Red Hat Insights 2023

Release Notes

Release Notes for Red Hat Insights
Abstract

These release notes highlight the latest features and improvements implemented in the Red Hat Insights application and services. Red Hat is committed to replacing problematic language in our code, documentation, and web properties. We are beginning with these four terms: master, slave, blacklist, and whitelist. Because of the enormity of this endeavor, these changes will be implemented gradually over several upcoming releases. For more details, see our CTO Chris Wright’s message.
Table of Contents

CHAPTER 1. ABOUT RED HAT INSIGHTS ................................................................. 4

CHAPTER 2. SEPTEMBER 2023 ........................................................................... 5
  2.1. RED HAT HYBRID CLOUD CONSOLE .............................................. 5
     2.1.1. Published Blogs & Resources ................................................... 5
     2.1.2. Notifications ........................................................................... 5
  2.2. RED HAT INSIGHTS FOR RED HAT ENTERPRISE LINUX ............... 5
     2.2.1. Advisor .................................................................................. 5
  2.3. RED HAT INSIGHTS FOR OPENSHIFT ........................................... 6
     2.3.1. Connected Customer Experience (CCX) .................................. 6
     2.3.2. Advisor .................................................................................. 6

CHAPTER 3. AUGUST 2023 ............................................................................... 8
  3.1. RED HAT HYBRID CLOUD CONSOLE .............................................. 8
     3.1.1. Published Blogs and Resources ................................................ 8
     3.1.2. General .................................................................................... 8
  3.2. RED HAT INSIGHTS FOR RED HAT ENTERPRISE LINUX ............... 8
     3.2.1. Advisor ................................................................................... 8
     3.2.2. Drift and Policies ................................................................... 9
     3.2.3. Image Builder ....................................................................... 9
  3.3. RED HAT INSIGHTS FOR OPENSHIFT ........................................... 9
     3.3.1. Advisor ................................................................................... 9
     3.3.2. Cost Management ................................................................ 10

CHAPTER 4. JULY 2023 .................................................................................... 13
  4.1. RED HAT HYBRID CLOUD CONSOLE .............................................. 13
     4.1.1. General ................................................................................... 13
  4.2. RED HAT INSIGHTS FOR RED HAT ENTERPRISE LINUX ............... 13
     4.2.1. Advisor ................................................................................... 13
     4.2.2. Compliance ......................................................................... 14

CHAPTER 5. JUNE 2023 ................................................................................. 15
  5.1. RED HAT HYBRID CLOUD CONSOLE .............................................. 15
     5.1.1. Published Blogs & Resources ................................................... 15
     5.1.2. General ................................................................................... 15
  5.2. RED HAT INSIGHTS FOR RED HAT ENTERPRISE LINUX ............... 15
     5.2.1. Advisor ................................................................................... 15
     5.2.2. Compliance ......................................................................... 16
  5.3. RED HAT INSIGHTS FOR OPENSHIFT ........................................... 16
     5.3.1. Cost Management ................................................................ 16
     5.3.2. Vulnerability ....................................................................... 16

CHAPTER 6. MAY 2023 .................................................................................... 17
  6.1. RED HAT HYBRID CLOUD CONSOLE .............................................. 17
     6.1.1. Published Blogs & Resources ................................................... 17
     6.1.2. Integrations ......................................................................... 17
  6.2. RED HAT INSIGHTS FOR RED HAT ENTERPRISE LINUX ............... 17
     6.2.1. General ................................................................................... 17
     6.2.2. Advisor .................................................................................. 19
     6.2.3. Patch ...................................................................................... 19
     6.2.4. Subscriptions ....................................................................... 19
     6.2.5. Image builder ...................................................................... 20

1
CHAPTER 1. ABOUT RED HAT INSIGHTS

Red Hat Insights is a Software-as-a-Service (SaaS) application included with almost every subscription to Red Hat Enterprise Linux, Red Hat OpenShift, and Red Hat Ansible Automation Platform.

Powered by predictive analytics, Red Hat Insights gets smarter with every additional piece of intelligence and data. It can automatically discover relevant insights, recommend tailored, proactive, next actions, and even automate tasks. Using Red Hat Insights, customers can benefit from the experience and technical knowledge of Red Hat Certified Engineers, making it easier to identify, prioritize and resolve issues before business operations are affected.

