



Dell EMC Data Protection for VMware

Realize and protect the software-defined data center

VMware has been at the forefront of the shift towards the modern data center, enabling organizations to take advantage of the unprecedented agility provided by the software-defined data center (SDDC) and the delivery of all infrastructure-as-a service (IaaS). This data center evolution has resulted in an increasingly converged and software-driven environment that empowers IT and organizational transformation.

However, protecting VMware workloads (applications and their data) in this new model is more complex, creating challenges that are not easily met by data protection solutions built for legacy SAN-based architectures:

- Virtual machine (VM) sprawl due to the growth of data, virtualization, and the ease of spinning up new VMs
- Increasingly stringent protection requirements, such as government regulations, compliance, and more critical applications running in virtual environments, etc.
- Shrinking protection/backup windows
- The lack of data protection solutions architected and ready for the SDDC

Many of today's data protection solutions are limited by their inability to provide holistic data protection, which forces trade-offs between key requirements. Bottom line, common data protection architectures such as the traditional hardware and software model and initial approaches to converged hardware and software don't work well for larger VMware environments and are not designed to support the SDDC.

Dell EMC Data Protection Integration Benefits

Seamless Integration

Enable VM admins to manage data protection directly from native vSphere UI

Simplified Proxy Management

Automated to minimize and virtually eliminate manual effort and the potential for mistakes

Policy Management

Age-based policy management, dynamic policies, and multi-system management

Protection Storage

Leverage Dell EMC Data Domain appliances, Dell EMC Data Domain Virtual Edition, or the Dell EMC Integrated Data Protection Appliance within the SDDC

Simplified Networking

Automation throughout the entire VMware data protection stack via native dynamic protection

Transformation Through Automation and Integration

Constructed for today with tomorrow in mind, Dell EMC data protection is architected from the ground up to increase speed and agility for every business. By automating data protection, it offers IT, executive staff, and lines of business (LOBs) a competitive advantage, namely more time to be productive. Dell EMC Data Protection solutions deliver IT and storage admins the tools they need to manage uptime and increase service level agreements (SLAs), improve application performance, and lower the total cost of ownership (TCO) of primary storage infrastructure AND application data protection.

Now, users can spin up data protection automatically with each workload environment that has been designed specifically to integrate with an organization's existing VMware tools. Dell EMC's fifteen-plus year association with VMware has enabled the deepest levels of integration between the VMware environment and data protection. One of the main advantages of the Dell EMC Data Protection architecture for VMware is that we provide deep integration with VMware and automation across the entire virtualized data protection stack. This is a key differentiator for operational effectiveness and long-term scalability.

