



TechTalks





TechTalks

Red Hat Enterprise Linux

Experience it now!



Speaker introduction



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Introducing Red Hat Enterprise Linux 10



Address the Linux skills gap

With decades of Red Hat's Linux knowledge and expertise



Contain drift and accelerate delivery

With container tools and technologies



Make better decisions at build time

When it's typically easier and cheaper to make changes



Resist security attacks from hackers

When Quantum computers become prevalent



Leverage RHEL as a trusted AI foundation

With an extensive ecosystem of trusted partners and tools



New Marquee Features



1. Image Mode

Image Mode moves from "Tech Preview" to a GA, fully supported feature.



2. Command Line Assistant

AI augmented assistant (RAG model with Watson X, no additional licensing needed)



3. Post Quantum Encryption Capable

Technologies and framework for applying post quantum requirements when they become available



4. Insights Advisor in Satellite

Proactively analyze and remediate availability, performance, and security risks in disconnected environments

Address the Linux skills Gap

With decades of Red Hat's Linux knowledge and expertise

Red Hat Enterprise Linux Lightspeed

Addressing the Linux skills gap

Proactive guidance,
knowledge, and
recommendations



Command line assistant - use plain language to simplify the way you interact with RHEL

Leverage GenAI to easily automate tasks, accelerate workflows and troubleshoot RHEL systems, ultimately improving efficiency and reducing the skills gaps within IT organizations.




Red Hat Insights image builder package recommendations - make better decisions with recommendations and actionable guidance

Discover packages that are likely to be relevant—improve the RHEL experience and provide more value.


Insights image builder package recommendations

(Shift left)


| Package name | Description | Package repository | Support |
|--|-----------------------------------|--|-----------|
| <input checked="" type="checkbox"/> realmd | Kerberos realm enrollment service |  Red Hat repository | Supported |

RHEL Lightspeed provides intelligent tools to improve the productivity and efficiency of teams using RHEL.

1 of 1

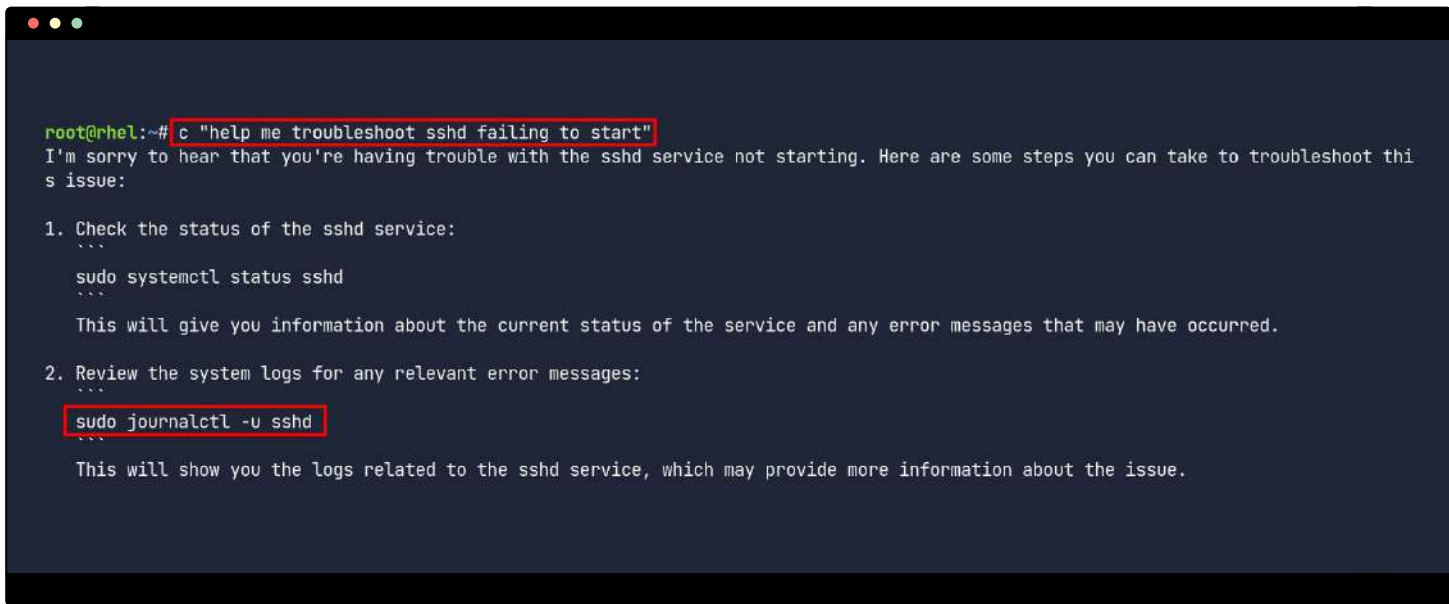
▼  Recommended Red Hat packages *Powered by RHEL Lightspeed* ⓘ

Other users commonly add these packages with the ones you selected.

| Package name | Description | Package repository | |
|--------------|-----------------------------|--|----------------------------------|
| adcli | Active Directory enrollment |  Red Hat repository | Add all packages |
| | | | Add package |

