

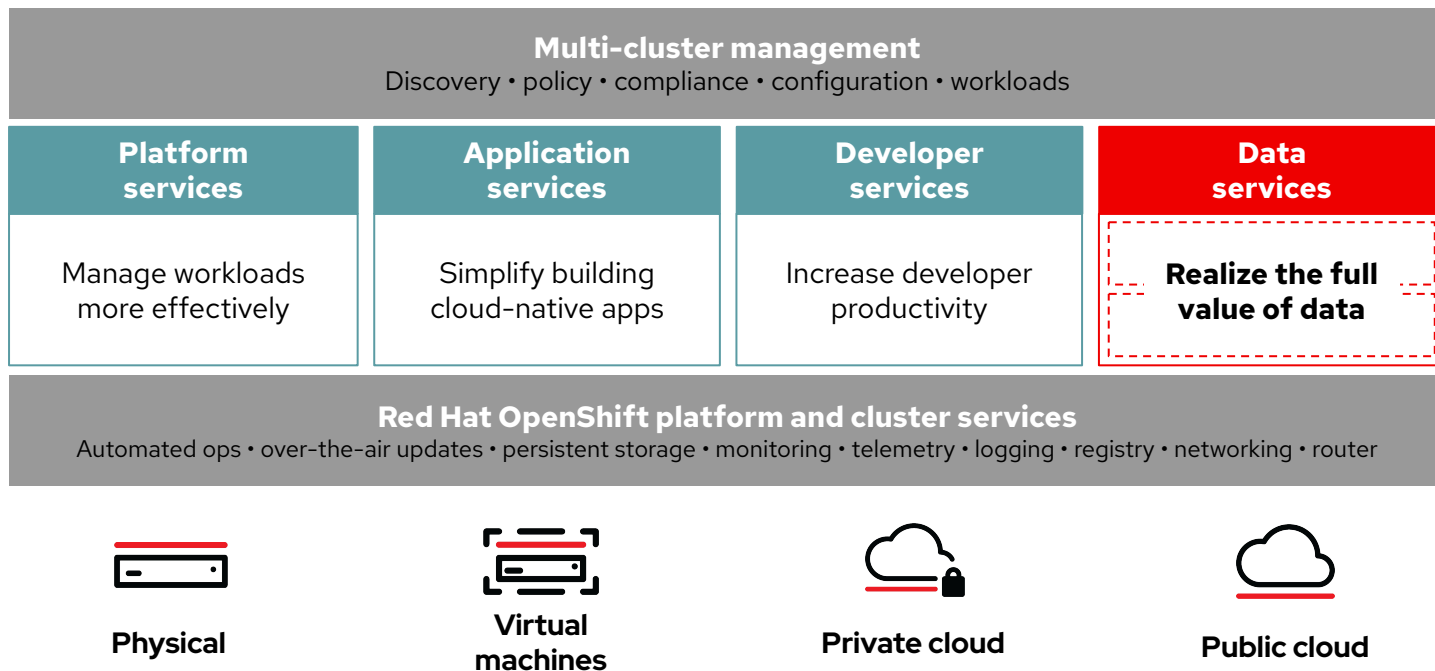
Red Hat OpenShift Data Foundation

Alfred Bach

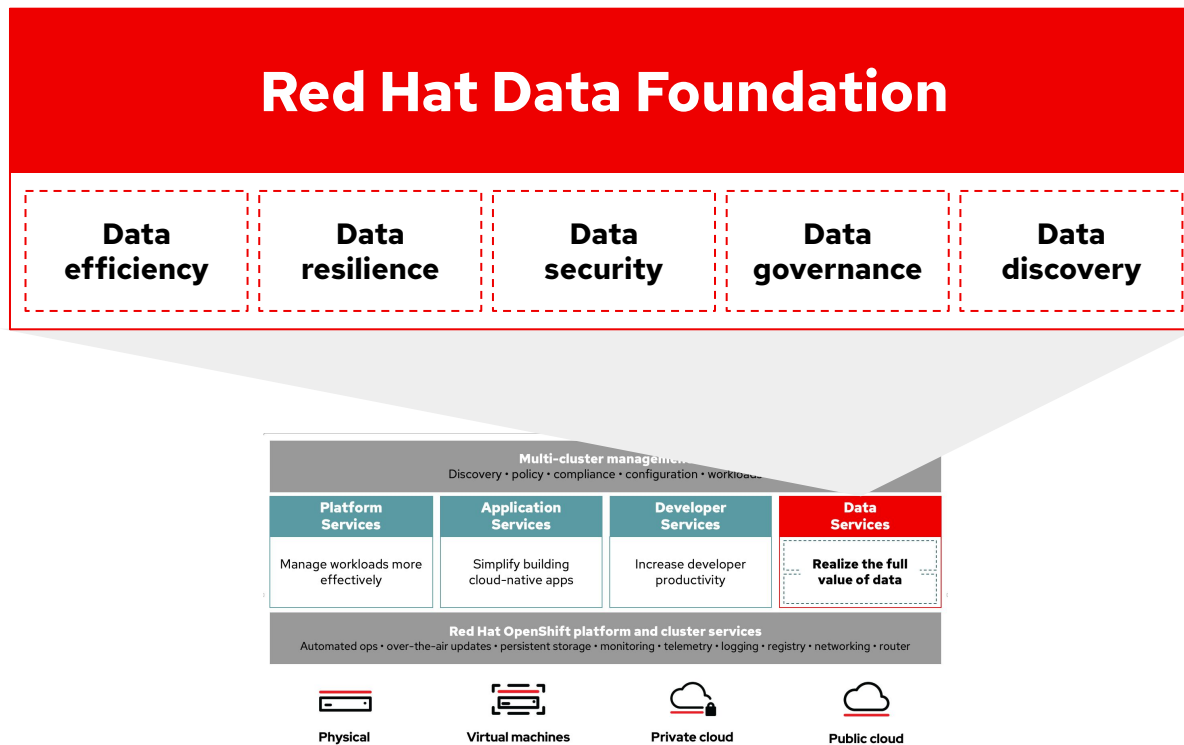
Pr. Solution Architect

Partner Enablement Team / EMEA

How Red Hat Data Foundation services fit



The Red Hat Data Foundation opportunity



Red Hat Data Foundation services in a nutshell



Data efficiency

- Erasure coding
- Compression
- Performance



Data resilience

- Snapshots
- Clones
- Backup
- Recovery
- Business continuity
- Disaster recovery



Data security

- At rest encryption
- In flight encryption
- Key management



Data governance

- WORM
- Auditing
- Compliance
- SEC & FINRA
- GDPR



Data discovery

- Cataloging
- Tagging
- Search

Data Foundation: a change of mindset



Traditional, static approach

- Focus on improving efficiency
- Infrastructure-up view
- Poor performance at scale
- Disconnected
- Manual, monolithic and rigid



Dynamic, data foundation approach

- Focus on innovation
- Application-oriented view
- Highly scalable
- Always-on
- Automated, on-demand, and flexible

Data is the most significant asset in today's businesses

–give it Red Hat OpenShift Data Foundation



- Red Hat OpenShift Data foundation focuses on infrastructure and application needs, enabling them both to run and interact within an easy and efficient way.
- Provides a foundational data layer for applications to function and interact with data in a simplified, consistent and scalable manner
- Provides smart capabilities for handling of object data and disaster recovery
- Red Hat Ceph Storage is a foundational component to drive data services offered by Red Hat OpenShift Data Foundation

