

Red Hat  
**Summit**

**Connect**



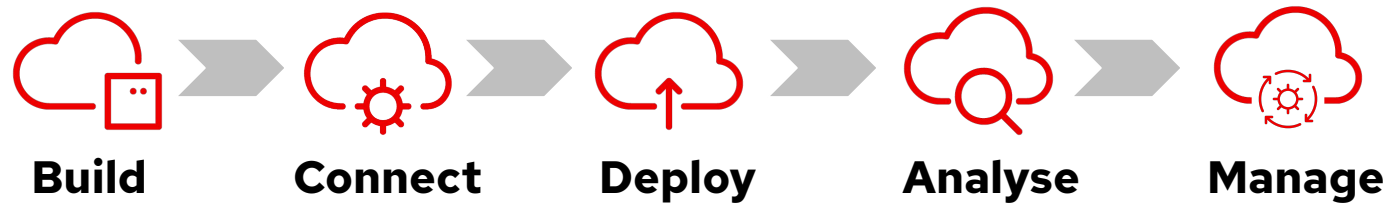
## RHEL Platform Update

Insights, Cloud, Edge

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Senior Specialist Solution Architect  
Platform & Cloud

# Insights & Cloud

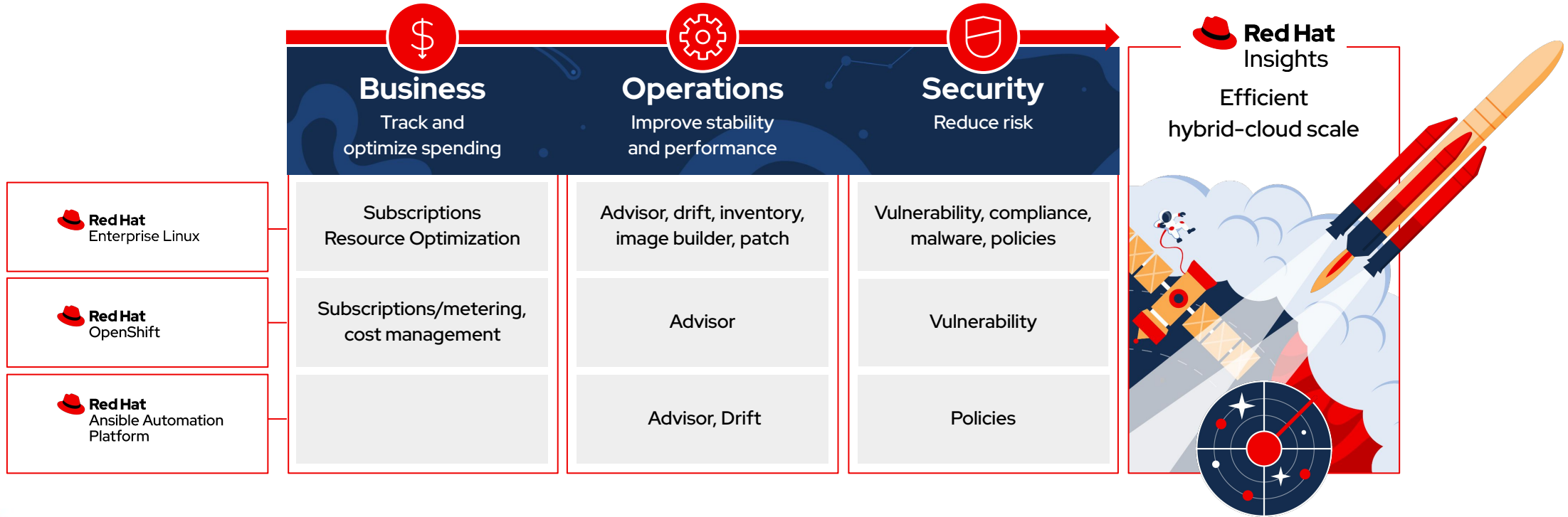
# Insights is evolving..