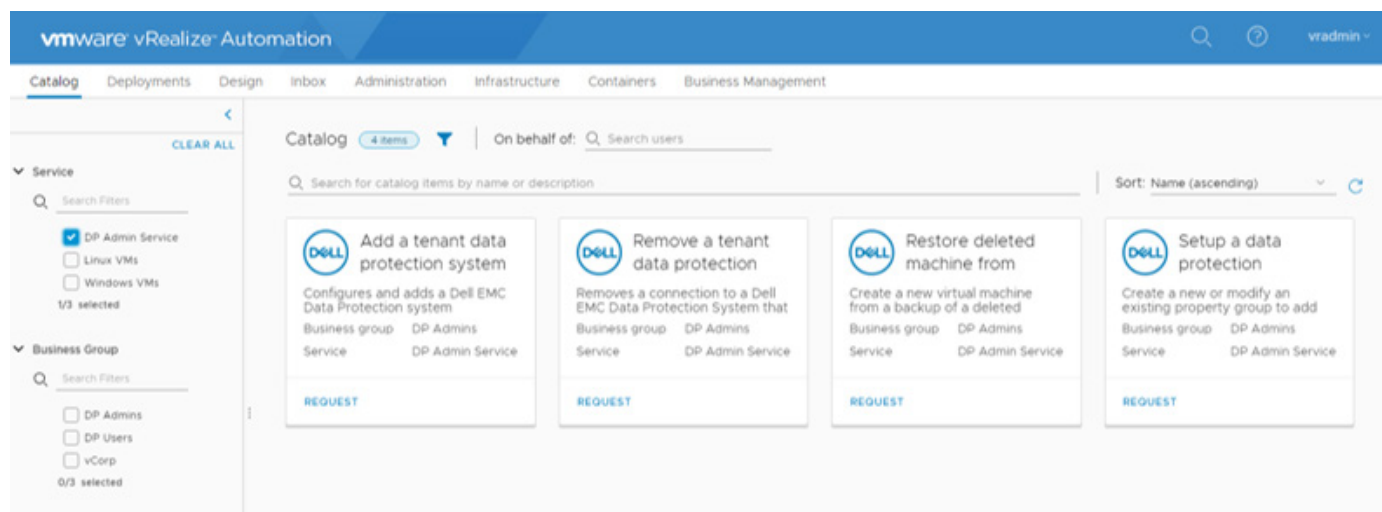
Seamless Integration

Dell EMC Data Protection solutions are fully integrated with vSphere to enable VM admins to manage data protection directly from the native vSphere UI. With Dell EMC's advanced VMware integration, VMware Admins are empowered to more efficiently control their own data protection resulting in faster backups and restores for virtualized mission critical applications.

VMware vRealize Automation




As more users adopt VMware and VMware vRealize Automation (vRA), Dell EMC's seamless integration with VMware's UI becomes more and more important. Pair VMware vRealize Suite with Dell EMC data protection and the solution offers automation, governance, and compliance for users with the deepest integration points for our customer's cloud orchestration portal.

The vRealize Data Protection Extension provides out-of-the-box integration of vRA. Dell EMC Data Protection Software offers data protection natively as part of the vRA Advanced Services. By using an add-on extension, virtualization admins can quickly create data protection services for end-users and benefit from key features which include pre-built Day 1 and Day 2 workflows as well as file-level recovery and application protection workflows. The vRA Data Protection Extension embeds data protection directly into the blueprints.



Dell EMC vRealize Data Protection Extension on the VMware Solution Exchange:
<https://marketplace.vmware.com/vsx/solutions/dell-emc-vrealize-data-protection-extension?ref=company>

Dell EMC Data Protection integration into VMware vRA provides:

 <p>Backup and Restore</p> <ul style="list-style-type: none">• Embed backup policies into blueprints• Policy management• Restore VM to original or alternate location• File level restores• Backup services within the vRA UI• Application consistent backups supported through agents as well as snapshot-based backups	 <p>Monitoring and Reporting</p> <ul style="list-style-type: none">• Review backup inventory and status• View failures and causes	 <p>Topology Workflows</p> <ul style="list-style-type: none">• Multi-tenant workflows• Installation workflows
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Data Movers (Proxies / Media Servers)

Dell EMC VM proxy management has been automated to minimize and to virtually eliminate both manual effort and the potential for mistakes. Dell EMC Data Protection Software collects the required information, analyzes the environment, and makes recommendations on how many and where proxies are needed. This greatly simplifies proxy management and eliminates many common proxy issues including:

- Time-consuming, error-prone process
- Complex set-up and maintenance
- Multiple user interface requirements

With Dell EMC data protection, proxy management becomes simpler while increasing visibility and awareness of potential conflicts. In addition, Dell EMC automatically manages and cleans up Virtual Machine Disk (VMDK) snapshots, which greatly simplifies VMware image backups, improving overall VMware operations and reducing OPEX costs. This zero-touch feature automatically performs the following value-added VMDK Snapshot Management tasks – all without user intervention:

- Discovery, logging, and alerting of problem snapshots for proactive awareness
- Automated cleanup and removal of problematic and orphaned snapshots
- Improved system reliability, improved backup success rates, and less wasted storage resources

Policy Management

Dell EMC integration with VMware includes important policy management features such as:

- Age-based policy management with Dell EMC Data Protection Software and Cloud Tiering
- Dynamic policies to define rules that customize which policies a VM client can be assigned to, enabling automatic on-boarding of newly discovered VMs into pre-defined backup groups
- Multi-system management for centralized policy lifecycle management, which supports integration with VMware

Protection Storage

Dell EMC Data Protection solutions for VMware can efficiently leverage Dell EMC Data Domain systems, Dell EMC Data Domain Virtual Edition, or the Dell EMC Integrated Data Protection Appliance within the SDDC. Our software also automates the data movement from proxies to protection storage.

