

Red Hat Enterprise Linux 8

What's new?

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To deliver business advantages today, organizations are shifting IT from traditional infrastructure operations and are focusing on service delivery.



Red Hat Enterprise Linux 8

Build your future on a stable, high-performing platform that can scale to meet the needs of your organization today and tomorrow.

At a glance

KERNEL VERSION	4.18+
SYSTEM COMPILER	GCC 8.2, LLVM 6.0
HARDWARE ARCHITECTURES	Intel/AMD 64-bit, IBM Power LE, IBM z Systems, ARM 64-bit
DEFAULT FILE SYSTEM	XFS
PACKAGE MANAGEMENT	Yum v4
TIME SYNCHRONIZATION	Chrony
NETWORKING	NetworkManager

Predictable updates

3 years

Major releases

6 months

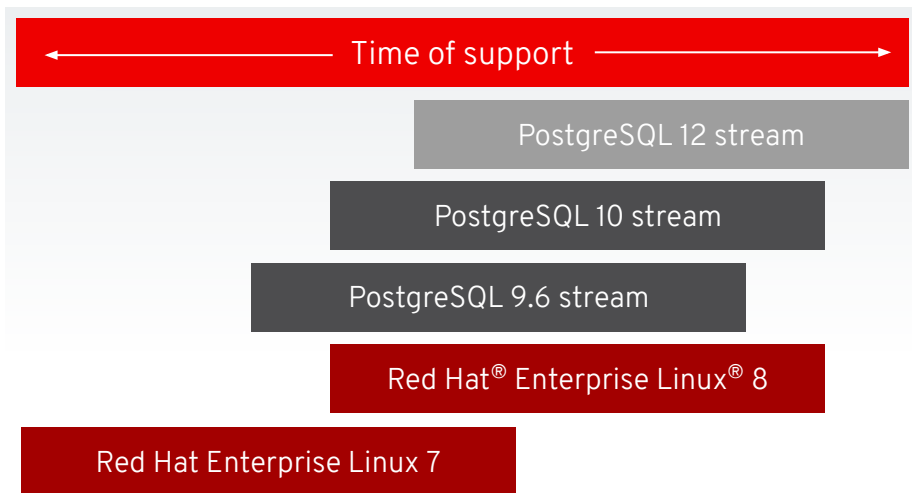
Minor updates

2 phases

Support life cycle



Application streams



More choice

Offers versions of the open source tools and frameworks developers need

Newer versions

Provides access to newer versions as they stabilize

Simpler access

Maintains standard locations for tools and libraries