As a SaaS offering, located at Red Hat Hybrid Cloud Console, Red Hat Insights is regularly updated. Regular updates expand the Insights knowledge archive in real time to reflect new IT challenges that can impact the stability of mission-critical systems.
CHAPTER 2. SEPTEMBER 2023

2.1. RED HAT HYBRID CLOUD CONSOLE

2.1.1. Published Blogs & Resources

- Blog: Deploy containerized applications with Red Hat Insights Edge Management and Podman by Matthew Yee (Sept 12, 2023)
- Blog: Managing SAP servers with Red Hat Insights by Ricardo Garcia Cavero (Sept 15, 2023)
- Video: Event-Driven Ansible using Red Hat Insights by Nuno Martins (Sept 15, 2023)
- Blog: Remote host configuration and management for Red Hat Enterprise Linux by Joerg Kastning (Sept 20, 2023)
- Blog: Build and launch Red Hat Enterprise Linux images in Oracle Cloud Infrastructure by Terry Bowling (Sept 21, 2023)
- Video: Red Hat Insights integration with Splunk by Jerome Marc (Sept 25, 2023)
- Video: Red Hat Insights integration with Event-Driven Ansible by Jerome Marc (Sept 26, 2023)

2.1.2. Notifications

Daily email notification time can now be configured per account

The time at which daily email notifications are sent out every day is now configurable under Hybrid Cloud Console > the Settings icon (⚙) > Settings > Notifications for OpenShift, Red Hat Enterprise Linux, and Console. A new Settings tab allows each account to override the default 00:00 UTC time with the time of their choice. This enhancement was implemented based on feedback received from EMEA customers wishing to receive their daily notifications every morning before they start work.

User Preferences are consolidated for centralized configuration

All settings related to email notifications are now consolidated under Hybrid Cloud Console > User Preferences > Email Preferences. Weekly report configuration and event notifications (e.g. instant and daily digest) can all be configured in the same location. This enhancement was implemented based on feedback received from customers for ease of use.

2.2. RED HAT INSIGHTS FOR RED HAT ENTERPRISE LINUX

2.2.1. Advisor

New Recommendations

- Kernel panic will occur when the qxl driver is being used on the RHEL 8 system after reboot due to a bug in the default kernel
- The system is unable to boot when the default kernel initramfs file does not exist
- Apply swappiness recommendation for better performance of InterSystems IRIS
- Squid service listening on IPv6 gives slow access to its client even when ipv6 is disabled in sysctl
The system is unable to boot when missing glibc related components

Kernel panic occurs when AMD processors with IOMMU enabled are used due to a known kernel bug

Kdump fails to dump over NFS or SSH on a virtual machine when FIPS is enabled due to a known bug in kexec-tools

VMware guest performance decreases and shows as vulnerable to RETBleed due to a known kernel bug

The CUPS print requests are rejected when the "MaxJobs" limits have been reached

Some applications will show errors or fail when they are not able to write to /tmp with the appropriate permissions

Kernel panic will occur on heavy memory fragmentation system when ib_port module is loaded due to a known kernel bug

LVM commands that change the Volume Group configuration will fail to run when the LVM metadata area is not big enough

Additional details about these new recommendations can be found in the Advisor Rule Monthly Review - September 2023.

2.3. RED HAT INSIGHTS FOR OPENSIGHT

2.3.1. Connected Customer Experience (CCX)

OpenShift Container Platform Cluster Alert Noise Reduction - Proof of Concept

The CCX team released its PoC of machine learning-powered Cluster Alert Noise Reduction technology, available to internal stakeholders. The tool aims to help navigate through cluster issues by providing a holistic view of alert groups, which are emitted by clusters around critical events.

The goal is to offer customers (support and eventually external customers) a way to identify most significant events, and also help them with troubleshooting and issue management. Customers can see the avalanche of events and also the impact that recommendations will have without touching all impacted components.

If you have questions or feedback, join the #ccx Slack channel. The tool is available at: https://ccx-reports.psi.redhat.com/health-console/cluster

2.3.2. Advisor

Deployment Validation Operator to be released on ROSA hosted control planes (hypershift)

Deployment Validation Operator, serving Insights workload analysis, is now available on managed clusters and is ready to be shipped with ROSA Hosted Control planes alongside OpenShift 4.14.

Customers will also benefit from seeing user-friendly namespace names/project names instead of UIDs. This will allow customers to easily recognize and navigate to projects that need their attention. All recommendations are of course coming with actionable steps on how to prevent or resolve detected issues.
Deployment Validation Operator data de-anonymization

On our route to better user experience, DVO for on-premise customers allows opting-in for non-anonymized form of data collection. This reduces the number of steps required to apply fixes suggested by a recommendation.
3.1. RED HAT HYBRID CLOUD CONSOLE

3.1.1. Published Blogs and Resources

- Blog - Red Hat Insights Compliance: Introducing new customization options for policies by Mohit Goyal and Marley Stipich (August 2, 2023)
- Blog - Stay on top of systemd state with Red Hat Insights by Stefan Bunciak (August 2, 2023)
- Blog - Improve your cloud cost visibility with Red Hat Insights cost management feature by Chris Hambridge (August 22, 2023)
- Blog - Livestream Recordings - Modernizing RHEL Management Mini-series
  - Episode 2: Build and Launch by Eric Hendricks and John Spinks (August 1, 2023)
  - Episode 3: Simplifying Patch Management by Eric Hendricks and John Spinks (August 8, 2023)
  - Episode 4: Three Services to Operationalize RHEL by Eric Hendricks and John Spinks (August 15, 2023)
  - Episode 5: Protecting your systems by Eric Hendricks and John Spinks (August 22, 2023)
  - Episode 6: Regulatory Compliance by Nate Lager and John Spinks (August 29, 2023)