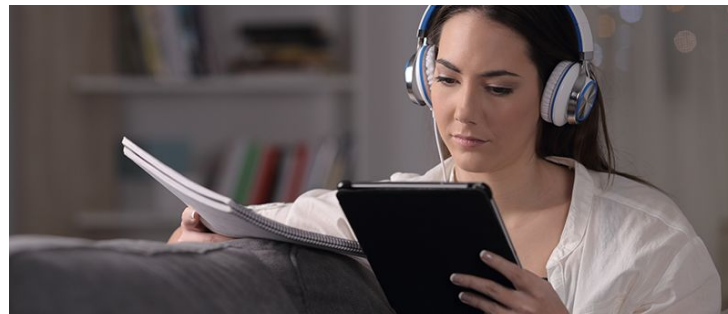
What Red Hat OpenShift Data Foundation means to developers/data scientists

Traditional, static approach



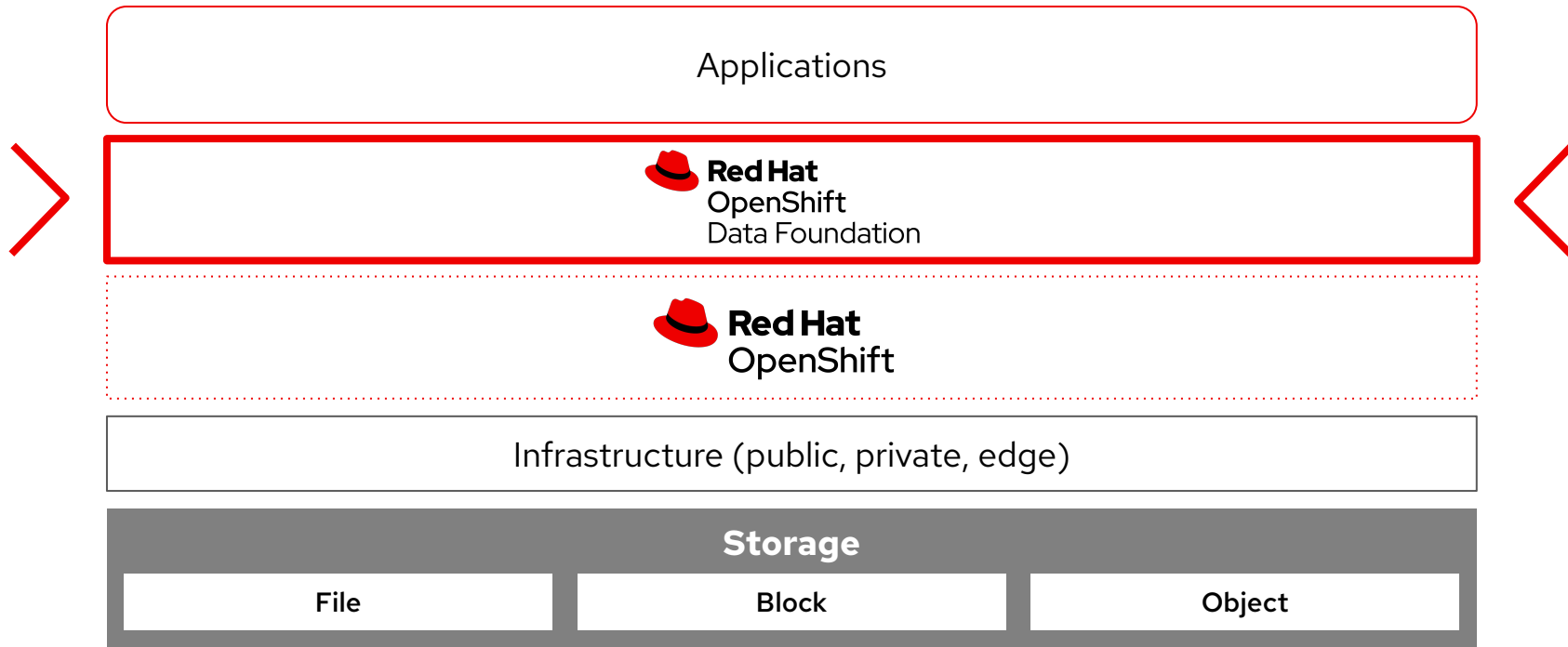
- Must visit the library, again and again
- Strictly limited usage, with limited content on offer
- Can only check out a few items at a time