Simplified access to software

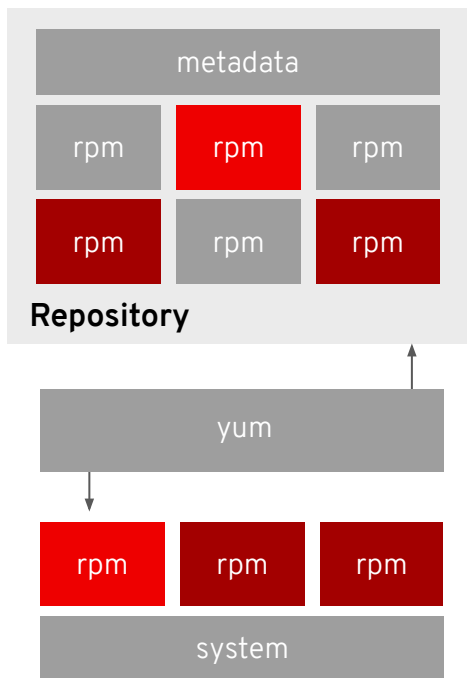
Red Hat Enterprise Linux 7 repositories



Red Hat Enterprise Linux 8 repositories



The newest yum package manager: version 4



New technology

Maintains the same experience while adding new tools

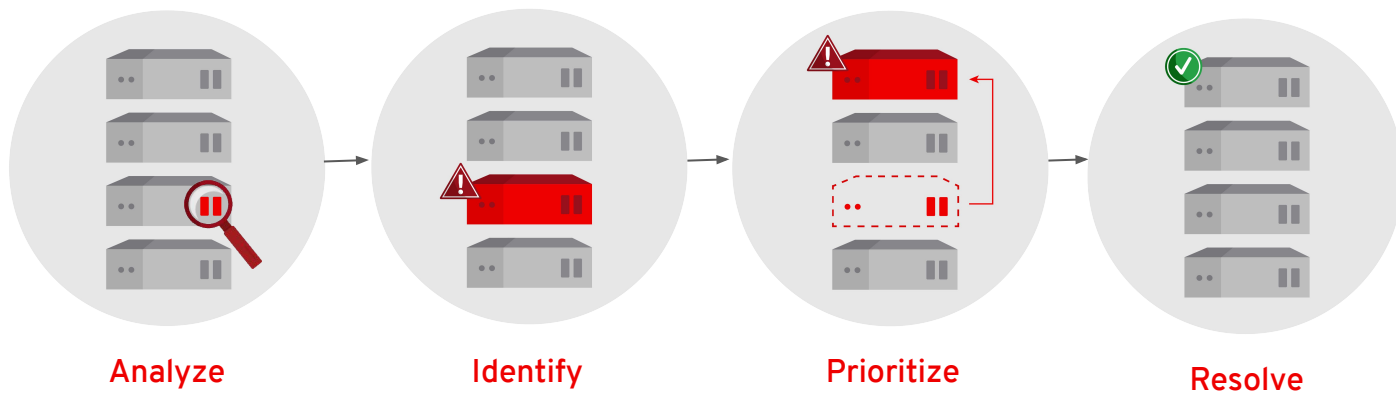
Better dependency management

Offers faster resolution and easier minimization of what's installed

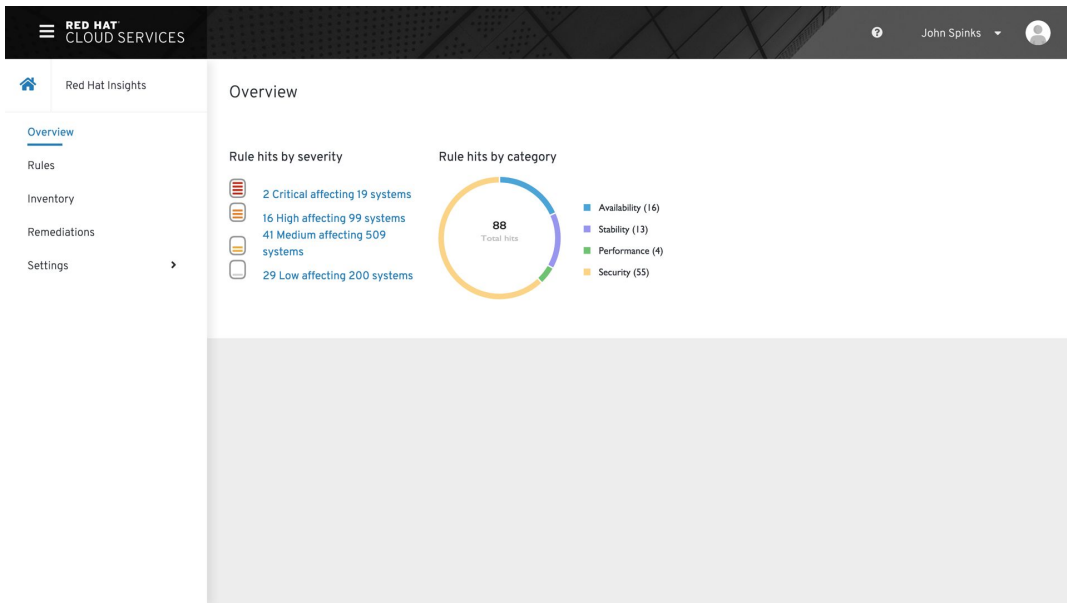
Stable API

Provides new application programming interface (API) for extending yum that will progress into the future

Gain operating intelligence



Detect and fix issues with Red Hat Insights



Proactive advice

Identification of issues before they become problems

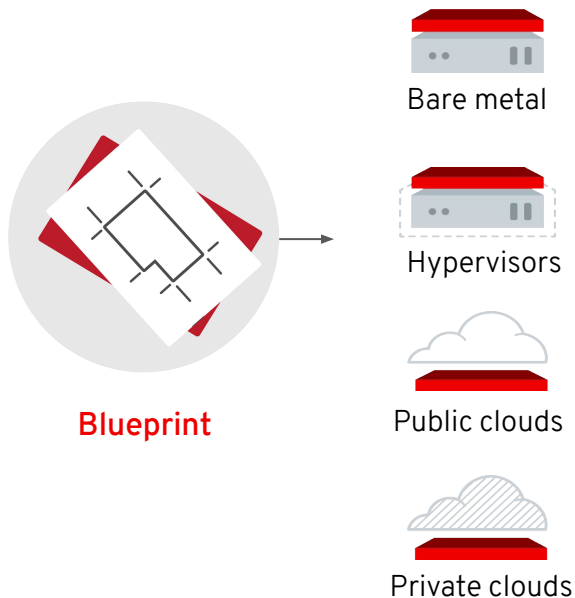
Continuous assessment

Real-world results to help find new risks

Simpler remediations

Tailored results at the host level

Create images for all your environments with image builder



Single source

Lets you create gold images for any environment from the same blueprint increasing stability and consistency