# Red Hat Insights

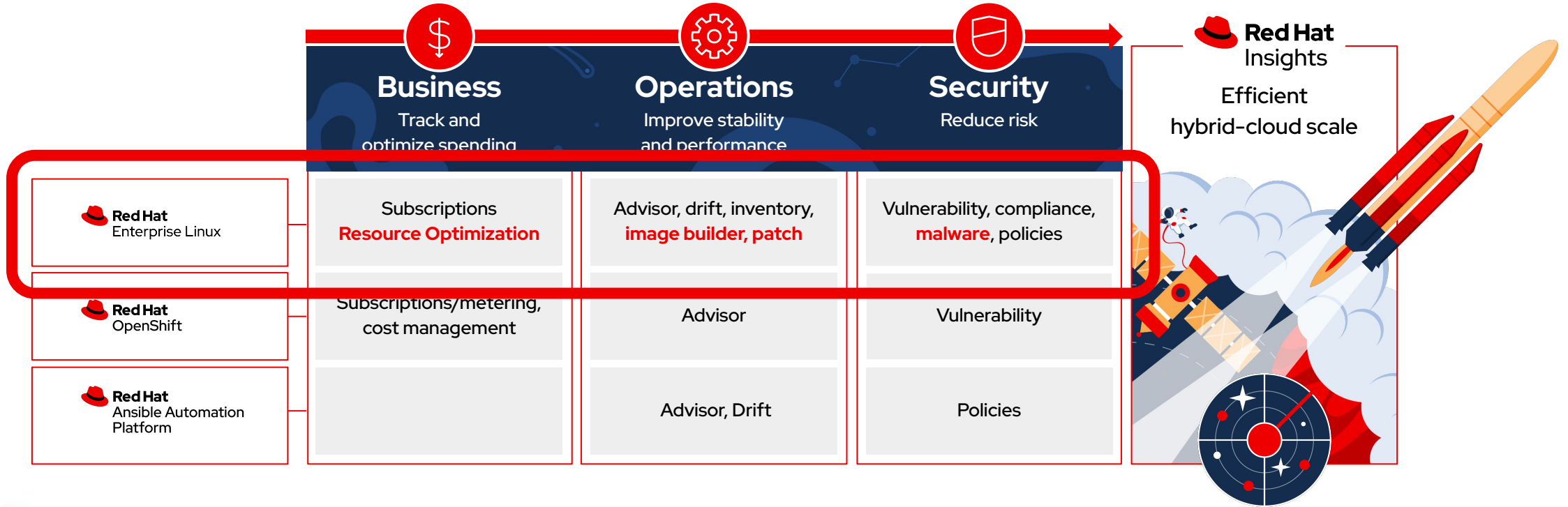
Aligning themes to services across platforms





# Red Hat Insights

What we will be discussing today



# Build & Deploy



- Custom repositories
- Red Hat Connect
- Sources
- Deploy images directly into your Clouds



Red Hat Hybrid Cloud Console | Services | Search for services | Preview off

Red Hat Insights > Content > Patch > Templates

Red Hat Insights

Dashboard

Inventory >

Content >

- Advisories
- Packages
- Repositories
- Patch >
  - Systems
  - Templates

Operations >

Security >

Filter by tags

Templates > 2021-12-31

## 2021-12-31

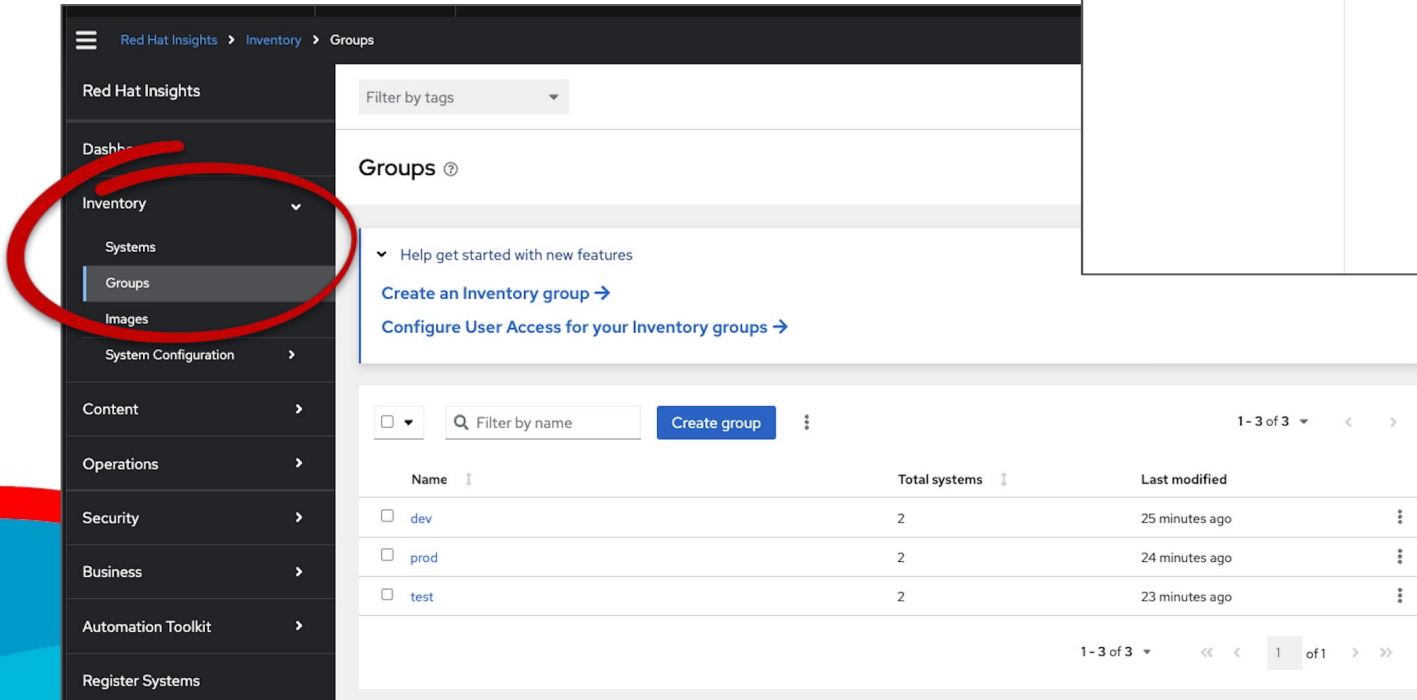
Template description: errata up to 2021-12-31  
Includes Red Hat repositories up to: 31 Dec 2021  
Created by: Fred van Zwieten  
Published: 28 Sept 2023  
Last edited: 28 Sept 2023

