How to use this deck

In this deck you'll find messaging covering What's New in RHEL 9.0. We have included varying levels of content to address diverse audiences.

DO NOT USE ALL THE SLIDES. Please select those that match the audience you are presenting to.

Section	Audience	Description	Time
Introduction	All	Introduction, Life Cycle	5 min
Program Updates	Non-technical	A high-level view of RHEL 9.0	10 min
Technical Overview	Technical	New Features in RHEL 8.6 and 9.0	15 min
Q&A	All	Answer questions & *establish next steps*	15 min

Red Hat Internal: What's New In RHEL 9.0
Red Hat Partners:

Red Hat
Enterprise Linux

Red Hat Enterprise Linux 9.0

What's New

Patrick Regan

Principal Solution Architect

Red Hat

What we will discuss today:

▶ Pillars of Red Hat Enterprise Linux

▶ Program Updates

▶ Technical Features

▶ See for Yourself

Pillars of Red Hat Enterprise Linux

Red Hat

Innovate

Accelerate innovation

Further innovation and modernization on a platform built for hybrid cloud development and operations team.

More easily build, deploy, scale and manage cloud-native apps across the open hybrid cloud with reduced friction.

Red Hat

Optimize

Streamline IT infrastructure

Increase efficiency and streamline management at scale with a consistent and repeatable platform for all deployments, whether on-premise, virtualized, in the cloud, or at the edge.

Protect

Establish a consistent security foundation

Build a stable, consistent, and trustworthy platform that sets the foundation for a strong security posture on which to scale apps and roll out emerging technologies across the hybrid cloud.

—

Operate with complete confidence

Trust

—

Use a reliable, cloud-ready platform with a long life cycle, an extensive software and hardware partner ecosystem, and integrated tools for dev, management and security.

Red Hat

RHEL Program Updates

Red Hat

What about 8.6?

Red Hat Developer subscription (for individuals)

Access to Red Hat Enterprise Linux

Empower individual developers to develop on Red Hat Enterprise Linux

- ▸ For individual members of the Red Hat Developer program

- ▸ Single subscription for an individual using up to 16 physical or virtual nodes

- ▸ Self-supported

- ▸ Expanded to allow any individual purpose:
  - · Development, test, production, etc.
  - · Deployable on major public clouds

- ▸ Available self-service through the Red Hat Developer program

Red Hat Developer Subscription for Teams

Access to Red Hat Enterprise Linux

Empower teams across an organization to build, test, and run on the same platform

Enable tighter coupling between new application development and the transition to production environments.

- ▸ Access to Red Hat® Enterprise Linux® for development work at no charge*

- ▸ Single organizational subscription for up to 25,000 physical or virtual developer nodes

- ▸ Use for development environments, self-supported with options for paid support

- ▸ Ongoing security updates and patches

- ▸ Compliance with major government, commercial, and security standards

- ▸ Constant monitoring of products for vulnerabilities with Red Hat Insights

- ▸ Portable to Red Hat-certified public clouds with Red Hat Cloud Access

* for Red Hat customers

Red Hat

New in the Platform

Red Hat

Kernel 5.14

The heart of the operating system just got an upgrade.

Wireguard Enabled

this liteweight service provides VPN capabilities with new cryptography and faster response times

Core Scheduling

Enables simultaneous multithreading across CPU cores to improve performance while helping to mitigate vulnerabilities like Spectre and Meltdown

RHEL for ARM

Delivering any application on any footprint at any time

Same great OS, now on more platforms

- RHEL Server for ARM
- RHEL Server for HPC for ARM
- Support for all ARM *SystemReady** platforms
- Available worldwide
- Available with Standard, Premium, Smart Mgmt

Supported Catalog: https://catalog.redhat.com/platform/red-hat-enterprise-linux/hardware/search
* What is System Ready:
https://developer.arm.com/architectures/system-architectures/arm-systemready

