Managing Red Hat Enterprise Linux 8

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Red Hat Enterprise Linux
Red Hat® Enterprise Linux® 8, with products like Red Hat Insights, Red Hat Satellite, and Red Hat Ansible® Automation, can help simplify and automate your environments while improving security and performance.
QUICK FACTS

Kernel version
4.18x

System compiler
gcc 8.2, llvm 6.0

Hardware architecture
Intel/AMD 64-bit    ARM 64-bit
IBM Power LE       IBM z Systems

Default file system
XFS

Package management
Yum 4

Init system
systemd 239
Simplified content sets

- RHEL Server
- RHEL Workstation
- RHEL HPC
- RHEL for Arm
- RHEL for IBM z Systems
- RHEL for IBM Power LE

- RHEL for x86_64
- RHEL for ARM 64 - aarch64
- RHEL for IBM z Systems - s390x
- RHEL for Power LE - ppc64le
RHEL 8 Application Streams

More choices for your workload needs
Streams will cross major version boundaries
Consolidating repos

- RHEL 7
- RHEL 8
- Postgresql 9.6 stream
- Postgresql 10 stream
- Postgresql 12 stream
RED HAT MANAGEMENT
Products and services

Red Hat Insights
Keeps Red Hat Enterprise Linux running at its best

Red Hat Smart Management
Red Hat Satellite: How it works with new Red Hat Enterprise Linux 8 features
Cloud services: overview, vulnerability, compliance, and system comparison
RED HAT INSIGHTS

Included with your Red Hat Enterprise Linux subscription
Red Hat Insights assesses your Red Hat Enterprise Linux environment to help you proactively identify and remediate threats, avoiding outages and unplanned downtime.
MANAGING INFRASTRUCTURE RISK

ANALYZE → IDENTIFY → PRIORITIZE → RESOLVE
KEY RISKS DISCOVERED

Tailored resolution steps included for resolution

- **Performance issue**
  Network interface is not performing at maximum speed
  Recommended action: Check cable, connections, and remote switch settings

- **Security risk detected**
  Privilege escalation
  Recommended action: Apply mitigation and update the kernel

- **Availability**
  OpenShift operations fail if insufficient CPU or memory
  Recommended action: Increase CPU and/or memory reservation

- **Stability**
  Filesystem has exceeded 95% capacity
  Recommended action: Increase free space on the host.
MORE THAN JUST SECURITY

Red Hat Insights currently has over 600 rules—here is how they stack up across categories:

- **Availability**: 38.6%
- **Security**: 28.1%
- **Stability**: 21.7%
- **Performance**: 11.6%
Overview

Rule hits by severity

- 2 Critical affecting 19 systems
- 16 High affecting 110 systems
- 45 Medium affecting 569 systems
- 28 Low affecting 220 systems

Rule hits by category

- Availability (16)
- Stability (14)
- Performance (4)
- Security (57)

Get started with Red Hat Insights

- Connect your first systems
  - Connect at least 10 systems to get a better awareness of issues and optimizations identified across your infrastructure
  - Learn how to connect a system to insights

- RemEDIATE Insights findings with Ansible
  - Easily generate an Ansible playbook to quickly and effectively remediate Insights findings
  - Get started with Insights and Ansible Playbooks

- Deploy Insights at scale
  - Get more out of Insights with more systems. Quickly connect systems with Ansible or Puppet
  - Download Ansible Playbook
<table>
<thead>
<tr>
<th>Host Name</th>
<th>Last Sync</th>
</tr>
</thead>
<tbody>
<tr>
<td>i32.example.com</td>
<td>4/16/2019, 12:51 AM</td>
</tr>
<tr>
<td>client.redhat.com</td>
<td>4/9/2019, 6:10 PM</td>
</tr>
<tr>
<td>i32.example.com</td>
<td>4/12/2019, 3:59 AM</td>
</tr>
</tbody>
</table>
RED HAT INSIGHTS
Now included with all Red Hat Enterprise Linux subscriptions