### Systems applied

0 selected | System | Filter by name | Search

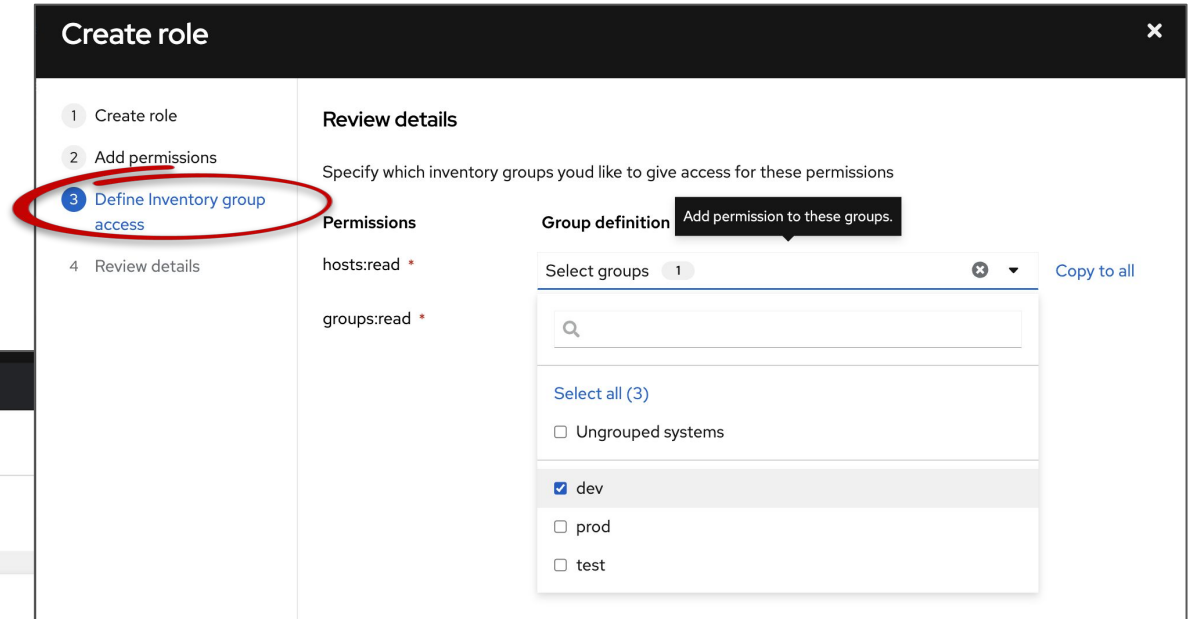
Name	Tags	OS	Installable advisories	Applicable advisories
<input type="checkbox"/> ip-172-31-80-5.ec2.internal	2	RHEL 8.8	No installable advisories	No applicable advisories
<input type="checkbox"/> ip-172-31-93-62.ec2.internal	2	RHEL 8.4	2 8 1	39 58 3

# Inventory Groups



The screenshot shows the Red Hat Insights interface. The left sidebar has a red circle around the 'Inventory' menu, which is expanded to show 'Groups'. The main content area shows the 'Groups' page with a table of existing groups.

Name	Total systems	Last modified
<input type="checkbox"/> dev	2	25 minutes ago
<input type="checkbox"/> prod	2	24 minutes ago
<input type="checkbox"/> test	2	23 minutes ago



The 'Create role' dialog box is shown, with step 3 'Define Inventory group access' circled in red. The 'Review details' section shows permissions for 'hosts:read' and 'groups:read'. The 'Group definition' section shows a search bar and a list of groups with 'dev' selected.

**Create role**

- 1 Create role
- 2 Add permissions
- 3 Define Inventory group access
- 4 Review details