Red Hat Enterprise Linux for edge

Ensured stability and deployment flexibility

Edge Management

Zero-touch provisioning, health visibility, and security remediation

Automated container updates & rollback

Download, deploy, and update images with built-in auto-rollback

Major release upgrade support

Transparently stage OS upgrades in the background

Simplified install and on-boarding

Deploy images through the network or physical install media

Technical Features

∞ Innovate

Red Hat

Introducing: Red Hat Enterprise Linux image builder service

- Quickly create consistent, customized gold images
- Suitable for most hybrid-cloud environments
- No build infrastructure required
- Simple integration into deployment workflows
- Used to build Red Hat provided cloud images
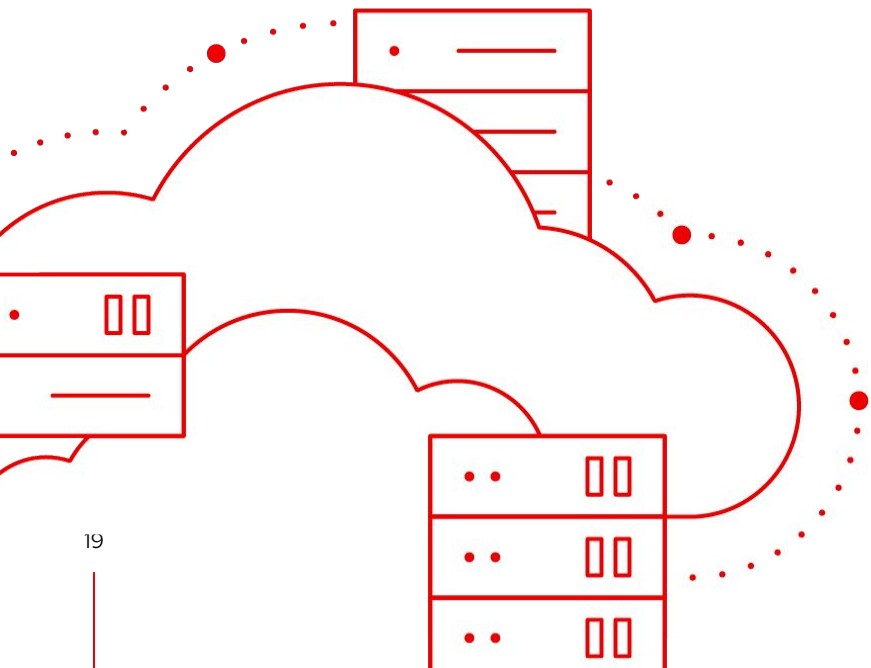
Red Hat Enterprise Linux image builder

Save time and ensure consistency when deploying RHEL systems at scale

- **Support for Bare Metal Deployments**
  Install a customized RHEL OS image directly on physical hardware by creating installation media with a built-in kickstart file to automate the process.
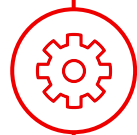
- **Customized Filesystem Support**
  Assemble RHEL OS images that have multiple, distinct, non-LVM filesystem mount points rather than a single, large root filesystem.

Steps for using image builder
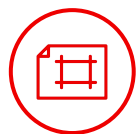
1. Choose platform

....

Physical, private cloud, public cloud, or edge

2. Select image builder tool

....

Image builder service
console.redhat.com

Image builder
On-premises private build

3. Create blueprint

....

Define and customize the image

4. Build the image

....

Create a variety of images including Red Hat OpenStack, Amazon Web Services, VMware, and Microsoft Azure, and more

5. Deploy instance

....

Push image to the cloud provider of your choice or download to your datacenter

Red Hat

Simplified developer experience

Improvements in tooling, access, and application development

Keeping your development tools fresh with support for new versions of

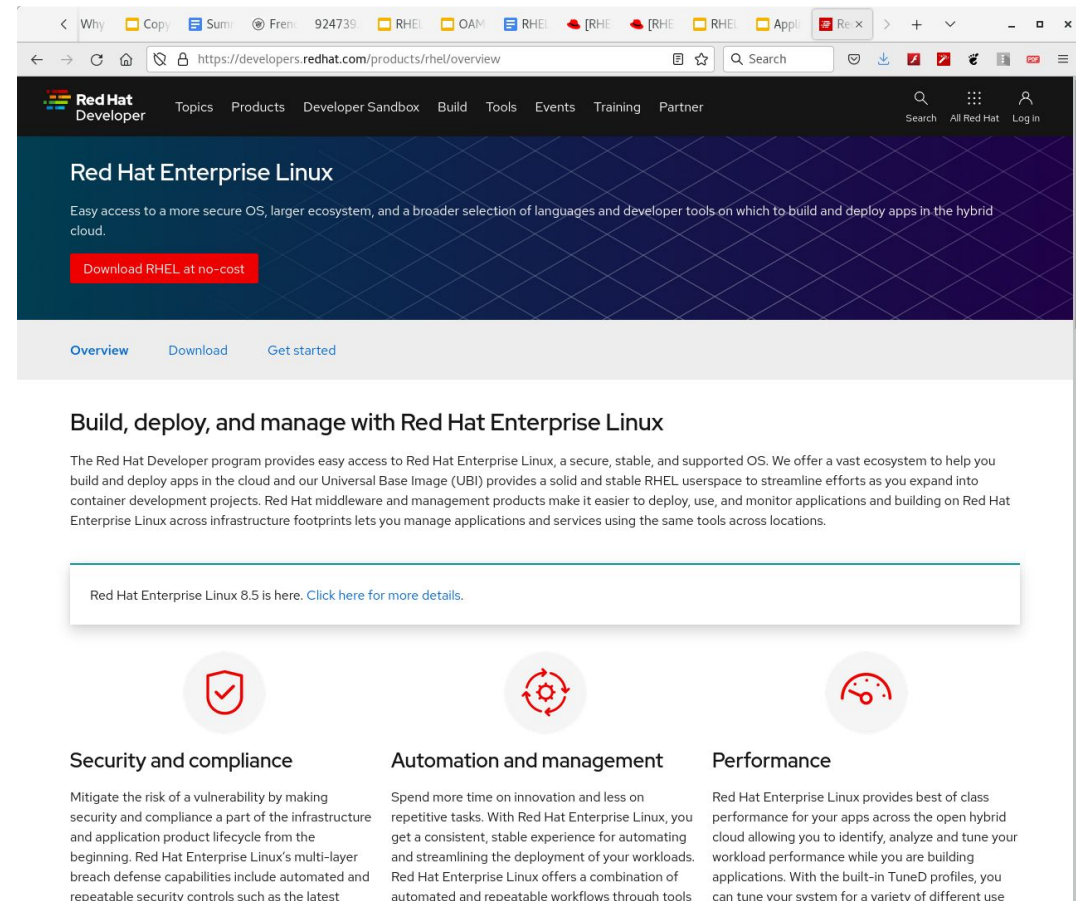- LLVM, Rust, and Go compilers
- gcc 11
- glibc 2.34

