Red Hat OpenShift Container Storage 4.5

4.5 Release Notes

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

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Legal Notice

Abstract

The release notes for Red Hat OpenShift Container Storage 4.5 summarize all new features and enhancements, notable technical changes, and any known bugs upon general availability.

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CHAPTER 1. INTRODUCTION

Red Hat OpenShift Container Storage is a software-defined storage that is optimized 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 is integrated into the latest Red Hat OpenShift Container Platform to address platform services, application portability, and persistence challenges. It 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.

1.1. ABOUT THIS RELEASE

Red Hat OpenShift Container Storage 4.5 (RHBA-2020:3753 and RHBA-2020:3754) is now available. New enhancements, features, and known issues that pertain to OpenShift Container Storage 4.5 are included in this topic.

Red Hat OpenShift Container Storage 4.5 is supported on the latest Red Hat OpenShift Container Platform version. For more information, see Red Hat OpenShift Container Storage and Red Hat OpenShift Container Platform interoperability matrix.

CHAPTER 2. NEW FEATURES

This section describes new features and major enhancements introduced in Red Hat OpenShift Container Storage 4.5.

Introducing external mode

Red Hat OpenShift Container Storage exposes the Red Hat Ceph Storage services running outside of the OpenShift Container Platform cluster as storage classes.

The external mode will mainly be used in the following cases:

- Multiple OpenShift Container Storage clusters required to consume storage services from a common external cluster

- Separate team (SRE, Storage, etc.) needs to manage the external cluster providing storage service

For more information, see External mode requirements and how to create external storage cluster service.

Support for proxy environments

A proxy environment is a production environment that denies direct access to the internet and provides an available HTTP or HTTPS proxy instead. Red Hat Openshift Container Platform can be configured to use a proxy, and in that case, Openshift Container Storage versions 4.5 and higher automatically use that configuration.

Support for an air-gap disconnected environment

In a disconnected OpenShift environment there is no access to the OLM catalog and the Red Hat image registries. Deployment of OpenShift Container Storage is now possible in that environment.

FIPS-140-2

Red Hat OpenShift Container Storage is now using FIPS validated cryptographic modules as delivered by Red Hat Enterprise Linux OS/CoreOS. OpenShift Container Storage is aligned with OpenShift Container Platform as described in its documentation, support for FIPS cryptography.

The cryptography modules are currently being processed by Cryptographic Module Validation Program (CMVP) and their state can be seen at Modules in Process List. For more up-to-date information, see this knowledge base article.

> **NOTE**
>
> OpenShift Container Platform cluster must use Red Hat Enterprise Linux CoreOS (RHCOS). OpenShift Container Storage deployment on RHEL 7 is not supported for this feature.

For more information, see installing a cluster in FIPS mode .

RGW can now be used for object bucket claims

The RADOS Object Gateway (RGW) can now be used via object bucket claims. For more information, see the Creating an Object Bucket Claim using the OpenShift Web Console section of the Managing OpenShift Container Storage guide.

NOTE

The RGW OBC storage class is only available with fresh installations of OpenShift Container Storage version 4.5. It does not apply to clusters upgraded from previous OpenShift Container Storage releases.

Improved on-boarding process during deployment

You can now filter nodes on the basis of name or label to find specific worker nodes in the cluster. The filter identifies nodes based on the name or label already predefined in the Openshift Container Platform console, where a large number of nodes exist.

Filtering improves visualization and makes it easy for customers to locate the appropriate nodes.

Detailed OpenShift Container Storage Planning Guide

There are new documentation chapters with improved planning, sizing, and guidance for scaling. For more information, see the OpenShift Container Storage Planning Guide .

Support for non default Kubelet directory for Container Storage Interface (CSI) plugin pods

Administrators can now change the default Kubelet directory path in their environments using the **ROOK_CSI_KUBELET_DIR_PATH** environment variable.

Container Storage Interface (CSI) ports are now configurable

With the Red Hat OpenShift Container storage 4.5 release, CSI ports are configurable in OpenShift Container Storage using the **rook-ceph-operator-config ConfigMap**. The CSI ports can be changed to any other valid port number, providing more flexibility to the administrator. This enhancement is necessary because the default ports may be in use by other applications.

Restricted access to the NooBaa interface

Access to the NooBaa interface is now limited to accounts within the **cluster-admins** group.

