

DATA PROTECTION FOR VMWARE

SIMPLY POWERFUL DATA PROTECTION FOR ANY SIZE ORGANIZATION – ON PREMISES AND IN THE CLOUD

HIGH PERFORMANCE AND LOW COST PROTECTION FOR VMWARE ENVIRONMENTS

Mid-Size Organizations

- Simplicity for faster time to value
- Industry leading performance to meet SLAs
- Enterprise-level comprehensive data protection
- Lower cost to protect

Larger Enterprises

- Simpler expansion and management of environment
- Greater integration with VMware
- Hypervisor direct protection for mission-critical workloads
- Application with VMware integration and optimization
- Self-service data protection with central visibility

Cloud Expansion

- Single solution data protection
 - On premises
 - Direct to cloud
 - Workloads in the cloud
- Integrated and optimized for in-cloud data protection
- One vendor and support organization
- Solution for all aspects of your journey into the cloud
 - Long-term retention to the cloud
 - Disaster recovery to the cloud
 - Protect VMware Cloud workloads on AWS

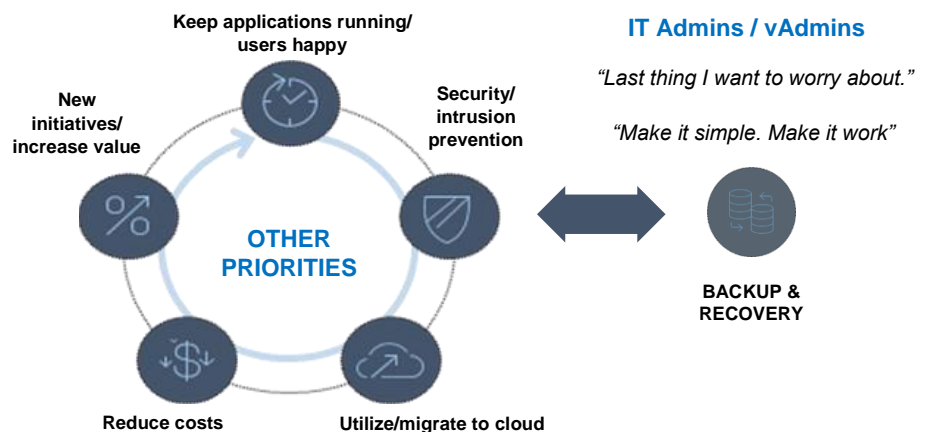
DPaaS

- Integrated into vCloud Director
- Oversee backup and recovery
- Enables self-service data protection
- Seamlessly integrated tenant portal UI

Why Dell EMC for VMware Data Protection

Today, majority of workloads run on virtualized environments, with most of those virtualized workloads running on VMware. Protecting these environments is getting more and more complicated as the amount of data, applications and VMs continues to increase. The movement of both the data centers and the data protection environment to the cloud further complicates matters as organizations deal with siloed data, as well as multiple solutions and vendors.

At the same time IT and vAdmins have other key priorities. They want data protection to be ubiquitous, they just want it to work and work well.



Dell EMC provides exactly what IT and vAdmins are looking for. Simply powerful data protection for VMware environments for organizations of all sizes – on premises and in the cloud:

1. **Simple and Automated:** Converged solution options, centralized management and automation across the entire VMware data protection stack – policy management, virtual proxy deployment, and moving data to protection storage.
2. **Comprehensive Coverage:** Protection for the largest application ecosystem¹ – on premises and in the cloud.
3. **Higher Performance:** Simpler networking, faster performance, and industry-leading client side deduplication²
4. **Integration:** Comprehensive integration with VMware enables management of many data protection task with native VMware tools.
5. **Lowest Cost to Protect:** Less than half a penny per GB/month. Up to 80% less than the competition.³

Ideal VMware Data Protection for Midsize Organizations

Protecting VMware environments can be even more challenging for mid-size organizations as they tend to have less resources and less specialization in their IT departments. They require solutions that are easy to deploy and

manage. At the same time, they still face the same challenges of protecting an ever increasing amount of data, applications and platforms in the cloud. So, they also require solutions that provide performance and comprehensive coverage.

Unfortunately, most data protection solutions targeted at mid-size organizations tend to sacrifice performance and coverage for the sake of simplicity. The end result is often difficulty in meeting backup and recovery SLAs and a more complicated environment with multiple solutions, vendors and consoles to manage.

