Data Protection Solutions for Kubernetes

Benefits of PowerProtect Data Manager

- Built for Kubernetes Environments
  - Dell EMC CSI Driver Support
  - 3rd Party CSI Snapshot Support
  - VMware Cloud Native Storage
- Centralized management and governance
- Enterprise-grade data protection
- Application consistency
  - MySQL, MongoDB, Cassandra, Postgres
- In-cloud protection with PowerProtect Data Manager
- Protect clusters on Amazon EKS, Microsoft AKS
- Cluster to cluster restores
- A more reliable and cost-effective infrastructure
- Integrated with VMware Tanzu
- Builds upon @ProjectVelero

Solution Benefits:

- Single platform for VMs, Apps and Kubernetes
- No silos, no shadow for separate IT projects.
- Policy based engine
- Built-in change copy (replication) for compliance and disaster recovery with PowerProtect DD Series Appliances
- Maintain power when you need it and delegate when you don’t!
- Simple user experience

Modern Data Applications Need Data Protection

The surge in popularity of modern data applications has skyrocketed since released to the open-source community half a decade ago. This evolutionary path has almost every enterprise organization thinking about or already adopting modern data applications such as microservices, containers and therefore the growth of Kubernetes orchestration. The benefit of these agile resources and tools enables developers to run applications virtually anywhere and create predictable dev/test environments which in turn significantly increases productivity. Teams spend less time debugging and diagnosing differences in environments, and spend more time shipping new functionality. These applications also can be part of existing or newly deployed Virtual Machine (VM) environments with the advent of VMware Tanzu as complimentary workloads expanding on existing infrastructures. Either way that they are deployed, they must be backed up, secured and protected.

PowerProtect Data Manager Highlights

Dell EMC PowerProtect Data Manager is one of the first and only enterprise protection solutions for Virtual Machines (VMs), applications and Kubernetes workloads. PowerProtect Data Manager enables the discovery, protection and management of production workloads in Kubernetes environments and protects production and dev/test workloads to ensure that the data is easy to backup and restore. Working alongside VMware, Data Manager leverages the Project Velero Kubernetes-native architecture developed for Kubernetes environments and is integrated directly into the user interface. Data and application owners gain the benefit of an intuitive, easy to use user interface (UI) while IT Ops can take advantage of centralized governance separate from the development operations.

Data Manager enables protection of the Kubernetes’ clusters namespaces and provides data owners the ability to restore and migrate across clusters via data movers. Additionally, the ability to create agentless application-consistent Kubernetes container protection and specify labels for their workspaces (PODs) is a key software differentiator with Data Manager.
As more enterprises adopt multi-cloud, data owners can also deploy Data Manager in AWS and Azure for Kubernetes workloads. This is really an advantage to developers and administrators who would appreciate the ability to automatically deploy the Kubernetes pods onto clusters in the cloud and as well as store in cloud for burst developments, QA/Test in “production” as well as employing self-service backup and restores.

**VMware Tanzu Integration**

Data Manager and data protection integration with vSphere empowers vAdmins to provision, monitor and manage the protection of their Kubernetes workloads. Data Manager provides protection for Tanzu Kubernetes clusters in vSphere with Kubernetes, Tanzu Kubernetes Grid (TKG) and Tanzu Kubernetes Grid Integrated (aka TKGI). Additional benefits provide unified data protection across VMs and Kubernetes containers with worry-free migration for existing workloads to other Kubernetes environments protected. hybrid and multi-cloud organizations.

**Enhanced, Enterprise Data Protection Storage**

Users of PowerProtect Data Manager can enhance the protection of their data by protecting directly to their existing backup targets and/or PowerProtect DD Series appliances gaining benefits from secondary storage with unmatched efficiency, deduplication, performance, and scalability. PowerProtect DD systems scale seamlessly without disrupting operations by simply adding additional shelves on-the-fly while the system is running. Massive scalability means organizations have fewer devices to manage, require less infrastructure and achieve higher deduplication ratios because there can be more data within a single deduplication pool. PowerProtect DD’s efficient inline variable length deduplication becomes the enabling technology for a cost effective “tapeless” disaster recovery approach. The systems only replicate unique data to the remote site and begin replication while backups are still in process. Organizations that make an investment in PowerProtect Data Manager and PowerProtect DD would benefit in economic benefits over time, improved performance, and, most important, a low cost to protect.

According to a survey conducted by IDC on container software, 97% of respondents are using a Kubernetes based platform.2

**Summary**

As your data, applications and need for agility continues to grow, the need for modern simplicity and flexibility to recover data and host an entire application anywhere, will be critical. Dell EMC gives organizations the choice to confidently plan their modern data protection strategies through constant innovation, agile engineering, and tight integration with VMware.

Learn more about how your organization can backup and recover Kubernetes and containerized workloads with Dell Technologies at [www.dellemc.com/dataprotection](http://www.dellemc.com/dataprotection).

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1. [Data Protection Trends and Strategies for Containers](#), September 2020
2. [IDC Container Infrastructure Software](#), April 2020