Red Hat build of MicroShift 4.15

Release notes

Highlights of what is new and what has changed with this MicroShift release

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Legal Notice

Abstract

The release notes for MicroShift summarize all new features and enhancements, notable technical changes, major corrections from the previous version, and any known bugs.

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CHAPTER 1. RED HAT BUILD OF MICROSHIFT 4.15 RELEASE NOTES

Red Hat build of MicroShift (MicroShift) provides developers and IT organizations with small-form-factor and edge computing delivered as an application that customers can deploy on top of their managed Red Hat Enterprise Linux (RHEL) devices at the edge. Built on OpenShift Container Platform and Kubernetes, MicroShift provides an efficient way to operate single-node clusters in low-resource edge environments.

MicroShift is designed to make control plane restarts economical and be lifecycle-managed as a single unit by the operating system. Updates, roll-backs, and configuration changes consist of simply staging another version in parallel and then - without relying on a network - flipping to and from that version and restarting.

1.1. ABOUT THIS RELEASE

Version 4.15 of Red Hat build of MicroShift includes new features and enhancements. MicroShift was introduced as Generally Available with MicroShift 4.14. Update to the latest version of MicroShift to receive all of the latest features, bug fixes, and security updates. This release uses Kubernetes 1.28 with the CRI-O container runtime. New features, changes, and known issues that pertain to MicroShift are included in this topic.

You can deploy MicroShift clusters to either on-premise, cloud, or disconnected environments.

MicroShift 4.15 is supported on Red Hat Enterprise Linux for Edge (RHEL for Edge) and Red Hat Enterprise Linux (RHEL) 9.2 and 9.3.

For lifecycle information, see the Red Hat build of MicroShift Life Cycle Policy .

1.2. NEW FEATURES AND ENHANCEMENTS

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

1.2.1. Red Hat Enterprise Linux (RHEL)

- MicroShift now runs on Red Hat Enterprise Linux (RHEL) versions 9.2 and 9.3. Compatibility with RHEL 9.3 is an enhancement for MicroShift version 4.15.

- MicroShift uses crun and Control Group v2 (cgroup v2). If workloads rely on the cgroup file system layout, they might need to be updated to be compatible with cgroup v2.

  - If you run third-party monitoring and security agents that depend on the cgroup file system, update the agents to versions that support cgroup v2.

  - If you run cAdvisor as a standalone DaemonSet for monitoring pods and containers, update it to v0.43.0 or later.

  - If you deploy Java applications with JDK, ensure you are using JDK 11.0.16 and later or JDK 15 and later, which fully support cgroup v2.

1.2.2. Updating

Updates for both minor releases and patch releases are supported.

1.2.2.1. The following updates are supported

The following list provides update details:

- MicroShift offers in-place updates on RHEL for Edge systems with automatic system rollback capabilities and automatic back up and restore functions.

- Updates of the RPMs on a non-OSTree system such as RHEL are also supported.

- Updates from the 4.14 version are supported.

1.2.2.2. Version logged at start up

Previously, MicroShift did not log its version at start up. The absence of version information made debugging certain scenarios difficult because the update path was unknown. Now, the MicroShift version is logged at start up and available with commands such as **journalctl -u microshift | grep "Version"**. (OCPBUGS-19540)

1.2.3. Installation

1.2.3.1. Sample blueprints now included

The **microshift-release-info** RPM now contains sample blueprints that can be used for image building. The blueprints include both MicroShift RPM packages and container image references.

1.2.4. Support

1.2.4.1. Getting the etcd version

Previously, you could not query for the etcd version included with MicroShift. Now, the **microshift-etcd version** command outputs the MicroShift version and the base version of the etcd database. See The etcd service for more information.

1.2.5. Networking

1.2.5.1. Networking documentation enhancements

Various networking documentation improvements are now available in the MicroShift release.

- **Network features with their customization status.** A new detailed table of the networking features and their customizations that are accessible in a MicroShift instance are described in MicroShift networking customization matrix .

- **Network topology updates.** Extensive examples of the Network topology available in your MicroShift instance are also updated, see Network topology.

