

# Always-on financial services

Taming multicloud complexity with Red Hat and Everpure

## Achieving resilience and cloud portability

For financial services institutions, cloud portability is no longer a nice-to-have architectural goal; it is a strategic and regulatory imperative. True portability unlocks operational optionality, allowing firms to optimize costs and bolster resilience across on-site, private, and public cloud environments.

However, portability is frequently misunderstood. It is not simply the ability to move a containerized workload. True portability means that you can migrate both an application and its associated persistent data without interruption. In organizations that lack a dedicated data-portability strategy, stateful applications remain tethered to their original infrastructure, creating data gravity that negates the primary benefits of cloud-native agility.

To solve this problem, Red Hat and Everpure offer a unified set of tools that decouple applications and data from underlying hardware.

- ▶ **The application layer (Red Hat® OpenShift®)** provides a consistent, enterprise Kubernetes platform that operates identically across Amazon Web Services (AWS), Microsoft Azure, Google Cloud Platform (GCP), and private datacenters.
- ▶ **The data layer (Portworx Enterprise)** complements Red Hat OpenShift by providing the replication fabric. It keeps persistent data synchronized and available across different regions or providers, meeting the cloud exit and concentration risk requirements set by global regulators.
- ▶ **The management and governance layer (Red Hat Advanced Cluster Management for Kubernetes)** provides a single pane of glass across environments, allowing management, deployment, configuration, and enforcement of policies across the entire fleet of OpenShift clusters, regardless of location.

## **The portability architecture blueprint**

Achieving multicloud agility requires a unified architecture built on these layers. The joint solution from Red Hat and Portworx allows for 3 primary use cases for financial institutions.

### **Develop anywhere, deploy everywhere**

By standardizing on Red Hat OpenShift, teams can build applications in any environment, on-site or public cloud environments, and deploy them globally. This capability unlocks the flexibility to use infrastructure capacity where it is available, and can help optimize costs. On the regulatory front, it also bolsters data sovereignty by allowing organizations to move workloads and data uninterrupted to specific locations.