Data foundation approach

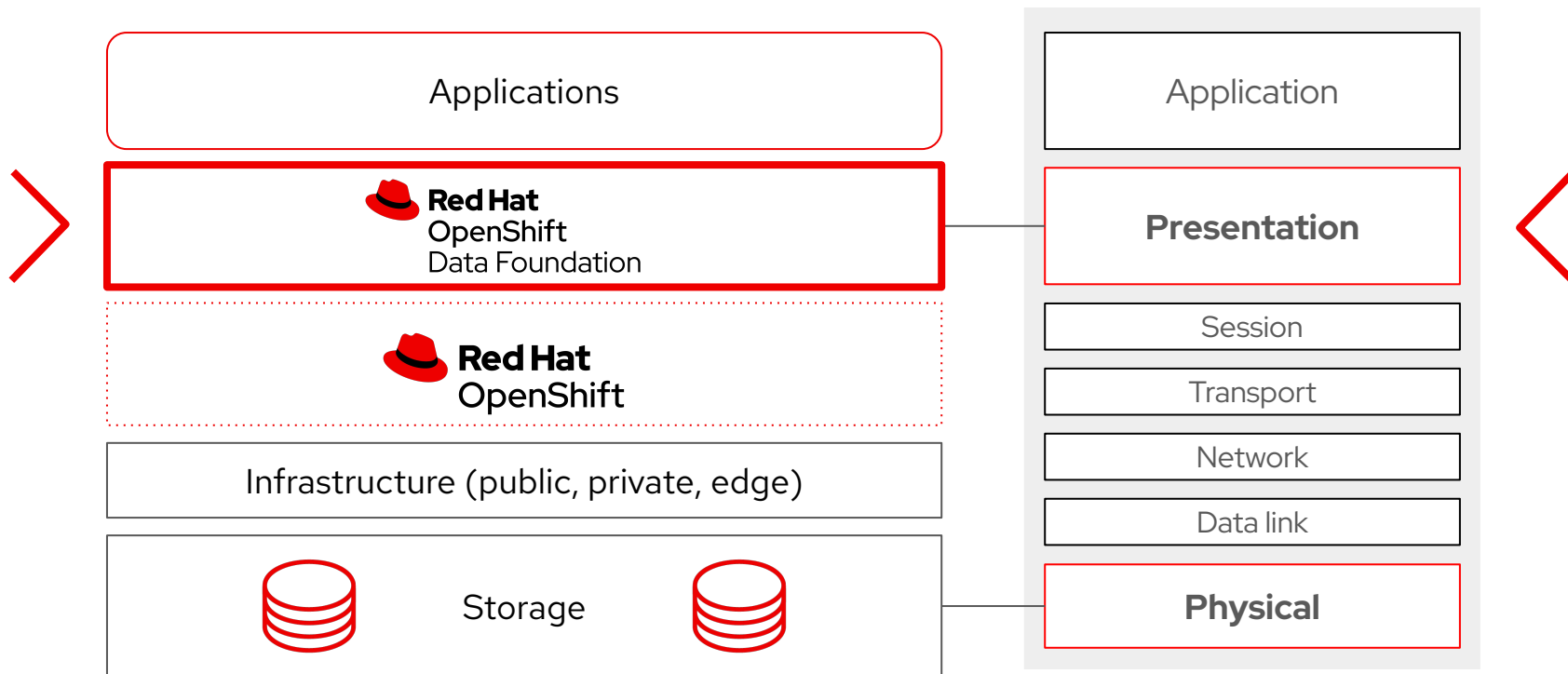


- Access to data from anywhere, indefinitely
- Simultaneous access to a wide range of content, and almost unlimited usage
- Self-service—no need for manual supervision