3.1.2. General

New RHEL management capabilities are GA

At Red Hat Summit, you heard the announcement about the expansion of Insights beyond analytics. Red Hat designed the new and enhanced management capabilities to help reduce enterprise Linux complexity across the hybrid cloud without slowing innovation. With this release, all the Insights features and enhancements announced at Red Hat Summit are generally available (GA).

Additional resources

- Blog - New Red Hat Insights capabilities available for managing Red Hat Enterprise Linux
  Describes how Red Hat Insights capabilities work with the ongoing journey to enable better end-to-end RHEL management.

3.2. RED HAT INSIGHTS FOR RED HAT ENTERPRISE LINUX

3.2.1. Advisor

Export recommendations for a single system
You can now export a list of recommendations for a single system to either CSV or JSON. This provides an easy way to create a to-do list if you have not adopted a more automated means of addressing found issues.

Several new recommendations are available

- XFS writes are limited by quota when warn counter exceeds the upper limit
- Performance issue occurs when the "num_cgroups" for blkio in cgroups keeps increasing due to a known bug in the kernel on RHEL 8.6 and 8.8
- System hang occurs when audit backlog limit is exceeded on RHEL 8
- The yum command fails when the release version cannot be detected
- The sshd sessions will be very slow when the available entropy is low on virtual machines
- The setroubleshootd process is consuming high memory due to a known bug in setroubleshoot-server
- The system is unable to boot when lvm2 package is missing
- The change of team interface MACADDR makes network packages with old MACADDR sent to it dropped due to a bug in NetworkManager

3.2.2. Drift and Policies

New systemd facts available for Drift and Policies

When setting up baselines and comparisons for system drift, or creating internal system policies, now you can access a set of systemd facts. These facts include systemd.failed, systemd.jobs_queued, and `systemd.state.

3.2.3. Image Builder

Now Generally Available (GA)!

With the latest Insights Image Builder, you can add third-party Red Hat Package Manager (RPM) repositories to include third-party software and deploy hosts to the cloud easily by launching custom image builds directly to AWS, Azure, and Google Cloud.

3.3. RED HAT INSIGHTS FOR OPENSHIFT

3.3.1. Advisor

Update Risk - Generally Available (GA)

Update Risk is now available in the Red Hat Hybrid Cloud Console for all OpenShift customers as part of your OpenShift subscription. Update Risk (previously available in the preview environment as “Upgrade risk”), allows customers with self-managed OpenShift clusters to assess the state of your clusters before running updates. A machine model trained on data from all connected clusters shows a list of known risks on your cluster. This includes failing operator conditions, alerts, and other metrics. Insights provides you with instructions on removing these blockers on your path to a smoother and safer update.
Additional information

- Blog: Red Hat Insights Upgrade Risks for Red Hat OpenShift
- Product documentation: Using update-risk assessment to identify and mitigate cluster-update risks

3.3.2. Cost Management

Report vCPU count, RAM, and storage capacity

By default, Cost Management distributes costs based on effective CPU usage. When an OpenShift cost model is added, you can change this to distributing based on requested, used, or effective CPU or RAM usage, for the costs that Cost Management is aware of.

IT workloads and departments always incur additional costs: subscriptions, external services with variable costs (e.g., Google Maps), outsourcing, cost of the IT employees, etc. Different customers adopt different policies to distribute these costs. One popular way of distributing costs is to “do the same thing Cost Management does for OpenShift workloads,” which requires knowing how many CPU cores and memory the OpenShift nodes and clusters had and used so that those numbers can be extended for other costs.

You could approximate these values by dividing the CPU core-hours and RAM GB-hours and dividing by the number of hours in the month, but if using autoscalers, those numbers would not be right. Insights now reports the number of CPU cores and RAM and informs users this is the maximum value, since autoscalers might have changed the capacity at any given time.
The Settings page is now inside Cost Management for easier discoverability. The Tag Management and Cost Categories subpages also have enhancements. The cost models page is now inside the Settings page too. While moving the Settings page inside Cost Management, Insights also relaxed the permissions so only Cost Price List Administrator permissions are now needed. In the past, modifying the Cost Management Settings required Hybrid Cloud Console-wide Organization Administrator permissions, which made some customers uncomfortable because tag managers had too much control and visibility.
Option to show overhead costs

When running your workloads on OpenShift, you are likely interested in the cost of the workload, but you also need to consider the cost of the control plane and the cost of the unallocated capacity (the “overhead costs”). Insights Cost Management enhanced cost models and is now reporting those costs as of early 2023. With this update, you can distribute the costs, and also dynamically switch to viewing costs with or without overhead cost distribution.