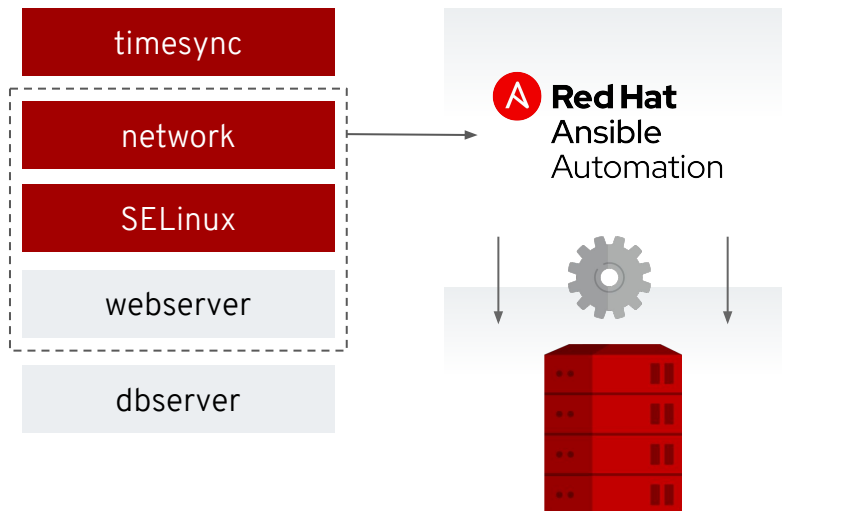
Any footprint

Supports public cloud, private cloud, enterprise hypervisors, and bare metal

Simple interface

Provides web-based view within the web console for selecting packages and creating blueprints

Speed automation creation with system roles



Common automation

Manage multiple versions of Red Hat Enterprise Linux from a single role

Reduced rework

Import provided roles to eliminate task creation in playbooks

Easy switching of providers

Change between default and optional tools quickly and safely

Optimized experiences for mission-critical databases

Microsoft SQL Server

- Red Hat Enterprise Linux is the reference platform for SQL Server on Linux
- Benchmark-breaking performance
- Fast deployment and portability via containers



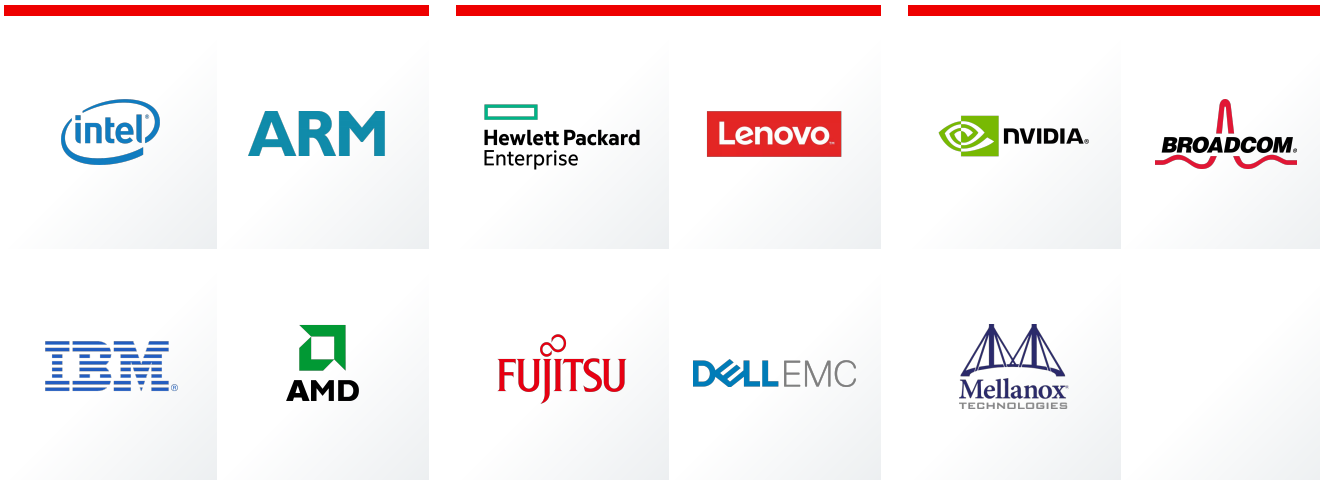
- Red Hat Enterprise Linux is 1 of only 2 certified Linux distributions
- More than 20 years of Red Hat and SAP joint engineering collaboration
- Exceptional performance and scalability –the largest SAP install in the world runs on Red Hat Enterprise Linux

