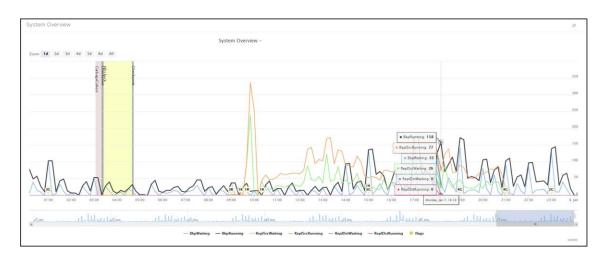


- IPDA System Manager improved dashboard now with SSO
- Custom date and range filters to easily find backups
- New reports for simplified management of VMs, system capacity and RMAN backups
- Asset and inventory panels for quickly finding and managing clients
- · Advanced dashboard customizations to cater to specific environment needs



EASILY OPTIMIZE SYSTEM PERFORMANCE

New with IDPA 2.5 (March 2020)



- At-a-glance
 - Quickly analyze bottlenecks in the environment
 - · Help load balance backup and replication jobs to optimal times
- HTML5-based reporting and analysis tool
- Easy launch from Avamar UI

Fitness Analyzer

GET PEACE OF MIND WITH HARDENED SECURITY

Improved Security Features and Protocols

- FIPS 140-2 data at rest encryption
- IPv6 dual-stack connectivity
- VPAT compliance

Currency with Software Platform

- Latest security patches and roll-ups
- ESXi 6.7 U3 removes vulnerabilities with older versions

Secure Erasure

- Compliant with Lot 9 requirements for EU
- Wipes data from system for decommission
- PS engagement only, orderable as a custom service



IDPA Licensing with Flex On Demand

Flexible Licensing for elastic capacity

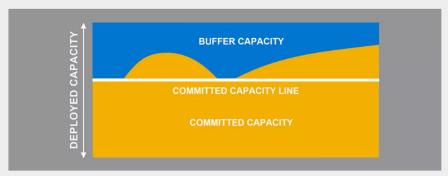
Flex on Demand provides elastic capacity

Leverage elastic capacity

DEPLOYED CAPACITY CAPACITY USED

- · Elastic Capacity addresses peak and burst usage
- Flex on Demand charges for Elastic Capacity when used
- . With on premise and public cloud, you pay for all deployed capacity even when it isn't used

Reduce usage charges



- Flex on Demand is simple and easy to execute
- · Committed Capacity is sized to address your baseline usage
- · Buffer Capacity is sized to address peak and burst usage
- Drive lower costs with higher levels of Committed Capacity and longer usage periods



Cloud Offerings

@ A Low Cost-to-Protect

Included Offers







5TB of licenses¹
Grow in 1TB increments

5VMs 1-yr subscription



Dell EMC PowerProtect X400



PowerProtect X400

Next generation data management appliance

Designed for Modern Workloads

Autonomous Operations

Linear Scale Management Simplicity



Scale-out compute and capacity

Linear Scaling of Capacity and Performance



With X400F All Flash scale-out cubes

CAPACITY CUBES	1 to 4
MAX THROUGHPUT ¹	Up to 27 TB / hr / cube
LOGICAL CAPACITY ²	640 TB – 22.4 PB
USABLE CAPACITY ³	64 TBu – 448 TBu
INSTANT ACCESS & RESTORE4	Up to 132,000 IOPS

With X400H Hybrid scale-out cubes

CAPACITY CUBES	1 to 12
MAX THROUGHPUT ¹	Up to 9.8 TB / hr / cube
LOGICAL CAPACITY ²	640 TB – 57.6 PB
USABLE CAPACITY ³	64 TBu – 1.15 PBu
INSTANT ACCESS & RESTORE ⁴	Up to 121,000 IOPS

¹ The throughput indicated is representative of the minimum configuration with one platform cube and one capacity cube.



² Logical capacity based on 10x to 50x deduplication.

