

Red Hat
Summit

Efficient OpenShift operations with Red Hat Insights

Radek Vokál

Senior Manager - PM,
Red Hat Insights

Martin Klika

Senior Manager - Engineering,
Red Hat Insights

Mohit Goyal

Senior Principal Product
Manager, Red Hat Insights

Red Hat Insights focuses on 3 themes

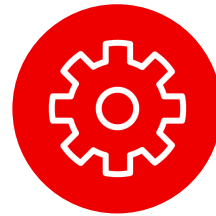


Red Hat Insights



Business

Track and optimize spending



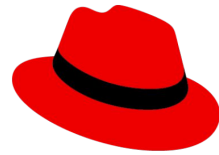
Operations

Improve stability and performance



Security

Reduce risk



Red Hat Insights

What we do?



Gathers configuration and utilization data from Red Hat® products



Analyzes the data based on Red Hat knowledge and expertise



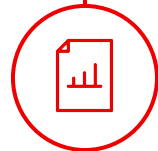
Generates and prioritizes insights for you to take action

How we do it?



Thousands

Red Hat support, security, and product engineering experts



Hundreds of Thousands

Validated solutions, CVE, Erratas, and knowledge base articles



Millions

Customer support cases, threat feeds, and connected data points

Why it matters?



Operations, Performance, and Availability issues addressed at scale by proactively identifying, prioritizing and remediating risks



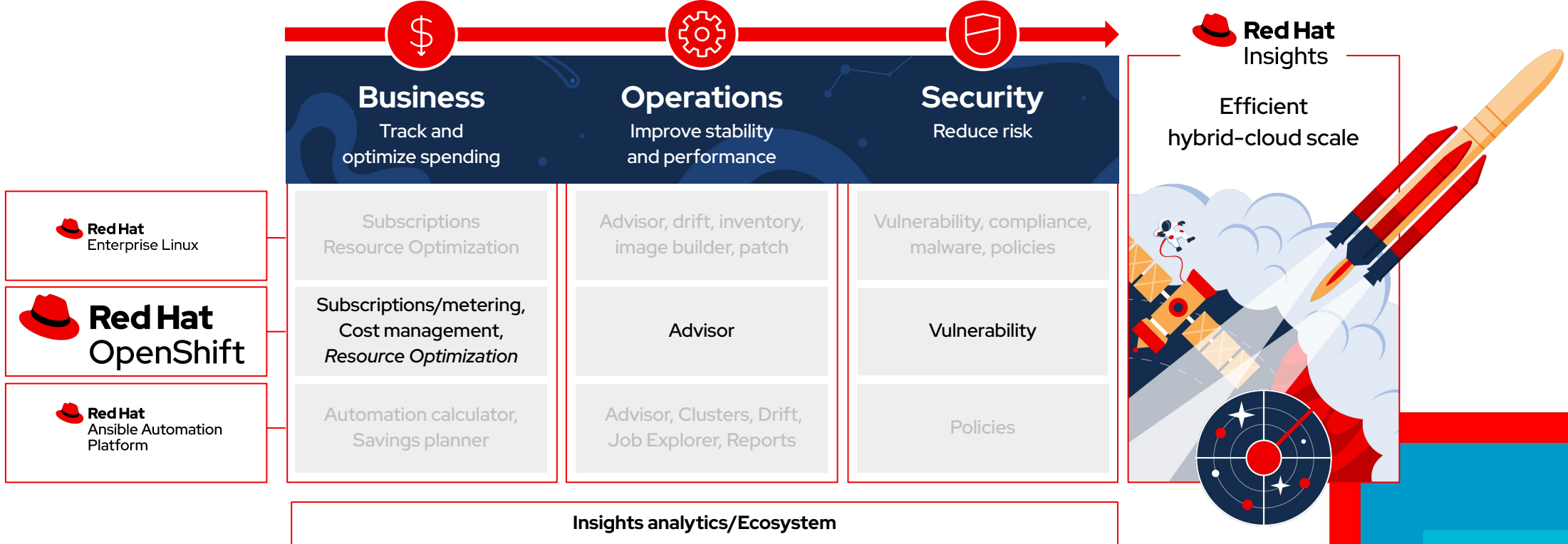
Reduce Support Costs by proactively identifying issues and feeding Red Hat BizIntel systems



Enhancing Subscription value through high value touch-points that differentiate Red Hat portfolio services

Red Hat Insights

Aligning themes to services across platforms



<https://console.redhat.com/openshift/insights>

Why OpenShift needs Insights?