Hardware partner ecosystem

SILICON

OEMS

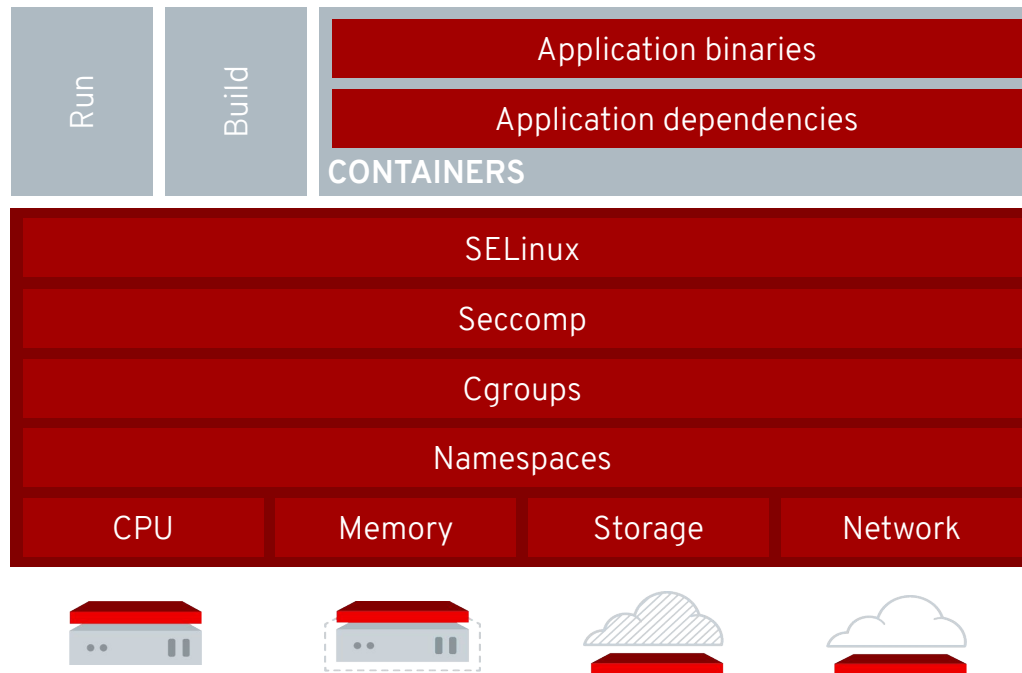
IHVS



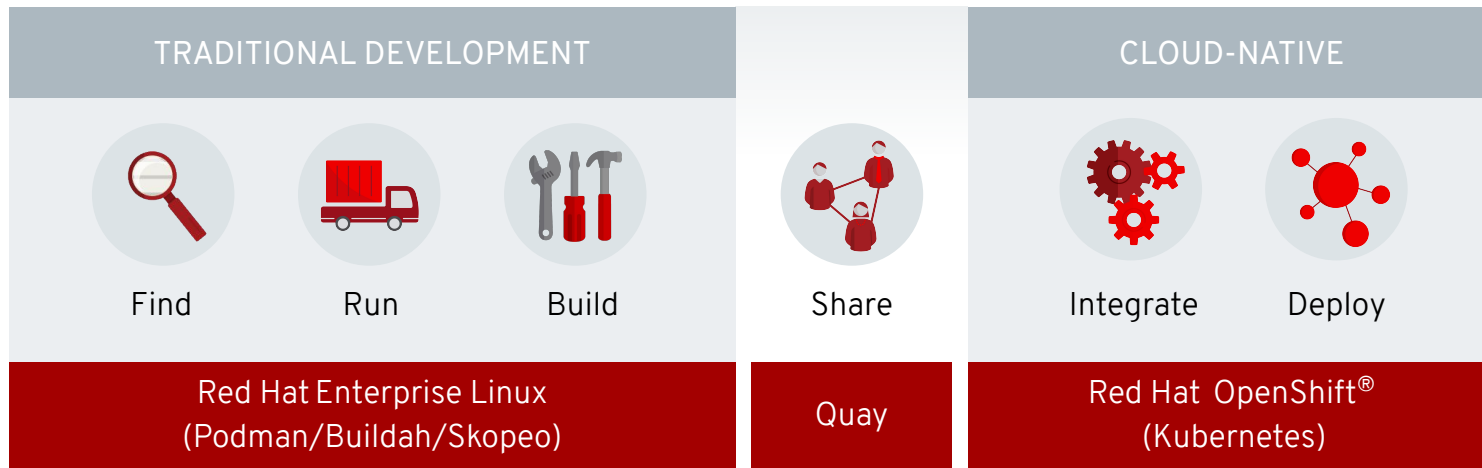
Red Hat Certified Cloud and Service Providers



