Red Hat Enterprise Linux 8

Technical overview

J.R. Morgan
Solutions Architect

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

Developers need access
to the latest tools.
Operations needs to know
those are stable and supported.

Faster time to “Hello World”

Ability to plan with confidence
Remove uncertainty from your platforms

Simpler deployment options
Use standardized platforms for any environments

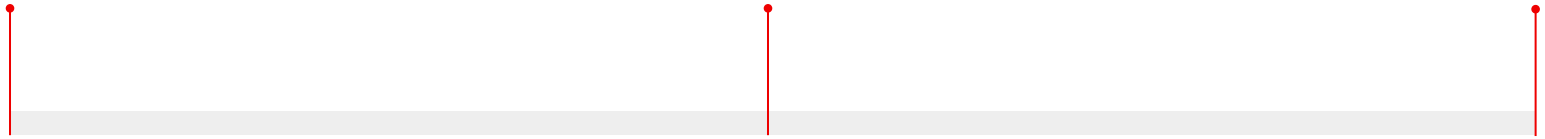
Latest stable tools
Combine open source innovation with enterprise reliability

Predictable updates

3 years
Major releases

6 months
Minor updates

2 phases
Support life cycle



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RHEL Lifecycle Details

RHEL 6 EOM on 11/20/2020[1]

ELS begins this day and requires a supplemental subscription

RHEL 7.7 released on 08/06/2019

Maintenance Support phase continues until 06/30/2024

RHEL 8 released on 05/07/2019

Full Support phase continues until 05/2024

ISV Support of RHEL 8

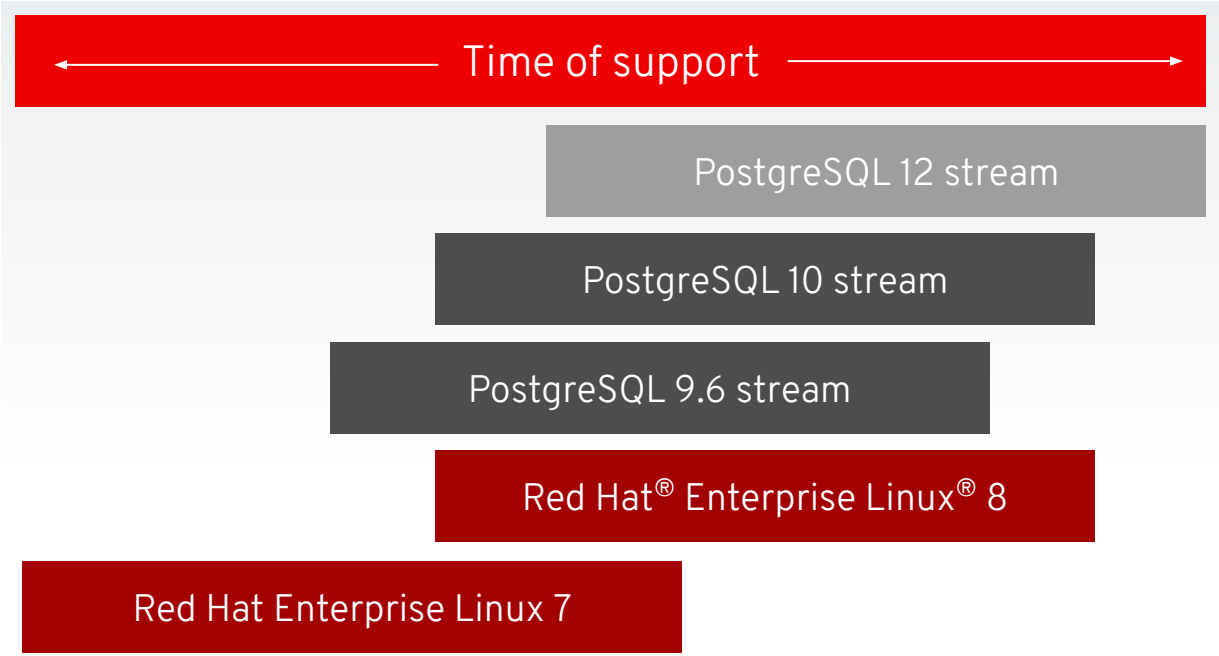
Third-party support for RHEL 8 is still ramping up; review ISV requirements before migrating from 7.x

[1] https://access.redhat.com/support/policy/updates/errata

RHEL Lifecycle Details

Version	General Availability	End of Full Support	End of Maintenance Support 1	End of Maintenance Support or Maintenance Support 2 (Product retirement)	End of Extended Life-cycle Support	End of Extended Life Phase	Last Minor Release
4	February 14, 2005	March 31, 2009	February 16, 2011	February 29, 2012	March 31, 2017	Ongoing	4.9
5	March 15, 2007	January 8, 2013	January 31, 2014	March 31, 2017	November 30, 2020	Ongoing	5.11
6	November 10, 2010	May 10, 2016	May 10, 2017	November 30, 2020	June 30, 2024	Ongoing	6.10
7	June 10, 2014	August 6, 2019	August 6, 2020	June 30, 2024	N/A	Ongoing	TBD
7 (ARM)	November 13, 2017	November 30, 2020	N/A	N/A	N/A	Ongoing	7.6
7 (POWER9)	November 13, 2017	November 30, 2020	N/A	N/A	N/A	Ongoing	7.6
7 (System z (Structure A))	April 10, 2018	November 30, 2020	N/A	N/A	N/A	Ongoing	7.6
8	May 2019	May 2024	Not Applicable for RHEL 8	May 2029	TBD	TBD	TBD