³ The base configuration for a PowerProtect X400 appliance comes with an X400 platform cube and either an X400H Hybrid scale-out cube or X400F All Flash scale-out cube for capacity. Up to twelve scale-out cubes of the same type can be added in Hybrid and up to four scale out cubes in All-Flash can be added. An X400H Hybrid scale-out cube ships with a minimum of 64 TB licensed, and can grow-in-place with two additional 16 TB capacity packs (64 - 96 TB). An X400F All Flash scale-out cube ships with a minimum of 64TB licensed, and can grow-in-place with three additional 16 TB capacity packs (64 - 112 TB).

⁴ The instant access and restore performance provides an estimate of the maximum performance with max configuration of the appliance i.e. four cubes for all flash and twelve for hy brid.

All-Flash or Hybrid

PowerProtect X400 integrates PowerProtect Software for midsized to enterprise customers

X400 – All Flash
64TBu – 448TBu

All Flash

All Flash

X400 – Hybrid 64TBu – 1.15PBu



Hybrid

Automated cube discovery and scaling

Simplified scale-out capacity addition



Scale-Out

Next generation data management

Software defined, integrated appliance



Scale out and Grow in place



Backup & Restore





Disaster Recovery



PowerProtect Data Manager

PowerProtect X400 Appliance



Analytics





Deduplication



Instant Access
& Instant Restore

Physica





Modern

Workloads



Comprehensive VMware use case coverage

Key workload protection use cases



vSphere

vAdmins Data Protection
Management

Protection policy assignment via vSphere UI



vRealize Automation

Native Automation Plugins

Automatically deploy, manage, and operate Data Protection as-a-Service



Kubernetes Support

Native API integration

K8s admin or IT can manage data protection

App Consistency

Deep integration with VMware

Fast and easy virtual machine protection



vSphere Web Client



vSphere vCenter



vRealize Automation



Easy access for Dev and Test

Cost effective to scale to more VMs

Faster backups and recoveries

Modern workloads

Protect your Kubernetes environment with X400



Enterprise-grade data Protection for Kubernetes



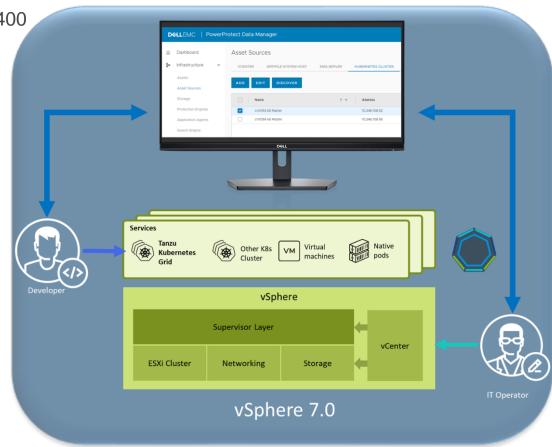


Management for enterprise IT and for Kubernetes admins





Built in collaboration with the Velero team



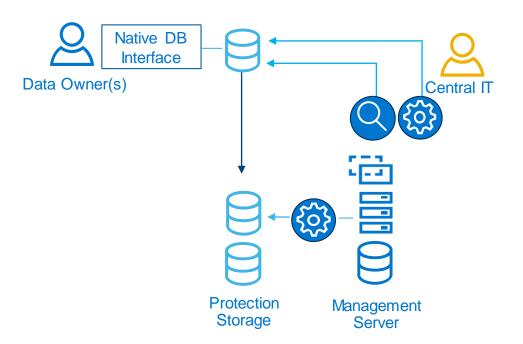
Empower data owners through native interfaces

Backup and restore databases and VMs on demand



Governance and compliance

Protect, set, and monitor protection policies



Central catalogue

Protect SQL, Oracle, VM copies, SAP HANA and File Systems made by DBAs for backup team to monitor

Set and forget

Customize protection plans based on needs of the business

Track and enforce

SLO compliance for replication, copies, Min/Max copies, RPOs, Data Domain retention lock and more

