Red Hat OpenShift Container Storage 4.2

4.2 Release Notes

Release notes for feature and enhancements, known issues, and other important release information

Last Updated: 2020-04-24

Red Hat OpenShift Container Storage 4.2 4.2 Release Notes

Release notes for feature and enhancements, known issues, and other important release information

Legal Notice

Copyright © 2020 Red Hat, Inc.

The text of and illustrations in this document are licensed by Red Hat under a Creative Commons Attribution–Share Alike 3.0 Unported license ("CC-BY-SA"). An explanation of CC-BY-SA is available at
http://creativecommons.org/licenses/by-sa/3.0/
. In accordance with CC-BY-SA, if you distribute this document or an adaptation of it, you must provide the URL for the original version.

Red Hat, as the licensor of this document, waives the right to enforce, and agrees not to assert, Section 4d of CC-BY-SA to the fullest extent permitted by applicable law.

Red Hat, Red Hat Enterprise Linux, the Shadowman logo, the Red Hat logo, JBoss, OpenShift, Fedora, the Infinity logo, and RHCE are trademarks of Red Hat, Inc., registered in the United States and other countries.

Linux ® is the registered trademark of Linus Torvalds in the United States and other countries.

Java ® is a registered trademark of Oracle and/or its affiliates.

XFS ® is a trademark of Silicon Graphics International Corp. or its subsidiaries in the United States and/or other countries.

MySQL ® is a registered trademark of MySQL AB in the United States, the European Union and other countries.

Node.js ® is an official trademark of Joyent. Red Hat is not formally related to or endorsed by the official Joyent Node.js open source or commercial project.

The OpenStack ® Word Mark and OpenStack logo are either registered trademarks/service marks or trademarks/service marks of the OpenStack Foundation, in the United States and other countries and are used with the OpenStack Foundation's permission. We are not affiliated with, endorsed or sponsored by the OpenStack Foundation, or the OpenStack community.

All other trademarks are the property of their respective owners.

Abstract

The release notes for Red Hat OpenShift Container Storage 4.2 summarize all new features and enhancements, notable technical changes, and any known bugs upon general availability.

Table of Contents

PREFACE 3

CHAPTER 1. ABOUT THIS RELEASE 4

CHAPTER 2. NEW FEATURES AND ENHANCEMENTS 5
2.1. INSTALLATION AND UPGRADE 5
2.2. MULTICLOUD OBJECT GATEWAY 5
2.3. WEB CONSOLE 6

CHAPTER 3. NOTABLE TECHNICAL CHANGES 7

CHAPTER 4. TECHNOLOGY PREVIEW FEATURES 8

CHAPTER 5. KNOWN ISSUES 9

PREFACE

Red Hat OpenShift Container Storage is a software-defined storage that is optimised for container environments. It runs as an operator on OpenShift Container Platform to provide highly integrated and simplified persistent storage management for containers.

Red Hat OpenShift Container Storage 4.2 is integrated into the latest Red Hat OpenShift Container Platform 4.2 to address platform services, application portability, and persistence challenges. Red Hat OpenShift Container Storage provides a highly scalable backend for the next generation of cloud-native applications, built on a new technology stack that includes Red Hat Ceph Storage, the Rook.io Operator, and NooBaa's Multicloud Object Gateway technology.

Red Hat OpenShift Container Storage provides a trusted, enterprise-grade application development environment that simplifies and enhances the user experience across the application lifecycle in a number of ways:

- Provides block storage for databases.
- Shared file storage for continuous integration, messaging, and data aggregation.
- Object storage for cloud-first development, archival, backup, and media storage.
- Scale applications and data exponentially.
- Attach and detach persistent data volumes at an accelerated rate.
- Stretch clusters across multiple data-centers or availability zones.
- Establish a comprehensive application container registry.
- Support the next generation of OpenShift workloads such as Data Analytics, Artificial Intelligence, Machine Learning, Deep Learning, and Internet of Things (IoT).
- Dynamically provision not only application containers, but data service volumes and containers, as well as additional OpenShift Container Platform nodes, Elastic Block Store (EBS) volumes and other infrastructure services.

CHAPTER 1. ABOUT THIS RELEASE

Red Hat OpenShift Container Storage 4.2 (RHBA-2020:0098 and RHBA-2020:0099) is now available. New enhancements, features, and known issues that pertain to OpenShift Container Storage 4.2 are included in this topic.

Red Hat OpenShift Container Storage 4.2 is supported on the latest Red Hat OpenShift Container Platform 4.2 version.

CHAPTER 2. NEW FEATURES AND ENHANCEMENTS

This release adds improvements related to the following components and concepts.

2.1. INSTALLATION AND UPGRADE

Operator-based installation and configuration

Red Hat OpenShift Container Storage can be deployed on an existing Red Hat OpenShift Container Platform worker nodes using the OpenShift Web Console. Deploying Red Hat OpenShift Container Storage involves two parts:

- Installing Red Hat OpenShift Container Storage operator from the Operator Hub.
- Creating Red Hat OpenShift Container Storage service which requires selecting three worker nodes and results in the creation of a new storage cluster of three 2 TiB volumes with one volume per worker node. The default configuration uses a replication factor of 3 providing approximately 2 TiB of usable storage.
  For more information, see Deploying Red Hat OpenShift Container Storage .