Large customer data pipeline

Many organizations that use Insights {Cost Management} are big customers, but no matter your infrastructure size, Insights can handle your needs.

The latest release of Insights {Cost Management} implements separate pipelines for different customer sizes so that {Cost Management} processes data from all customers and is responsible, even if some large customers decide to send data for a whole month for a thousand clusters at the same time.

Additional resources

Blog: What’s new in Red Hat Insights {Cost Management} in Q3 2023  by Pau Garcia Quiles (October 3, 2023)
4.1. RED HAT HYBRID CLOUD CONSOLE

4.1.1. General

Activation Keys with common workload support
Admins can now create and manage activation keys that enable repositories and set a release version during registration to support common workloads, such as SAP® or Extended Update Support (EUS). Because admins are not limited to just those workloads, they can include any Red Hat repository their subscriptions allow them to access, such as CodeReady Linux Builder, to be enabled during registration.

4.2. RED HAT INSIGHTS FOR RED HAT ENTERPRISE LINUX

4.2.1. Advisor
The advisor service has new recommendations.

New Recommendations

- Cluster integrity cannot be guaranteed with only fence_kdump agent configured in a High Availability cluster
- Kdump fails to work when the wrong fencing level is configured for fence_kdump in a High Availability cluster
- Boot failure occurs when FIPS mode is enabled on system with AMD EPYC processors
- Boot failure occurs when FIPS mode is enabled on an edge computing system with AMD EPYC processors
- The audit service does not generate any events with "exit" filter rules on RHEL 8.7 and 9.1 systems
- The audit service does not generate any events with "exit" filter rules on RHEL 8.7 and 9.1 edge computing systems
- Red Hat discontinues maintenance and fixes for older minor versions of Red Hat JBoss Enterprise Application Platform version 7
- The Satellite Capsule or repository sync failed when Ignore SRPMs is set to True with the Complete Mirroring policy for a repository
- The Satellite Capsule or repository sync will fail when Ignore SRPMs is set to True with the Complete Mirroring policy for a repository
- The High Availability cluster will fail to form membership with the totem token set to 30s or longer when some node is get fenced
- The watchdog rebooted the edge computing system after the fence_scsi/fence_mpath binary failed with a return code 1 in a Red Hat High Availability cluster
The watchdog rebooted a node after the fence_scsi/fence_mpath binary failed with a return code 1 in a Red Hat High Availability cluster.

Kernel panic occurs on reboot when mei_wdt module is loaded due to a known kernel bug.

Kernel panic occurs on reboot when mei_wdt module is loaded on an edge computing system due to a known kernel bug.

System hang occurred because CIFS is used on RHEL 9.2 system with kernel version prior to 5.14.0-284.18.1.el9_2.

The system will hang when using CIFS on this RHEL 9.2 system with kernel version prior to 5.14.0-284.18.1.el9_2.

System hang occurred on the RHEL 9.2 edge computing system because CIFS is used with kernel version prior to 5.14.0-284.18.1.el9_2.

The system will hang on the RHEL 9.2 edge computing system when using CIFS with kernel version prior to 5.14.0-284.18.1.el9_2.

The bnxt_en ports fail to boot when they are configured in bonding or team and managed by NetworkManager.

The CUPS job files run out of free space or inodes when setting "MaxJobs 0".

The sshd sessions get hung or timed out because of the high CPU utilization and load average when sshd processes are running simultaneously.

Export recommendations for a single system

You can now export a list of recommendations for a single system to a CSV or JSON file format. This provides an easy way to create a to-do list if you have not adopted a more automated way of addressing found issues.

4.2.2. Compliance

Customize your SCAP policies by editing the values for specific rules

Red Hat Insights released a feature that allows you to further customize your SCAP policies by editing the values for specific rules defined within the policy. Previously, you only had an option to select rules to include or exclude in the policy, and now you can specify which values those rules should check the systems in the policy against, per their specific requirements. This ability gives increased flexibility to run an efficient compliance program and provides more accuracy. The blog article, Red Hat Insights Compliance: Introducing new customization options for policies, provides additional details on the new feature and its value to you.
CHAPTER 5. JUNE 2023

5.1. RED HAT HYBRID CLOUD CONSOLE

5.1.1. Published Blogs & Resources

- Blog - Get the most out of Red Hat Enterprise Linux in the cloud by Nate Lager (June 26, 2023)

5.1.2. General

Certified collection for Event-Driven Ansible is now available

Red Hat Insights collection for Event-Driven Ansible is now certified and available (v1.0.0) on Automation Hub. The collection provides a consistent way to ingest and handle incoming events from Red Hat Insights as an event-source plugin for Event-Driven Ansible. It also provides examples for creating ServiceNow incident tickets in response to events from the Insights advisor, vulnerability, and compliance services. Contributions are welcome on the associated upstream Ansible Galaxy project.