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

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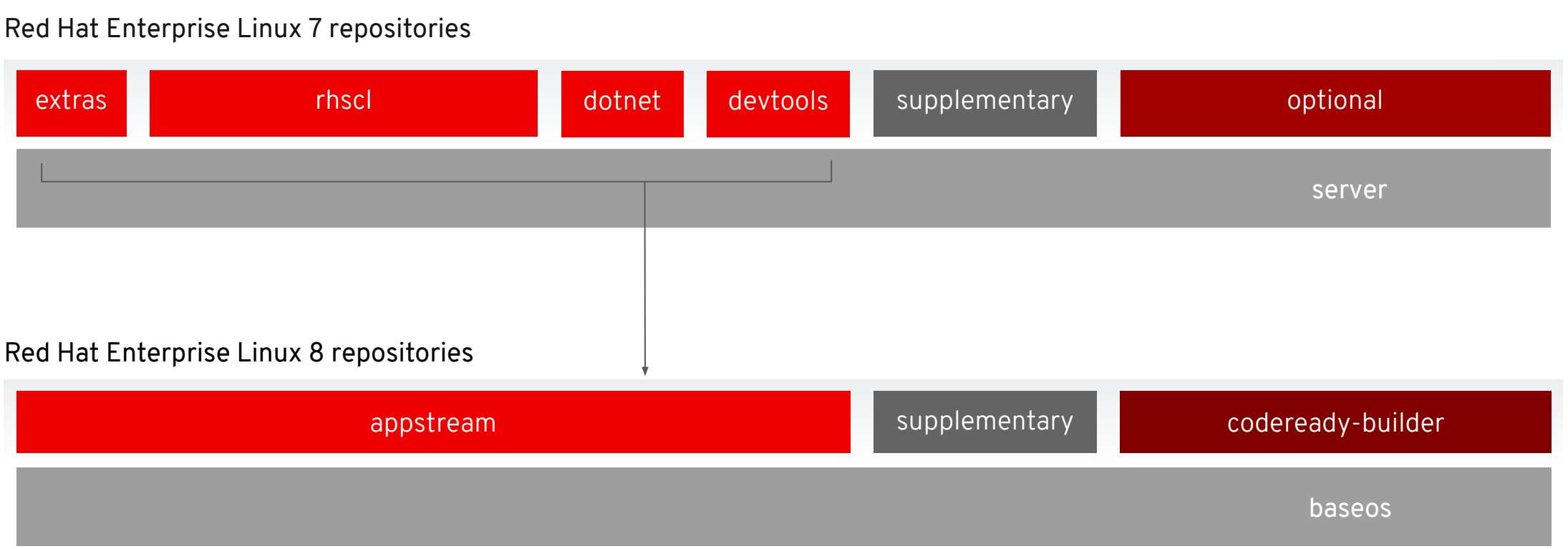
Simplified access to software



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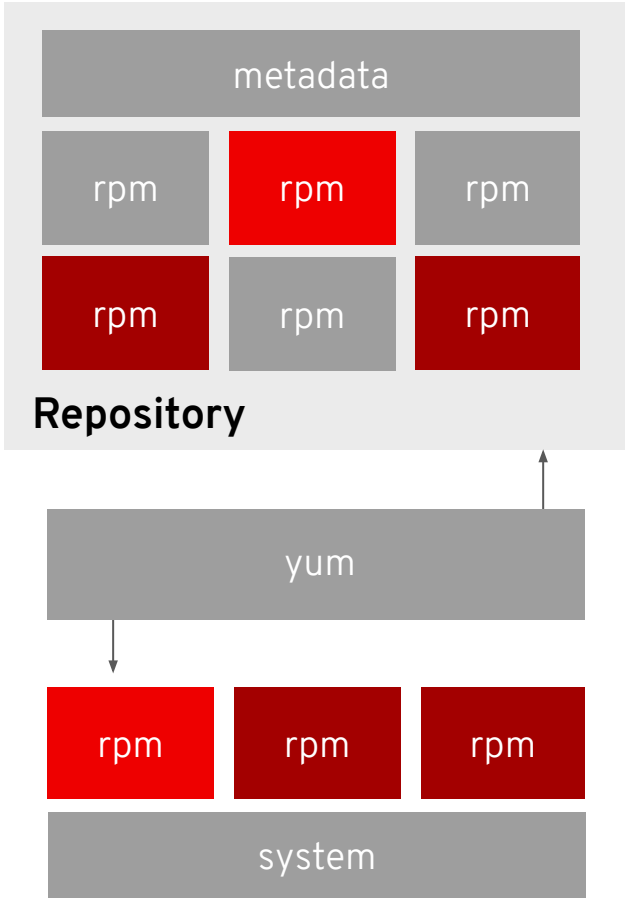
The newest yum package manager: version 4