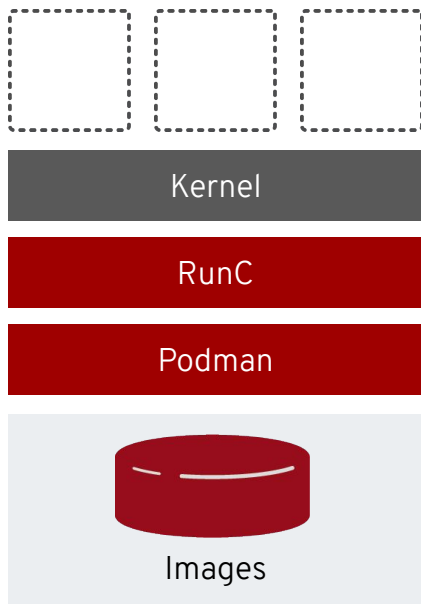
Containers are Linux



Powering the adoption of containerized workloads



Manage containers with Podman



Fast and lightweight

No daemons required

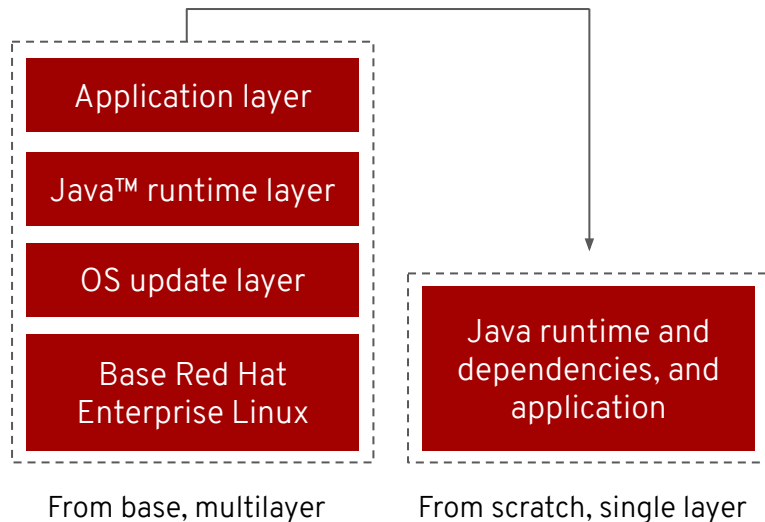
Advanced namespace isolation

Rootless operations for container run and build

Open standards compliant

Creates and maintains any standard Open Containers Initiative (OCI) -compliant containers and pods

Create images with Buildah



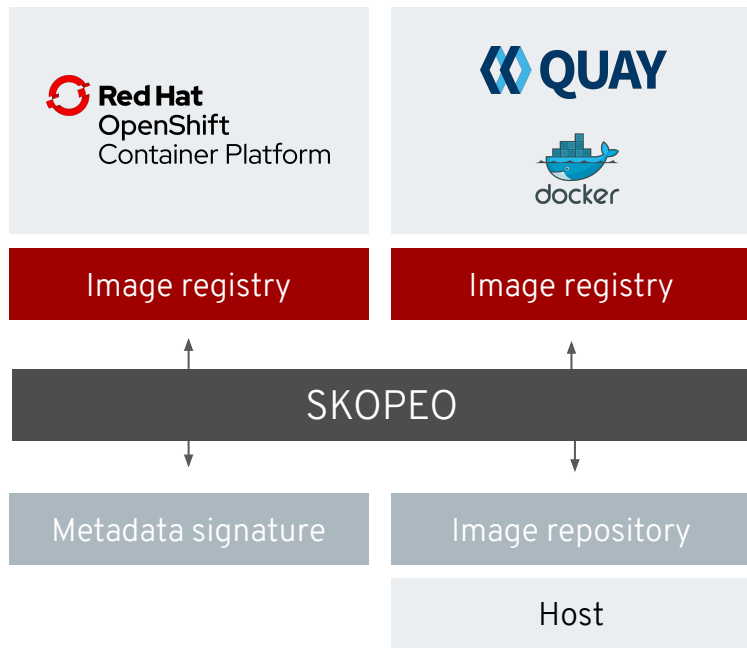
More control

Scriptable tooling for fine-grained image control, and maximum control starting from base or scratch images

Minimization of images

Elimination of unneeded dependencies by using host-based tools

Inspect and transport images with Skopeo



Inspect images remotely

Examine image metadata without needing to download

Publish and transfer images

Copy images from registries to hosts or directly between registries

Sign and verify images

Supports GPG key signing on publish

Configuring systemwide cryptographic policies



Central configuration

Set acceptable algorithms from a single tool

Improved consistency

Covers multiple cryptographic providers and consumers like TLS, kerberos, and Java

Built-in policies

Including legacy systems requiring 64-bit security and FIPS allowed or approved algorithms

Recording user terminal sessions

The image shows three overlapping windows from the Red Hat Enterprise Linux 8 graphical user interface. The top-left window is the 'General Configuration' page for 'rhel8-1.examp...', showing the 'Session Recording' section with 'File Path' set to '/etc/sss/conf.d/sss-session-recording.conf'. The top-right window is the 'Session Recording' configuration page, showing a preview of a terminal session recording. The bottom window is a terminal window showing the command-line process of enabling session recording and configuring it.

```

$ ssh cloud-user@rhel8-1.example.com
Activate the web console with: systemctl enable --now cockpit.socket

Last login: Tue Apr  2 13:10:47 2019 from 192.168.122.1

ATTENTION! Your session is being recorded!

[cloud-user@rhel8-1 ~]$ sudo ls /etc/sss/conf.d
sss-session-recording.conf
[cloud-user@rhel8-1 ~]$ sudo cat /etc/sss/conf.d/sss-session-recording.conf
[session_recording]
scope=some
users=cloud-user
groups=
[cloud-user@rhel8-1 ~]$ exit
logout

Connection to rhel8-1.example.com closed.
$
  