Insights adds value for OpenShift

The services provide a differentiation from other Kubernetes distributions

Insights increases OpenShift usage

Through best practices and actionable actions that improve operations and reduce risks

Insights improve the product quality

Data from customers in a feedback loop on usage and errors to developers and product managers

Insights is OpenShift

Insights is included with the OpenShift subscription and is provided as part of the OpenShift console services.

console.redhat.com/openshift/insights



Business

Track and optimize spending
“FINsights”

Subscriptions

Frictionless cluster scaling & account-level visibility of multi-cluster usage

- ❑ Account level view of subscription utilization
- ❑ Automatic utilization reporting for connected clusters.
- ❑ Simple cluster and multi-cluster scaling

Cost Management

Helps you visualize and distribute Red Hat OpenShift costs into meaningful items.

- ❑ Cost visibility and allocation
- ❑ Report fully-loaded per-project cost to bill internal/external customers in your preferred currency
- ❑ Change developers and operator behaviours on premise, on clouds, on demand, multicluster..

Resource Optimization (future feature)

Visualize resource utilization in Cost Management service

- ❑ Actionable recommendations for optimized performance and cost
- ❑ Capacity planning for OpenShift clusters
- ❑ Best-sizing for pods, use your cluster to your desired maximum utilization
- ❑ Machine Learning powered



Subscriptions: Awareness of subscription utilization across your entire estate

Take a tour

OpenShift Container Platform

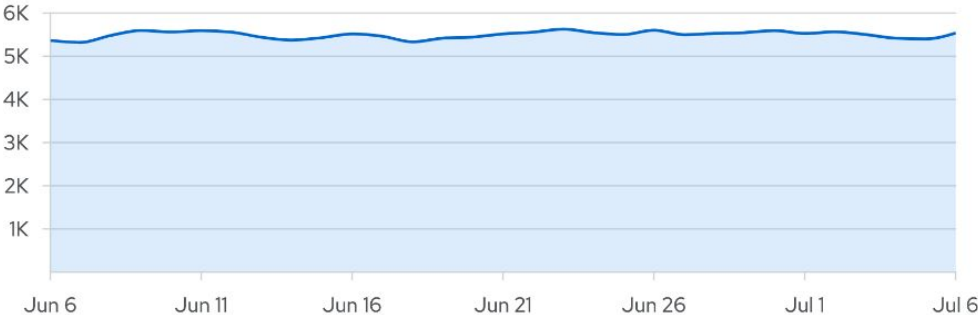
Monitor your OpenShift Container Platform usage for both Annual and On-Demand subscriptions. [Learn more about Subscriptions reporting](#)