Migration to Python3 completed (3.9)

Redefined Application Streams

Red Hat

New, re-designed RHEL Content for Developers

developers.redhat.com

▶ Learn about Red Hat Enterprise Linux

▶ Join the Red Hat Developer Program

▶ Download RHEL

▶ Read the latest blogs, articles, and how-tos

Podman and UBI

Updates for container functionality

Podman 4.0
Podman includes DNS name resolution improved IPv6 support, and dual stack support.

Universal Base Images for RHEL 9
RHEL 9 comes built as UBI images ranging in size from standard to micro, minimal, and init images.

Cgroup2 enabled by default
Containers are now natively integrated into cgroup2 improving resource utilization via process definitions.
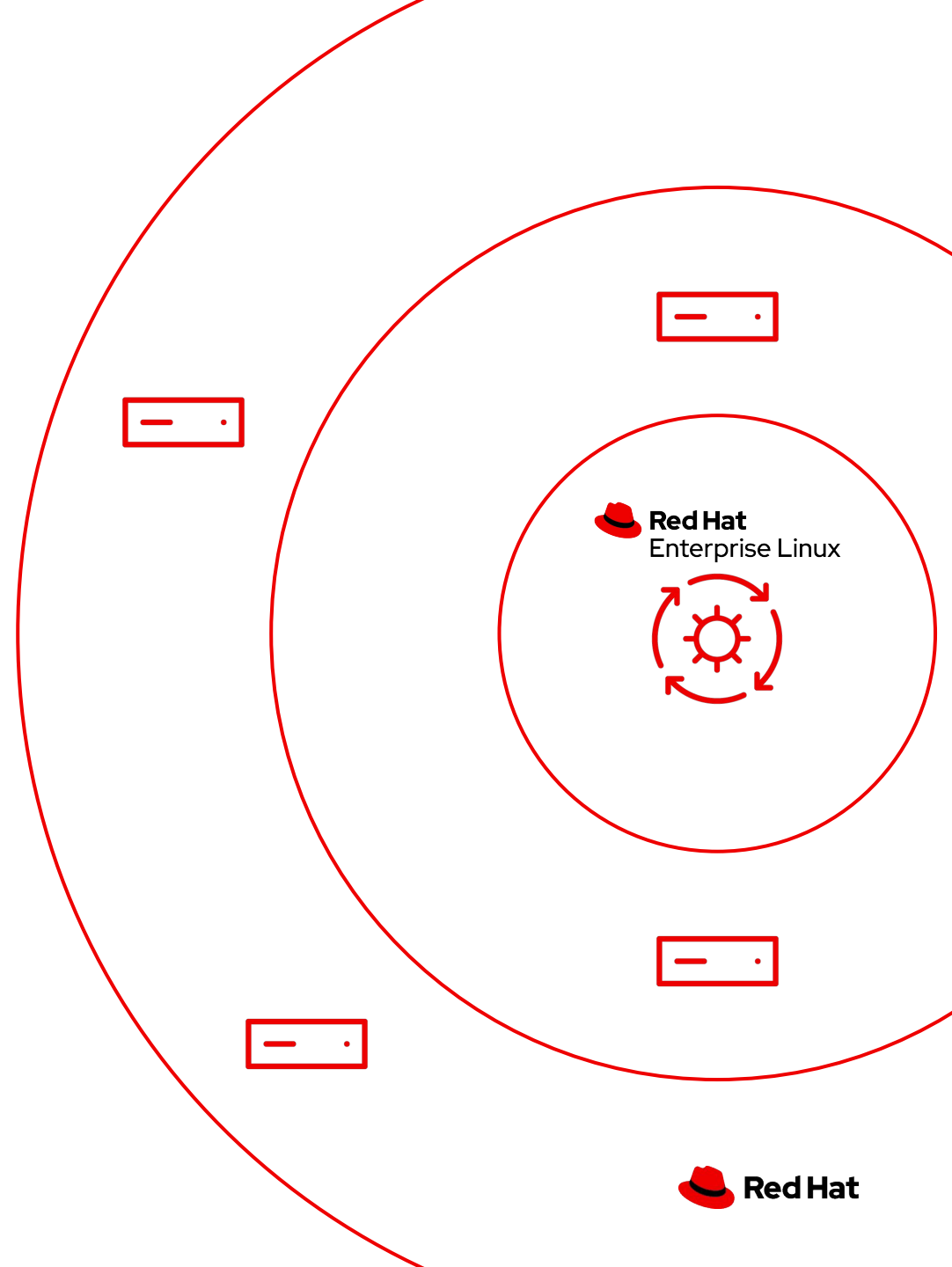
Optimize