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

The future of infrastructure is hybrid, multicloud

Faster and more consistent delivery in any deployment

Improve automation

Automation expertise from the engineers who wrote the platform

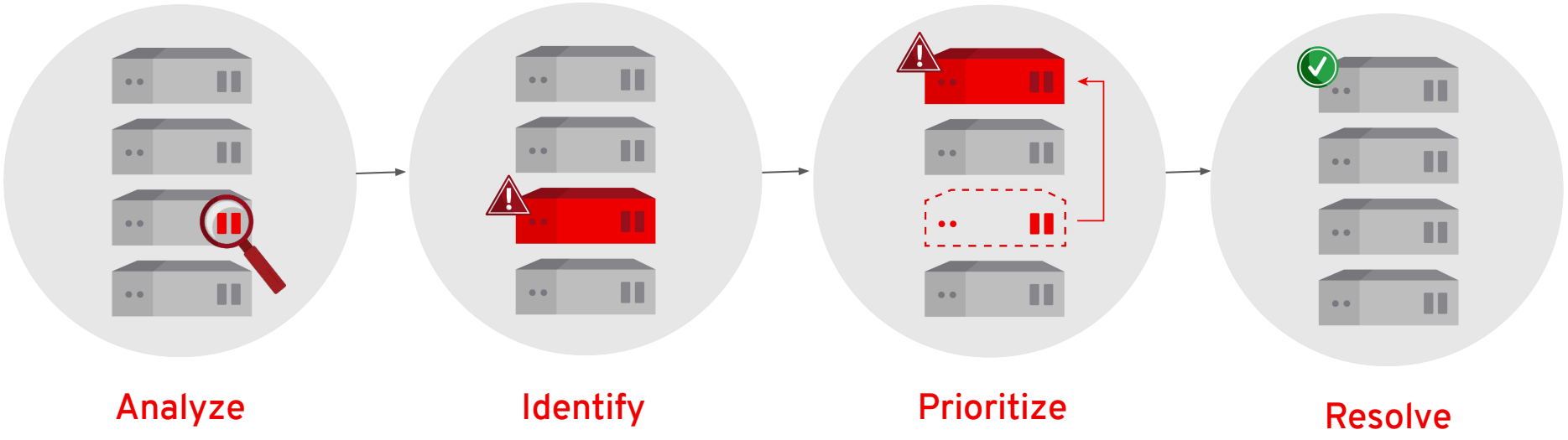
Maintain standards

Simple common machine images for any environment

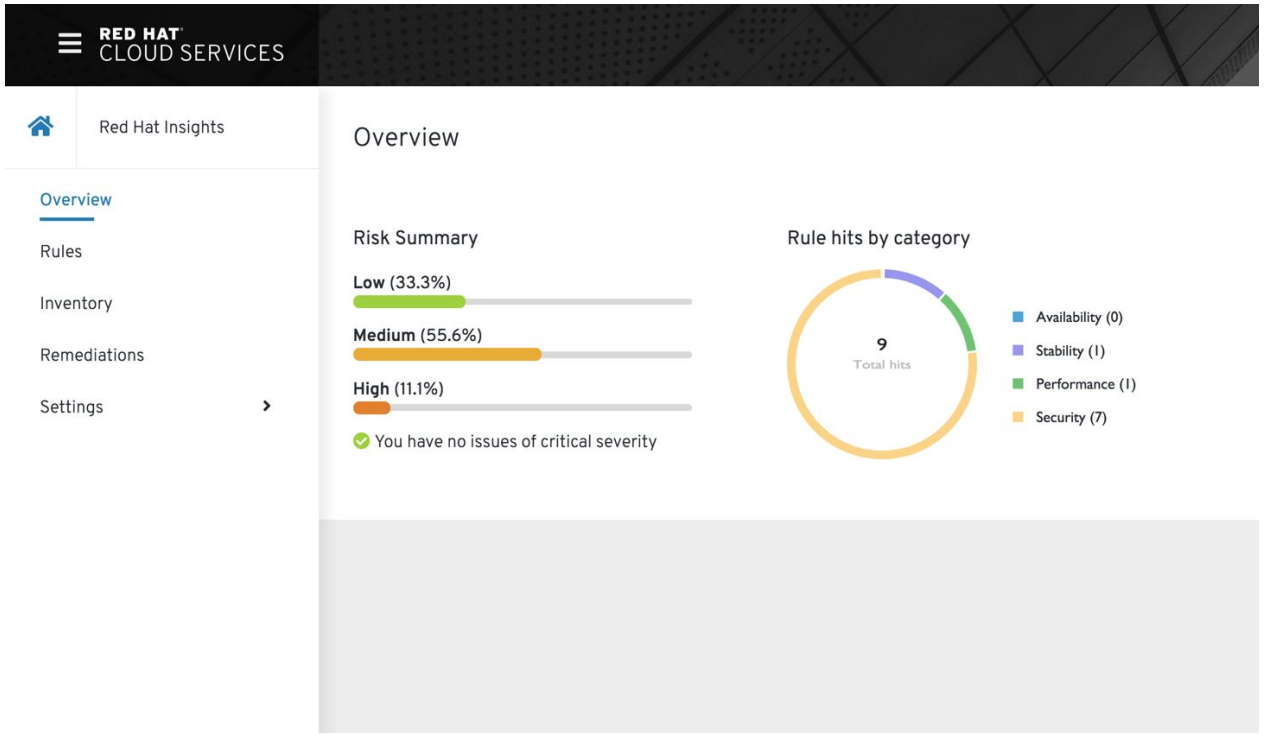
Gain rapid intelligence

Information that helps you focus on business initiatives, not fighting fires

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