Dell EMC Integrated Data Protection Appliance (IDPA) DP4400

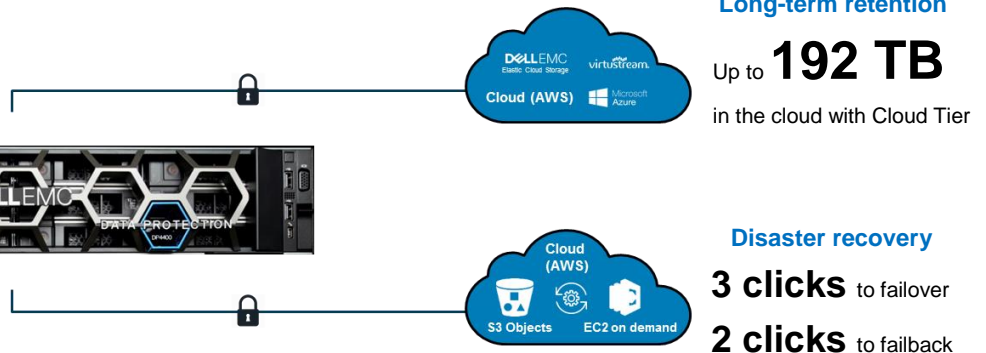
Dell EMC IDPA DP4400 is designed for mid-size organizations. It is a converged 2U appliance that combines backup, recovery, search, analytics and cloud extensibility, delivering enterprise level protection in a simple to deploy and manage appliance.

Simple: The DP4400 is easy to deploy – 3 simple steps – and can scale from 24TB to 96 TB with no additional hardware purchase. IDPA System Manager provides centralized management and there is native integration with VMware, SQL management studio, and Oracle RMAN, among others, enabling admins to perform many data protection tasks from familiar application interfaces.

Powerful: The DP4400 also delivers the performance you have come to expect from Dell EMC. It provides coverage across the industry's broadest workload ecosystem.¹ It is optimized for VMware, protecting up to 5x more VMs in a single 2U appliance.⁴ Backups and recoveries are faster – up to 2x faster backups, up to 7x more backup streams, and NVMe Flash for instant access and restores – and networking and capacity are more efficient with leading deduplication and bandwidth utilization – average deduplication rate of 55:1⁵ and up to 98% less bandwidth.⁶

Cloud Ready: The DP4400 is also natively cloud extensible with support for cloud Long-term Retention and cloud DR.

Automated and efficient data movement
Eliminates the need for cloud gateway
API extensible for simplified management



IDPA provides all this at the lowest cost to protect -- at less than half a penny/GB/month, which is up to 80% less than our competitors.³

IDPA is guaranteed under Dell EMC Future Proof Loyalty Program – with a new up to a 55:1 data protection deduplication guarantee.

Dell EMC Data Domain 3300

For mid-sized organizations that are not looking for a converged solution, Dell EMC also offers Data Domain 3300, which, similar to IDPA DP4400, provides backup storage in a 2U form factor. Data Domain 3300, combined with Dell EMC Data Protection Software, provides a complete end-to-end data protection solution for fast and efficient backup and recovery, and is also compatible with data protection software from other vendors.

VMware Data Protection for Larger Enterprises

Larger organizations tend to have some unique challenges when it comes to protecting their VMware environments. The task of protecting more data, more applications, more VMs and more platforms is faced by organizations of all sizes. However, ensuring that a VM is protected as soon as it is spun up by a vAdmin can be a bigger challenge for larger enterprises. In addition, larger enterprises are dealing with increasingly stringent protection requirements as a result of more business and mission critical applications moving to virtual environments and greater government regulations concerning backups.

These organizations are looking for a solution that provides greater automation to simplify protection of a fast growing VMware environment, empowers vAdmins to perform data protection tasks directly from native VMware and other leading application UI, and also provides greater governance and performance for protecting larger, fast changing, mission critical applications and databases.

Architected for the modern and software defined data center, Dell EMC Data Protection solutions provide greater automation, deliver simple scalability and faster performance, unparalleled efficiency with leading deduplication and bandwidth efficiency, present an easy to use UI, and protection for a broader scope of VMware workloads including workloads in the cloud and mission-critical I/O intensive applications.

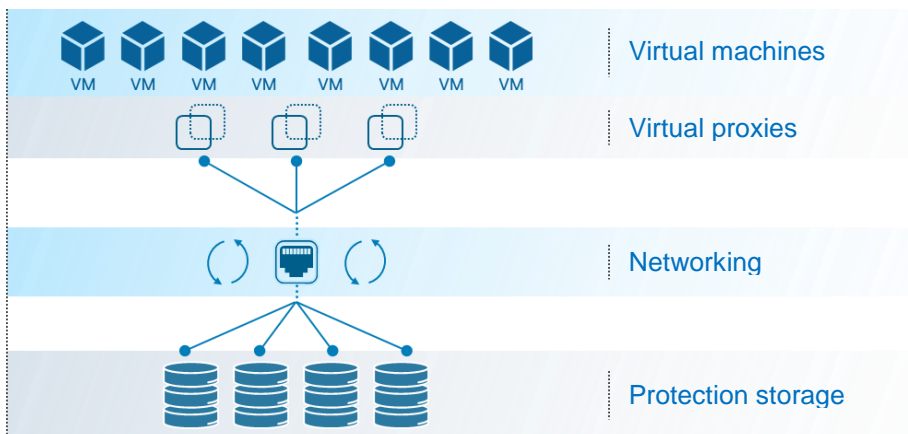
Dell EMC Data Protection solutions provide automation across the entire data protection stack, including VM backup policy, deploying and configuring virtual data movers/proxies, and directing data from VMs to backup storage. With Dell EMC Data Protection, it takes less than 5 minutes to deploy and configure a proxy.