Cloud enabled

Tier data to the cloud

SERVERS



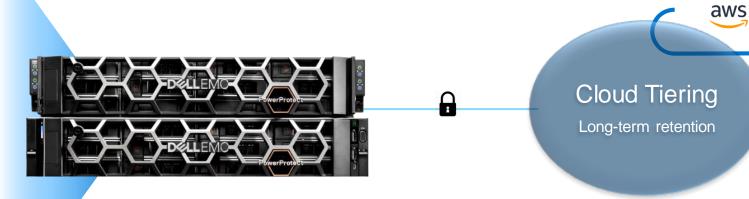
APPLICATIONS



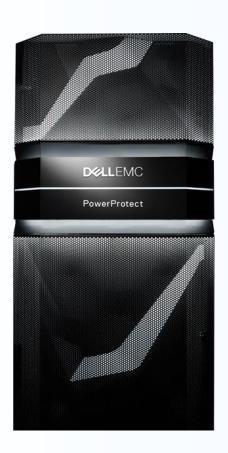
STORAGE

VIRTUAL





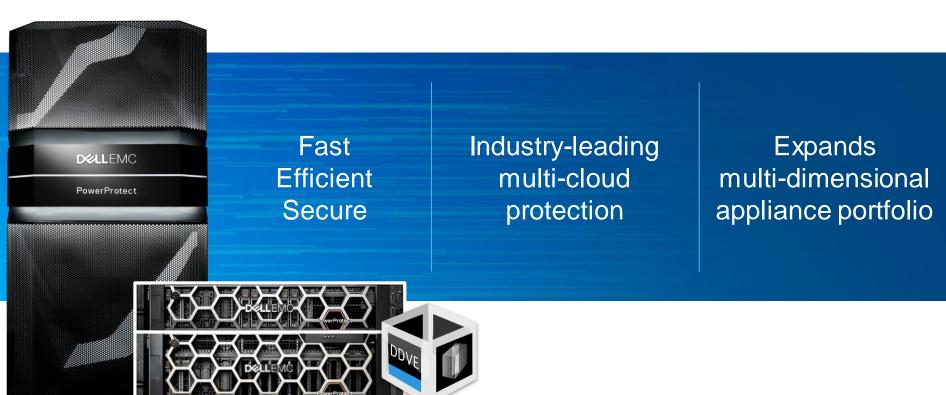
1:1 Active Tier to Cloud Tier available at no additional cost Tier up to 448 TBu in All Flash or up to 1.15 PBu in Hybrid Monitor capacity reports through cloud based portal Automated and efficient data movement Eliminates the need for cloud gateway



Dell EMC PowerProtect DD Series

Dell EMC PowerProtect DD Series Appliances

The next generation of Data Domain



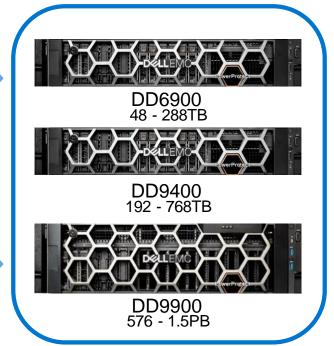
Dell EMC PowerProtect DD Series Portfolio

Simple and Modern

Three new appliances Enhanced Management

Faster Performance

Up to 38% faster backups* Up to 45% faster restores* Up to 50% higher IOPS**



More Efficiency

Up to 30% more logical capacity per TB***
Up to 39% lower rack space 50% lower floor space
Up to 41% lower power & cooling****

Cloud Enabled

Cloud Tier and Cloud DR capable

- *Based on Dell EMC Internal testing with DD Boost protocol on DD9900 with DDOS 7.2 vs. DD9800 with DDOS 7.2, April 2020. Actual results may vary.
- ** Based on an 8KB 100% read internal test with DD Boost protocol on PowerProtect DD9900 and DD OS 7.0, August 2019. Actual results may vary.
- *** Based on Dell EMC internal testing of PowerProtect DD with DDOS 7.0, Aug 2019. Actual results may vary.
- **** When comparing 1PB of data on DD9800 with Cloud Tier and PowerProtect DD9900 with Cloud Tier

Fast



Higher IOPS

Up to 50% faster Instant Access/Instant Restore with up to 60,000 IOPS and up to 64 VMs**

Faster networking

New 25GbE and 100GbE networking support

*Based on Dell EMC Internal testing with DD Boost protocol on DD9900 with DDOS 7.2 vs. DD9800 with DDOS 7.2, April 2020. Actual results may vary.

