SOLUTION BRIEF

Modernize Applications with Portworx and Tanzu

Comprehensive Kubernetes data services to make your apps performant, protected, and secure.

For over a decade, Pure Storage® has been working with VMware to help customers maximize the value of their VMware infrastructure. VMware Tanzu offers full-stack modernization that extends the value of this existing infrastructure to modern Kubernetes-based applications. Gartner predicts that by 2022, more than 75% of global organizations will be running these modern, containerized applications in production, up from less than 30% today.

However, when it comes to data services for modern applications running on Kubernetes, a traditional, infrastructure-centric approach can't fully address the needs and requirements of this new dynamic, app-centric world. Modern applications require a level of portability, scalability, and automation that can only come from a purpose-built Kubernetes data services platform. They need a platform that delivers Kubernetes-granular data services that remain consistent across on-prem and the cloud.

Run Critical Applications on Containers in Production

Enterprises trust Portworx® by Pure Storage, the leading Kubernetes data services platform, to run mission-critical containerized applications like those running on Tanzu in production. With Portworx, you benefit from a production-grade Kubernetes storage layer to run apps that are performant, protected, and secure. In addition, only Portworx delivers a set of critical container-granular services, including—but not limited to—dynamic volume provisioning, replication and high availability, encryption, backup and recovery, disaster recovery, and automated capacity management. These services allow you to move mission-critical workloads into production with confidence.

These Portworx services complement the VMware Tanzu platform and provide you with a modern, future-proof Kubernetes stack to support your app modernization journey. You also gain flexibility as you scale out your VMware Tanzu environment. These services are

Dynamic Volume Provisioning

Provide scalable container-granular volumes to Kubernetes applications through Portworx integration with VMware.

App-centric Data Protection

Deliver container-granular backup, disaster recovery, and security for your mission-critical modern applications on Tanzu.

App-granular Mobility

Move applications across clusters, racks on vSphere on-prem, VMware Cloud on AWS, Azure VMware Solution, or any other cloud.

available across many environments, including vSphere on-premises, VMware Cloud on AWS, Azure VMware solution, or any other cloud.

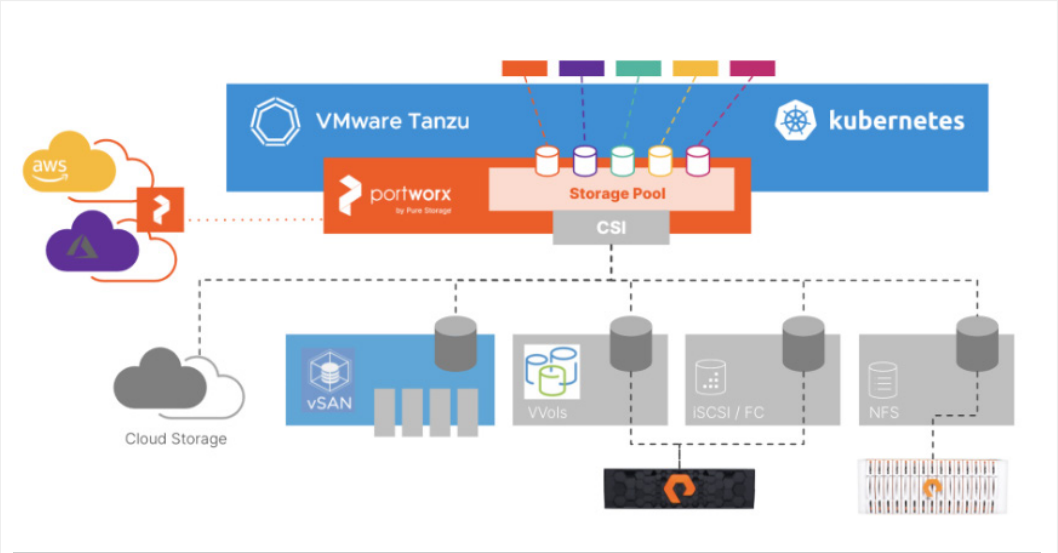

Figure 1: Build a production-grade Kubernetes storage layer with Portworx to develop apps that are performant, highly available, and secure.

Dynamic Volume Provisioning

Portworx provides direct integration with the Tanzu CSI driver allowing Portworx to dynamically provision volumes to apps running on Tanzu from the underlying storage array, like dynamic provisioning by Portworx for block storage in the cloud or on Pure FlashArray™ or FlashBlade®. With minimal admin intervention, Portworx can use enterprise policies to automatically optimize your storage environment by resizing volumes, expanding storage capacity, and rebalancing the storage pool across cluster nodes as containers are spun up and spun down.

Secure, Self-service Backup and Recovery

Deliver comprehensive container-granular backup and recovery for your mission-critical modern applications on Tanzu. With Portworx PX-Backup, you can quickly and easily create and schedule backup policies that help ensure compliance with company and regulatory mandates. With role-based access controls, administrators, app owners, and individual developers can backup and restore applications in an entirely self-service manner. All Portworx backups are application-consistent, not just crash-consistent. They include the application's data, configuration, and Kubernetes objects to simplify and speed recovery. You can store backups either on-premises or in the cloud. You can restore to the same cluster, same namespace (to handle use cases like accidental deletions), or to a completely different TKG cluster, on-premises or otherwise. Enterprises can leverage PX-Backup with Tanzu Data Services for a single, unified data protection solution for all Tanzu Data Services rather than having to cobble together individual database-specific solutions with the TDS Operator.

Business Continuity and Disaster Recovery

Having a consistent storage layer for Kubernetes clusters across data centers and clouds is critical to maintaining business continuity and disaster recovery. Enterprises running apps on VMware Tanzu can leverage PX-DR to support synchronous and asynchronous disaster recovery at both the application and namespace levels. For Tanzu applications deployed in data centers within a single metro area, Portworx uses this synchronous replication to deliver zero RPO disaster recovery across

data centers. When a data-recovery solution spanning a wide-area network is required, Portworx uses asynchronous replication to deliver data recovery with the same low RTO and a configurable RPO. You can extend this functionality to provide synchronous data recovery for different vSphere clusters running within the same data center. With asynchronous replication, enterprises can quickly restore their applications on a secondary Kubernetes cluster running at a data recovery data center or in the public cloud.

App-Granular Mobility

Being able to move entire Kubernetes applications across clusters, racks on vSphere on-prem, VMware Cloud on AWS, Azure VMware Solution, or any other cloud is essential. This mobility allows you to easily upgrade your Tanzu cluster or applications, lift/shift an application to the cloud, and repatriate from the cloud to cater to your changing business needs.

Move Faster Running Tanzu App Catalog with Portworx

You can deliver production-grade storage layers on Tanzu for open-source software published on Tanzu Application Catalog to build performant, protected, and secure applications. Eliminate guesswork and move faster by leveraging our documentation and reference architectures for running several production-ready stateful applications and application components on the catalog with Portworx.

Additional Resources

- Dive deeper in this blog post on Enabling Tanzu Support in Portworx Using CSI.
- Learn more about how Pure powers VMware environments.
- Explore Portworx, the most complete Kubernetes Data Services Platform.
- Start a free trial of Portworx Enterprise.

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