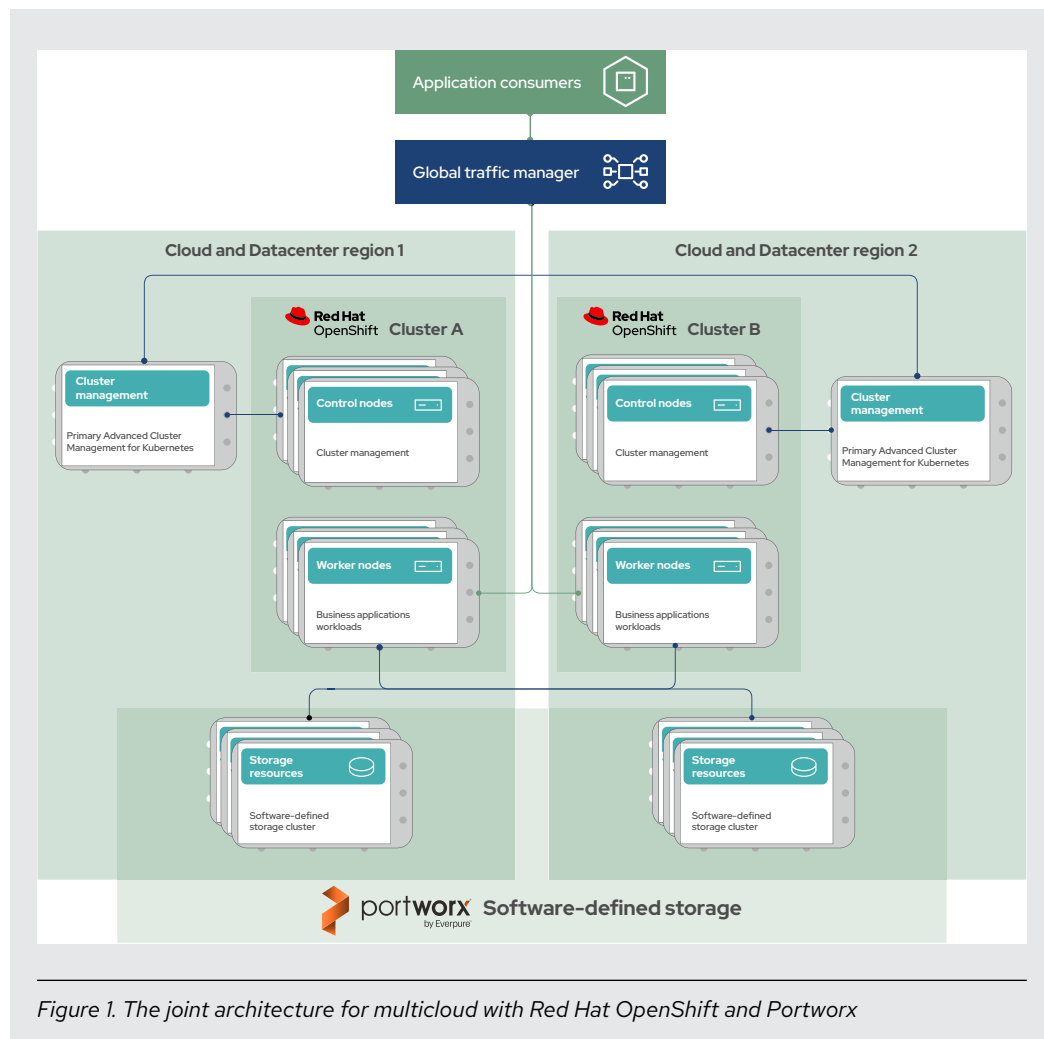
### **Resilience and cloud exit**

For scenarios where quick recovery is required, the joint architecture offers active-warm standby mode in which OpenShift clusters run in a scaled-down state on secondary sites and scale up instantly during a failover. This transition proceeds uninterrupted because Portworx maintains a low recovery point objective (RPO) of seconds to minutes. Other modes, like pilot light or cold standby, are also available, and are appropriate for use when the primary need is to demonstrate compliance with cloud portability in a nonstressed cloud exit scenario.

### **Specialized zero-downtime high availability**

For mission-critical workloads, a stretched-cluster architecture across datacenters allows for synchronous replication, achieving zero RPO and zero downtime. Cross-cloud active-active setups are complex, but the joint architecture provides the foundations required for managing data availability across providers. Red Hat and Everpure teams regularly work with customers to help them understand considerations for consistency, availability, performance, and key architectural decisions.

From a technology perspective, Red Hat OpenShift (application layer), Portworx Enterprise (data layer), and Red Hat Advanced Cluster Management (governance) have been validated by Red Hat and Everpure as optimized to meet the mission-critical requirements of financial institutions. Figure 1 provides a simplified high-level view of these key architecture components.



### The value of Portworx

Portworx Enterprise provides the necessary infrastructure to keep stateful applications as mobile and resilient as the containers they run in. Portworx transforms fragmented storage resources into a unified, application-aware fabric across any infrastructure, as shown in Figure 2.