Additional resources

- Red Hat Automation Hub: Red Hat Insights collection for Event-Driven Ansible
- Product documentation: Configuring Event-Driven Ansible integration with the Red Hat Hybrid Cloud Console
- List of Ansible Automation Platform Certified Content

5.2. RED HAT INSIGHTS FOR RED HAT ENTERPRISE LINUX

5.2.1. Advisor

Insights widget now available on KB articles

In addition to its availability for KCS solutions, the Insights can detect this issue widget for KB articles serves as a basis for Insights Advisor recommendations. Clicking on the widget leads you to the advisor service recommendation in the Red Hat Hybrid Cloud Console. See an example by using the following link: https://access.redhat.com/articles/3671571.

New Recommendations

- System hangs with soft lockup warnings when using an incompatible built version of third-party drbd module with the running kernel
- Audit events were dropped frequently because the audit event dispatcher queue limit has been reached
- The integration of Red Hat Virtualization (RHV) with Satellite is deprecated and will be removed in a future release
- The kdump kernel panic occurs when it captures the contents of the crashed kernel due to a bug in kernel
- The system will hang with soft lockup warnings because the version of the third-party module mlx5_core is incompatible with the running kernel

- I/O operations on SMB shares will not work as expected after reboot when the SMB share path has a trailing slash due to a known regression bug in the default kernel

- Kernel panic occurs when the NFSv4 server service is shutting down and the exports cache is flushed at the same time due to a bug in kernel

- Initramfs and grub entries cannot be generated after installing kernel packages when /etc/machine-id is missing or empty

- System hang or high system load occurred because of running kernel-4.18.0-477.10.1.el8_8

- The system will hang with soft lockup warnings because the version of the third-party module mfe_aac is incompatible with the running kernel

5.2.2. Compliance

New functionality allows users to triage their compliance service reports so that they can more easily identify systems in a given policy that have high/medium severity rules that are failing. Before the release of this feature, users needed to dig deeper into each system’s report to determine the severity of each rule and pass/fail rate. This feature allows users to perform this analysis in bulk.

5.3. RED HAT INSIGHTS FOR OPENSIFT

5.3.1. Cost Management

ROSA on AWS GovCloud supported

Cost Management now supports ROSA running on AWS GovCloud. The setup and experience are similar to vanilla AWS.

5.3.2. Vulnerability

The name of the service has changed

The vulnerability service for Insights for OpenShift has been renamed to Vulnerability Dashboard and a link has been added to point users to Red Hat Advanced Cluster Security for Kubernetes (ACS) to promote ACS as the comprehensive solution for managing vulnerabilities on OpenShift.
CHAPTER 6. MAY 2023

6.1. RED HAT HYBRID CLOUD CONSOLE

6.1.1. Published Blogs & Resources

- Blog - Red Hat Insights brings Resource Optimization to Red Hat OpenShift  (May 11, 2023)
- Press release - Red Hat Simplifies Management for Red Hat Enterprise Linux Across the Hybrid Cloud  (May 23, 2023)
- Public blog announcement - Modernizing RHEL management by Matthew Yee  (May 23, 2023)
- Public recording - Red Hat Summit Day 2 Keynote - Optimize to innovate at scale (information about Red Hat Insights expansion starts at 25:30) by Stefanie Chiras  (May 24, 2023)  (Note: You must be registered and logged in to view the session.)

6.1.2. Integrations

Microsoft Teams and Google Chat integrations now available in Preview

Microsoft Teams and Google Chat are new integration types available for your notifications in the Red Hat Hybrid Cloud Console preview environment. This comes in addition to existing GA integrations with generic webhook, Splunk, ServiceNow, and Slack.

Red Hat Insights Event-Driven Ansible collection is now available in Ansible Galaxy

The Insights team announced the upcoming availability of the Red Hat Insights Event-Driven Ansible collection was announced at Red Hat Summit (see press release) and demonstrated the feature as part of the Ansible keynote demo.

More information about Event-Driven Ansible is available in the blog post: Event-Driven Ansible is Here. To try it out before its certification and release, the collection is available on:

- RedHatInsights / ansible-collections-eda  (a public GitHub repository)
- Ansible Galaxy.

Feedback and contributions are welcome!

6.2. RED HAT INSIGHTS FOR RED HAT ENTERPRISE LINUX

6.2.1. General

New “Update method” field available in system details & Inventory filters

To view the Update method for Systems in the inventory service, click on a system to see General information about the system. You will see the Update method in the Operating system details card. The possible values for this field are yum, dnf, or rpm-ostree. Note: The rpm-ostree value indicates the system is running Red Hat Edge.
The list of systems on the Inventory > Systems page is filterable by using the System Update Method primary filter and checking the appropriate secondary filter: yum, dnf, or rpm-ostree.