A new command line assistant

Powered by RHEL Lightspeed



```
root@rhel:~# c "help me troubleshoot sshd failing to start"
I'm sorry to hear that you're having trouble with the sshd service not starting. Here are some steps you can take to troubleshoot this issue:

1. Check the status of the sshd service:
   ...
   sudo systemctl status sshd
   ...
   This will give you information about the current status of the service and any error messages that may have occurred.

2. Review the system logs for any relevant error messages:
   ...
   sudo journalctl -u sshd
   ...
   This will show you the logs related to the sshd service, which may provide more information about the issue.
```

Contain Drift, and Accelerate Delivery

With container tools and technologies

Standardizing and innovating with containers

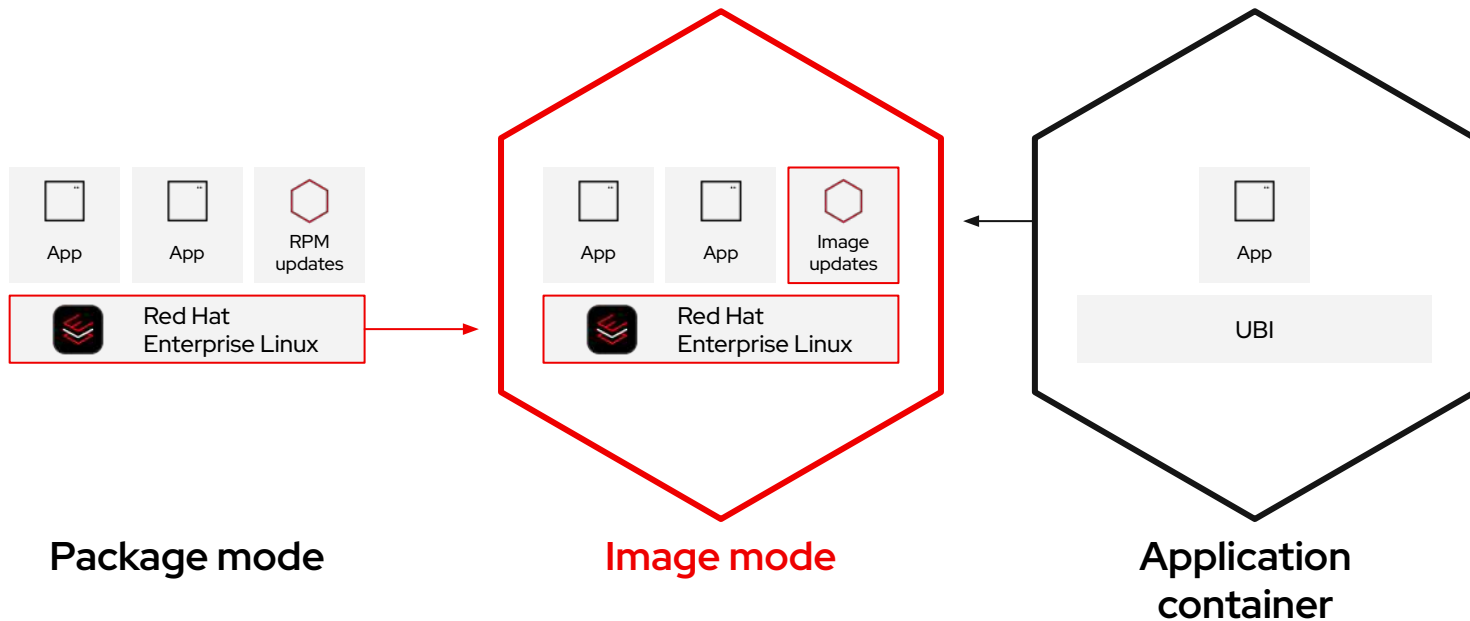


Image mode for RHEL

A container-native workflow for the life cycle of a system

```
FROM rhel10/rhel-bootc:latest

RUN dnf install -y [software]
[dependencies] && dnf clean
all

ADD [application]
ADD [configuration files]

RUN [config scripts]
```

Build

Define your entire system—OS, applications, and dependencies—with just a bootc base image and container file. Leverage your existing container tools and pipelines for rapid image creation and testing.

Deploy

Easily convert to VM/cloud images, deploy on bare metal via the RHEL installer, or even reinstall on existing cloud images using bootc.

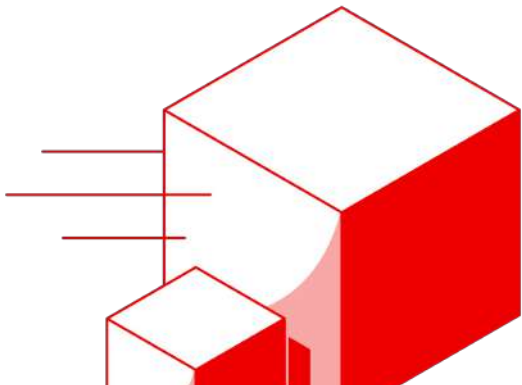
Manage

Engineered for modern GitOps and CI/CD workflows. Fully drive and automate systems via pipelines or scale control through Red Hat Insights, Satellite, and Ansible.