Red Hat

RHEL System Roles

A collection of supported Ansible roles that ensure consistent workflows and streamline the execution of manual tasks at scale.

▸ Firewall

▸ HA Cluster

▸ Microsoft SQL

▸ SAP (updated with Fencing agent for IBM Power VS)
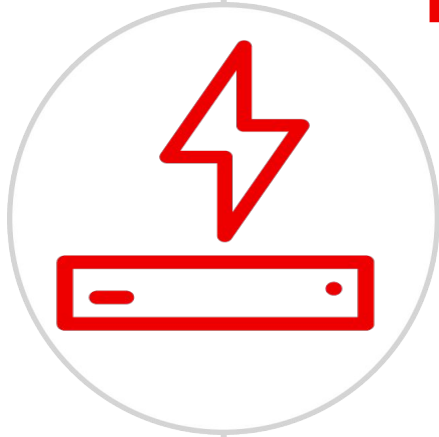
▸ Postfix

▸ Web Console

Also available:

▸ IPMI Hardware Management Automation

High Availability (HA) Improvements

Keep applications running despite disruptions
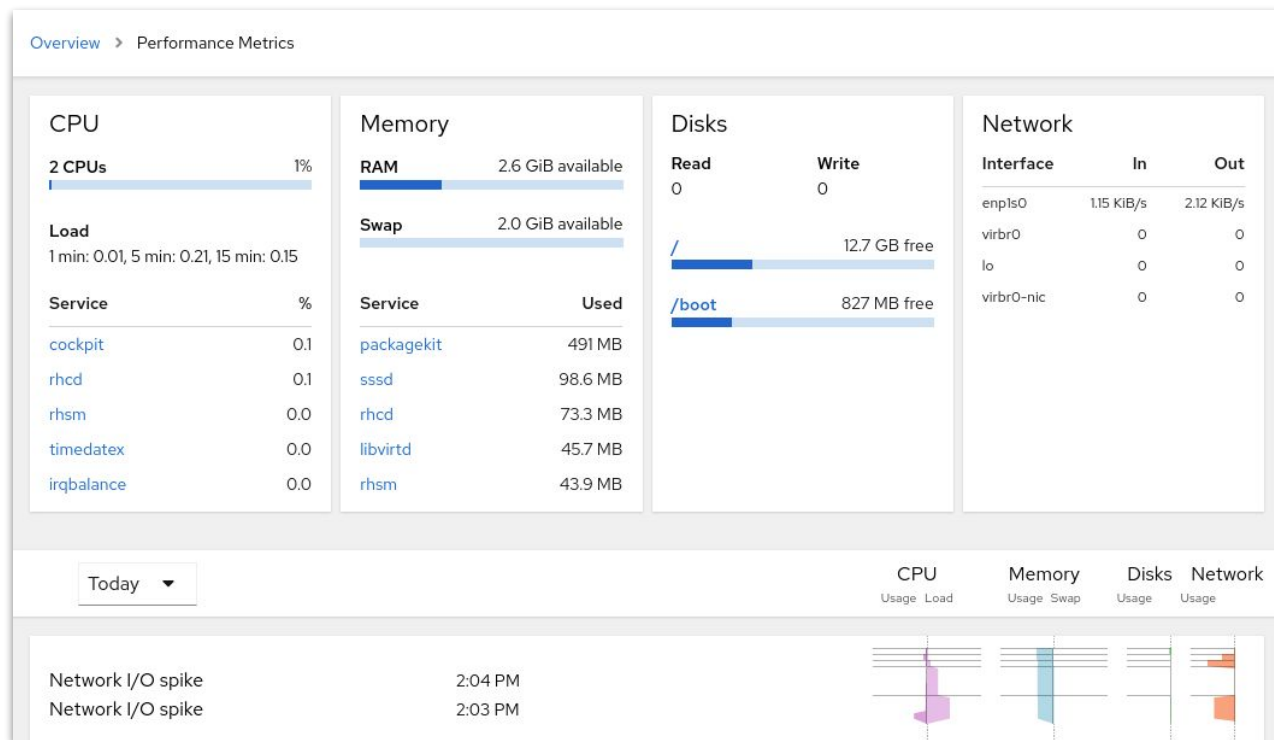
Fencing agent for IBM Power VS