Red Hat OpenShift Container Storage can be used to provide storage for Red Hat OpenShift Container Platform services, such as image registry, monitoring, and logging. Also, Red Hat OpenShift Container Platform applications can be backed to use Red Hat OpenShift Container Storage. For more information, see Configure storage for OpenShift Container Platform services .

Deployment and upgrade automation

Red Hat OpenShift Container Storage provides complete new deployment automation with a few clicks, based on OpenShift Lifecycle Management (OLM). Using OLM enables optional over the air automatic updates, notifications of available updates, and easy deployment.

IPI and UPI

In Red Hat OpenShift Container Storage 4.2, there are two primary installation experiences: Full stack automation (IPI) and pre-existing infrastructure (UPI).

With full stack automation, the installer controls all areas of the installation including infrastructure provisioning with an opinionated best practices deployment on Red Hat OpenShift Container Platform. Red Hat OpenShift Container Storage 4.2 supports Amazon Web Services with full stack automation.

With pre-existing infrastructure deployments, administrators are responsible for creating and managing their own infrastructure allowing greater customization and operational flexibility. Red Hat OpenShift Container Storage 4.2 supports Amazon Web Services and VMware with pre-existing infrastructure deployments.

Red Hat cluster application migration tool and Red Hat control plane migration assistant

See Where can I find Red Hat Cluster Application Migration Tool (CAM) and Red Hat Control Plane Migration Assistant (CPMA) now that OpenShift 4.2 has GA'ed for information about CAM and CPMA.

2.2. MULTICLOUD OBJECT GATEWAY

Red Hat OpenShift Container Storage 4.2 provides a new multicloud object service, including deduplication, encryption, and compression, providing multicloud and hybrid capabilities for object workloads.

By default, Multicloud Object Gateway uses a default backing store which is cloud native or RGW.

Multicloud Object Gateway can also use persistent volume (PV) storage directly, to scale locally and remotely. For more information, see Multicloud Object Gateway.

2.3. WEB CONSOLE

Persistent Storage dashboard

The **Persistent Storage** dashboard shows the state of OpenShift Container Storage as a whole, as well as the state of persistent volumes. For more information, see Persistent storage dashboard.

Object Service dashboard

The **Object Service** dashboard shows the state of the Multicloud Object Gateway and any object claims in the cluster. For more information, see Object Service dashboard.

CHAPTER 3. NOTABLE TECHNICAL CHANGES

Red Hat OpenShift Container Storage 4.2 introduces the following notable technical changes:

- Ceph technology to provide the file and block storage that backs persistent volumes.
- Rook.io to manage and orchestrate the provisioning of persistent volumes and claims.
- NooBaa provides object storage, and its multicloud technology allows object federation across multiple cloud environments.

CHAPTER 4. TECHNOLOGY PREVIEW FEATURES

Some features in this release are currently in Technology Preview. These experimental features are not intended for production use. Note the following scope of support on the Red Hat Customer Portal for these features: Technology Preview Features Support Scope .

CHAPTER 5. KNOWN ISSUES

IMPORTANT

It is mandatory to upgrade to OpenShift Container Storage 4.2.1 before upgrading to OpenShift Container Platform 4.3. Upgrading to OpenShift Container Platform without upgrading OpenShift Container Storage first, may result in Persistent Volumes going offline as well as blocking OpenShift Container Platform from upgrade. If you inadvertently encounter such issues, contact Red Hat Support. The full OpenShift Container Storage and OpenShift Container Platform interoperability matrix is available at https://access.redhat.com/articles/4731161.

- In AWS environment, after a node reboot the ***-mon-*** pods are stuck in the **init** state for an extended period. Should this occur, contact Red Hat support. (BZ#1769322)
- When adding capacity from the user interface, you must select and then re-select a storage class from the drop-down list before selecting **Add**. (BZ#1781146)
- Red Hat OpenShift Container Storage 4.2 does not support cluster reduction. (BZ#1781377)
- Recovering from a full cluster cannot be performed standalone. In this case, contact Red Hat support. (BZ#1769689 and BZ#1776321)
    - For more information, see Sizing and scaling recommendations.
- With Red Hat Enterprise Linux worker nodes, a **Permission denied** error appears when writing in CephFS mount point for Amazon Web Services (user-provisioned infrastructure). (BZ#1777384)
    - To resolve this issue, see Enabling file system access for containers on Red Hat Enterprise Linux based nodes.
- It is not possible to uninstall Red Hat OpenShift Container Storage from the user interface. (BZ#1760426)
- Persistent Volume Claim (PVC) expansion is not functional. (BZ#1743643)
- When a worker node is down, the operator is blocked from responding to CR updates such as upgrades, adding storage, or creating new pools. (BZ#1778488)
    - To resolve this issue, see Replacing storage nodes for OpenShift Container Storage .
- When a machine is deleted, OSD pod fails to run on the new node and stuck at **Pending** state. In this case, contact Red Hat support. (BZ#1780626).
- ,**Noobaa-core-0** does not migrate to other nodes when a node goes down. NooBaa will not work when a node is down as migration of **noobaa-core** pod is blocked. (BZ#1783961)