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Simplify, Secure, and Scale Kubernetes Storage Management

with Portworx and SUSE Rancher Prime

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Introduction

The Challenge of Cloud-Native Storage at Scale

Kubernetes was once only suitable for stateless, ephemeral workloads. Now, over ten years later, organizations are not only using Kubernetes for stateful workloads, but they are building critical applications in containers. Many have even adopted a container-first strategy for new applications.

These critical applications require enterprise-grade feature sets to meet the needs of platform engineers and developer teams. These teams need scalable, resilient, and automated storage solutions that integrate seamlessly with Kubernetes environments. However, organizations often run into issues with persistent storage management as their Kubernetes applications grow in scope and scale. Many struggle with ensuring data resilience, performance, and operational efficiency that suit these enterprise workloads while maintaining developer agility.

SUSE Rancher Prime provides a robust solution for managing Kubernetes workloads across any infrastructure, and Portworx by Pure Storage provides enterprise-grade storage management. Together, they address the critical challenges of cloud-native storage and help businesses and developer teams achieve high application performance, data resilience, and operational efficiency across the application lifecycle.

High Performance at Enterprise Scale for Kubernetes Workloads

High performance is critical, particularly for critical applications that are operating at enterprise scale. Low application performance can lead to slow response times, poor user experience, and potentially loss of revenue depending on the type of application affected. Poor performance can also result in increased operational overhead for IT and development teams who need to manually intervene.

Optimizing Kubernetes application performance is not just a technical requirement—it's a business necessity for the enterprise. Application performance not only has a direct impact on user experience, but it can affect costs, scalability, and stability. Inefficient Kubernetes resource consumption or allocation can result in increased storage costs and prevent applications from scaling effectively to meet demand. Enterprises also need reliable applications that won't crash or remain offline for long periods of time.

> Portworx delivers industry-leading performance and scalability for Kubernetes workloads managed by SUSE Rancher Prime. This empowers organizations to efficiently deploy and manage high-density, high-performance containerized workloads at scale with a minimal storage footprint.

Automated Storage Operations and Operational Efficiency

Managing storage manually is time-consuming and error-prone, particularly in the complex world of hybrid and multi-cloud Kubernetes landscapes. Organizations need to automate storage operations in order to realize the full potential of their Kubernetes environments. Automation reduces manual intervention, prevents over-provisioning, and optimizes costs, so developer teams can focus on strategic initiatives instead of routine maintenance.

> SUSE Rancher Prime and Portworx help enterprises unify operations, even across hybrid- and multi-cloud Kubernetes landscapes. With comprehensive tooling and automation, streamlined operations, security, observability, and intuitive interfaces, enterprises can quickly realize operational efficiencies with a centralized management plane.

Developer Self-Service and Productivity

Developers need fast, reliable access to storage without navigating complex provisioning processes. Without self-service capabilities, developers face slower deployment cycles and increased dependency on IT teams, each of which reduces agility in bringing new applications to market. Further, developers may find themselves taking on manual storage management tasks, like troubleshooting issues, managing persistent volumes, and ensuring data availability—distracting them from building and deploying applications.

Platform teams need to enable their developers with self-service access on a ready-to-use platform. A developer should be able to provision a cluster without worrying about the underlying infrastructure. This reduces their cognitive load and accelerates application deployment. Automated storage policies further streamline operations, allowing developers to focus on innovation rather than storage management.

> Portworx and SUSE Rancher Prime empower development teams with self-service storage access and simplified Kubernetes cluster provisioning, leading to faster development and increased productivity.

Built-In Disaster Recovery and Business Continuity

Disruptions can be costly, making disaster recovery (DR) a critical requirement for enterprises building critical applications. Without a robust DR solution, businesses put themselves at risk of prolonged downtime, data loss, and potential compliance violations, which can severely impact revenue and customer trust.

An ideal solution should be able to provide flexible synchronous and asynchronous disaster recovery policies, so businesses can protect their critical Kubernetes workloads on SUSE Rancher Prime no matter where their data is located.

> SUSE Rancher Prime minimizes downtime risk through trusted delivery, policy-driven security and compliance features, and full lifecycle, real-time container security with SUSE Security. Portworx by Pure Storage provides up to zero Recovery Point Objective (RPO) and rapid failover, ensuring zero data loss and uninterrupted operations even in the event of failures.

Comprehensive Data Protection and Security

Data security and protection are paramount in enterprise environments. Without robust security measures, organizations are vulnerable to data loss and ransomware attacks. However, Kubernetes applications need Kubernetes-native data protection in order to provide comprehensive protection for applications and ensure speedy restores of data.

Portworx is SOC3 and ISO 270001 compliant and provides volume encryption, role-based access control (RBAC), and audit logging to safeguard critical data. Single-click restores allow organizations to recover quickly from failures or accidental deletions, while immutability and delete protection provides ransomware protection. By integrating seamlessly with Kubernetes-native workflows, Portworx simplifies backup and restore operations, minimizing downtime and data loss.