Fencing agent for IBM VPC

Full Support for ClusterSystem Roles

Red Hat Enterprise Linux web console

A web-based management interface to simplify deployment, daily administration, and complex tasks

Overview > Performance Metrics			
CPU	**Memory**	**Disks**	**Network**
2 CPUs 1%	RAM 2.6 GiB available	Read Write	Interface In Out
		0 0	enp1s0 1.15 KiB/s 2.12 KiB/s
Load	Swap 2.0 GiB available		virbr0 0 0
1 min: 0.01, 5 min: 0.21, 15 min: 0.15		/ 12.7 GB free	lo 0 0
			virbr0-nic 0 0
Service %	**Service Used**	/boot 827 MB free	
cockpit 0.1	packagekit 491 MB		
rhcd 0.1	sssd 98.6 MB		
rhsm 0.0	rhcd 73.3 MB		
timedatex 0.0	libvirtd 45.7 MB		
irqbalance 0.0	rhsm 43.9 MB		

Today ▼

		CPU	Memory	Disks	Network
		Usage Load	Usage Swap	Usage	Usage
Network I/O spike	2:04 PM				
Network I/O spike	2:03 PM				

- ▶ Enhanced web console performance metrics
- ▶ Kernel Live Patching Management
- ▶ Support for Smart Card Authentication with Sudo and SSH
- ▶ Passthrough host devices to VMs

- ▶ (Tech Preview) Stratis Storage Support

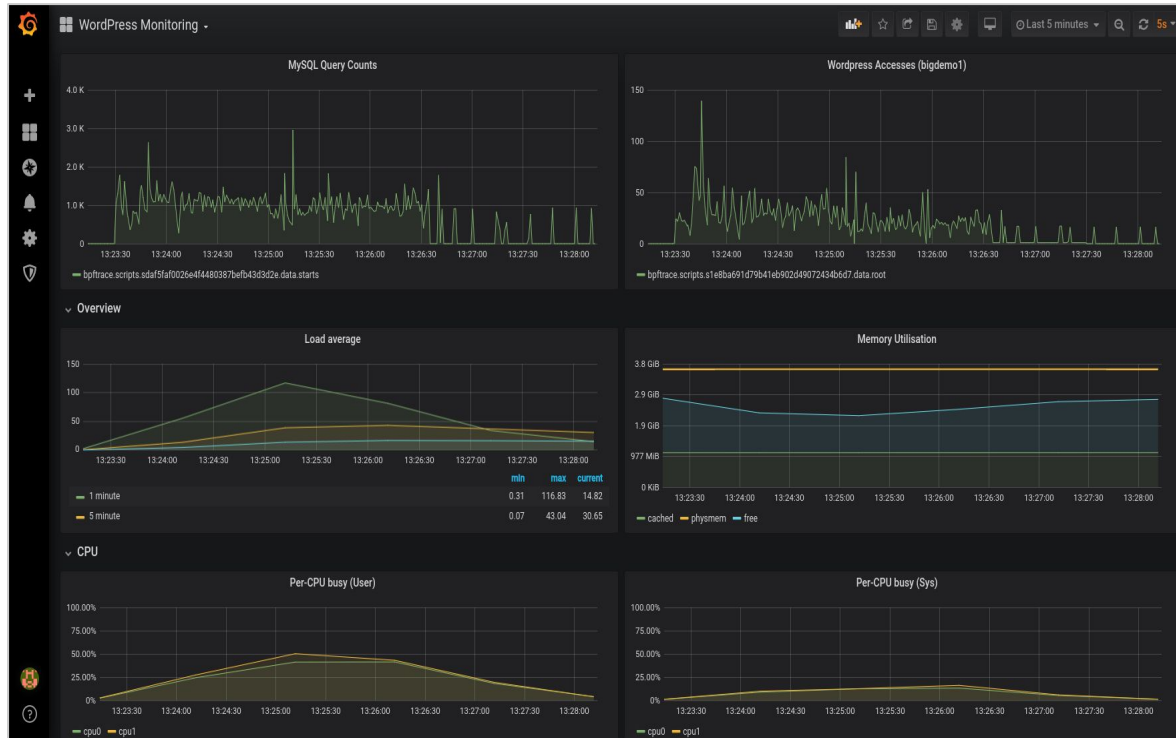# Did you know? Web console works on Mobile