^{**} Based on an 8KB 100% read internal test with DD Boost protocol on PowerProtect DD9900 and DD OS 7.0, August 2019. Actual results may vary.

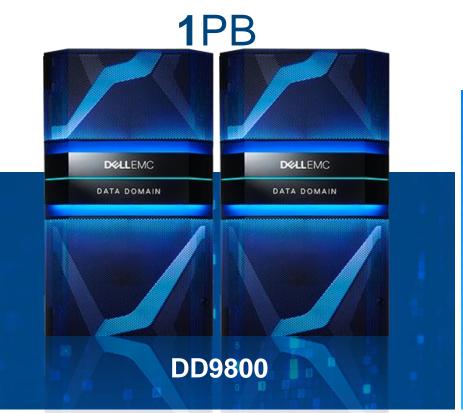
Comprehensive PowerProtect DD Portfolio

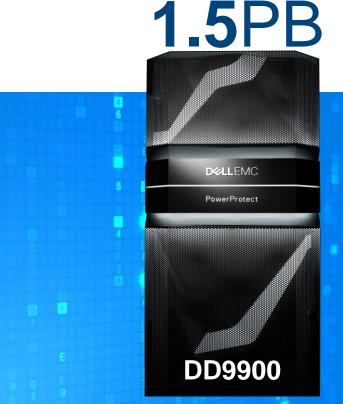
	DDVE	DD3300	DD6900	DD9400	DD9900
Backup Ingest (with DD Boost)	Up to 11.2TB/hr for 96TB	Up to 7.0TB/hr	Up to 33TB/hr	Up to 57TB/hr	Up to 94TB/hr
Usable Capacity (with Active Tier)	0.5-96TB	4-32TB	48TB-288TB	192TB-768TB	576TB-1.5PB
Logical Capacity (with Active Tier)	Up to 4.8PB	Up to 1.6PB	Up to 18.7PB	Up to 49.9PB	Up to 97.5PB

Logical capacity based on up to 50x deduplication (DD3300) and up to 65x deduplication (DD6900, DD9400, DD9900) based on additional hardware-assisted data compression of up to 30% better than previous generation. Actual capacity and throughput depends on application workload, deduplication and other settings.)

Efficient

50% more capacity in a single rack





Efficient

Up to 95% more logical capacity per rack compared to DD9800

Hardware Assisted Compression

 Improves logical capacity by up to 30% per TB driving up to 65x data reduction*

Grow-in-place capacity

Half-shelf licensing support

Denser Drives

 Up to 39% lower rack space with new 8TB drives



Flash enabled VM instant-access and restore

Access VMs directly from PowerProtect DD using a protection copy

Improved Random IO with the inclusion of flash SSD for metadata

Enhanced data cache results in higher random IO performance for Instant Access / Instant Restore

 Instant Access/Instant Restore of up to 60,000 IOPS and instantly access up to 64 VMs* Instantly access up to

64VMs



Instant restore up to

60,000 IOPS

^{*} Disclaimer: "Based on Dell EMC internal testing on PowerProtect DD9900 and DD OS 7.0, August 2019. Actual results may vary."

UI Modernization

PowerProtect DD Management Center

Manage in-cloud and on-prem PowerProtect DD Series



- Manage capacity, monitor health and resource and generate reports
- Supports AWS, Azure and Google Cloud Platform
- Streamlined DDOS upgrades with one to many scheduling option

DD System Manager GUI for an individual chassis



- Simple navigation and access to detailed views
- Chassis view for better fault detection
- Automatic minimum storage provisioning of File System



Dell EMC Cloud Disaster Recovery









Orchestrated DR

- End-to-end orchestration
- DR plans
- Rapid recovery

Efficient Architecture

- Extend on-premises data protection
- Minimal cloud cost & footprint
- Eliminate DR data center costs