Filter by SLA

Annual subscriptions

Cores

Daily



■ Cores ■ Subscription threshold

Current systems

Filter by name

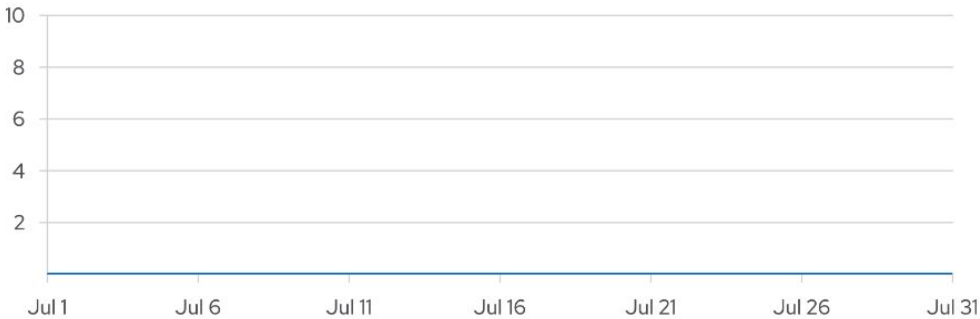
1 - 100 of 473

Name	Cores	Last seen
f5078cce-0fb6-4afe-bfbf-05b349edbee4	16	15 hours ago

On-Demand subscriptions

0 core hours used

This month



Core hours

Current systems

Filter by name



Cost management: Show how resources contribute to costs



Business

Cost Management Overview

OpenShift Infrastructure

Perspective All OpenShift

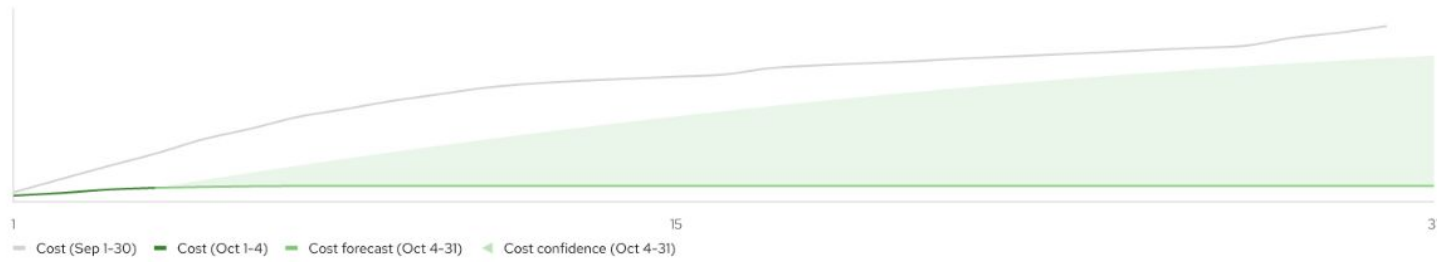
October 1-4

All OpenShift cost

\$800.71

Cost

All OpenShift cumulative cost comparison (\$)



Top projects	Top clusters
openshift	\$268.84 (37.26 %)
analytics	\$61.16 (8.48 %)
openshift-kube-apiserver	\$23.74 (3.29 %)
76 Others	\$367.84 (50.98 %)

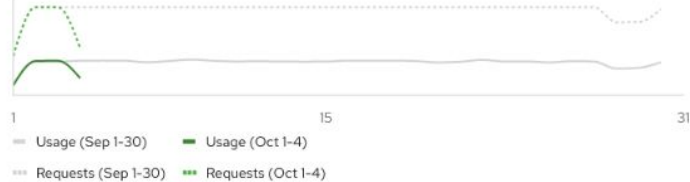
All projects

CPU usage and requests

1,492 core-hours
Usage

3,400 core-hours
Requests

Daily usage and requests comparison (core-hours)



Memory usage and requests

7,807 GB-hours
Usage

8,107 GB-hours
Requests

Daily usage and requests comparison (GB-hours)

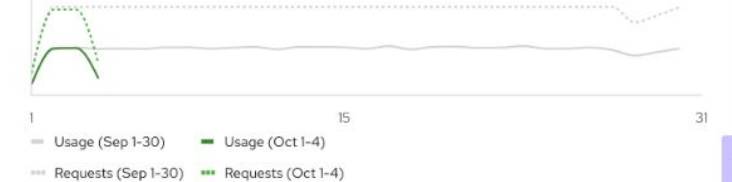


Volume usage and requests

36 GB-month
Usage

67 GB-month
Requests

Daily usage and requests comparison (GB-month)





Operations

Improve stability
and performance

Advisor

Identifies availability, performance, stability, and security risk analysis

- ❑ **Analyzes Remote Health data** (Insights + Telemetry) data to provide recommendations
- ❑ **Recommendations** cover the infrastructure and service layers of OpenShift.
- ❑ Provides **predictive findings** and prescriptive information on how to resolve.
- ❑ **Integrates with Notifications**, OpenShift Web Console and Advanced Cluster Manager

Remote Health Analytics

Improves Support efficiency, impacts Product decisions for connected clusters

- ❑ **Faster support cycle** - support has detailed cluster analysis data and fleet matching data for each support case
- ❑ **Safer upgrades** - remote health data used to analysis cluster upgrade edges and prevent potential upgrade failures
- ❑ **Product decisions** - product review fleet level analysis to prevent issues, improve product quality and prioritize new features