**Review details**

Specify which inventory groups you'd like to give access for these permissions

**Permissions**

- hosts:read \*
- groups:read \*

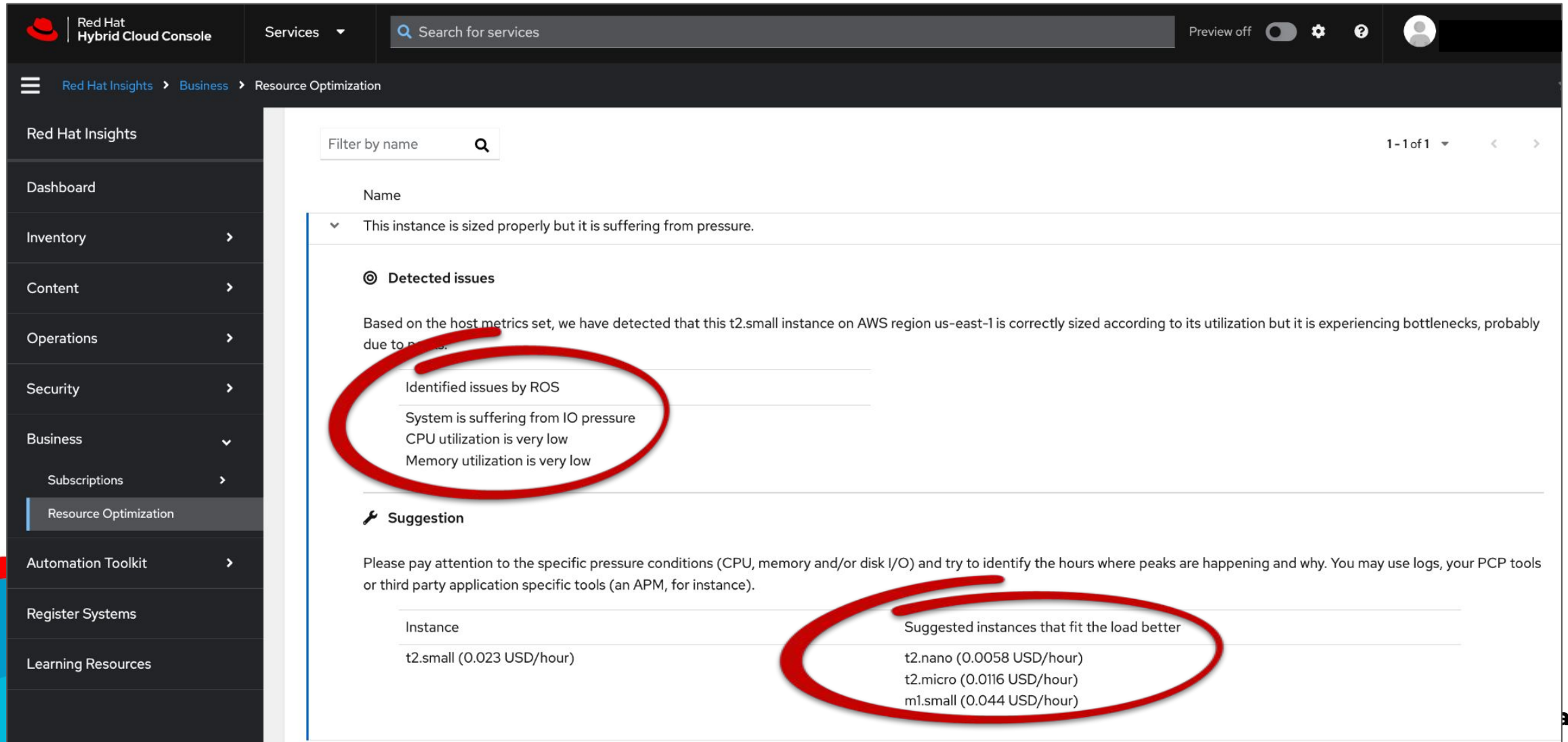
**Group definition** Add permission to these groups.

Select groups 1

Select all (3)