Dell EMC DATA PROTECTION FOR VMWARE

AUTOMATION
across the entire data protection stack.

Competing solutions

- Do not provide automation across the entire stack
- May only provide automation to the virtual machine layer
- May require additional purchase of 10GbE networking since proxy is centralized in their appliance



In addition, by enabling backup and recovery directly from the hypervisor or the application, Dell EMC Data Protection enables customers to expand their VMware environment to mission critical workloads, dramatically speeding up backups by up to 5x⁷, and providing self-service protection capabilities to application owners, enabling agility, and cost and risk reduction through automation and consolidated oversight. Hypervisor direct backup and SLO governance is currently available for Sequel and Oracle workloads.

VMware Data Protection In The Cloud

Dell EMC Data Protection solutions also enable organizations to protect their VMware environment for any phase of their journey to the cloud.

For customers looking to extend their data protection to the cloud, we provide:

- Cloud Long-term Retention: Store up to double the capacity of your on premise Data Domain or IDPA storage in the cloud (up to 150 PB logical capacity)

- **Cloud Disaster Recovery to AWS S3 and Microsoft Azure Blob:**
Replicate backed up data to AWS S3 or Azure Blob object storage for lowest cost, failover and spin off VMs on demand on AWS EC2 or Azure VM in case of a disaster event in just 3 clicks and fallback in just 2 clicks.

For customers looking to protect VMware workloads running in the cloud, we offer Data Protection for VMware Cloud on AWS, as well as a data protection extension for VMware vCloud Director, which enables cloud service providers to offer an integrated VMware and Data Protection as a Service offering.

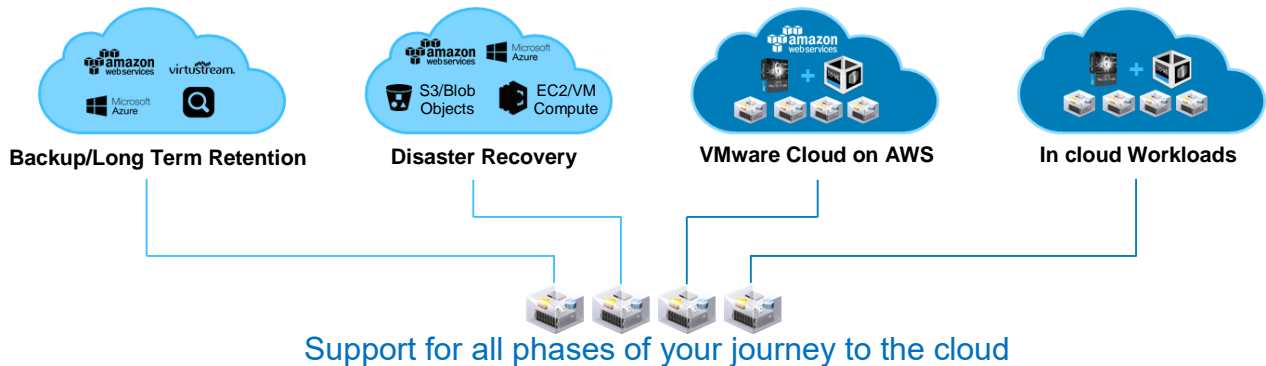
New – Disaster Recovery to VMware Cloud on AWS

Dell EMC was the first data protection provider for VMware Cloud workloads on AWS, providing fast, efficient and secure image and guest level backup and recovery. We have now expanded our Cloud DR capabilities to VMware Cloud on AWS. Compressed data is still copied to AWS S3 for minimal cost and footprint. If a disaster event occurs, VMs are spun off on demand either in your own VMware Cloud on AWS. You can simply transfer the VMs back to your on premises VMware environment using vMotion for even simpler management and orchestration.

New – VMware Integrated Data Protection as a Service

Dell EMC also makes data protection easier for customers who wish to obtain their VMware environments through the cloud from a service provider. VMware vCloud Director and Dell EMC Data Protection Suite have greatly enhanced their integration, making it easier for service providers to jointly deliver VMware and Data Protection-as-a-Service. Our leading VMware integration extends data protection into the vCloud Director tenant UI. This eliminates the need for a separate Backup-as-a-Service portal. Now cloud service providers with multi-tenant VMware environments can offer their customers robust, integrated data protection with a best-in-class user experience. Plus, service providers and their customers benefit from Dell EMC Data Protection's proven low operating cost and high scalability and performance.

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¹ Based on internal analysis, June 2018.

² Average 55:1 deduplication. Based on Dell EMC internal analysis of customer data as of May 2018.

³ Dell EMC internal analysis using publically available competitive pricing, May 2018. Lowest cost-to-protect is based on \$ per logical GB. Actual cost will vary.

⁴ Based on Dell internal testing and comparing against Rubrik's published performance data in 2U, February 2018.

⁵ Based on Dell EMC internal analysis of customer data as of May 2018.

⁶ [ESG Lab Review](#) commissioned by Dell EMC, February 2018, versus a competitive Vendor A.

⁷ Based on Dell EMC internal analysis, July 2017 (compared to traditional methods).



[Learn more](#) about Dell EMC Data Protection solutions for VMware



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