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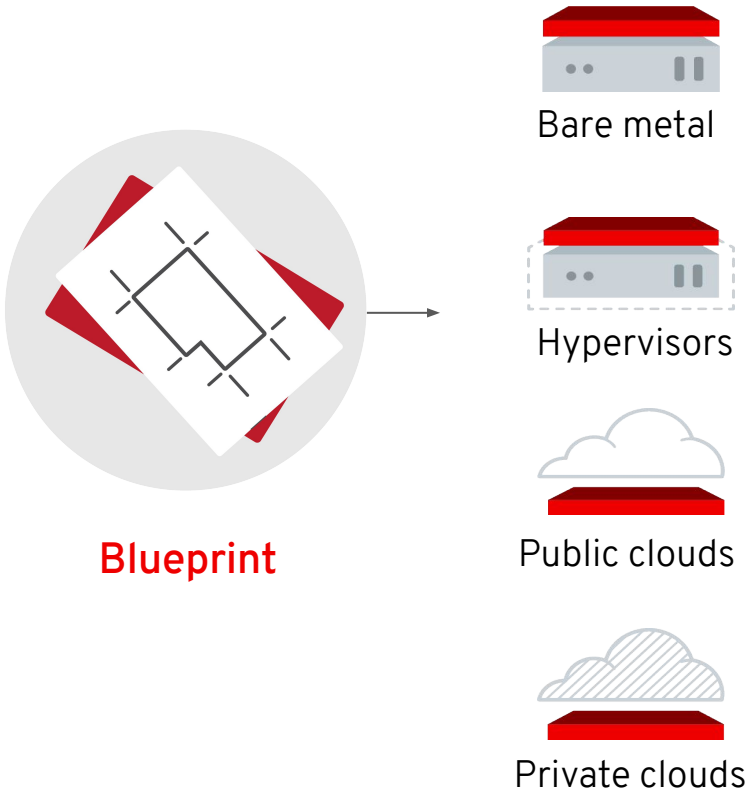
Create images for all your environments with image builder

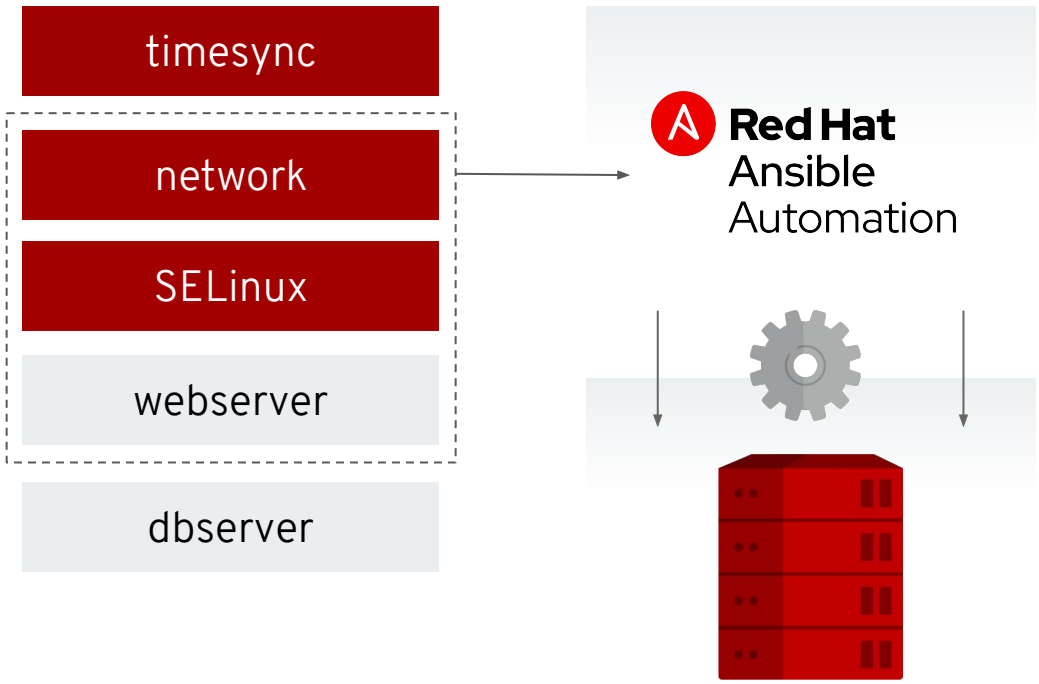


Single source
Lets you create gold images for any environment from the same blueprint increasing stability and consistency

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

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Enterprise workloads require a trusted set of partners

Trusted partner

Speed integration with common platforms
Ease management and integration of your business applications