- **Auditing exposed ports examples.** The MicroShift documentation now includes procedures on auditing exposed network ports and viewing port log settings. The updated documentation can be viewed in Auditing exposed network ports .

- **Adding and closing ports.** This release also improved the documentation for adding and closing ports and services in your MicroShift firewall, see Using optional port settings .

- **Network policies introduction.** With this release, an introduction to setting network policies has been added to the MicroShift documentation. More details are expected to follow in z-stream releases. See Creating network policies

1.2.5.2. Configuring MicroShift on disconnected hosts

You can configure your network settings to run MicroShift on a fully disconnected host. This feature is also enabled in MicroShift version 4.14. For more information, see Configuring network settings for fully disconnected hosts.

1.2.6. Running Applications

1.2.6.1. Operator Lifecyle Manager

With this release, you can use Operator Lifecyle Manager (OLM) to create, apply, and administer add-on Operators. See Using Operator Lifecycle Manager with MicroShift

1.3. DEPRECATED AND REMOVED FEATURES

Some features available in previous releases of MicroShift have been deprecated or removed.

Deprecated functionality is still included in MicroShift and continues to be supported; however, it will be removed in a future release of this product and is not recommended for new deployments. For the most recent list of major functionality deprecated and removed within MicroShift 4.15, refer to the tables below. Additional details for more functionality that has been deprecated and removed are listed after the table.

In the following tables, features are marked with the following statuses:

- *Available*

- *Deprecated*

- *Removed*

Table 1.1. Red Hat build of MicroShift deprecated and removed features tracker

Feature	4.13	4.14	4.15
Network configuration flags	Deprecated	Removed	–
CIDR notation	–	Removed	–

1.4. BUG FIXES

Installation

- Previously, the **microshift-release-info** RPM depended on the **microshift** RPM. With this release, you can download and install the **microshift-release-info** RPM independently for use in image building. (OCPBUGS-22854)

- Previously, the Greenboot health check script printed outputs for some checks that were not

picked up by **journald**, resulting in missing log entries when running the **journalctl -u greenboot-healthcheck** command. With this release, the production of logs by the Greenboot healthcheck has been fixed so that all outputs are linked to the **systemd** unit, making them easily available to read. (**OCPBUGS-20037**)

- Previously, the MicroShift clean-up script failed if CRI-O services were not present or not running. This prevented MicroShift and its dependencies from fully uninstalling. It also prevented the clean-up script from running on a system with a new installation of the **microshift** RPM that had not started. With this release, the MicroShift clean-up script skips the CRI-O steps if the service is not running, reports that status, and continues with clean-up activities. (**OCPBUGS-22936**)

- Previously, the Greenboot health check reported a **RED** status when the Logical Volume Manager Storage (LVMS) component was disabled because no volume groups (VGs) were present. Because volume groups are not required for MicroShift, the health check should report **GREEN** without VGs. Now, when LVMS is disabled, the Greenboot health check skips the check for the **openshift-storage** namespace and reports **GREEN** status. (**OCPBUGS-25689**)

Networking

- Whenever **advertiseAddress** is configured with an IP address, any network interfaces must also be configured. Previously, manually setting the **advertiseAddress** in the MicroShift **config.yaml** to the IP address value that is expected to be set by default, but not manually setting the same IP address for the **br-ex** network bridge on the host, caused the **ovnkube-master** container in the **ovnkube-master** pod to crash. With this release, the MicroShift service verifies whether **advertiseAddress** is set in the **config.yaml** and whether any interface has the same IP address set. If the two settings are not the same, MicroShift prints an error, for example, **Advertise address: %s not present in any interface, advertiseAddress** and fails. This helps ensure the proper configuration before the system starts. (**OCPBUGS-27398**)

Support

- Previously, **sos** reports created journal logs in separate files, making it difficult to correlate MicroShift and the Greenboot health check. Now the MicroShift **sos** tool includes a full system journal with an aggregated view in the same log. With this update, you can see one log with a detailed report that shows all of the enabled plugins and data from the different components and applications. (**OCPBUGS-19567**)

1.5. ASYNCHRONOUS ERRATA UPDATES

Security, bug fix, and enhancement updates for MicroShift 4.15 are released as asynchronous errata through the Red Hat Network. All MicroShift 4.15 errata are available on the Red Hat Customer Portal . For more information about asynchronous errata, read the MicroShift Life Cycle.