Advisor: Availability, performance, stability, and security risk analysis



Operations

> Name Filter by name 1 - 11 of 11

Clusters impacted 1 or more Status Enabled Reset filters

Name	Added	Category	Total risk	Clusters
> Cluster upgrade will fail when default SCC gets changed	2 years ago	Service Availability	Important	1
> Workloads are still using the deprecated APIs which will be removed in the next release	4 months ago	Service Availability	Important	3
> SystemMemoryExceedsReservation alerts when the system daemons memory usage on nodes exceeds 90% of the reservation for them	3 months ago	Service Availability	Important	1
> The running OpenShift version has reached its End of Life	2 years ago	Service Availability	Moderate	1
> Prometheus metrics data will be lost when the Prometheus pod is restarted or recreated	1 year ago	Service Availability	Moderate	33
> An OCP node behaves unexpectedly when it doesn't meet the minimum resource requirements	2 years ago	Performance	Moderate	1
> The authentication operator is degraded when cluster is configured to use a cluster-wide proxy	2 years ago	Security, Service Availability	Moderate	1
> CVE-2021-30465: runc vulnerable to privilege escalation	8 months ago	Security	Moderate	1
> Nodes will become Not Ready due to a CRI-O PID leak in the running OpenShift Container Platform version	5 months ago	Service Availability	Moderate	11
> Pods could fail to start if openshift-samples is degraded due to FailedImageImport which is caused by a hiccup while talking to the Red Hat registry	2 years ago	Service Availability	Moderate	1

Support efficiency: Fast support turnaround for connected clusters



Efficiency

Problem Statement	kubelet degraded
Description	<p>What problem/issue/behavior are you having trouble with? What do you expect to see? Recently we added infra nodes by using worker machine set and moved components like Router,image registry and monitoring after that some operators showing degraded . cluster operator degraded,cluster operator down and kubelet ,version this things are down</p> <p>Where are you experiencing the behavior? What environment? openshift container platform</p>

#2 (Associate) Private
(0.25)
Edit Provides Relief Provides Resolution

Created By: (5/27/2021 7:42 AM)

Hello,

Welcome to Red Hat Technical Support.
My name is from the OpenShift group of Engineers and I'll be assisting you with this service request.

I understand you have some cluster operators in degraded state post adding infra nodes. From the telemetry data, I can see the issue is probably occurring due to wrong configuration done in cluster monitoring configmap.

```
~  
- Reason: InvalidConfiguration  
- Message: Failed to rollout the stack. Error: the Cluster Monitoring ConfigMap could not be parsed: error converting YAML to JSON: yaml: line 27: did not find expected key  
- LastTransition: 2021-05-24T15:10:05Z  
~
```

Product decisions: Alerts on fleet issues, detailed platform information, immediate engineering response



Efficiency



CCXAlert Bot APP 7:37 AM

Symptom alert|SystemMemoryExceedsReservation spiking in 4.7.21

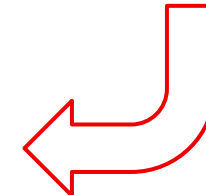
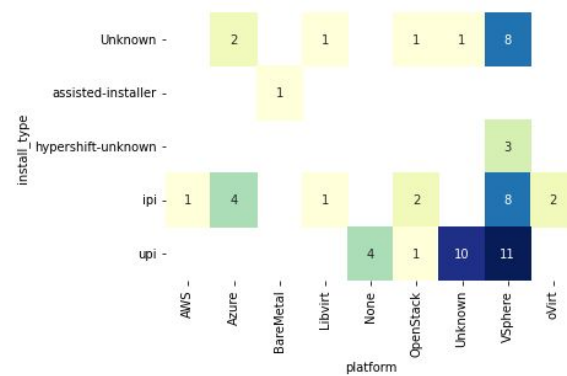
Current hit rate: 21.63 %

Mean: 11.17 %

171 out of 1139 clusters on 4.7.21 reported this symptom.

25 replies Last reply 2 months ago

[View superset dashboard](#)





Security

Manage & reduce risk

Vulnerability

Identify common vulnerabilities and exposures (CVEs)

- ❑ Analyzes the infrastructure and service layers of OpenShift for Red Hat content
- ❑ Triage and prioritize CVEs that impact your OCP core infrastructure
- ❑ Identify which clusters are affected and exposed
- ❑ For workload security consider using Red Hat Advanced Cluster Security (also available aaS)



Vulnerability: Identify common vulnerabilities and exposures (CVEs)

- OpenShift
- Clusters
- Overview
- Releases
- Developer Sandbox
- Downloads
- Red Hat Insights
- Advisor >
- Vulnerability >
 - CVEs
 - Clusters
- Subscriptions >
- Cost Management >
- Support Cases [↗](#)
- Cluster Manager Feedback [↗](#)
- Red Hat Marketplace [↗](#)

CVEs ?

i Vulnerability information applies to OCP4.8+ version only

▼ CVE Search ID or descript...