**Improved registration feedback with Remote Host Configuration (RHC)**

When registering a system using the rhc client, the feedback provided in your terminal contains more information about the current steps.

**Remediations for all!**

Your Red Hat subscription now includes the ability to remediate remote systems from the Hybrid Cloud Console for systems connected to Red Hat Insights through using the rhc client or Red Hat Satellite Cloud Connector.

Remediating issues identified by Insights is not new; but until recently, executing Insights playbooks directly from the Red Hat Hybrid Cloud Console required a Red Hat Satellite subscription (formerly Red Hat Smart Management.) A Red Hat Satellite subscription is now included with all RHEL subscriptions—a Satellite subscription is not required.

**Enhanced Zero States**

In an effort to ease onboarding to Insights, our team has redesigned the zero-states for Insights services from the ground up.

These new zero states are unique to the individual service and evaluate whether all of the requirements for use are complete.

If steps remain, the user sees a zero-state page that provides a new user with the following information:

- A high-level overview of what the service is
- Key use cases
- Instructions on getting started
- Product documentation
6.2.2. Advisor

New recommendations

- **Red Hat discontinues technical support for unmaintained Red Hat JBoss Enterprise Application Platform version 6.** This is our first recommendation for Red Hat Runtimes. It alerts customers of unmaintained versions of EAP and can detect both rpm and zip installations of EAP.

- **A newer version of kernel is installed, but not used. Bug fixes issued by this new kernel version are not applied.** It is a common problem for customers to install a newer version of the kernel, but still be susceptible to risks because the newer kernel version is not in use.

- **The default boot kernel may cause other critical issues detected by Red Hat Insights recommendations after reboot.** When Insights detects that a problematic kernel version will be used after the next reboot of a system, customers are alerted.

- **Several recommendations to remediate inhibitors produced during the in-place upgrade analysis.** All recommendations can be found under the ID `leapp_report` and under a new advisor service topic, `In-place upgrade`.

Additional new recommendations

- **RPM database is corrupted when `/var/lib/rpm/Packages` is missing or broken**

- **Kernel panic occurs when the storage devices accessed by nvme-tcp experience request timeout issues due to a regression bug in kernel**

- **NFS server experiences low performance when there are too many nfsd connections for current nfsd threads**

6.2.3. Patch

**Simple lifecycle patching with content templates**

In addition to patch remediation for all RHEL customers, Insights now enables control over patches by using patch templates. You can configure a patch template so that specific hosts can only receive particular patches. Patch templates ensure that software versions do not conflict, causing unnecessary outages. For this first release, templates only impact Insights views and remediation – hosts-level yum/dnf operations are not affected.

Learn how to use patch templates here.

**Improved daily digest notifications**

The daily digest of new advisories now includes the **Advisory synopsis** to make it easier for you to search your inboxes or 3rd-party apps for advisories affecting particular packages or topics.

6.2.4. Subscriptions

**List of stock-keeping units (SKUs) moved from an allow-list to a deny-list**

In the past, the subscriptions service maintained a specific list of SKUs that were allowed to be counted towards subscription capacity. As we expand our product coverage, we have changed to maintaining a specific deny-list of SKUs that should not be counted in the service. This will make the list more
maintainable and mean that new SKUs will be available to the Subscriptions service by default. For more information, see the knowledge article, *What subscriptions (SKUs) are included in Subscription Usage (Subscriptions)*?

### 6.2.5. Image builder

Red Hat Insights image builder enables IT teams to more quickly and easily build standardized, optimized operating-system images that adhere to organization-specific security and compliance requirements.

Insights image builder enables IT organizations to add their own software to “gold” images for deployment. Even if a specific version of a tool or component is not shipped with Red Hat Enterprise Linux, it can still be included in images built with image builder for rapid dissemination, making it far easier to build and launch images that match an enterprise’s own unique standards.

These images can now be readily deployed across the breadth of the hybrid cloud, from data center to public clouds to edge, all from the same interface. This is available today for AWS and Microsoft Azure, with Google Cloud coming soon.

**Where did image builder go?**

Image builder is now accessible from the left navigation pane under *Inventory > Images*.

#### Two options for filesystem partitioning

Image builder now provides two options for filesystem partitioning:

- Automatic partitioning, which defines a minimal layout of traditional GPT-msdos style partitions
- Custom defined partitions, which are implemented as Logical Volume Management (LVM) style partitions

**Try new image builder features in our Preview environment**

You can interact with a new banner that allows you to try out new functionality in the image builder preview environment: *Image Builder Preview*.