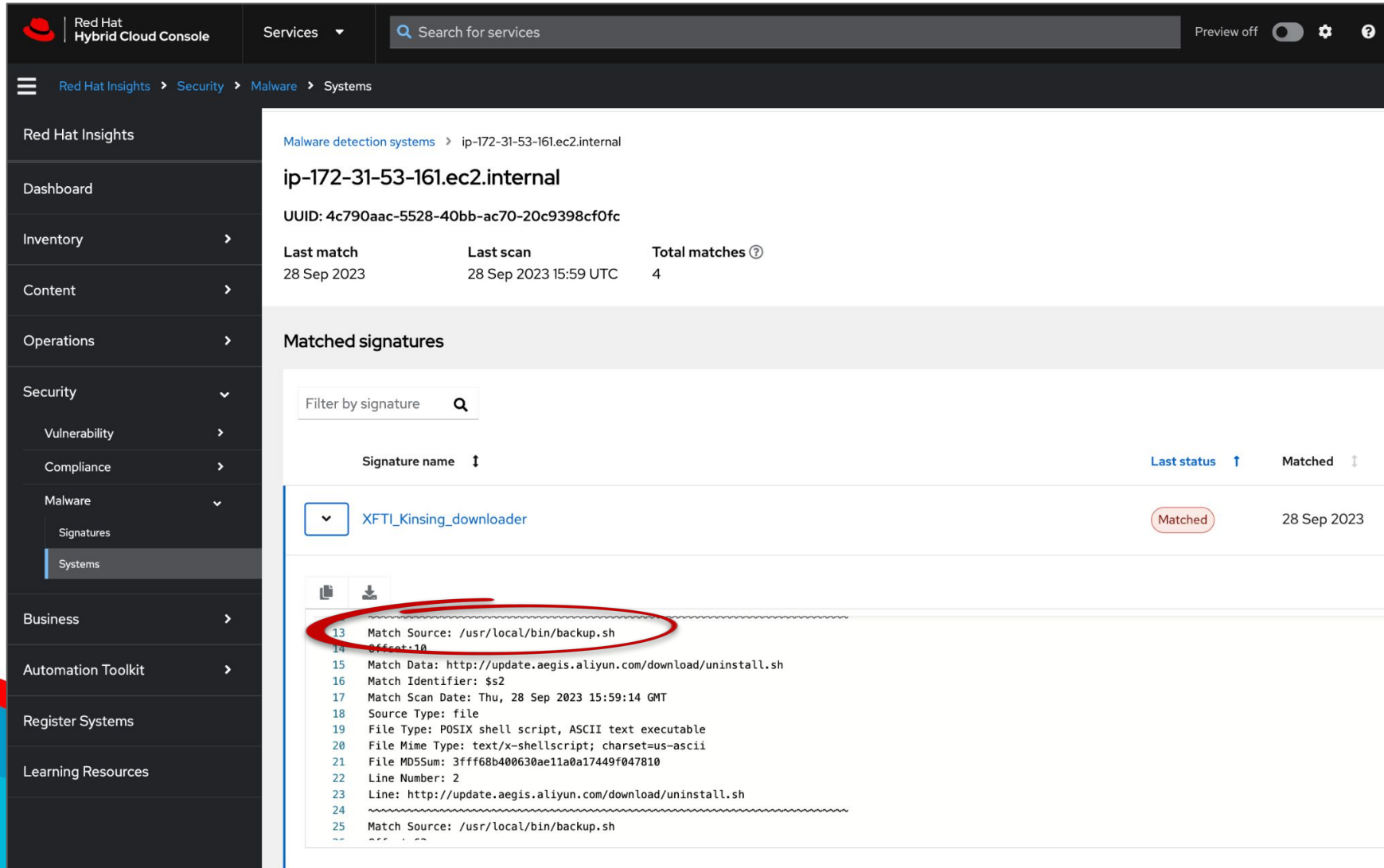
- Ungrouped systems
- dev
- prod
- test





The screenshot shows the Red Hat Hybrid Cloud Console interface. The top navigation bar includes the Red Hat logo, 'Red Hat Hybrid Cloud Console', a 'Services' dropdown, a search bar, and a 'Preview off' toggle. The breadcrumb trail is 'Red Hat Insights > Business > Resource Optimization'. The left sidebar contains a menu with 'Red Hat Insights' at the top, followed by 'Dashboard', 'Inventory', 'Content', 'Operations', 'Security', 'Business' (expanded), 'Subscriptions', 'Resource Optimization' (selected), 'Automation Toolkit', 'Register Systems', and 'Learning Resources'. The main content area displays a resource optimization report for a single instance. The report title is 'This instance is sized properly but it is suffering from pressure.' Under the 'Detected issues' section, the text states: 'Based on the host metrics set, we have detected that this t2.small instance on AWS region us-east-1 is correctly sized according to its utilization but it is experiencing bottlenecks, probably due to pressure.' The 'Identified issues by ROS' section lists: 'System is suffering from IO pressure', 'CPU utilization is very low', and 'Memory utilization is very low'. The 'Suggestion' section provides advice: 'Please pay attention to the specific pressure conditions (CPU, memory and/or disk I/O) and try to identify the hours where peaks are happening and why. You may use logs, your PCP tools or third party application specific tools (an APM, for instance).' A table at the bottom compares the current instance with suggested alternatives:

Instance	Suggested instances that fit the load better
t2.small (0.023 USD/hour)	t2.nano (0.0058 USD/hour) t2.micro (0.0116 USD/hour) m1.small (0.044 USD/hour)



Red Hat Hybrid Cloud Console

Services  Preview off

Red Hat Insights > Security > Malware > Systems

Red Hat Insights

Dashboard

Inventory >

Content >

Operations >

Security >

Vulnerability >

Compliance >

Malware >

Signatures

Systems

Business >

Automation Toolkit >

Register Systems

Learning Resources

Malware detection systems > ip-172-31-53-161.ec2.internal

## ip-172-31-53-161.ec2.internal

UUID: 4c790aac-5528-40bb-ac70-20c9398cf0fc

Last match	Last scan	Total matches <sup>?</sup>
28 Sep 2023	28 Sep 2023 15:59 UTC	4

### Matched signatures

Filter by signature

Signature name <input type="text" value=""/>	Last status <input type="text" value=""/>	Matched <input type="text" value=""/>
<input type="button" value="v"/> XFTI_Kinsing_downloader	Matched	28 Sep 2023

```
13 Match Source: /usr/local/bin/backup.sh
14 Offset: 10
15 Match Data: http://update.aegis.aliyun.com/download/uninstall.sh
16 Match Identifier: $s2
17 Match Scan Date: Thu, 28 Sep 2023 15:59:14 GMT
18 Source Type: file
19 File Type: POSIX shell script, ASCII text executable
20 File Mime Type: text/x-shellscript; charset=us-ascii
21 File MD5Sum: 3fff68b400630ae11a0a17449f047810
22 Line Number: 2
23 Line: http://update.aegis.aliyun.com/download/uninstall.sh
24
25 Match Source: /usr/local/bin/backup.sh
```



# Integrations



## Add integration ×

**Integration name \***

**Type \***

- ✓ Event-Driven Ansible
- Google Chat
- Microsoft Teams
- ServiceNow
- Slack
- Splunk
- Webhook

**Secret token**

The defined secret token is sent as a "X-Insight-Token" header on the request.



Red Hat Hybrid Cloud Console

Services

Preview off

Red Hat Insights > Learning Resources

Red Hat Insights

Dashboard

Inventory >

Content >

Operations >

Security >

Business >

Automation Toolkit >

Register Systems

Learning Resources

## Red Hat Insights Learning Resources

**Documentation** 16

Technical information for using the service

### APIs

Documentation

Explore the API catalog and documentation.

### Assess security vulnerabilities

Documentation

Monitor security issues on RHEL systems and analyze the impact and severity of...