Easily accessible for after hours and on-call situations
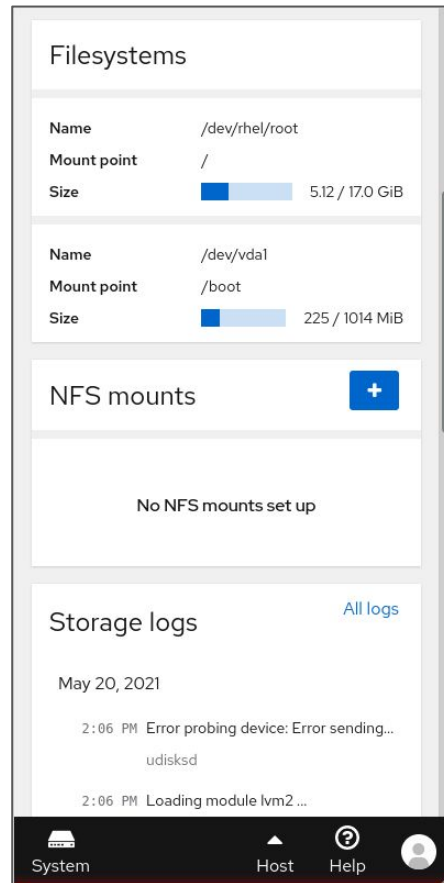
- ▶ Use a mobile device web browser
- ▶ View system logs
- ▶ Monitor system health
- ▶ Troubleshoot and resolve issues

Performance co-pilot
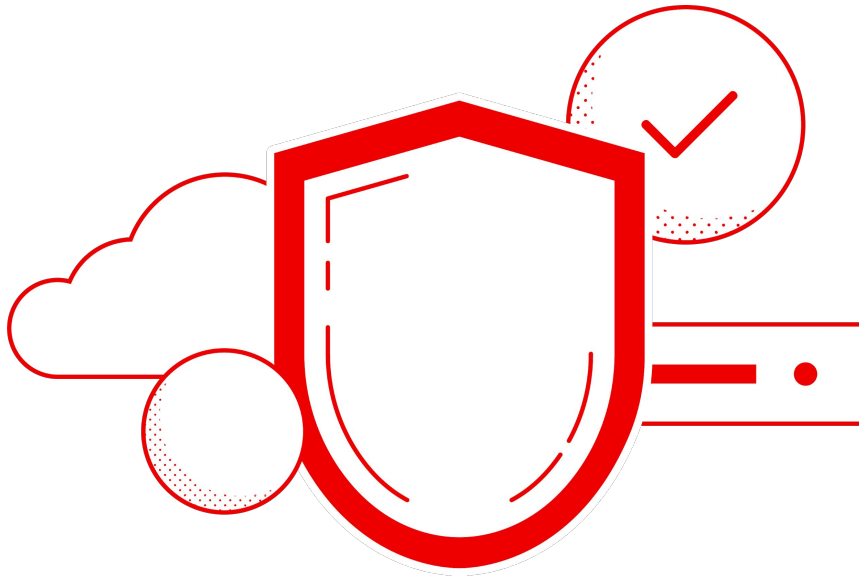
Toolkit for in-depth performance analysis

- ▶ Improved scalability of PCP

- ▶ Enhanced web console performance metrics

- ▶ Link Time Optimization (LTO) now available

- ▶ Efficient memory allocation for aarch64

Protect

Red Hat

RHEL 9 is more hardened by *default*

Better Secure Your Existing Systems

- ▶ Enhanced SSSD logging
- ▶ Improved SELinux performance
- ▶ Integrated OpenSSL 3
- ▶ Root login for ssh disabled by default
- ▶ SHA-1 disabled by default
- ▶ CGroup 2
- ▶ subuid support for containers