Image mode for RHEL

A uniform and convenient method for deploying the operating system

A container-native approach
to building, deploying, and
managing the operating system



Bootc images from scratch

Gain full control over environments, enabling customized solutions for every need and ensuring precise control over included content

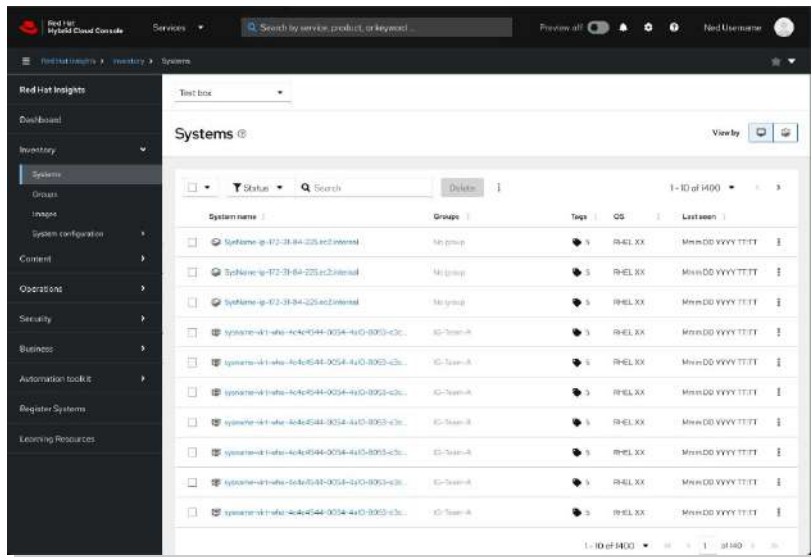


Compliance hardening

Apply the same security hardening profiles across package and image modes for RHEL systems to simplify compliance requirements

Flexible choice of management

Leverage your preferred management system



Red Hat Insights

Red Hat Insights

Image mode systems can be scanned for security and operational recommendations, and image updates.

Red Hat Satellite

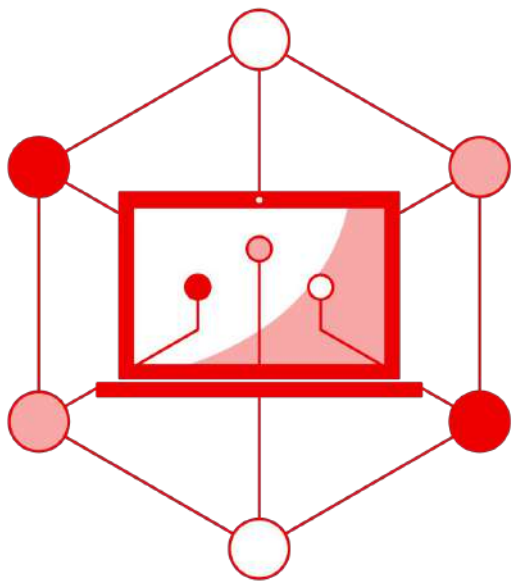
6.17 brings image mode support across provisioning, client management, and an included container registry.

Ansible Automation Platform

Ansible can control content and configuration during build time and configuration at runtime. The community bootc collection simplifies client updates.

Red Hat Insights advisor in Satellite

Proactively analyze and remediate availability, performance, and security risks in disconnected environments



Use Insights advisor's business rules and logic – codified from decades of RHEL expertise – to monitor system configurations, detect risks, and prescribe remediations without sending data off-premises

- ▶ Flexible options for installing and upgrading
- ▶ Separation, minimal access, and ultimate control for highly regulated industries and geographies
- ▶ Proactive recommendations catch problems early, minimizing downtime

Red Hat Satellite 6.17



Support for RHEL 10

Inventory and manage systems running Red Hat Enterprise Linux 10



Image mode support

New support for provisioning, client management, and registry distribution for systems created with image mode for RHEL



Support for Flatpak content

Simplify importing, managing, and deploying updates via containers with support for Flatpak content, including both custom packages and Red Hat-provided applications



Secure boot support

Enhance security during provisioning workflows on bare-metal, VMware vSphere, and Libvirt platforms



IPv6 support

Deploy Satellite in an IPv6 environment, which helps address limitations of IPv4, including improved network efficiency and security

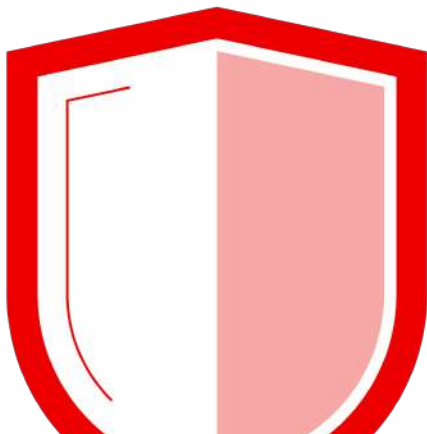
Make better decisions at build-time

When it's typically easier and cheaper to make changes

Compliance hardening for image mode for RHEL

Enhance the security architecture, promote immutability, and reduce the attack surface