### Compliance service reports

Documentation

[Generate reports to communicate to security auditors the security-policy...](#)

### Configure and manage remote hosts

Documentation

[System administrators can register systems with the Red Hat Hybrid Cloud Console...](#)

### Deploy and manage RHEL systems in hybrid clouds

Documentation

Define or use existing repositories, and launch and manage your customized RHE...

### Find and report malware

Documentation

Scan, detect, monitor, and report malware attacks on systems within a RHEL...

### Get started


Documentation

[Start using Red Hat Insights by installing the Insights client, then registering your systems...](#)


### Hybrid Cloud Console subscriptions

Documentation

Procurement, operational, and technical teams can track, report, and reconcile...

 Red Hat












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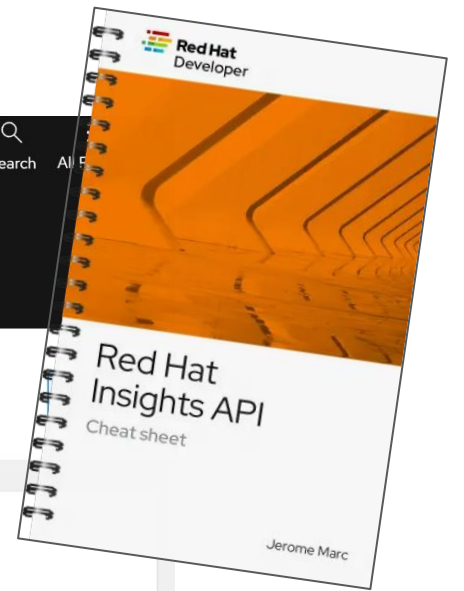
## API Catalog and Documentation

[Use the legacy API documentation site](#)

1 - 12 of 40

- Use Case
  - Automation
  - Deploy
  - Infrastructure
  - Integrations and Notifications
  - Identity and Access Management
  - Observe
  - Security
  - Spend Management
  - Workloads
- SaaS Service
  - Edge
  - Insights
  - Inventories
- Red Hat Platform
  - Ansible
  - OpenShift
  - RHEL

 <b>Advisor</b> The API of the Advisor project in Insights <a href="#">RHEL</a> <a href="#">Insights</a> <a href="#">Observe</a>	 <b>Automation Hub</b> Fetch, upload, organize, and distribute Ansible Collections <a href="#">Ansible</a> <a href="#">Automation</a>	 <b>Compliance</b> Assess, monitor, and report on the security-policy compliance of RHEL systems <a href="#">Insights</a> <a href="#">Observe</a> <a href="#">RHEL</a> <a href="#">Security</a>
 <b>Cost Management</b> The API for Project Koku and OpenShift cost management <a href="#">Spend Management</a> <a href="#">Insights</a>	 <b>Drift Backend Service</b> Service that returns differences between systems <a href="#">Ansible</a> <a href="#">RHEL</a> <a href="#">Observe</a> <a href="#">2 more</a>	 <b>Drift Baseline</b> Service that returns system baselines <a href="#">Ansible</a> <a href="#">RHEL</a> <a href="#">Observe</a> <a href="#">2 more</a>
 <b>Drift Historical Systems Profile Service</b>	 <b>Export Service</b> Service to enable users to export data in specific	 <b>Image Builder</b> Service that relays image build requests



# Experience

*Cloud Native RHEL Management*

in action in the Demo Cafe

Slot 1: 13:50

Slot 2: 16:55

# Edge updates

# Ignition Support

## Example “stub” Ignition config

---

```
variant: r4e
version: 1.0.0
ignition:
  config:
    merge:
      - source: http://$SERVER/ign/node0.ign
passwd:
users:
  - name: core
    groups:
      - wheel
    password_hash: $y$j9T$3F1...
    ssh_authorized_keys:
      - ssh-rsa AAAAB3NzaC1yc2EAA...
```

Defines a local user and use a remote Ignition config for the remaining setup

Injecting configuration during provisioning can help minimize the number of images being maintained.

- Highly desirable for “golden image” usage.
- Easily define users, ssh keys, files, directories, & systemd units in a simple declarative manor.
- Available for edge-simplified-installer & edge-raw-image

### Embed via Blueprints

- Ignition configs can be injected once they are base64 encoded
- Ignition stub configs can fetch the ignition config from a web server limit the need to respin images for small changes.

Embed a base64 config:

```
[customizations.ignition.embedded]
config =
```

Raw images can fetch configs during firstboot:

```
[customizations.ignition.firstboot]
url = "http://$YOURSERVER/config.ign"
```



# Expanded Image Customizations

Ensure Images are "ready-on-boot"

## Blueprint snippet

---

```
[[customizations.directories]]
path = "/etc/systemd/system/httpd.service.d"

[[customizations.files]]
path =
"/etc/systemd/system/httpd.service.d/00-httpd-reboot.conf"
mode = "0644"
user = "root"
group = "root"
data = ""[Service]
Restart=always""
```

Image Blueprint customizations allow pre-configuring many aspects of the operating system.