You can preview:

- New quick-start guides for launching instances created by image builder in AWS and Azure, along with a new guide to help you define custom software repositories to include in image-builder images.
- The ability to select popular, predefined community-supported repositories such as EPEL.
- A new option to define a custom or third-party repository configuration for image builder to consume software content packaged as RPMS while building images of RHEL.

### 6.3. RED HAT INSIGHTS FOR OPENSIFT

#### 6.3.1. Advisor

**New Recommendations**

Recommendations are available for core OpenShift components, which are products and components developed and shipped by Red Hat. On managed OpenShift, an additional set of recommendations that focus on best practices for workloads is available.
Recommendations cover various potential issues with operator configurations and match high-severity alerts with additional cluster information to navigate customers to the root cause of a potential problem.

New recommendations include

- Warn users about the use of deprecated APIs and unsupported versions of components
- Check minimum requirements for nodes
- Secure configuration for authentication and autoscaling
- Inform about potential conflicts between configurations
- Check certificates state on the cluster
- Validate configurations of cluster components

With OpenShift 4.13, we have added a new set of recommendations focused on preventing issues reported by our customer support team, engineers, and early adopters:

- Added recommendations to support Red Hat OpenShift Data Foundation (ODF)
- Improved and added recommendations to prevent upgrade issues in components managed by Cluster Version Operator
- Added recommendations to better utilize OpenShift Cluster Autoscaler operator

All Insights recommendations are accessible in the OpenShift advisor service in the Red Hat Hybrid Cloud Console, and also directly in OpenShift WebConsole.

Recently, we also added a message in Red Hat Hybrid Cloud Console under the Cluster History tab where all important events from the cluster are captured.

### 6.3.2. Cost Management

**Resource Optimization (Preview)**

Red Hat is integrating a new resource optimization feature with cost management to enable IT governance with cost reporting, and to provide a better way for developers to maximize resources with recommendations.

Resource optimization for OpenShift provides an optimization perspective at the container level, so Red Hat OpenShift users can get the most out of their subscriptions. Recommendations at a higher level of abstraction will be added over the coming months.

Using historical and current data, resource optimization scores each of the resource parameters and recommends the right size of OpenShift clusters through all the segments of the application’s lifecycle. It provides visibility into how much cloud resources actually cost, what is not being used efficiently, and then recommends ways to optimize usage. This may mean cutting spend, but it may also mean increasing spend to help an application perform better. Guidance is specific and time-oriented, so developers know exactly what actions to take and when, based on data from up to 15 previous days.

Learn more about this feature, and how to request access, in the blog post - [Red Hat Insights brings Resource Optimization to Red Hat OpenShift](#).

**Upload past data**
The Cost Management Metrics Operator (CMMO) gathers Prometheus metrics from the cluster and uploads them to cost management.

Until now, the CMMO only uploaded data from the moment it was installed, and afterwards. Because the Prometheus running on the clusters is configured by default to store two weeks of data, we enhanced the operator so that Red Hat uploads all the data found in Prometheus.

For example, if the user installed the CMMO on a cluster that already ran for some time, cost management will report cost and resource optimization information from two weeks prior.

The ability to upload past data is also useful for cases where the user mistakenly stopped or uninstalled the cost management operator, or had a problem with the upgrade. Those gaps have an impact on the accuracy of the overall cost of an application. A new mechanism uploads missing data and fills gaps, which improves the continuity and accuracy of reports in case a chunk of data is missing.
CHAPTER 7. APRIL 2023

7.1. RED HAT HYBRID CLOUD CONSOLE

Key updates

- "Preview" is the new "Beta" on the Hybrid Cloud Console. Access upcoming features at [https://console.redhat.com/preview](https://console.redhat.com/preview).
- See Hybrid Cloud Console RBAC enhancements in the individual user view (available in Preview).
- Splunk, Slack, and ServiceNow integrations are released to general availability. For more information, see *Integrating the Red Hat Hybrid Cloud Console with third-party applications*.

7.1.1. Published Blogs & Resources

- Blog - *Understanding your options when connecting RHEL systems to Red Hat*  (Brian Smith; April 4, 2023)
- Blog - *Track your Openshift costs more easily on Azure with new and improved capabilities in Red Hat Cost Management*  (Chris Hambridge; April 25, 2023)
- Blog - *Red Hat Insights upgrade risks for Red Hat Openshift*  (Tomas Dosek; April 26, 2023)
- Video - *RHEL Presents 55: Malware Detections with Red Hat Insights*  (Brian Smith & Eric Hendricks; April 5, 2023)
- Video - *Insights / HCC Cost Optimization*  (April 7, 2023)
- Video - *Hybrid Cloud Console Security*  (April 26, 2023)

7.1.2. Integrations & Notifications

Splunk, Slack, and ServiceNow integrations release to general availability (GA)

The Console notifications team is pleased to announce the general availability of new integrations through the Console.