```

Audit activities

Create a record of actions taken for review against security policies

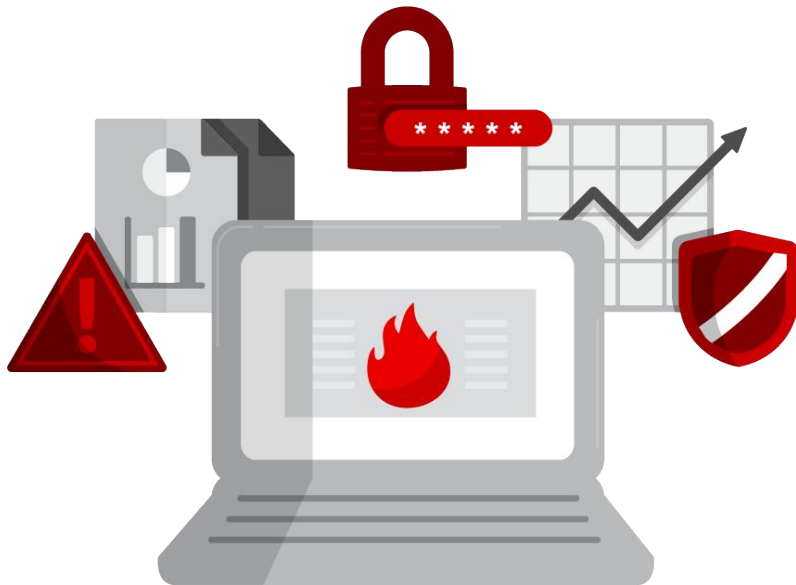
Create visual guides

Build run books and training materials with demonstrations

Record and play back

Logged via standard channels with multiple playback options

Improved firewall management with nftables



Consolidated filtering

Supports IPv4, IPv6, ARP, and Bridge filtering in a single tool

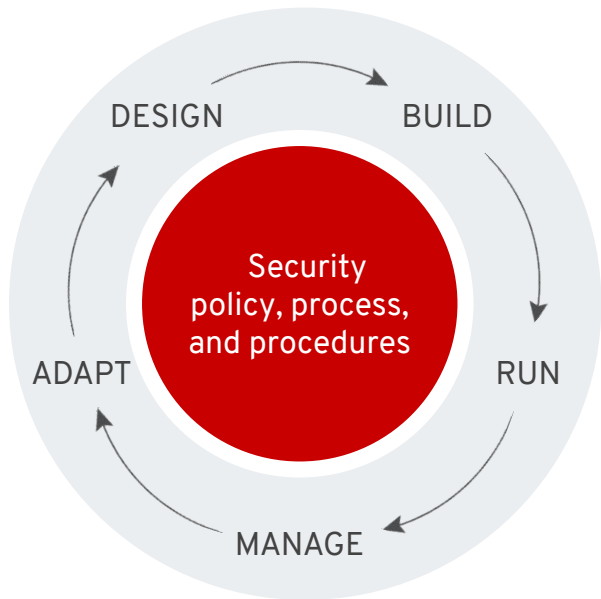
Simpler rule creation

Multiple matches and actions reduce the number of rules required

Improved tracing

Provides easier debugging and verification of actions taken on any packet

A highly secure platform



Latest protocol support

Including TLS 1.3 via OpenSSL 1.1.1

Hardened code

Including PIE and RELRO binaries and code analysis in our pipelines

Integrated identity management

As a stand-alone provider or trusted member of an Active Directory, with expanded integrations to tools like the web console

Updated tools

Including the LUKS v2 on-disk format for encryption

Remote single-system views in the web console

The screenshot displays the Red Hat Enterprise Linux web console interface. The top navigation bar shows 'RED HAT ENTERPRISE LINUX' and user information 'Privileged Cloud User'. A left sidebar contains navigation options: System, Logs, Storage (selected), Networking, Virtual Machines, Accounts, Services, Session Recording, Applications, Diagnostic Reports, Kernel Dump, SELinux, Software Updates, Subscriptions, and Terminal.