Trust

Red Hat

Red Hat Enterprise Linux 9

Ready to comply
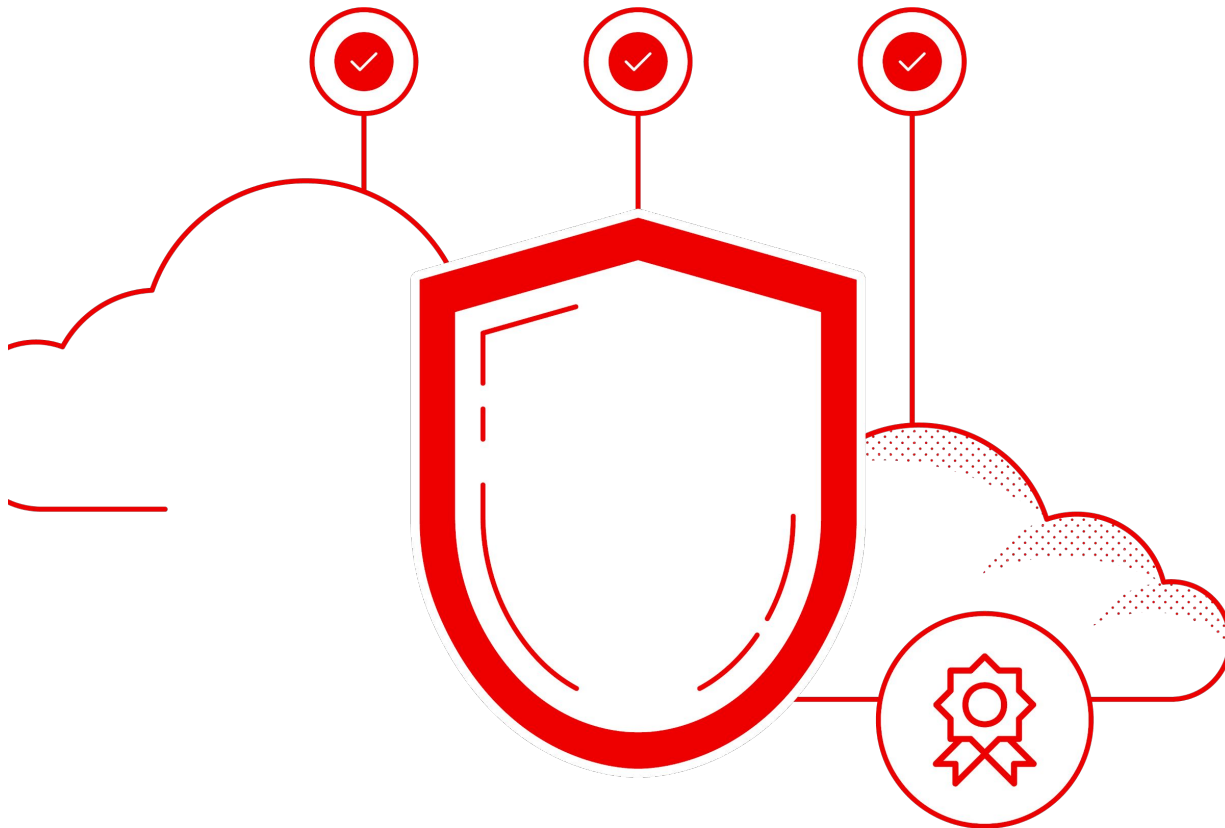
- ▸ Support for PCI-DSS, HIPAA, and more

- ▸ Australian Government Information Security Manual (ISM) OpenSCAP profile

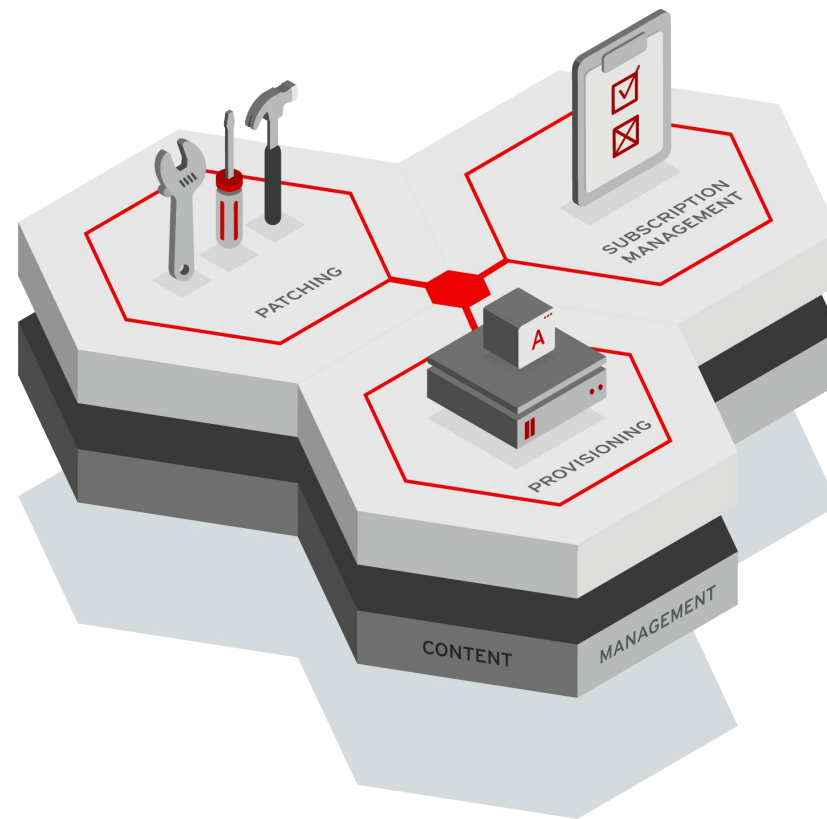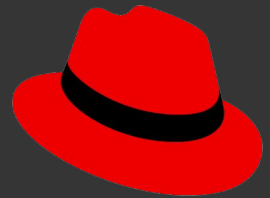- ▸ Integrity Measurement Architecture (IMA) digital hashes and signatures
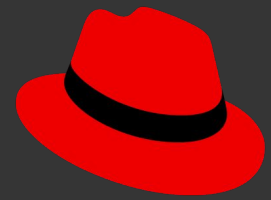
Red Hat

Red Hat Satellite

Red Hat Satellite

Support for RHEL 9

▸ **Satellite 6.11** will manage RHEL 9 hosts.