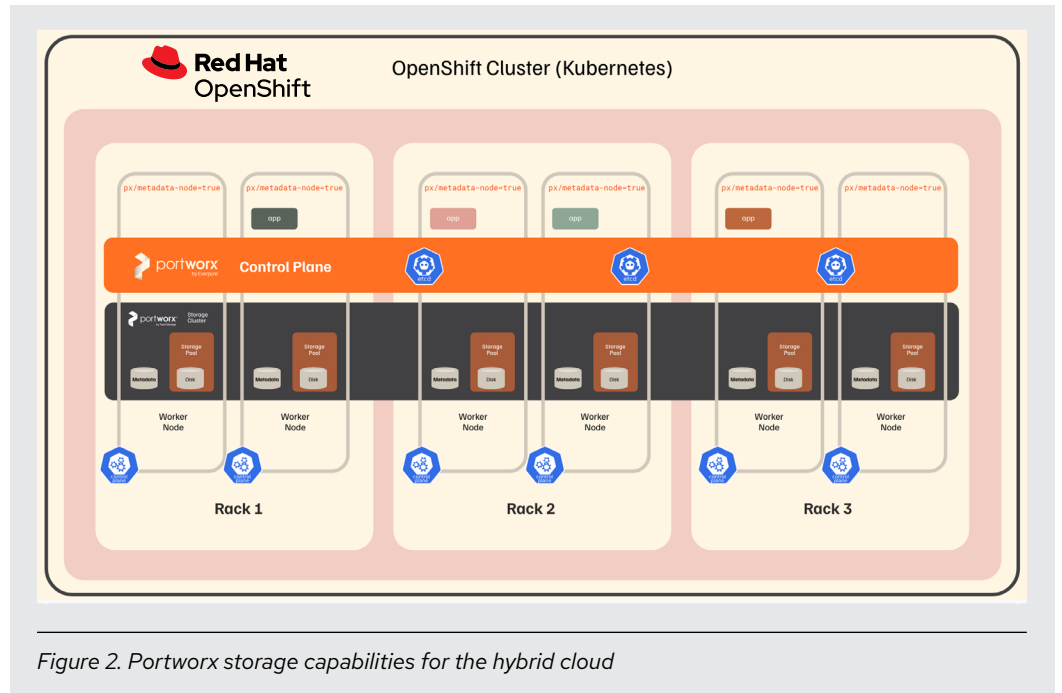


Figure 2. Portworx storage capabilities for the hybrid cloud

Portworx Enterprise's value for financial institutions is defined by 3 core capabilities.

### Infrastructure abstraction and cost optimization

Portworx pools diverse resources, including on-premise storage area networks (SAN), direct-attached storage, and cloud-native block storage like AWS EBS or Azure Managed Disks into a single layer. This creates 2 major advantages:

- ▶ **Neutralizing data gravity:** By decoupling data from the underlying physical or virtual disks, Portworx untethers applications from specific infrastructure.
- ▶ **Provider independence:** This untethering allows firms to take advantage of existing hardware investments while avoiding lock-in to proprietary storage application programming interfaces (APIs).

### Advanced data resilience

Portworx aligns with the resilient architecture of Red Hat OpenShift through sophisticated replication models:

- ▶ **Synchronous replication:** For mission-critical financial services applications that require zero RPO, whether across datacenters or availability zones within a single cloud region.
- ▶ **Asynchronous replication:** Low-RPO synchronization across wide geographic regions or different cloud providers.
- ▶ **Metadata awareness:** Portworx replicates application volumes alongside their metadata, ensuring the entire application state is preserved during a migration.

Operational consistency and compliance

Tightly integrated with Red Hat OpenShift, Portworx provides a consistent management experience across AWS, Azure, GCP, and private clouds.

- ▶ **Scalability:** Data automatically follows the workload as Red Hat OpenShift scales applications.
- ▶ **Regulatory readiness:** Portworx helps firms satisfy data sovereignty requirements and reduce cloud concentration risks by providing a reliable cloud exit through Kubernetes data migration.

Takeaways

The integration of Red Hat OpenShift and Portworx represents a fundamental shift in how enterprises manage application and data mobility. By decoupling the application from the underlying infrastructure and the data from the cloud provider’s proprietary storage, organizations can finally achieve a true open, multicloud, and hybrid cloud solution.

This combined solution unlocks operational consistency and business resilience, achieves better cost optimization through workload and data portability, and offers a pathway to progressive modernization that meets business needs. This investment in architectural flexibility allows technology leaders to stop worrying about infrastructure limitations and start focusing on delivering value.

Reach out to Red Hat or Everpure to discuss your specific needs and understand how to accelerate your journey to an open, multicloud platform.

- ▶ **Explore an enterprise storage solution for Red Hat OpenShift**  
To discover how Portworx and Red Hat OpenShift helps organization run, scale, and protect mission-critical applications, [visit the Portworx page about this joint solution](#).
- ▶ **Learn about how Red Hat and Portworx support infrastructure and application modernization**  
To find out more about how Red Hat OpenShift and Portworx by Everpure provide a compelling solution to develop, deploy, run, and operate containers and virtual machines side by side in a consistent manner, read the whitepaper “[Unified Management of VMs and Containers: Boosting Operational Efficiency and Scalability](#).”
- ▶ **Take a comprehensive look into the solution architecture**  
To explore more details about the solution architecture and its disaster recovery capabilities, visit the [Asynchronous DR with Portworx](#) page on the Red Hat Architecture Center.



About Red Hat

Red Hat is the world’s leading provider of enterprise open source software solutions, using a community-powered approach to deliver reliable and high-performing Linux, hybrid cloud, container, and Kubernetes technologies. Red Hat helps customers develop cloud-native applications, integrate existing and new IT applications, and automate and manage complex environments. [A trusted adviser to the Fortune 500](#), Red Hat provides [award-winning](#) support, training, and consulting services that bring the benefits of open innovation to any industry. Red Hat is a connective hub in a global network of enterprises, partners, and communities, helping organizations grow, transform, and prepare for the digital future.

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