### Define files & directories

- File contents, directories, and permissions can be defined.
- Can be used independently or in conjunction w/ Kickstart %post, Ignition, & FDO.
- Currently restricted to /etc

### Container image injection

- Container images will be pulled during the image build process

```
[[containers]]
```

```
source = "registry.access.redhat.com/uiib9:latest"
```

### Many other customizations

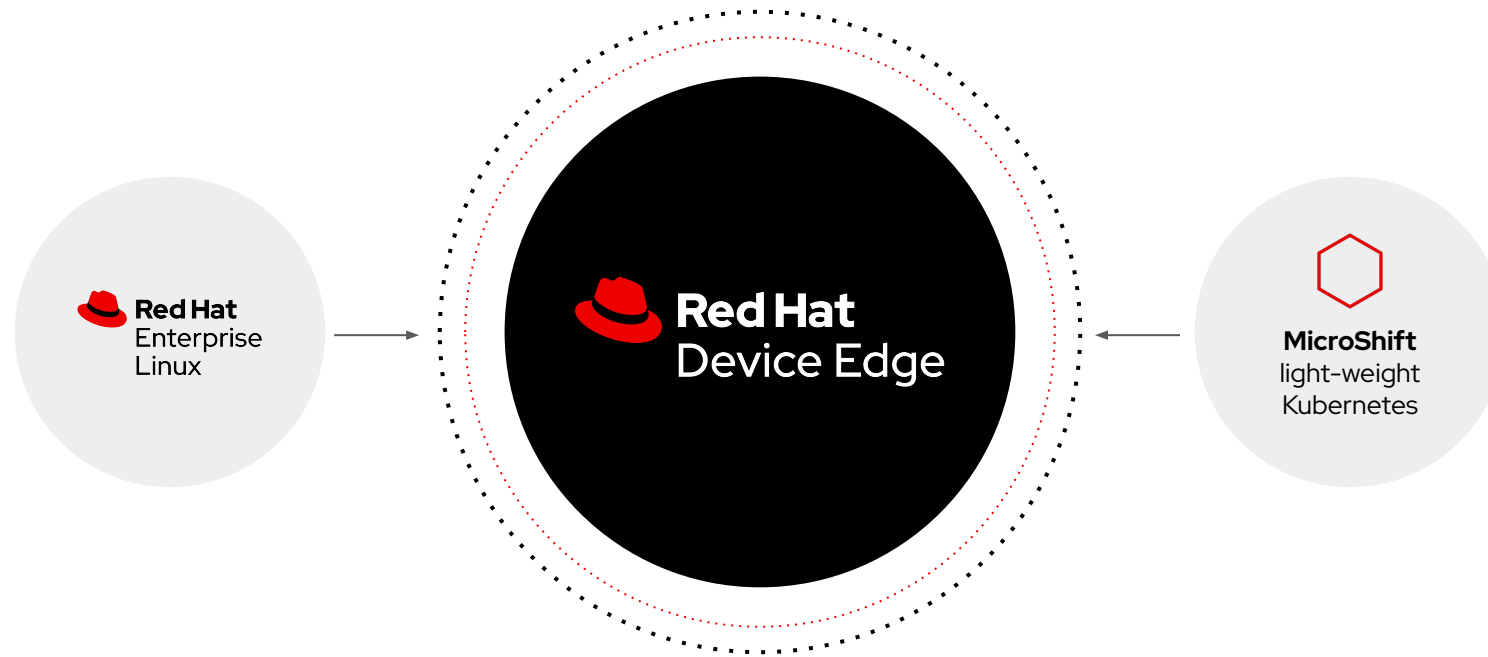
- Hostname, Kernel, SSH Keys, Users, Groups, Timezone, Locale, Firewall, Systemd Services, Repositories, OpenSCAP