The main content area is divided into several sections:

- Performance:** Two line graphs showing 'Reading' and 'Writing' speeds in KB/s over time (13:25 to 13:29).
- Filesystems:** A table listing mounted filesystems:

Name	Mount Point	Size
/dev/vda1	/	1.63 / 9.99 GiB
cidata	-	366 KiB
- NFS Mounts:** A section indicating 'No NFS mounts set up' with a '+' button.
- Storage Logs:** A log viewer for 'Storage Logs' dated 'April 2, 2019'. The log entries show:


```

13:16 g_object_notify: object class 'UDisksObjects...' udisksd
13:16 g_object_notify: object class 'UDisksObjects...' udisksd
13:16 Loading module libudisks2_lvm2.so... udisksd
13:16 Loading module libudisks2_iscsi.so... udisksd
13:16 Acquired the name org.freedesktop.UDisks2 on... udisksd
13:16 udisksd daemon version 2.8.0 starting udisksd
      
```
- RAID Devices:** A section indicating 'No storage set up as RAID' with a '+' button.
- Volume Groups:** A section indicating 'No volume groups created' with a '+' button.
- VDO Devices:** A section with an 'Install VDO support' button and the text 'VDO support not installed'.
- iSCSI Targets:** A section indicating 'No iSCSI targets set up' with a '+' button.
- Drives:** A list of storage devices:
 - VirtIO Disk: 10 GiB Hard Disk, R: 0 B/s, W: 0 B/s
 - QEMU DVD-ROM (QM00001): Optical Drive, R: 0 B/s, W: 0 B/s

Browser-based interface

Offers remotely accessible user interface using host security mechanisms

Consolidated view

Provides single view of tasks to speed understanding and completion

Standard management tools

Uses system tools to change state, not a separate workflow

New in the web console

The screenshot displays the Red Hat Enterprise Linux web console interface. The top navigation bar shows the system name 'rhel8-1.exempl...' and the user 'Cloud User'. The left sidebar contains a menu with categories like System, Logs, Storage, Networking, Virtual Machines, Accounts, Services, Session Recording, Applications, Diagnostic Reports, Kernel Dump, SELinux, Software Updates, Subscriptions, and Terminal. The main content area is divided into several sections:

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cidata	-	366 KiB
- NFS Mounts:** A section indicating 'No NFS mounts set up' with a '+ ' button.
- Storage Logs:** A log viewer for 'April 2, 2019' showing messages from the 'udisksd' daemon, such as 'g_object_notify: object class 'UDisksObjectS...' udisksd' and 'Loading module libudisks2_ism...' udisksd'.
- RAID Devices:** A section showing 'No storage set up as RAID' with a '+ ' button.
- Volume Groups:** A section showing 'No volume groups created' with a '+ ' button.
- VDO Devices:** A section with an 'Install VDO support' button and the message 'VDO support not installed'.
- iSCSI Targets:** A section showing 'No iSCSI targets set up' with a '+ ' button.
- Drives:** A list of hardware drives:
 - VirtIO Disk: 10 GiB Hard Disk, R: 0 B/s, W: 0 B/s
 - QEMU DVD-ROM (QM00001): Optical Drive, R: 0 B/s, W: 0 B/s