Focus on your business
We focus on support and engineering so you don't have to

Innovate faster
Get to your next big thing without building ours

Red Hat

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

SAP HANA

- 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

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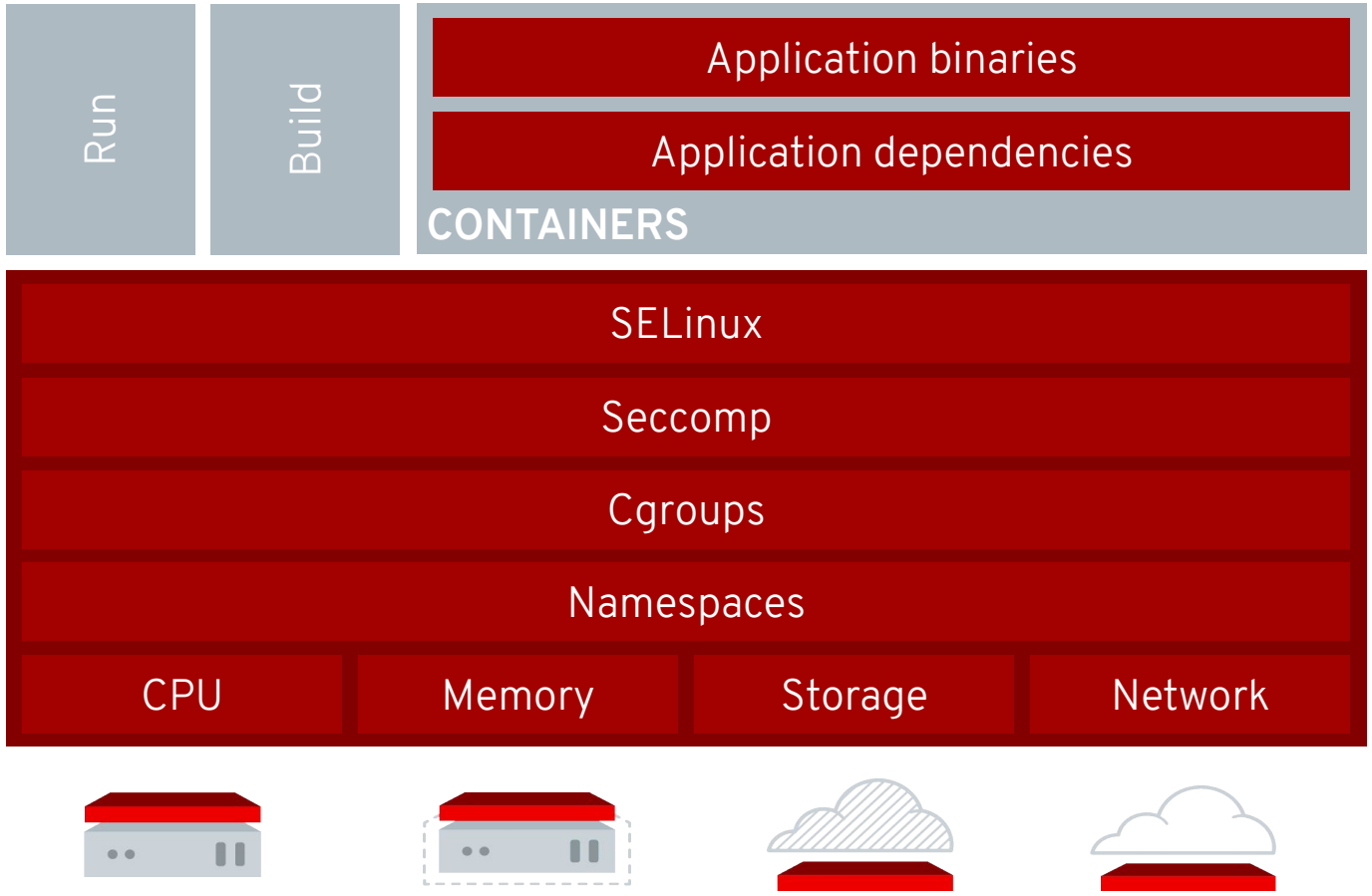
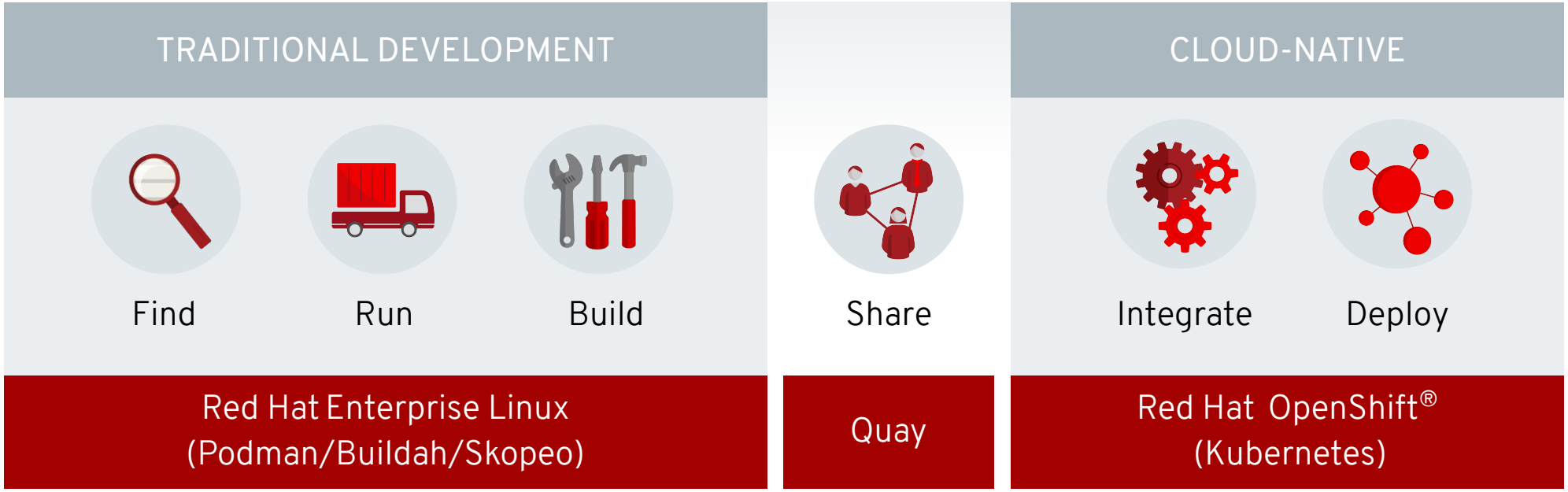
Red Hat Certified Cloud and Service Providers