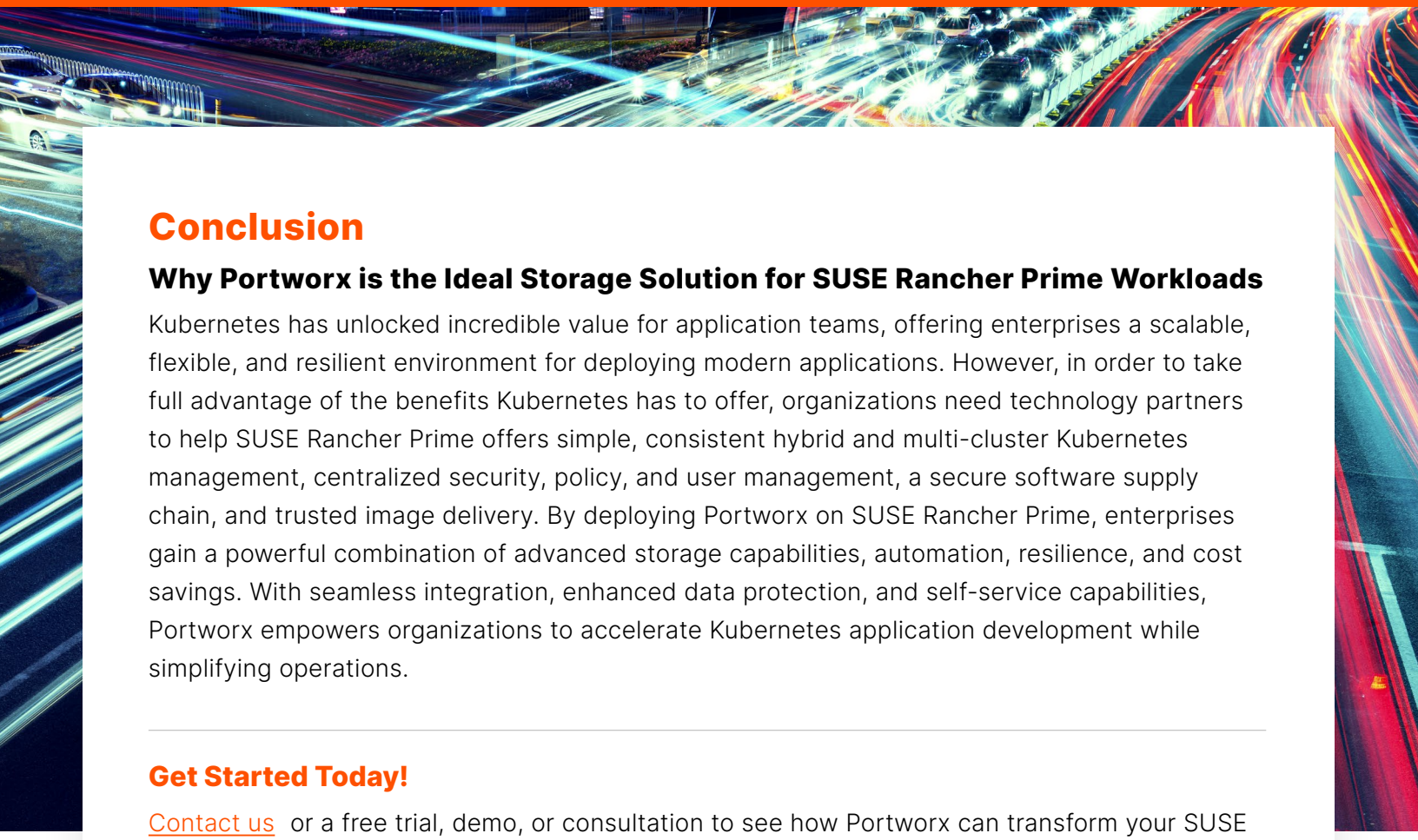
> SUSE Rancher Prime is secure by design, offering SLSA Level 3 compliance, on-demand SBOMs, and a trusted registry. It strengthens container security throughout the entire lifecycle with advanced policy management, insights, and observability metrics. This includes admission controller policies, Layer 7 security, and patented deep packet inspection for Kubernetes at runtime, enabling data loss prevention.

Seamless Integration with SUSE Rancher Prime for Hybrid and Multi-Cloud Flexibility

Enterprises not only require flexibility to run workloads across on-premises, hybrid cloud, and multi-cloud environments, but they also need the flexibility to choose the Kubernetes distribution or application of their choice. Without a unified storage solution, managing data across multiple infrastructures can lead to inconsistencies, operational silos, and inefficient resource utilization.

In order to combat this complexity, organizations need a centralized Kubernetes management tool that can provide a consistent experience across any infrastructure. This ensures operational consistency and streamlined management across the application lifecycle.

> SUSE Rancher Prime offers flexible Kubernetes deployment, supporting any CNCF-certified distribution across on-premises, cloud, and edge environments. Portworx integrates seamlessly with SUSE Rancher Prime, providing a consistent storage experience across any infrastructure. Migration is also simplified with application portability between environments or clusters.



Conclusion

Why Portworx is the Ideal Storage Solution for SUSE Rancher Prime Workloads

Kubernetes has unlocked incredible value for application teams, offering enterprises a scalable, flexible, and resilient environment for deploying modern applications. However, in order to take full advantage of the benefits Kubernetes has to offer, organizations need technology partners to help SUSE Rancher Prime offers simple, consistent hybrid and multi-cluster Kubernetes management, centralized security, policy, and user management, a secure software supply chain, and trusted image delivery. By deploying Portworx on SUSE Rancher Prime, enterprises gain a powerful combination of advanced storage capabilities, automation, resilience, and cost savings. With seamless integration, enhanced data protection, and self-service capabilities, Portworx empowers organizations to accelerate Kubernetes application development while simplifying operations.

Get Started Today!

Contact us or a free trial, demo, or consultation to see how Portworx can transform your SUSE Rancher Prime workloads or learn more on the Portworx or SUSE website.