Virtual machines

Create and manage virtual machines

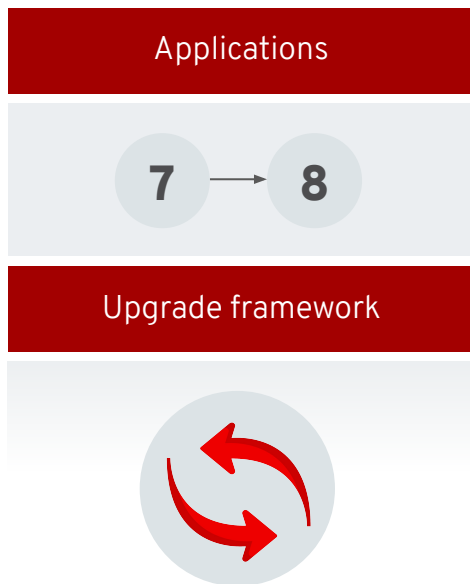
Network-bound disk encryption

Enroll disks with Tang server and manage LUKS keys

Single sign-on configuration

Automatically configure when joining a domain

In-place upgrades for your systems



Reduced migrations

Analyze systems to determine if upgrading in place can avoid a costly migration

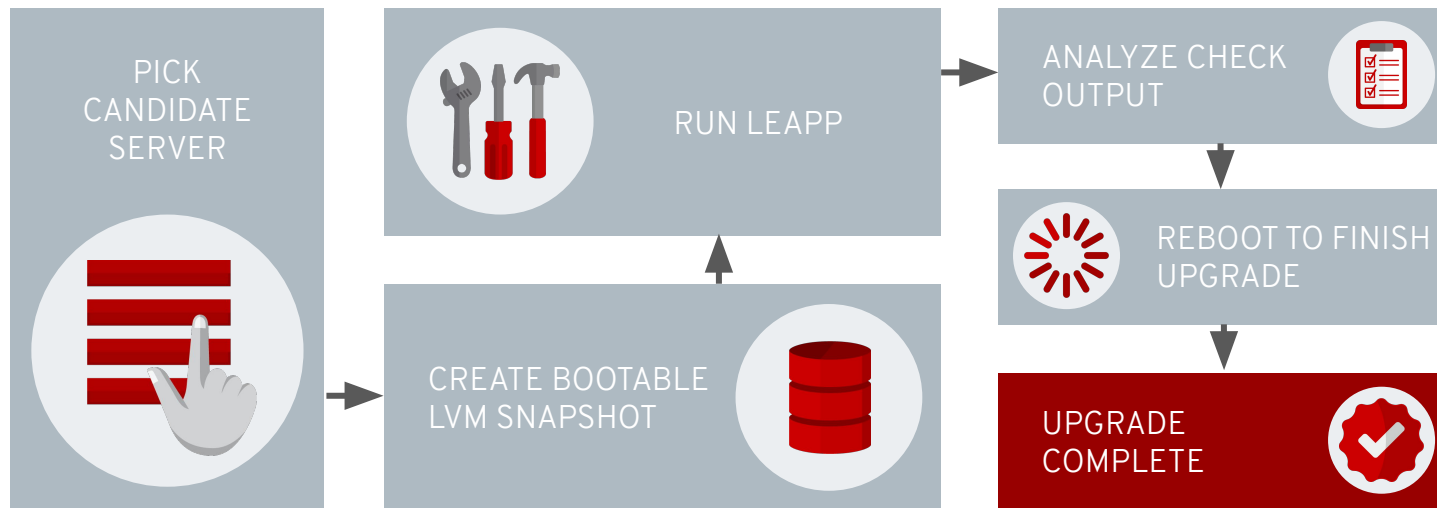
Easy rollback options

Combine with bootable LVM snapshots for safety

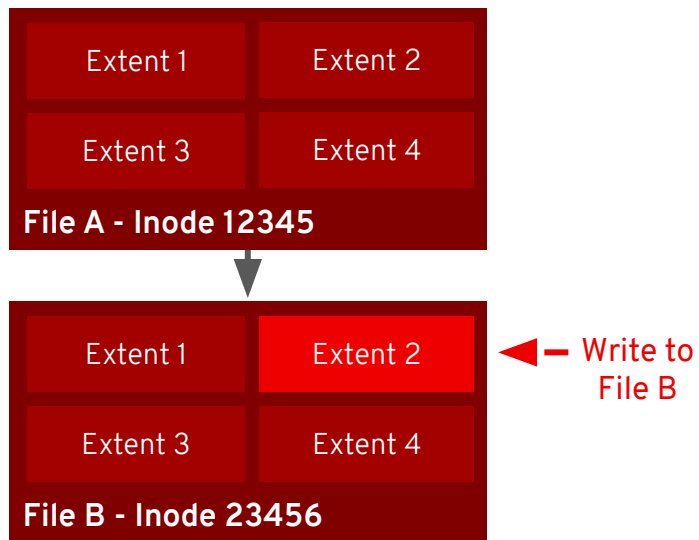
Improved framework

Get better analysis and a simplified process with a more extensible framework

Can I upgrade this host?



Fast file copy with XFS shared data extents



Filesystem level copy-on-write

XFS creates new extents when data is changed in a copy without additional application integrations

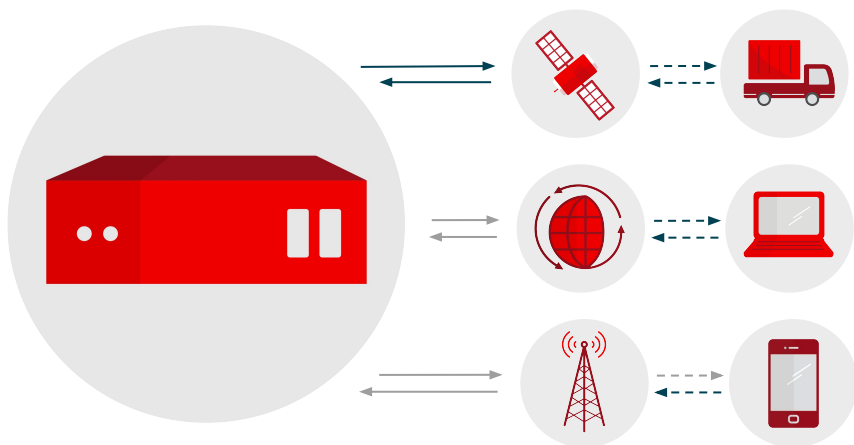
Separate metadata

Copies have unique file system metadata allowing for owner, group, and permission changes

Fast operations

XFS creates new inode and metadata instead of full data copy

Improve network performance with bandwidth and round-trip propagation time congestion algorithm



End-to-end performance

Link capacity calculation and management at server do not require client end modifications

High-latency links

Improved performance over other algorithms on networks with high latency and congestion

More choices

An improved network stack combined with BBR and other algorithms lets you select the highest performance combinations

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.



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