Red Hat Customer Portal users can enable errata notifications in the account settings for Red Hat Subscription Management (RHSM). When errata notifications are enabled, you are notified through email whenever new errata relevant to your registered systems are released.

> **NOTE**
>
> Red Hat Customer Portal user accounts must have systems registered and consuming MicroShift entitlements for MicroShift errata notification emails to generate.

This section is updated over time to provide notes on enhancements and bug fixes for future asynchronous errata releases of MicroShift 4.15. Versioned asynchronous releases, for example with the form MicroShift 4.15.z, will be detailed in the following subsections.

1.5.1. RHSA-2023:7200 – MicroShift 4.15.0 bug fix and security update advisory

Issued: 2024-02-27

Red Hat build of MicroShift release 4.15.0 is now available. The list of bug fixes that are included in the update is documented in the RHSA-2023:7200 advisory. The images that are included in the update are provided by the RHSA-2023:7198 advisory.

For the latest images included with MicroShift, view the contents of the **microshift-release-info** RPM. See Embedding MicroShift containers for offline deployments.

1.5.2. RHBA-2024:1212 – MicroShift 4.15.2 bug fix and enhancement update advisory

Issued: 2024-03-13

Red Hat build of MicroShift release 4.15.2 is now available. The list of bug fixes that are included in the update is documented in the RHBA-2024:1212 advisory. The images that are included in the update are provided by the RHSA-2024:1210 advisory.

For the latest images included with MicroShift, view the contents of the **microshift-release-info** RPM. See Embedding MicroShift containers for offline deployments.

Bug fixes

FIPS mode

- Previously, MicroShift used a version of the logical volume manager storage (LVMS) Container Storage Interface (CSI) provider that was not designed for FIPS compliance. This caused MicroShift to fail a FIPS validation test. With this release, the LVMS version 4.15.0 is used as the default CSI storage provider and validation passes.

- When a Red Hat Enterprise Linux (RHEL) version that uses FIPS libraries is installed and started with FIPS enabled, MicroShift containers are automatically enabled to run in FIPS mode. See Running MicroShift containers in FIPS mode.

- Update to the 4.15.2 release to apply this fix for FIPS mode.

Enhancements

Adds OLM image references in dedicated file

- Previously, image references for embedding MicroShift OLM in a RHEL for Edge image were part of the **microshift-olm** RPM package. The application package had to be downloaded and run to retrieve the information. With this release, image references are now in the dedicated **microshift-olm-release-info** RPM package for easier use. (OCPBUGS-29246)

1.5.3. RHBA-2024:1257 – MicroShift 4.15.3 bug fix and enhancement update advisory

Issued: 2024-03-20

Red Hat build of MicroShift release 4.15.3 is now available. The list of bug fixes that are included in the update is documented in the RHBA-2024:1257 advisory. The images that are included in the update are provided by the RHSA-2024:1255 advisory.

For the latest images included with MicroShift, view the contents of the **microshift-release-info** RPM. See Embedding MicroShift containers for offline deployments.

1.5.4. RHBA-2024:1451 – MicroShift 4.15.5 bug fix and enhancement update advisory

Issued: 2024-03-27

Red Hat build of MicroShift release 4.15.5 is now available. The list of bug fixes that are included in the update is documented in the RHBA-2024:1451 advisory. The images that are included in the update are provided by the RHSA-2024:1449 advisory.

For the latest images included with MicroShift, view the contents of the **microshift-release-info** RPM. See Embedding MicroShift containers for offline deployments.

Enhancements

Change in openshift-marketplace namespace security

- With this release, the **openshift-marketplace** namespace security defaults to **baseline**. See the Operator documentation for specifics on how this change impacts your Operator deployments. See Creating custom catalogs using the oc-mirror plugin (OCPBUGS-30034)

1.5.5. RHSA-2024:1561 – MicroShift 4.15.6 bug fix and security update advisory

Issued: 2024-04-02

Red Hat build of MicroShift release 4.15.6 is now available. The list of bug fixes that are included in the update is documented in the RHSA-2024:1561 advisory. The images that are included in the update are provided by the RHSA-2024:1559 advisory.