Improved security
practices within the
DevSecOps framework



Improved cybersecurity

Minimize the challenges organizations face while trying to execute best-practice cybersecurity measures



Reduced barriers

Reduce common barriers of time constraints, resource limitations, and knowledge gaps

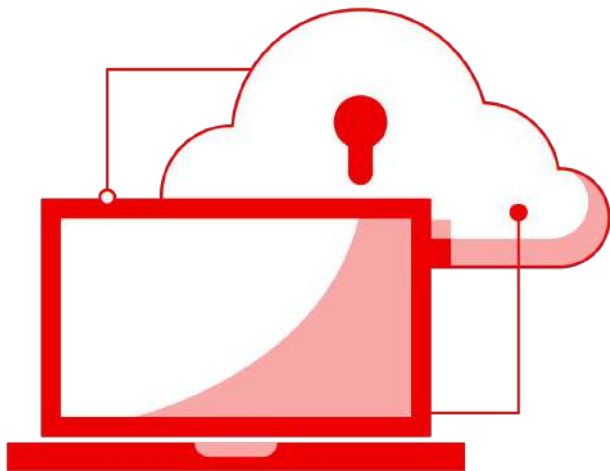


Improved capabilities

Provide organizations with the necessary capabilities to leverage security expertise within diverse environments

Domain Join via Insights

Save time and improve security



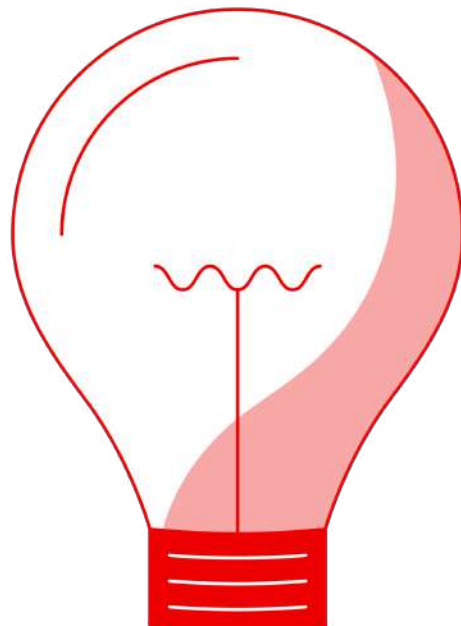
- ▶ **Perform** discovery back to a new images identity management server.
- ▶ **Access** through Insights and the hybrid cloud console.
- ▶ **Join** the new image to the domain while removing the manual and sometimes error-prone burden from administrators.

Red Hat Insights planning for RHEL

Plan ahead for RHEL and AppStream lifecycle updates, and gain insights into the RHEL roadmap

Gain access to lifecycle information,
and plans for upcoming minor
releases.

Centralizes roadmap and lifecycle details for AppStreams and RHEL minor releases - allowing administrators to proactively plan upgrades, maintain support, and anticipate the impact of upcoming feature releases and deprecations..



RHEL and AppStream life cycle information

Life Cycle

⚠ Dates are approximations and subject to change.

Life Cycle RHEL 9 Application Streams

Q Filter by name

View

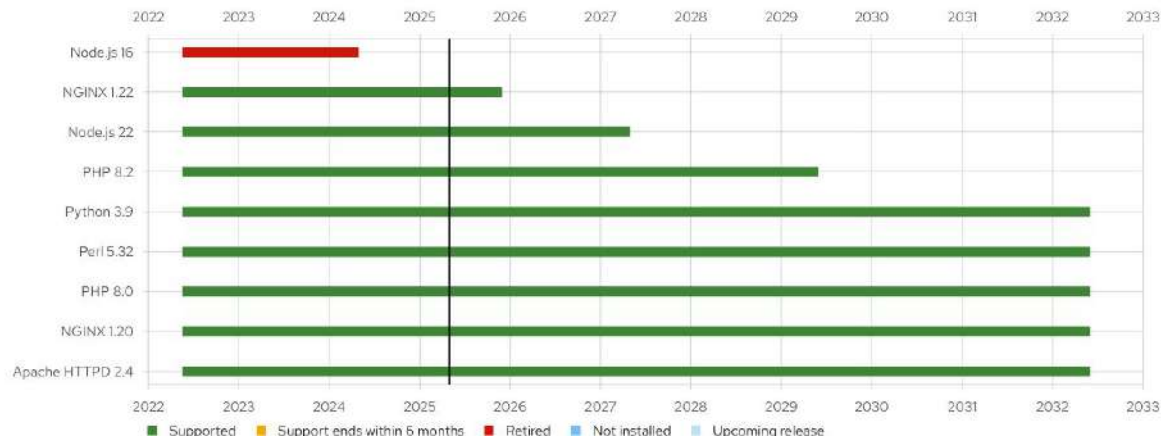
Installed and related

Installed only



Sort by

Retirement date



AppStream life cycle information also available in Insights image

Additional packages

Blueprints created with Images include all required packages.


Search for package groups


Search for package groups by starting your search with the '@' character. A single '@' as search input lists all available package groups.