Power the adoption of containers

Containers are Linux



Powering the adoption of containerized workloads



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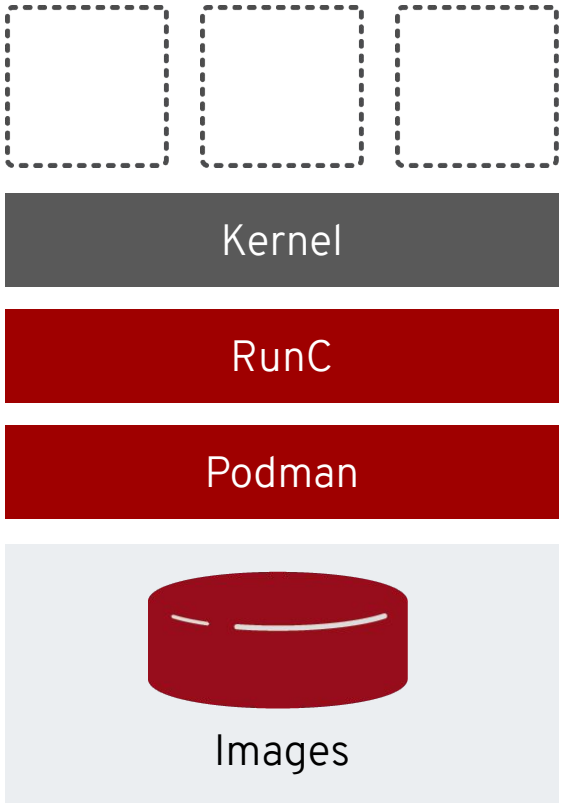
Manage containers with Podman