The Red Hat OpenShift Data Foundation stack



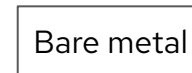
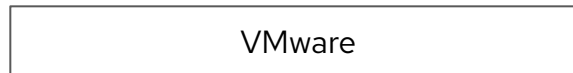
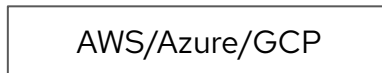
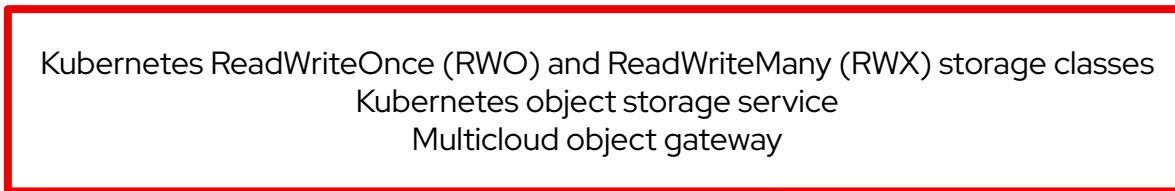
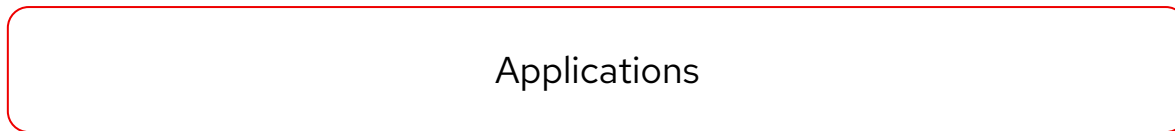
The Red Hat OpenShift Data Foundation stack



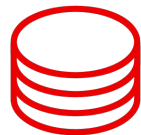
The Red Hat OpenShift Data Foundation stack



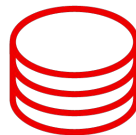
Red Hat
OpenShift
Data Foundation



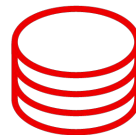
Storage



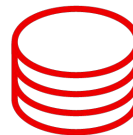
Instance
store volume



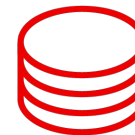
Cloud storage



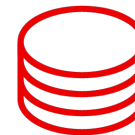
SAN



vSAN



Local drives



Red Hat
OpenShift
Data Foundation

Red Hat OpenShift Data Foundation workloads

Workload specialized data foundation

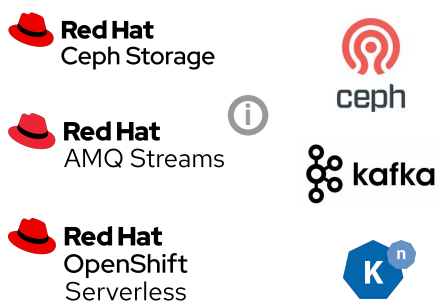
For data at rest

Databases, warehouses and lakes



For data in motion

Streaming and messaging



For data in action

Data analytics, intelligence, AI/ML



Cloud-native infrastructure data foundation

For any stateful app



Data resilience with Red Hat OpenShift Data Foundation

FUNCTIONALITY

Multicloud gateway bucket replication
Extended control plane
Overprovision level policy control



SECURITY

Persistent volume encryption
service account per namespace



PERFORMANCE

Component rescheduling improvement



EFFICIENCY

Lifecycle alignment with Red Hat OpenShift



What's new?