Simple operation

- Use familiar on-prem UI
- Direct in-cloud access
- 3 clicks failover, 2 clicks failback

PowerProtect Cyber Recovery

The last line of data protection defense against cyber-attacks

The Challenge

93%

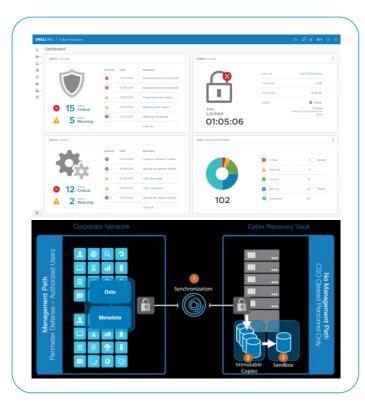
CAGR in Ransomware variants from 2010 to 2016

92%

Organizations cannot detect cyber-attacks quickly

59%

Believe that isolating affected systems and recovering from backups should be the response to ransomware



- True Data Isolation Vault
- End-to-End Automated Workflow
- Modern & Simple UI/UX
- Flexible Rest API
- Fully Supported
- Enables Integrated Vault Analytics Workflows*

Consulting Services Available!!!

- Seamless ProDeploy Packages
- L1 CyberAdvisory Services

PowerProtect DD Series May 2020 updates



DD9900 Capacity Expansion

- DD9900 now supports up to 1.5PB of usable capacity in one rack up from 1.25PB at launch
- The 1.5PB of usable capacity yields 97.5PB of logical capacity in one rack



DDVE & Cloud Enhancements

- Expanding VM support size for DDVE to EC2 M5 instances for larger deployments
- Improved in-cloud restore performance by up to 3.1x*
- Improved DDVE optimized performance and reduced metadata consumption for better user experience
- Extended Cloud Tier support to AWS Gov Cloud



Improved Performance

- Up to 45% faster restores with PowerProtect DD9900 and DDOS 7.2**
- With DDOS 7.2, PowerProtect DD9900 delivers up to 25% higher peak restore performance as compared to DDOS 7.1***



DDOS 7.2

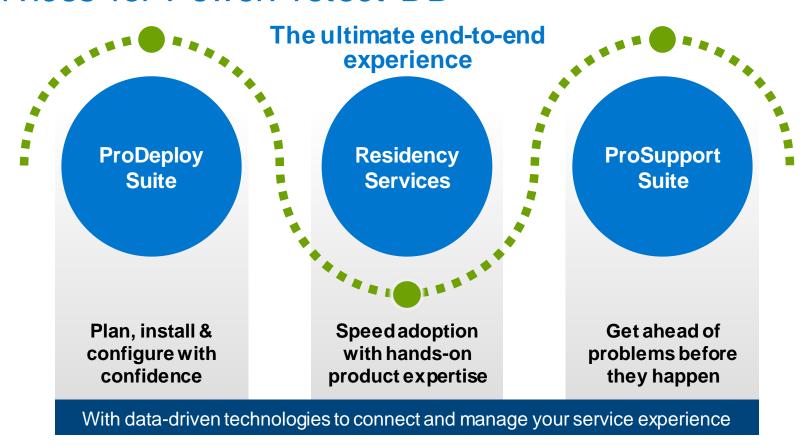
- PowerProtect DD
 Management Center support for one to many upgrades streamlining DDOS upgrade process
- Apply standardized templates to your appliances and be alerted when a system template is out of compliance
- Indefinite retention hold update to DD Retention Lock allowing for no expiration date

^{*}Based on Dell EMC internal testing comparing DDVE in-cloud restore performance with DDOS 7.2 compared to DDOS 7.1, May 2020 Actual results may vary.

**Based on Dell EMC Internal testing with DD Boost protocol on DD9900 with DDOS 7.2 vs. DD9800 with DDOS 7.2, April 2020. Actual results may vary.

^{***}Based on Dell EMC Internal testing with NFS protocol on DD9900 with DDOS 7.2 vs DD9900 and DDOS 7.1, April 2020. Actual re sults may vary

Services for PowerProtect DD





FUTURE-PROOF

PROGRAM











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