1 - 10 of 22



Included repos 

Other repos 

| | Name | Application stream | Retirement date | Package repository |
|----------------------------|--------------|--------------------|--|--------------------|
| > <input type="checkbox"/> | nodejs | 18 |  Apr 2025 | Red Hat |
| > <input type="checkbox"/> | nodejs | 20 |  Apr 2026 | Red Hat |
| > <input type="checkbox"/> | nodejs | 22 |  Apr 2027 | Red Hat |
| > <input type="checkbox"/> | nodejs-devel | 18 |  Apr 2025 | Red Hat |
| > <input type="checkbox"/> | nodejs-devel | 20 |  Apr 2026 | Red Hat |
| > <input type="checkbox"/> | nodejs-devel | 22 |  Apr 2027 | Red Hat |

Red Hat Enterprise Linux roadmap

Roadmap

⚠ Upcoming features and dates are subject to change.

🚫 Deprecations

0 deprecations that could affect your systems

⚠ Changes

2 changes that could affect your systems

▼ Name

🔍 Filter by name

View

Relevant only

All

| > | Name | Type | Release |
|---|--|-----------------------------|---------|
| > | New CLI experience for RHEL Image Builder | 🔧 Enhancement | 10.1 |
| > | Add Python 3.14 to RHEL 10 AppStream | 🔧 Addition | 10.2 |
| > | Add Python 3.14 to RHEL 9 AppStream | 🔧 Addition | 9.8.0 |
| ▼ | Add Node.js v24 module to RHEL 9 AppStream | 🔧 Addition | 9.7 |
| Node.js version 24 is tentatively planned to be available in RHEL 9.7 | | | |
| Potentially affected systems | | 0 | |
| Tracking ticket | | RHELBU-3030 | |
| Date added | | 2025-04-22 | |
| Last modified | | 2025-04-22 | |

RHEL 10 Image Builder

Build for the cloud, on-premises, or even for WSL



Improved User Interface

More closely matches the Insights Image Builder feature set and UI

Expanded formats

Supports public cloud, bare metal, virtual machines, and WSL

Cloud-optimized Red Hat Enterprise Linux

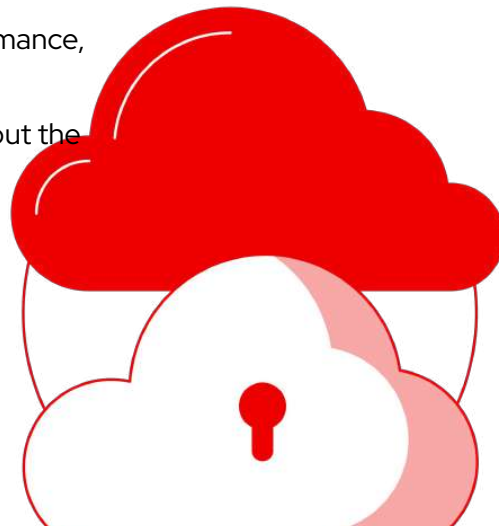
Accelerate cloud adoption

Focus on initiatives that move your business forward,
rather than spending time on operational functions

- Benefit from seamless integration with the cloud provider's services
- Leverage integrated management tools to speed operations
- Apply built-in cloud-specific configurations that ensure performance, integration and observability for your cloud-based workloads
- Deploy a stable surface to build on without having to worry about the underlying technology

Hyperscaler optimized cloud offerings:

- ▶ Red Hat Enterprise Linux for AWS
- ▶ Red Hat Enterprise Linux for Azure
- ▶ Red Hat Enterprise Linux for Google Cloud



RHEL for AWS

Features that make RHEL even better on Amazon Web Services

- ▶ Integration with CloudWatch using OpenTelemetry
- ▶ Ensured Network performance with Elastic Network Adapter
- ▶ Aws CLI



RHEL For Microsoft Azure

Improving your RHEL Experience on Azure



- ▶ Integrations with Azure Monitor
- ▶ Azure Confidential VM (CVM) support for confidential computing
- ▶ Azure CLI



RHEL for Google Cloud

Making Google Compute Platform even more flexible

- ▶ Integrates with Google Cloud Observability using OpenTelemetry
- ▶ Network performance improvements using IDPF drivers
- ▶ Google Cloud CLI