CHAPTER 3. BUG FIXES

This section describes notable bug fixes introduced in Red Hat OpenShift Container Storage 4.5.

-mon- pods no longer stuck in init state after reboot

Previously, after a node reboot in AWS environments, the **-mon-** pods were stuck in the init state for an extended period. With the release of OpenShift Container Storage 4.5, this issue no longer occurs.

(BZ#1769322)

MDS pods can no longer be set on the same node

Previously, Red Hat Ceph Storage Metadata Server (MDS) pods were not being properly distributed. This meant both MDS pods could be schedules on the same node, which negated the high-availability of having multiple MDS pods. With this update, a required **PodAntiAffinity** is set on the MDS pods so they can no longer be scheduled on the same node.

(BZ#1774087)

crash-collector runs smoothly on OpenShift Container Platform

Previously, the **crash-collector** deployment lacked permissions to run on OpenShift Container Platform. The appropriate security context has been added to allow accessing a path on the host.

(BZ#1834939)

Node replacement no longer leads to Ceph HEALTH_WARN state

Previously, after node replacement, the Ceph CRUSH map tree still contained the stale hostname entry of the removed node in the particular rack. While replacing a node in a different rack, if any node with the same old hostname was added back to the cluster, it received a new rack label from the **ocs-operator**, but was inserted into its old place in the CRUSH map, resulting in an indefinite **Ceph HEALTH_WARN** state. With this release, this bug has been fixed and node replacement behaves as expected.

(BZ#1842456)

No CrashLoopBackOff during upgrade

Previously, if a BackingStore was referencing a secret with an empty name, upgrade would cause a **CrashLoopBackOff** error. As of OpenShift Container Storage 4.5, empty name cases are handled correctly, and upgrade proceeds as expected.

(BZ#1823775)

RGW server no longer crashes or leaks memory

Previously, an incorrect code construction in the final "bucket link" step of the RADOS Gateway (RGW) bucket create lead to undefined behavior in some instances. The RGW server could crash, or occasionally leak memory. This bug has been fixed, and the RGW server behaves as expected.

(BZ#1809545)

CHAPTER 4. TECHNOLOGY PREVIEWS

This section describes technology preview features introduced in Red Hat OpenShift Container Storage 4.5.

Microsoft Azure Technology Preview support

OpenShift Container Storage can now be installed and managed on Microsoft Azure. For more information see, the Deploying and managing OpenShift Container Storage on Microsoft Azure guide.

Google Cloud Technology Preview support

OpenShift Container Storage can now be installed and managed on Google Cloud. For more information see, the Deploying and managing OpenShift Container Storage using Google Cloud guide.

Expanding Persistent Volume Claims

OpenShift Container Storage 4.5 introduces the ability to expand Persistent Volume Claims as a Technology Preview feature providing more flexibility in the management of persistent storage resources. For more information, see Expanding Persistent Volume Claims

> **NOTE**
>
> This Technology Preview feature is only available with fresh installations of OpenShift Container Storage version 4.5. It does not apply to clusters upgraded from previous OpenShift Container Storage releases.

CHAPTER 5. KNOWN ISSUES

This section describes known issues in Red Hat OpenShift Container Storage 4.5.

PodDisruptionBudget alert continuously shown

The **PodDisruptionBudget** alert, which is an OpenShift Container Platform alert, is continuously shown for object storage devices (OSDs). This alert can be ignored. You can choose to silence this alert by following the instructions in the Managing cluster alerts section of the Red Hat Openshift Container Platform documentation.

For more information, refer to this Red Hat Knowledgebase article .

(BZ#1788126)

MAX HPA value can not be greater than 1

The autoscaling feature for pods is not available in Red Hat OpenShift Container Storage, therefore the **MAX HPA** value can not be greater than **1**.

This alert can be ignored. You can choose to silence this alert by following the instructions in the Managing cluster alerts section of the Red Hat Openshift Container Platform documentation.

(BZ#1836299)

Issue with nooba-db

noobaa-db does not migrate to other nodes when a node goes down. NooBaa will not work when a node is down as migration of **noobaa-db** pod is blocked.

(BZ#1783961)

Uninstall from UI

It is not possible to uninstall Red Hat OpenShift Container Storage from the user interface.

(BZ#1760426)