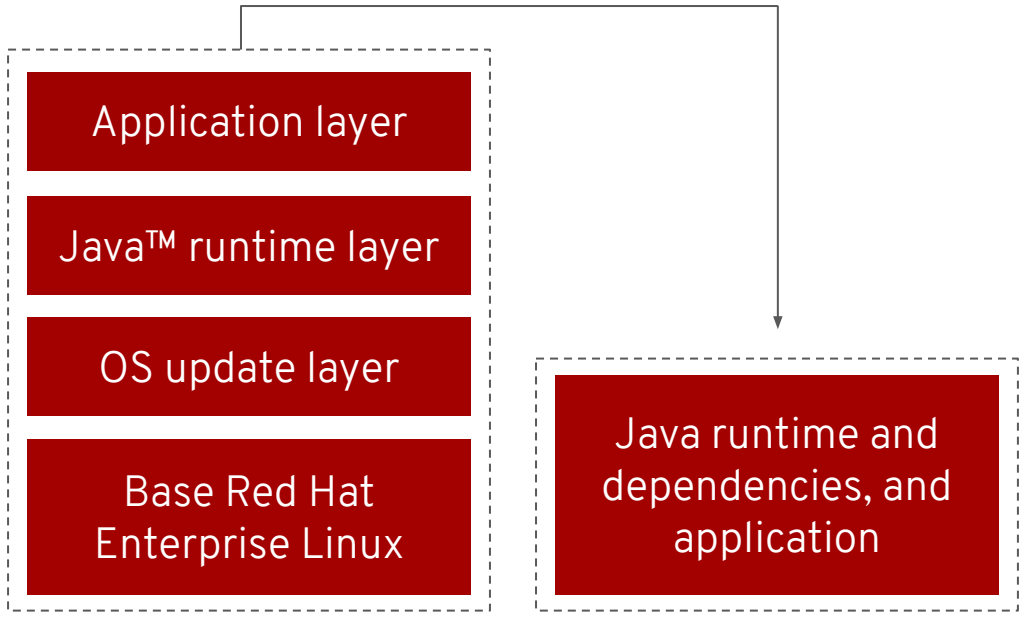


Fast and lightweight
No daemons required

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

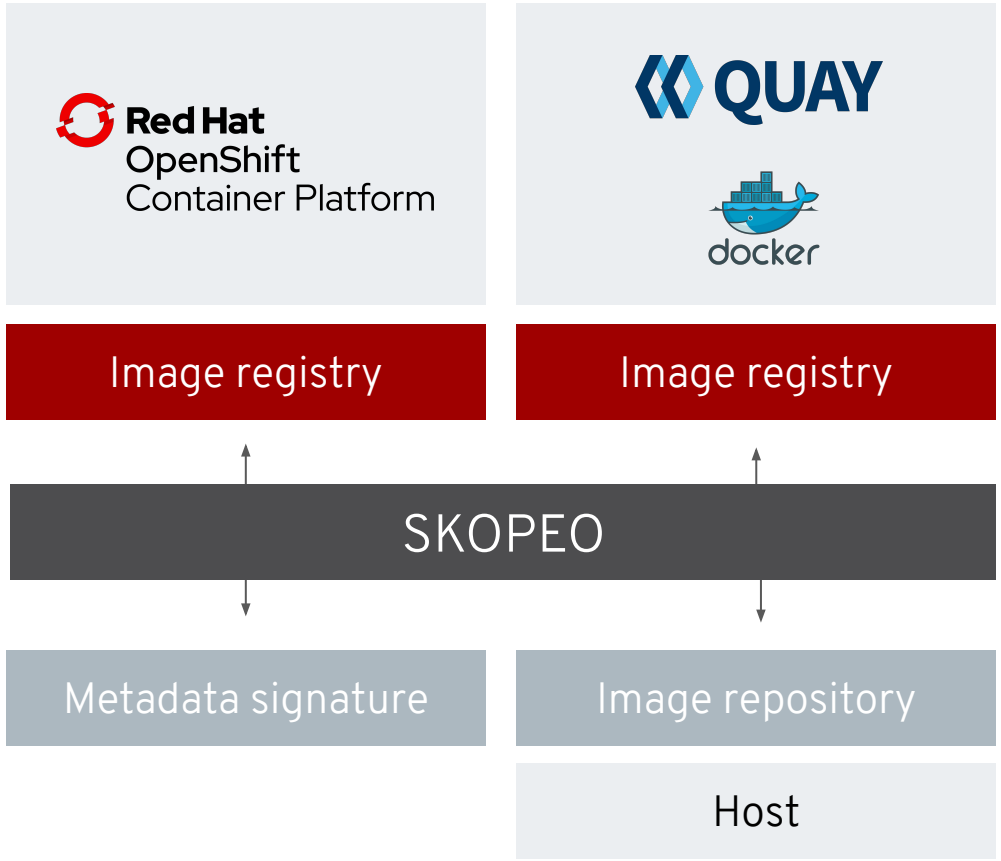
Create images with Buildah



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

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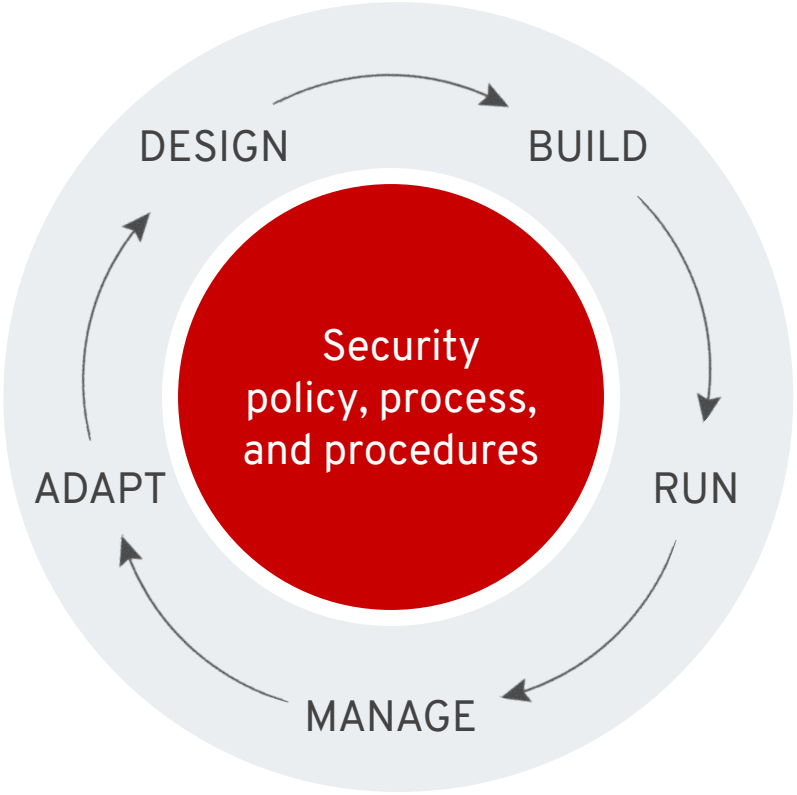
New capabilities can’t come at the expense of security