Users can now set up notifications from the Console to products they use in their everyday workstreams. Get notified of Hybrid Cloud Console events on Splunk, Slack, and ServiceNow.

Try them today by visiting [Red Hat Hybrid Cloud Console > Gear icon > Settings > Integrations](https://console.redhat.com/preview).

7.2. RED HAT INSIGHTS FOR RED HAT ENTERPRISE LINUX

7.2.1. Advisor

New recommendations

The Red Hat Insights rule development team has released 17 new recommendations, including a single security hardening rule.
Kdump fails to generate vmcore on servers installed with legacy BIOS when the server is setup with Matrox MGA G200e (rev 42) VGA controller and mgag200 driver

System hangs with soft lockup warnings when using an incompatible built version of third-party oracleoks module with the default kernel

System hangs with soft lockup warnings when using an incompatible built version of third-party oracleoks module with the running kernel

Kernel panic will occur during the "vxfs" module unload on RHEL 8.6 and 8.7 edge computing systems

Kernel panic will occur during the "vxfs" module unload on RHEL 8.6 and 8.7

Write operations to XFS filesystems fail because disk or inode quota limit has been exceeded

Write operations to XFS filesystems will fail when disk or inode quota limit is reached

The mounted filesystems do not work as expected after reboot due to a typo in fstab

The system fails to boot or the mounted filesystems do not work as expected after reboot due to a typo with the root or boot filesystems in fstab

Data intended to be discarded by redirection to /dev/null will be leaked

Reboot will fail as the default initramfs file is not generated successfully

System fails to boot when using noexec and nosuid options for root file system

Kernel panic occurs with memory corruption when using SR-IOV ice/iavf driver due to a known bug in the kernel

Kernel panic occurs with memory corruption on edge computing systems when using SR-IOV ice/iavf driver due to a known bug in the kernel

Tools and programs that rely on reading or writing to /dev/null will fail

The system will fail to boot when the SELinux policy file is corrupted or empty

**7.2.2. Remediations**

**New remediations guide**

The documentation team has published the [Red Hat Insights Remediations Guide](#).

This is the first guide focused on Red Hat Insights remediations and describes

- Different supported solutions
- Scenarios for remediating issues identified by Red Hat Insights
- Overall workflow leading to the execution of the playbooks on remote systems.

**7.3. RED HAT INSIGHTS FOR OPENSOURCES**
7.3.1. Advisor

Upgrade Risk predictions (Preview)

Insights advisor evaluates potential risks to upgrading clusters to a later version of OpenShift Container Platform. Upgrade-risk predictions are a machine learning-driven functionality that is co-developed with the IBM Research group.

The feature is released to Red Hat Hybrid Cloud Console https://console.redhat.com/preview/openshift/insights/advisor/clusters and can be tested by our customers on the cluster information page, Upgrade risks tab. The tab is only visible when an upgrade is available. The information page for a cluster presents alerts and operator conditions ordered by the most impactful ones. We recommend that all customers review this pre-upgrade assessment and resolve the most critical conditions before upgrading.

7.3.2. Cost Management

Cost Management Metrics Operator v2.0

As part of the work of resource optimization for OpenShift, we have released Cost Management Metrics Operator, version 2. This new version gathers and uploads the usage and performance metrics that will then be passed over to Kruize, the resource optimization recommendation engine.

Just 24 hours after the release of the new version, one-third of the Cost Management clusters had already been upgraded to the latest version.

This is the certified version of the Koku Operator, which was released in March to the open source community.

Cost model enhancement: distribute the cost of running OpenShift
User workloads running on OpenShift do not run on thin air but on clusters with a control plane and a worker plane. The worker plane always has some spare capacity (typically 20-50%), and the control plane is required to manage the worker plane.

Both the control plane and the spare (unallocated) capacity of the worker cost money, which someone has to pay. Some organizations decide IT will swallow those costs, while most others decide to distribute them to the user workloads. This sounds easy, but it is not, and few FinOps tools implement this capability.

A few months ago, Red Hat Cost Management started explicitly reporting the cost of the unallocated capacity and the control plane. Now we have moved the needle a bit more by allowing users to directly distribute these overhead costs to the user workloads, helping to report a more complete fully-loaded per application cost.
PROVIDING FEEDBACK ON RED HAT DOCUMENTATION

We both appreciate and prioritize your feedback on our documentation. Provide as much detail as possible, so that your request might be quickly addressed.

Prerequisites
- You are logged in to the Red Hat Customer Portal.

Procedure
To provide your feedback, perform the following steps:

1. Click the following link: Create Issue
2. Describe the issue or enhancement in the Summary text box.
3. Provide more details about the issue or enhancement in the Description text box.
4. Type your name in the Reporter text box.
5. Click the Create button.

A documentation issue has been created and will be routed to the appropriate documentation team. Thank you for taking the time to provide feedback.