# Introducing Red Hat Device Edge

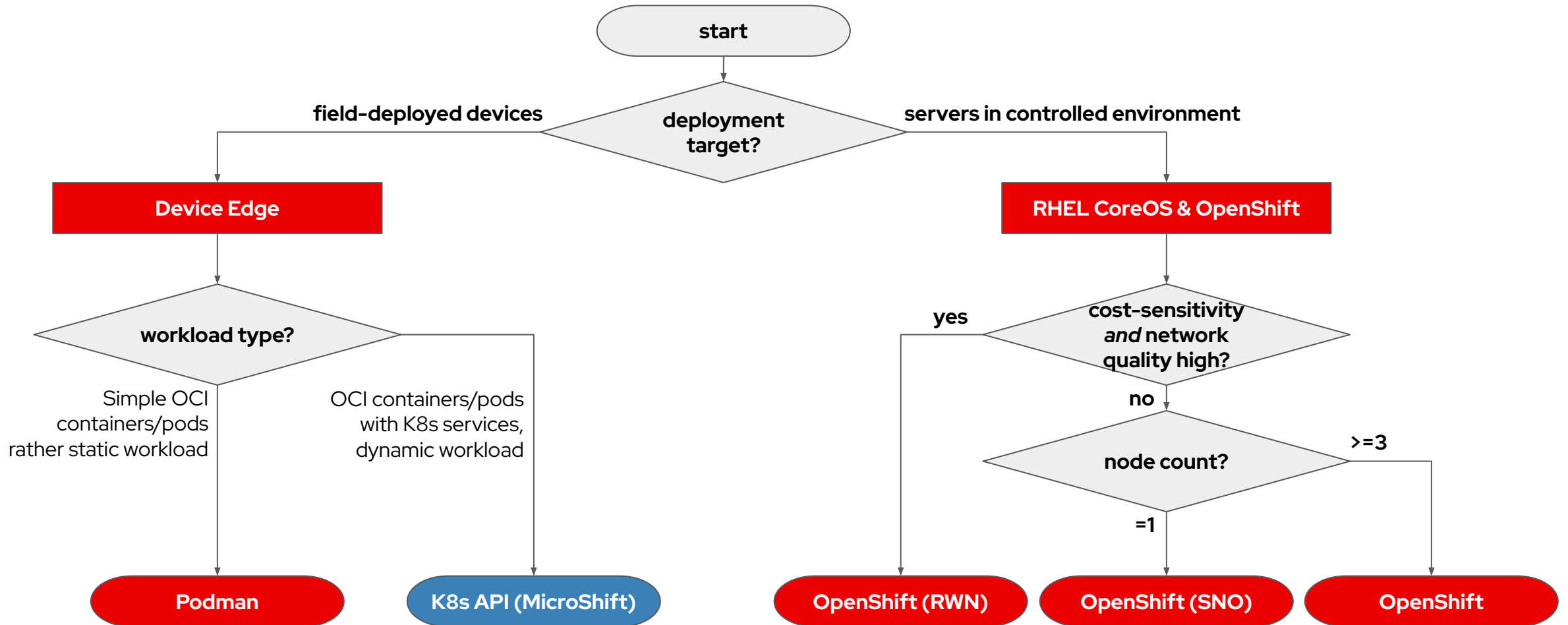
# WHAT is Red Hat Device Edge

MicroShift on top of RHEL (for Edge)



# WHEN to use Red Hat Device Edge

## Decision tree



# WHEN to use Red Hat Device Edge

What is a “field-deployed device”?



## Field-deployed device

- ▶ **single board** computer, system on chip, etc.
- ▶ limited to few, **resource-limited HW** configs
- ▶ **not out-of-band manageable**, i.e. not remotely recoverable
- ▶ **mass-imaged centrally, “plug&walk” provisioning** (via FDO Device Onboard)
- ▶ **no option to boot via USB/ISO, PXE**
- ▶ **no physical access control**
- ▶ uplink **network may be disconnected**, rarely available, firewalled/NATed, slow, costly, ...

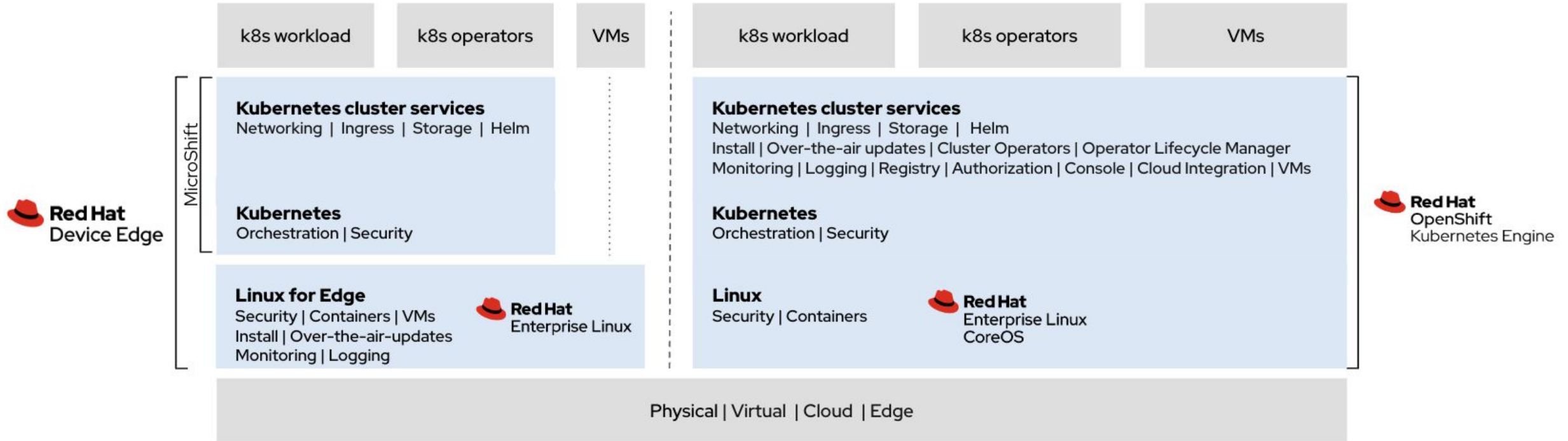


## Server in controlled environment

- ▶ server-standard board
- ▶ extensible (CPU, RAM, accelerators, NICs,...)
- ▶ out-of-band manageable (via BMC and mgmt. network), i.e. remotely recoverable
- ▶ *installed* on site via installation medium
- ▶ option to boot via USB/ISO, PXE
- ▶ physical access controls in place
- ▶ uplink network is mostly available, high bandwidth, low latency, cheap, ...

# WHEN to use Red Hat Device Edge

## Comparing Device Edge (MicroShift) to OpenShift



Red Hat provides and supports

You provide and support

Red Hat  
**Summit**

**Connect**

Thank you



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