Red Hat OpenShift Data Foundation 4.9

FUNCTIONALITY



SECURITY



PERFORMANCE



EFFICIENCY





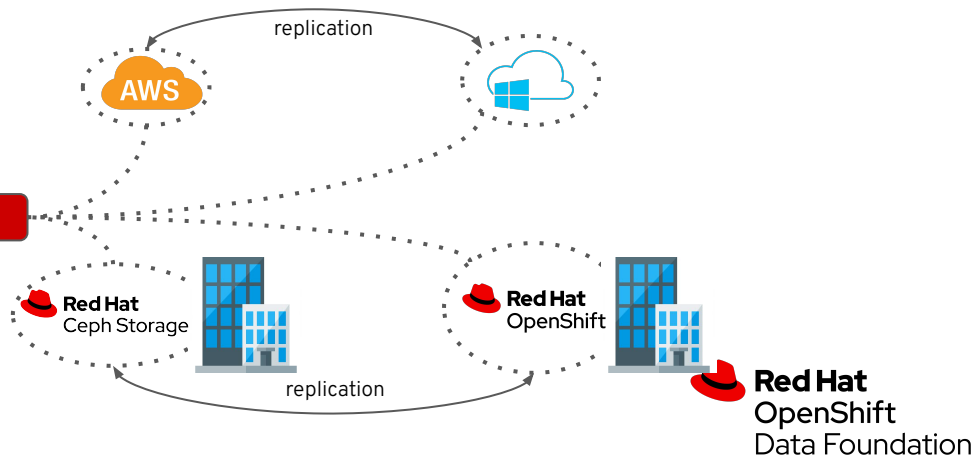
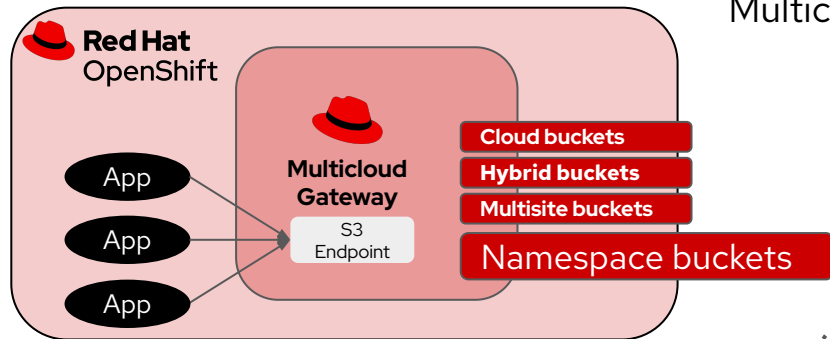
FUNCTIONALITY

Multicloud Object Gateway

Namespace bucket replication

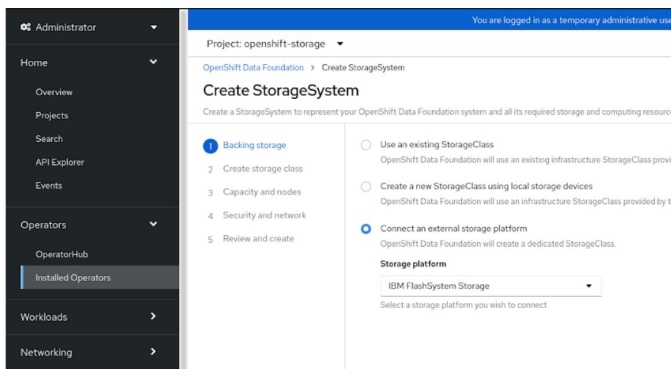
Provides improved resiliency and more collaboration options by replicating data to other locations.

This could be S3 or S3 compatible, including other Multicloud Object Gateway instances.





FUNCTIONALITY



- *IBM FlashSystem for mission critical workloads*
- *Extend IBM FlashSystem to file and object with Red Hat OpenShift Data Foundation*

Extended control plane for pluggable external storage

Red Hat OpenShift Data Foundation control plane is an extended deployment and monitoring layer, to be used with supported external storage providers.

IBM FlashSystem is a first pluggable external storage provider which is supported with Red Hat OpenShift Data Foundation version 4.9

The Red Hat OpenShift Data Foundation deployment wizard now includes IBM Flashsystem as an external storage option