Buy

Red Hat
Enterprise Linux

Get

Red Hat
Insights
Red Hat Smart Management helps organizations optimize and manage their Red Hat Enterprise Linux environments, securing the foundation of their IT infrastructure.
RED HAT SMART MANAGEMENT

Cloud management services for Red Hat Enterprise Linux

- Vulnerability
- Compliance
- System comparison
CLOUD MANAGEMENT SERVICES FOR RED HAT ENTERPRISE LINUX

- Cloud-based management of Red Hat Enterprise Linux hosts
- Managing instances on-premise and in multi-cloud environments
- Focusing on the functionality that customers need
- Offering key benefits of Software-as-a-Service
CLOUD MANAGEMENT SERVICES
SESSIONS

Managing Red Hat Enterprise Linux in a cloud-based world
● Day/Time: Wednesday, May 8, 11:30 a.m.-12:15 p.m.
● Speaker(s): Darshana Paithankar, Red Hat; John Spinks, Red Hat

Managing security with Red Hat Enterprise Linux environments
● Day/Time: Wednesday, May 8, 3:30 p.m.-4:15 p.m.
● Speaker(s): Mohit Goyal, Red Hat
RED HAT SATELLITE
Red Hat Satellite is a scalable platform to manage patching, provisioning, and subscription management of your Red Hat infrastructure, regardless of where it is running.
Standard operating environment with hosts that are the same across your environment

Reliability and resiliency using Red Hat Insights

Security with systems that are patched, up to date, and compliant with policies

Confidence in your subscription utilization
RED HAT SATELLITE 6.5
System management for Red Hat Enterprise Linux 8 hosts

Patching
Patch Red Hat Enterprise Linux 8 hosts with Satellite

Provisioning
Provision Red Hat Enterprise Linux 8 hosts with Satellite

Application streams
Get basic module visibility and management with Red Hat Enterprise Linux 8

System purpose
State the intended use of a Red Hat Enterprise Linux 8 system

System roles
Run system roles on Red Hat Enterprise Linux hosts

If you want to manage Red Hat Enterprise Linux 8 clients, you must be running Satellite 6.5.

Satellite and Capsules must be installed on a Red Hat Enterprise Linux 7 Host
Found 83 reports from the last 7 days

<table>
<thead>
<tr>
<th>Details</th>
<th>Audits</th>
<th>Facts</th>
<th>Reports</th>
<th>YAML</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compliance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Properties</th>
<th>Metrics</th>
<th>NICs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compliance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Configuration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Execution</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Errata</td>
<td></td>
<td></td>
</tr>
<tr>
<td>System Purpose</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subscription</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Build duration</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Token</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Domain</td>
<td>example.com</td>
<td></td>
</tr>
<tr>
<td>IP Address</td>
<td>10.0.180.180</td>
<td></td>
</tr>
<tr>
<td>MAC Address</td>
<td>2cc2:60:49:a3:25</td>
<td></td>
</tr>
<tr>
<td>Puppet Environment</td>
<td>production</td>
<td></td>
</tr>
<tr>
<td>Architecture</td>
<td>x86_64</td>
<td></td>
</tr>
<tr>
<td>Operating System</td>
<td>Red Hat 8.0</td>
<td></td>
</tr>
</tbody>
</table>