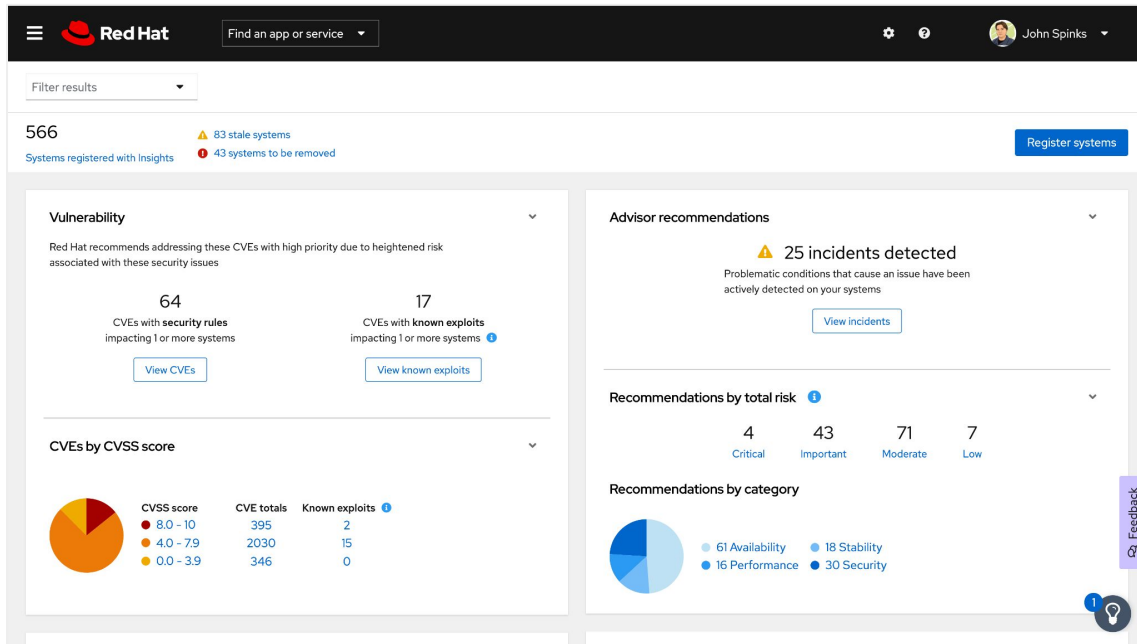(Available in Summer 2022)

▸ Nothing to be done. Just register them.

Red Hat Insights

What's new for 2022 Q2

New services:

▸ Resource Optimization

▸ Malware

New Features:

▸ Advisor - new topic for DB2

▸ Compliance - show systems not uploading reports

▸ Patch - baselines & sets

▸ Vulnerability - "View exposed system link" on CVE pages - links to Vulnerability service

Wrap Up

Red Hat

Red Hat
Enterprise Linux

Connect with us

Red Hat® and Red Hat Enterprise Linux® are continuing our commitment to being involved in the community!

youtube.com/c/RedHatEnterpriseLinux

twitter.com/RHEL

twitch.tv/RedHatRHEL

reddit.com/r/redhat

matrix.to/#/#redhat:matrix.org

Red Hat

See Our New Lab Experience

lab.redhat.com

RedHat

Red Hat Enterprise Linux Skills Workshops

These interactive labs provide you with a pre-configured Red Hat® Enterprise Linux® instance to experiment, learn, and see how Red Hat can help you solve real-world problems.

AVAILABLE LABS

Configuring Terminal Session Recording

Keep track of what is happening on your systems by using Terminal Session Recording to record and review terminal sessions of users and administrators.

START LAB

Concepts included in this scenario:

- Viewing file contents with `cat`
- Viewing the last 10 lines of a file with `tail`
- Appending command outputs to a file with the `>>` operator
- Locating files that match certain criteria using `find` and `locate`
- Using `grep` with other commands to isolate a portion of their output
- Checking disk space with `df`
- Viewing and managing processes with `ps` and `top`
- Using `free` to view information about the system memory usage

Red Hat

Additional Resources

Blog: What's new in Red Hat Enterprise Linux 9

Docs: Considerations in Adopting RHEL 9

Introducing the hosted beta experience Red Hat Enterprise Linux Image Builder

RHEL Presents 31: What to Know About RHEL 9.0

RHEL Presents 38: What's New in RHEL 9.0

With more to come!

Q&A

Thank you

Red Hat is the world's leading provider of enterprise open source software solutions. Award-winning support, training, and consulting services make Red Hat a trusted adviser to the Fortune 500.

linkedin.com/company/red-hat

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