Red Hat



Google Cloud

Resist security threats

When Quantum computers become prevalent

Y2Q

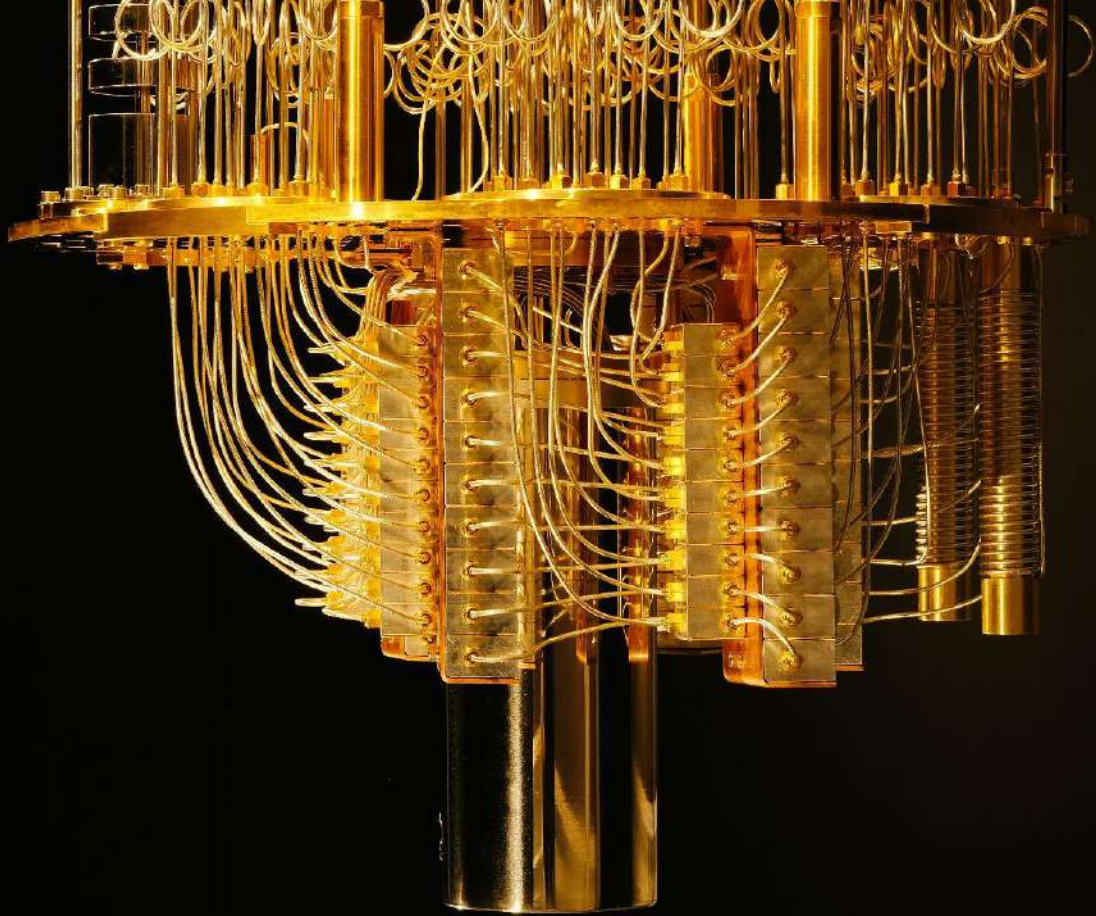
RHEL 10 includes

Key Exchange

ML-KEM

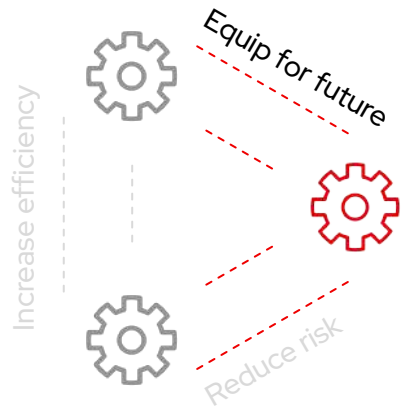
Digital Signatures

ML-DSA



Resist security attacks from hackers

When quantum computers become prevalent

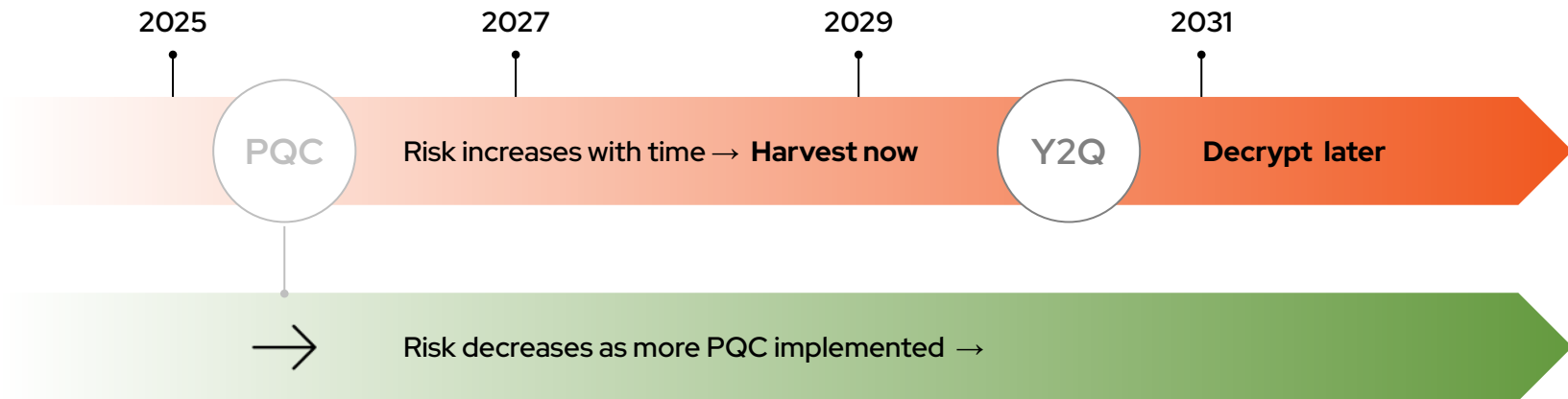


The best defense is
a strong partner.