**Runtime**
- last 7 days

**Resources**
- last 7 days

**Number of Events**
- Applied
- Failed
- Failed restarts
- Skipped
- Restarted

**RED HAT ENTERPRISE LINUX 8 SUPPORT**
## Red Hat Enterprise Linux 8 Patching

### Content Hosts

<table>
<thead>
<tr>
<th>Name</th>
<th>Subscription Status</th>
<th>Installable Updates</th>
<th>OS</th>
<th>Lifecycle Environment</th>
<th>Content View</th>
<th>Registered</th>
<th>Last Checkin</th>
</tr>
</thead>
<tbody>
<tr>
<td>aqua.example.com</td>
<td>☑</td>
<td>0</td>
<td>RedHat 8.0</td>
<td>Production</td>
<td>RHEL8 with errata</td>
<td>2019-04-03 11:08:13</td>
<td>2019-04-16 07:49:05</td>
</tr>
<tr>
<td>capsule.example.com</td>
<td>☑</td>
<td>0</td>
<td>RedHat 7.6</td>
<td>Production</td>
<td>RHEL7</td>
<td>2019-04-09 19:31:57</td>
<td>2019-04-09 19:32:08</td>
</tr>
<tr>
<td>rdu-db01.example.com</td>
<td>☑</td>
<td>0</td>
<td>RedHat 8.0</td>
<td>Library</td>
<td>Default Organization View</td>
<td>2019-04-16 07:59:40</td>
<td>2019-04-16 08:06:09</td>
</tr>
<tr>
<td>skylab.example.com</td>
<td>☑</td>
<td>0</td>
<td>RedHat 8.0</td>
<td>Production</td>
<td>RHEL8 container tags</td>
<td>2019-04-02 20:35:17</td>
<td>2019-04-16 07:53:32</td>
</tr>
</tbody>
</table>
## Red Hat Enterprise Linux 8 Provisioning

### Host Configuration

<table>
<thead>
<tr>
<th>Host</th>
<th>Ansible Roles</th>
<th>Virtual Machine</th>
<th>Operating System</th>
<th>Interfaces</th>
<th>Puppet Classes</th>
<th>Parameters</th>
<th>Additional Information</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Architecture**
- x86_64

**Operating System**
- No options available for selected Architecture

**Provisioning Method**
- Boot disk based
- Image Based

**Build**
- Enable this host for provisioning

**Media Selection**
- Synced Content
- All Media

Select the installation media that will be used to provision this host. Choose ‘Synced Content’ for Synced Kickstart Repositories or ‘All Media’ for other media.

**Synced Content**
- Red_Hat_Enterprise_Linux_8_for_x86_64_x86_64_BigOS

**Partition Table**
- No options available for selected Operating System

**Root Pass**
- Password must be 8 characters or more

**Provisioning Templates**
- Resolve

Display the templates that will be used to provision this host.
<table>
<thead>
<tr>
<th>Name</th>
<th>Stream</th>
</tr>
</thead>
<tbody>
<tr>
<td>nodejs</td>
<td>10</td>
</tr>
<tr>
<td>nodejs</td>
<td>8</td>
</tr>
<tr>
<td>postgresql</td>
<td>10</td>
</tr>
<tr>
<td>postgresql</td>
<td>9.6</td>
</tr>
</tbody>
</table>
System Purpose

How will you use this system? All fields are optional, and changes can be made after installation.

**Role**
- Red Hat Enterprise Linux Server
- Red Hat Enterprise Linux Workstation
- Red Hat Enterprise Linux Compute Node
- Not Specified

**Red Hat Service Level Agreement**
- Premium
- Standard
- Self-Support
- Not Specified

**Usage**
- Production
- Development/Test
- Disaster Recovery
- Not Specified
RED HAT ENTERPRISE LINUX 8 SYSTEM PURPOSE

- **System Purpose Status:** Matched
- **Service Level (SLA):**
- **Usage Type:** Production
- **Role:** Red Hat Enterprise Linux