For the latest images included with MicroShift, view the contents of the **microshift-release-info** RPM. See Embedding MicroShift containers for offline deployments.

1.5.6. RHBA-2024:1670 – MicroShift 4.15.8 bug fix and security update advisory

Issued: 2024-04-08

Red Hat build of MicroShift release 4.15.8 is now available. The list of bug fixes that are included in the update is documented in the RHBA-2024:1670 advisory. The images that are included in the update are provided by the RHSA-2024:1668 advisory.

For the latest images included with MicroShift, view the contents of the **microshift-release-info** RPM. See Embedding MicroShift containers for offline deployments.

1.5.7. RHBA-2024:1772 – MicroShift 4.15.9 bug fix and security update advisory

Issued: 2024-04-16

Red Hat build of MicroShift release 4.15.9 is now available. The list of bug fixes that are included in the update is documented in the RHBA-2024:1772 advisory. The images that are included in the update are provided by the RHSA-2024:1770 advisory.

For the latest images included with MicroShift, view the contents of the **microshift-release-info** RPM. See Embedding MicroShift containers for offline deployments .

1.5.8. RHSA-2024:2667 - MicroShift 4.15.12 bug fix and security update advisory

Issued: 2024-05-09

Red Hat build of MicroShift release 4.15.12 is now available. The list of bug fixes that are included in the update is documented in the RHSA-2024:2667 advisory. The images that are included in the update are provided by the RHSA-2024:2664 advisory.

For the latest images included with MicroShift, view the contents of the **microshift-release-info** RPM. See Embedding MicroShift containers for offline deployments .

1.5.9. RHBA-2024:2775 - MicroShift 4.15.13 bug fix and security update advisory

Issued: 2024-05-15

Red Hat build of MicroShift release 4.15.13 is now available. The list of bug fixes that are included in the update is documented in the RHBA-2024:2775 advisory. The images that are included in the update are provided by the RHSA-2024:2773 advisory.

For the latest images included with MicroShift, view the contents of the **microshift-release-info** RPM. See Embedding MicroShift containers for offline deployments .

Enhancements

GitOps with Argo CD documentation is now available

- With this release, documentation for using GitOps is now available. Using GitOps means you can update a single Git repository and automate the deployment of new applications or updates to existing ones. For more information, see Installing the GitOps Argo CD manifests from an RPM package and Automating application management with the GitOps controller .

1.5.10. RHBA-2024:2868 - MicroShift 4.15.14 bug fix and security update advisory

Issued: 2024-05-21

The Red Hat build of MicroShift release 4.15.14 is now available. The list of bug fixes that are included in the update is documented in the RHBA-2024:2868 advisory. The images that are included in the update are provided by the RHSA-2024:2865 advisory.

For the latest images included with MicroShift, view the contents of the **microshift-release-info** RPM. See Embedding MicroShift containers for offline deployments .

1.5.11. RHBA-2024:3330 - MicroShift 4.15.15 bug fix and security update advisory

Issued: 2024-05-29

The Red Hat build of MicroShift release 4.15.15 is now available. The list of bug fixes that are included in the update is documented in the RHBA-2024:3330 advisory. The images that are included in the update are provided by the RHSA-2024:3327 advisory.

For the latest images included with MicroShift, view the contents of the **microshift-release-info** RPM. See Embedding MicroShift containers for offline deployments .

1.5.12. RHBA-2024:3490 - MicroShift 4.15.16 bug fix and update advisory

Issued: 2024-06-05

The Red Hat build of MicroShift release 4.15.16 is now available. The list of bug fixes that are included in the update is documented in the RHBA-2024:3490 advisory. The images that are included in the update are provided by the RHBA-2024:3488 advisory.

For the latest images included with MicroShift, view the contents of the **microshift-release-info** RPM. See Embedding MicroShift containers for offline deployments.