► RHEL 10 is the first Linux distribution to be **post-quantum capable** with new quantum-resistant algorithms (and more to come) so you can prepare now, for future compliance mandates

- OpenSSL
- ML-KEM (FIPS 203)
- ML-DSA (FIPS 204)

PQC is a future challenge, but the threat is already here



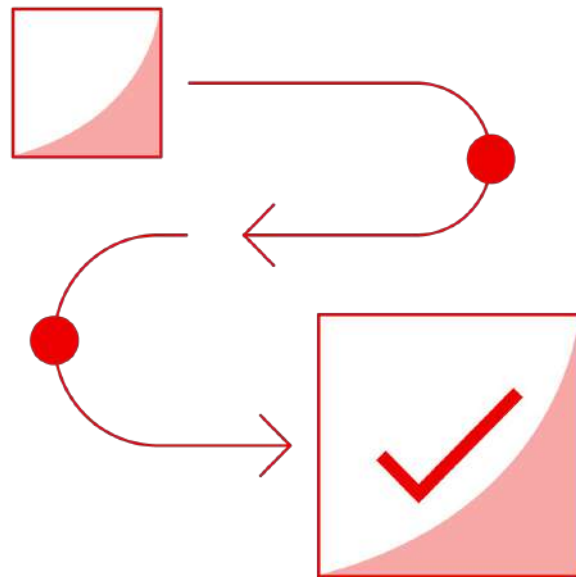
Organizations adopting PQC today are protecting their data now and in the future

Making it easy to use FIPs validated crypto

Maintain compliance

FIPS

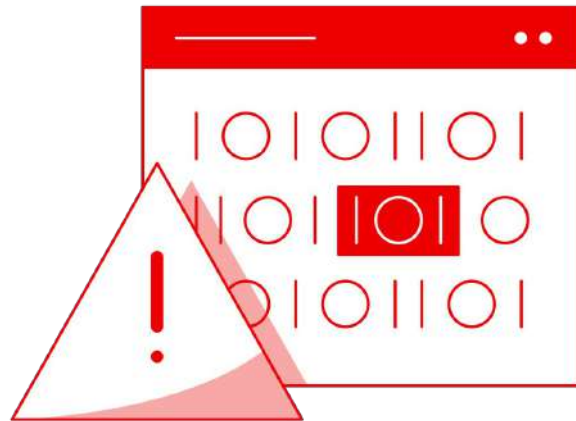
Validate the Federal Information Processing Standards (FIPS) cryptographic standards separately so that any CVE fixes related to Open SSL or crypto libraries can be performed without the need to obtain a new FIPS validation certificate.



Hardware Security Module support in RHEL Identity Management

Save time and improve security

- ▶ **Store** keys and secrets separate from the software in a secure and tamper-protected environment.
- ▶ **Use** this support for storing Red Hat Identity Management certificate authority (CA) secrets.
- ▶ **Narrow** the potential attack surface by storing secrets outside of the operating system on a protected hardware module.

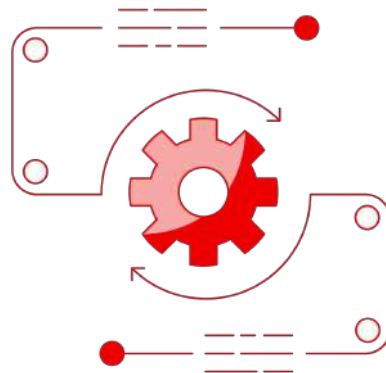


RHEL Security Select Add-on

Accelerate the rate at which organizations receive requested RHEL CVE fixes

Increases the rate at which organizations receive requested CVE fixes

- ▶ Organizations can now purchase RHEL Security Select 10-pack Add-On of CVE fixes associated with their ELS or EEUS/EUS subscriptions, allowing for fixes upon request.
- ▶ Individual RHEL Security Select Single Add-Ons for CVE fixes beginning with CVE 11 and onward can be ordered at a valued price.
- ▶ An ELS/EEUS subscription is necessary to qualify for the RHEL Security Select Add-On.
- ▶ Organizations may acquire this offering like ELS, and it can be backdated to align with the start date of their EUS/ELS subscription.
- ▶ The RHEL Security Select Add-On provides a Service Level Agreement (SLA) of 90 days.
- ▶ Only available with Premium RHEL



RHEL extensions repository

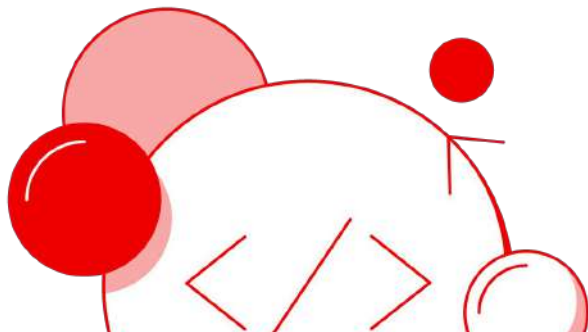
Red Hat delivers high-quality software in a convenient location with minimal maintenance requirements