**Architecture:** x86_64
**Network:**
## Ansible Roles

<table>
<thead>
<tr>
<th>Name</th>
<th>Hostgroups</th>
<th>Hosts</th>
<th>Imported at</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>fix-selinux</td>
<td>0</td>
<td>0</td>
<td>less than a minute ago</td>
<td>Delete</td>
</tr>
<tr>
<td>linux-system-roles.mdump</td>
<td>0</td>
<td>0</td>
<td>less than a minute ago</td>
<td>Delete</td>
</tr>
<tr>
<td>linux-system-roles.network</td>
<td>0</td>
<td>0</td>
<td>less than a minute ago</td>
<td>Delete</td>
</tr>
<tr>
<td>linux-system-roles.postfix</td>
<td>0</td>
<td>0</td>
<td>less than a minute ago</td>
<td>Delete</td>
</tr>
<tr>
<td>linux-system-roles.selinux</td>
<td>0</td>
<td>1</td>
<td>8 days ago</td>
<td>Delete</td>
</tr>
<tr>
<td>linux-system-roles.timesync</td>
<td>0</td>
<td>0</td>
<td>less than a minute ago</td>
<td>Delete</td>
</tr>
<tr>
<td>RedHatInsights.insights-client</td>
<td>0</td>
<td>1</td>
<td>8 days ago</td>
<td>Delete</td>
</tr>
<tr>
<td>rhel-system-roles.mdump</td>
<td>0</td>
<td>0</td>
<td>less than a minute ago</td>
<td>Delete</td>
</tr>
<tr>
<td>rhel-system-roles.network</td>
<td>0</td>
<td>0</td>
<td>less than a minute ago</td>
<td>Delete</td>
</tr>
<tr>
<td>rhel-system-roles.postfix</td>
<td>0</td>
<td>0</td>
<td>less than a minute ago</td>
<td>Delete</td>
</tr>
<tr>
<td>rhel-system-roles.selinux</td>
<td>0</td>
<td>0</td>
<td>less than a minute ago</td>
<td>Delete</td>
</tr>
<tr>
<td>rhel-system-roles.timesync</td>
<td>0</td>
<td>0</td>
<td>less than a minute ago</td>
<td>Delete</td>
</tr>
<tr>
<td>tomcat_role</td>
<td>0</td>
<td>1</td>
<td>4 days ago</td>
<td>Delete</td>
</tr>
</tbody>
</table>

---

**RED HAT ENTERPRISE LINUX 8 SYSTEM ROLES**
RED HAT ENTERPRISE LINUX 8 SYSTEM ROLES
Ansible playbooks

Shipping Roles

- Network, SELinux, TimeSync, kdump, Postfix (tech preview)
RED HAT ENTERPRISE LINUX SYSTEM ROLES
With Ansible

Ansible Playbooks

Upstream development
- Storage, logging, metrics, SAP HANA®, firewall, tuned

Future ideas
- NFS, subscription management, authentication

hosts: all
role: rhel-system-roles.subsystem

Red Hat Enterprise Linux system roles

<table>
<thead>
<tr>
<th></th>
<th>Network</th>
<th>SELinux</th>
<th>TimeSync</th>
<th>kdump</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Logging</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metrics</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Firewall</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>6.0</th>
<th></th>
<th>7.0</th>
<th></th>
</tr>
</thead>
</table>
IMAGE BUILDER

Tooling to enable automated creation of customized Red Hat® Enterprise Linux® OS images

Red Hat content
- Custom
- Third party
- Third party

Content in

GUI

REST API

Backend builders

CLI

Content out

DVD installers
- Disk img
- FileSystem img
- Virtual img
- Cloud img
OUTPUT IMAGE TYPES

Current Capabilities

Introduced in Red Hat Enterprise Linux 7

- Live Bootable ISO (.iso)
- QEMU QCOW2 Image (.qcow2)
- Raw Partitioned Disk Image (.img)
- Ext4 File System Image (.img)

Introduced in Red Hat Enterprise Linux 8

- Amazon Machine Image (.ami)
- Azure Disk Image (.vhd)
- VMware Virtual Machine Disk (.vmdk)
- OpenStack (.qcow2)
IMAGE BUILDER
Integration with Red Hat Satellite