Networking

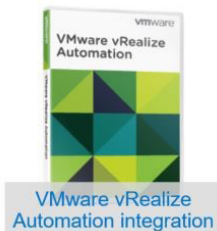
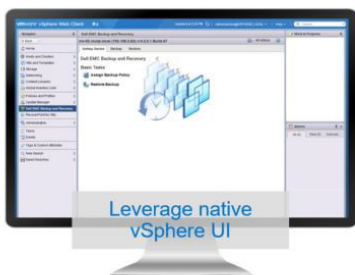
Dell EMC Data Protection solutions are software-defined in their architecture and VSAN certified. This enables much simpler and less costly networking to implement, especially as the number of VMs increases. They provide automation throughout the entire VMware data protection stack via native dynamic protection and native automated data protection in vRealize Automation.

Dell EMC Data Protection for VMware Strategy

Modernize	Automate	Transform
<p>Modernize by simplifying existing processes for VMware data protection with solutions that are comprehensive and scalable:</p> <ul style="list-style-type: none"> • With deep integration at the application and hypervisor level to scale elegantly without media server sprawl • Lower capacity and bandwidth requirements with best-in-class data deduplication to support converged/hyper-converged infrastructure, physical/virtual environments, and the widest application ecosystem • Instant Access Restores which aids in mission critical VM recovery with minimum downtime 	<p>Automating everywhere makes sense to deliver high performance and low TCO:</p> <ul style="list-style-type: none"> • Automate protection policies and SLA compliance • Make data protection disappear into a feature of the fabric • Introduce data protection workflows at the application level • API-driven automation enables delivery as part of service catalog • Lower management costs with automation across the entire stack, not just policy management • Empower vAdmins with industry leading integration with vSphere UI and vRA • Provide faster backup and recovery 	<p>Architect data protection for the modern SDDC and cloud to:</p> <ul style="list-style-type: none"> • Meet backup windows with SLO-driven protection • Extend to the cloud, DR in the cloud, or run in the cloud

VMware Integrated and Optimized

Seamless integration with vSphere, vRealize, and VMware Cloud



Dell EMC data protection offers the deepest integration for VMware users with automation and orchestration across the entire VMware stack.

Integration with vSphere Web Client

Dell EMC data protection integrates with the VMware vSphere web client via a plug-in that provides the VMware administrator with:

- Control to perform backups and restores
- The ability to oversee all backup and recovery activity
- Detailed reporting and configuration of data protection

Transform Through the Cloud

Dell EMC is the leading vendor of data protection solutions. It has a comprehensive portfolio to cover multi-cloud use cases, built upon the industry's leading data protection platform with the widest protected workload use cases and ecosystem. Dell EMC Data Protection solutions are ready to support all phases of your journey to the cloud and provide you with superior cloud data protection for multiple common cloud use cases illustrated below.

Retention to the Cloud

Dell EMC Data Protection solutions support native backup tiering to public or private cloud for cost-effective storage of long-term backup retention data eliminating the need for physical tape infrastructure.

Disaster Recovery

Dell EMC's Cloud Disaster Recovery (Cloud DR) solution provides capabilities in the AWS public cloud. Cloud DR protects on-premises applications into AWS S3 with no additional Dell EMC Data Protection Application server or Dell EMC deduplication protection storage components needed in the cloud. The solution does not require additional compute resources. Recovery of VMs can be done temporarily for DR test purposes or used to recover from an actual disaster.

VMware Workloads on AWS

Dell EMC was selected as the first VMware partner to deliver data protection for VMware Cloud™ on AWS. Dell EMC Data Protection software provides fast, efficient, and secure image and guest level backup and recovery for workloads running on VMware Cloud™. Tight integration into VMware enables self-service protection within native VMware interfaces, notably with a 3 click failover, 2 click failback feature that is easy to use and manage.

All these solutions support multiple clouds and enable you to have a single, consistent management of your data protection across on-premises ecosystems and multiple clouds. Our solutions also enable data protection across clouds, with the ability to tier older data to almost any major cloud or to store recent copies on a cloud for DR purposes, while benefiting from full DR orchestration capabilities like you experience in your on-premises environment.

Further Resources

[Data Protection for VMware](#)

[Dell EMC vRealize Data Protection Extension on the VMware Solution Exchange](#)