The RHEL extensions repository will include developer tools, open source libraries, and niche utilities that make RHEL valuable to developers and system administrators



These packages will be:

- ▶ Efficient process to access high value packages
- ▶ Validated by Red Hat
- ▶ Community-supported, having gone through Red Hat's Secure Supply Chain
- ▶ Consumable and manageable within the Red Hat ecosystem



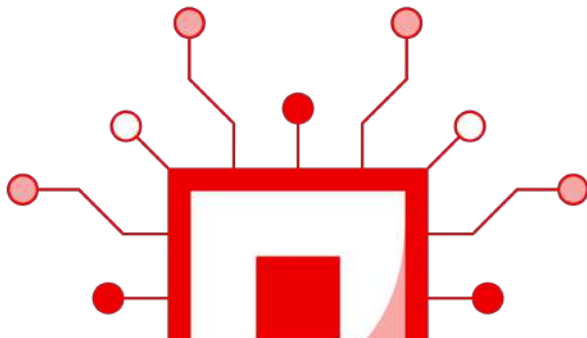
Leverage RHEL as a trusted platform for AI

With an extensive ecosystem of trusted partners and tools

Red Hat Enterprise Linux and AI

The trusted foundation for AI

Red Hat has developed an optimized version of RHEL that has been specifically built to run AI models in RHEL AI



Partner validation and extensions repository

Accelerate time to market for latest AI hardware/software with partner validation, and leverage extensions repository with latest community content that is trusted by Red Hat.



Image mode

Streamlines deployment and updates using pre-configured container images.



Confidential computing support

Allows an AI model to use data in a secure and isolated manner.



Integration with a Postgres Vector database

Allows AI models to seamlessly integrate with external data sources and tools.

Other Notable Features

System roles expansion

Added system roles to support more technologies

Advanced Intrusion Detection System

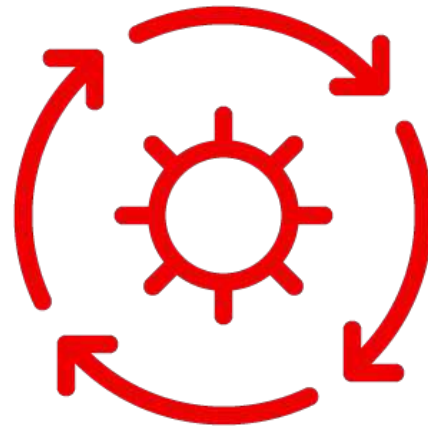
Automate the Installation and Configuration of
AIDE

Podman with Quadlet

Deploy podman containers, and quadlet
Systemd integrations

Systemd user-level unit support

The systemd system role has been updated to
include user defined units



RISC-V Developer Preview

Early access to the combination of RHEL and RISC-V

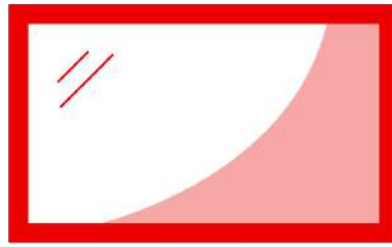
Red Hat Enterprise Linux 10 with RISC-V technology benefits:

- Provides an open source CPU design solution to enable hardware vendors to build CPU silicon without licenses or royalties
- RHEL and RISC-V as developer preview is now available on the popular high performance SiFive [HiFive P550](#) Platform
- RHEL with RISC-V provides innovation delivered by technology, package in a safe, reliable and usable way for the enterprise



What is “Developer Preview?”

Developer Preview is provided to expose features from upstream communication allowing developer to explore and interact with new capabilities.



Package Changes

Packages removed or deprecated with RHEL 10

XOrg Removal

RHEL 10 will be Wayland-only. With the removal of Xorg, several other technologies leave too, specifically GTK2 and Motif.

VNC Removal

VNC relies on the older X technologies which are no longer included in RHEL10. RDP is the remote graphical desktop alternative. RDP has now replaced VNC for remote graphical installations as well.

SCAP Workbench Removal

Used GTK2, which was removed with Xorg. SCAP Workbench has not been re-written to function with Wayland, and consequently has been removed

Tomcat returns

Tomcat is now included in RHEL (it initially returned in a minor release update of RHEL 9). It had been removed from RHEL8.

CPU Changes

x86-64-v3 : Instruction Set Architecture version 3 (ISAv3)
Haswell or greater Intel CPUs, Excavator or greater AMD CPUs
Not all CPU platforms are v3 compliant (Some Atom)

i686 removed :
No software compiled for i686 support will be included. This affects
32-bit multi-lib support

Upcoming events to mark in your agenda



Open Source Summit Europe

(Red Hat is global sponsor)
25-27 August, RAI
Amsterdam



Red Hat Technical Journeys

On demand, virtual



Red Hat Summit: Connect 2025

15 October 2025, NBC
Nieuwegein



redhat.com/en/events



Thank you

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