SATELLITE
- Repositories: Red Hat content, Custom, Third party
- File Repository
- Ansible

IMAGE BUILDER

Bare metal
Virtual
Private cloud
Public cloud
Plan to adopt Red Hat Enterprise Linux 8 with Satellite quickly

- Sat 6.5 supports RHEL 8 clients
- Sat 6.6 will allow you to run Satellite on RHEL 8
  - Easily access the RHEL Web Console of every managed node
  - Post 6.6, some new features will only work on RHEL 8
  - Post 6.6 will help migrate your Satellite from RHEL 7 to RHEL 8
  - Eventually Satellite will only run on RHEL 8
RESOURCES & NEXT STEPS
CALL TO ACTION:

- Activate Red Hat Insights
- Use Red Hat Smart Management
  - Evaluations are available for Satellite
  - Learn more about the new cloud management services for Red Hat Enterprise Linux
Take this survey to share feedback about Image Builder.


To try out Image Builder and learn more, attend The definitive RHEL 8 Beta hands-on lab

Visit the User Experience Design team in the Feedback Zone.

Ecosystem Expo
Exhibit Hall A

Help Identify Top Tasks for Red Hat Enterprise Linux
Got 5 minutes? Come talk to us and help identify the most important tasks in Red Hat Enterprise Linux!
Sara

#redhat #rhsummit
Multiple RHEL lab sessions - Visit our Booth!

Building OS images for physical, virtual, and cloud environments with image builder
- Wednesday, May 8, 11:30 - 12:15

Create custom images suitable for deploying systems using Red Hat Enterprise Linux image builder
- Tuesday, May 7, 9:00 - 11:00

Building a RHEL gold image for Microsoft Azure
- Tuesday, May 7, 12:30 - 2:30
- Tuesday, May 7, 3:30 - 5:30
- Thursday, May 9, 2:00 - 4:00
RED HAT MANAGEMENT SESSIONS

Visit ITO and Automation Booths for more info

Managing Red Hat Enterprise Linux in a cloud-based world
- Day/Time: Wednesday, May 8, 11:30 a.m.-12:15 p.m.
- Speaker(s): Darshana Paithankar, Red Hat; John Spinks, Red Hat

Managing security with Red Hat Enterprise Linux environments
- Day/Time: Wednesday, May 8, 3:30 p.m.-4:15 p.m.
- Speaker(s): Mohit Goyal, Red Hat

Hands-on integrated management lab
- Day/Time: Thursday, May 9, 10:45 a.m.-12:45 p.m.
- Session type: Instructor-led lab

Hands on with Red Hat Satellite 6.5 [Replay]
- Day/Time: Thursday, May 8, 1:00 p.m.-3:00 p.m
- Day/Time: Thursday, May 9, 2:00 p.m.-4:00 p.m
- Session type: Instructor-led lab
RHEL Resources

Documentation:
- Red Hat Enterprise Linux 8
- RHEL Image Builder
- RHEL System Roles
- RHEL Web Console

Videos:
- Collection of RHEL 8 Videos
Insights Resources

Webpages and Docs:

- Red Hat Insights Product page - http://access.redhat.com/insights/
- Red Hat Insights Documentation - https://access.redhat.com/documentation/en-us/red_hat_insights/1.0/
- Red Hat Insights Blog Site - https://access.redhat.com/blogs/insights
Satellite Resources

- Red Hat Satellite Product page - https://red.ht/2n0sMRL
- Red Hat Satellite Customer Portal - https://red.ht/1vjl78
- Red Hat Satellite Documentation - https://red.ht/2W8CAua
- Red Hat Consulting offering: Transition to Red Hat Satellite 6 - https://red.ht/2UN6keP

Training:
- RH053 is also available on Udemy - https://bit.ly/2Cbdh3A
THANK YOU

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linkedin.com/company/red-hat
youtube.com/user/RedHatVideos
facebook.com/redhatinc
twitter.com/redhat