FUNCTIONALITY

New alert messaging

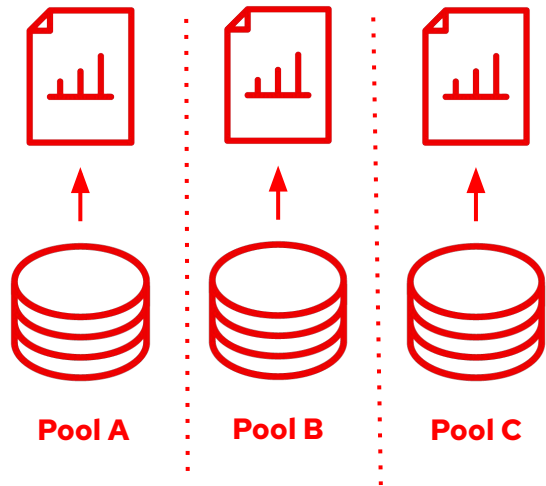
Red Hat Ceph Storage Monitor

- Provides alerts when a Red Hat Ceph Storage MON disk capacity is running out of sufficient space.





FUNCTIONALITY



Compression and mirroring metrics

On a per pool basis

- Exposes pool's compression and mirroring state to the consumer
- With this, admins have insight for potential cost savings and more efficient data consumption



FUNCTIONALITY

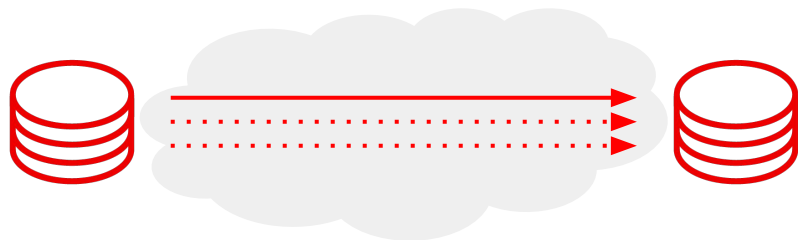
Red Hat Advanced Cluster Manager (ACM) is **required for automated regional DR**

(required SKU bundle: MW01699)

Capability for use with higher latency connections like WAN

Regional disaster recovery (DR) automated protection for block volumes

- Automated protection for Rados Block Device volumes
- For OpenShift Data Foundation Internal-mode only
- Recovery point objective (RPO) and recovery time objective (RTO) times are in minutes.



FUNCTIONALITY



SECURITY



PERFORMANCE

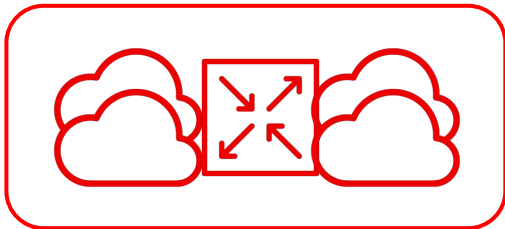
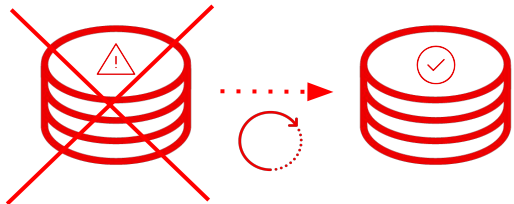


EFFICIENCY





PERFORMANCE



Component rescheduling improvements Multicloud Object Gateway

- Improves components recovery in case of a node failure.
- Improvements concern both the Multicloud Object Gateway database and its core

What's new?

Red Hat OpenShift Data Foundation 4.9

FUNCTIONALITY



SECURITY



PERFORMANCE



EFFICIENCY





SECURITY



Persistent Volume encryption service account per namespace

- Authenticate with Vault via a service account.

In every namespace, we will have a service account that is used for KMS authentication for persistent volume encryption.

This enables for use of a service account per tenant to authenticate with Vault and encrypt persistent volumes.

What's new?

Red Hat OpenShift Data Foundation 4.9

FUNCTIONALITY



SECURITY



PERFORMANCE



EFFICIENCY





EFFICIENCY

Lifecycle alignment with Red Hat OpenShift



Red Hat
OpenShift

Commencing with Red Hat OpenShift Data Foundation 4.8, Red Hat will denote all even numbered minor releases as Extended Update Support (EUS) releases.

In example, OpenShift Data Foundation 4.8, 4.10, 4.12



Thank you

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