1 - 20 of 68 ▼

Exposed clusters 1 or more ✕

>	CVE ID ↑	Publish date ↓	Severity ↑	CVSS base score ↑	Exposed clusters ↓	Exposed images ↓
>	CVE-2022-28199	30 Aug 2022	Moderate	6.5	1	1
>	CVE-2022-2132	29 Aug 2022	Important	8.6	1	1
>	CVE-2022-2526	19 Aug 2022	Important	9.8	7	177
>	CVE-2022-29154	02 Aug 2022	Important	7.4	7	121
>	CVE-2022-0670	21 July 2022	Moderate	8.1	1	4
>	CVE-2022-2097	05 July 2022	Moderate	5.3	4	50
>	CVE-2022-34903	30 June 2022	Moderate	5.9	1	2
>	CVE-2022-32206	27 June 2022	Moderate	6.5	6	108
>	CVE-2022-32208	27 June 2022	Moderate	5.3	6	108
>	CVE-2022-2068	21 June 2022	Moderate	6.7	4	50
>	CVE-2022-32250	31 May 2022	Important	7.8	1	1
>	CVE-2022-1897	25 May 2022	Moderate	7.8	4	29
>	CVE-2022-1927	22 May 2022	Moderate	5.5	4	29



Insights Integrations

Additional features

Full support for managed offerings

- Recommendations specific to managed clusters (ARO/ROSA)
- Deployment validation and best practices for operators/workloads

Simple Content Access

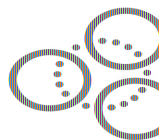
- Access to Red Hat content from OpenShift Pipelines

Support Case integration

- Insights Recommendations for connected clusters when opening a new support case

Notifications and events

- Insights events available in notifications, emails, integration with Slack, Splunk, Snow, Grafana, ..
- ACM integration, OCP WebConsole widget



Insights in your current workflows!

Integrate system data and Insights knowledge into your existing tools and processes

Integrations are available where you need them

Integrations make it easy to put events, reports, and inventory in front of decision makers where they work.

Self-configured integration options



Webhooks
"Push" events via HTTP



APIs *
Programmatic access



Certified marketplace integration options

splunk>

servicenow



Boost your IT operations

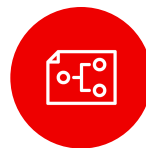
Go to cloud.redhat.com today



Get access to our product page:
<http://redhat.com/insights> »



Read our blog:
<https://www.redhat.com/en/blog/channel/red-hat-insights> »



Go to Red Hat Insights:
cloud.redhat.com »

Red Hat
Summit

Thank you



[linkedin.com/company/red-hat](https://www.linkedin.com/company/red-hat)



[facebook.com/redhatinc](https://www.facebook.com/redhatinc)



[youtube.com/user/RedHatVideos](https://www.youtube.com/user/RedHatVideos)



twitter.com/RedHat

You remain in complete control of your data

Before data is sent, you have the option to inspect and redact information



Red Hat Insights relies only on high-level metadata

Only the minimum system metadata needed is collected to analyze and identify issues for supported platforms.

Example types of data used

	Generic system facts		Image SHAs
	Uptime		Alerts
	Architecture		

Common security questions, answered:
<https://cloud.redhat.com/security/insights>

Filter by status

20 Systems registered with Insights

UI Feedback gets captured in Jira and creates a trackable artifact

Register systems

Vulnerability

Red Hat recommends addressing these CVEs with high priority due to heightened risk associated with these security issues

13

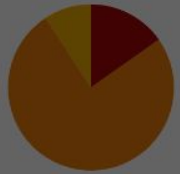
CVEs with security rules impacting 1 or more systems

View CVEs

Advisor recommendations

1 incident detected

CVEs by CVSS score



CVSS score	CVE totals	Known exploits
8.0 - 10	104	1
4.0 - 7.9	516	3
0.0 - 3.9	63	0

Recommendations by category



- 4 Availability
- 3 Performance
- 2 Stability
- 2 Security

We would love your feedback!

Please leave us your feedback below.

Submit feedback Cancel

Feedback

10

Compliance

Remediations