A highly secure platform



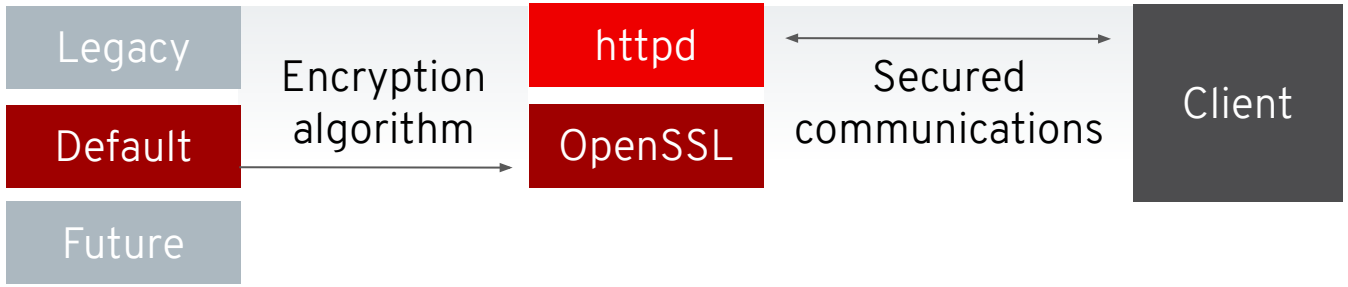
Latest protocol support
Including TLS 1.3 via OpenSSL 1.1.1

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

Configuring systemwide cryptographic policies

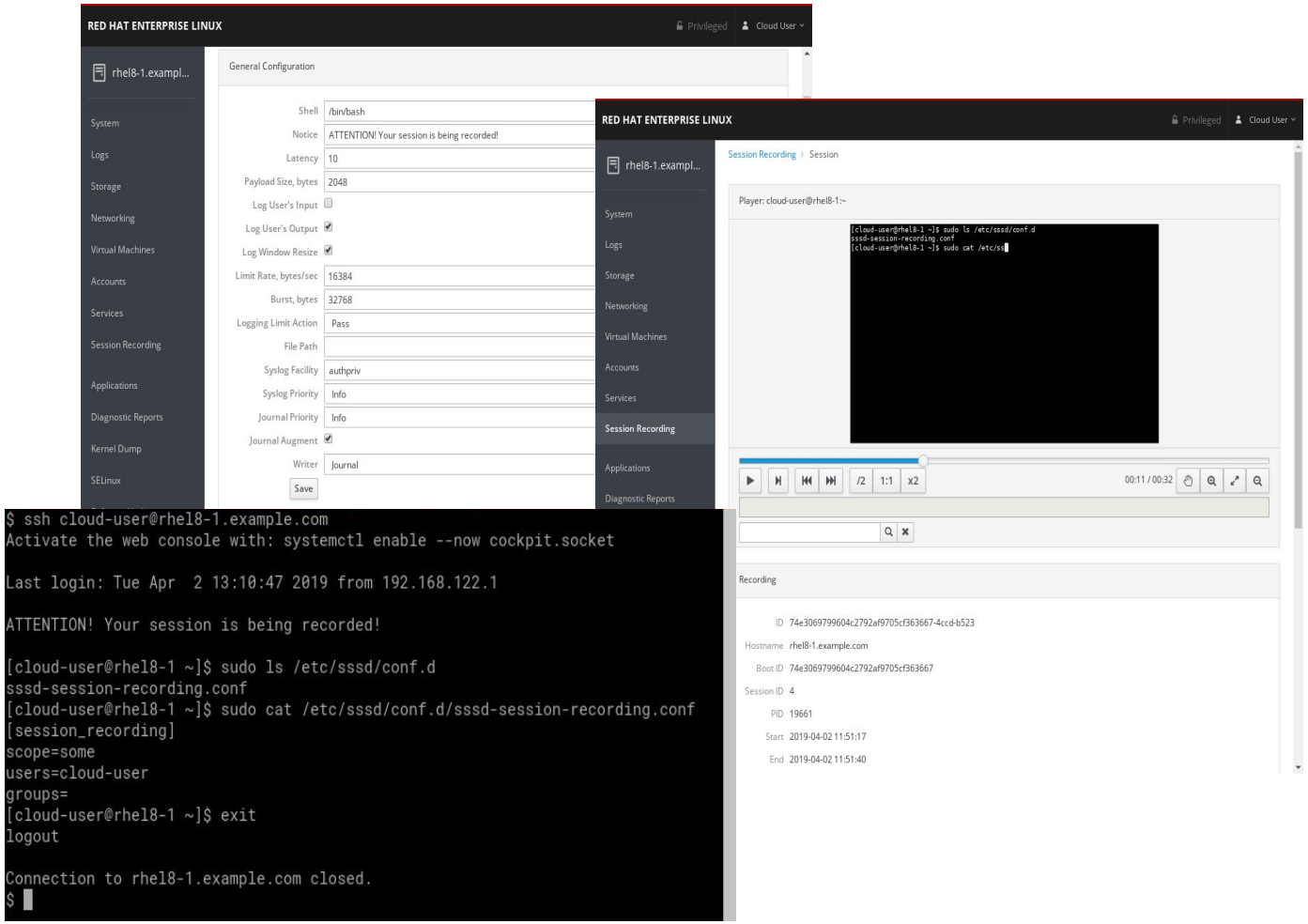


Central configuration
Set acceptable algorithms from a single tool

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



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

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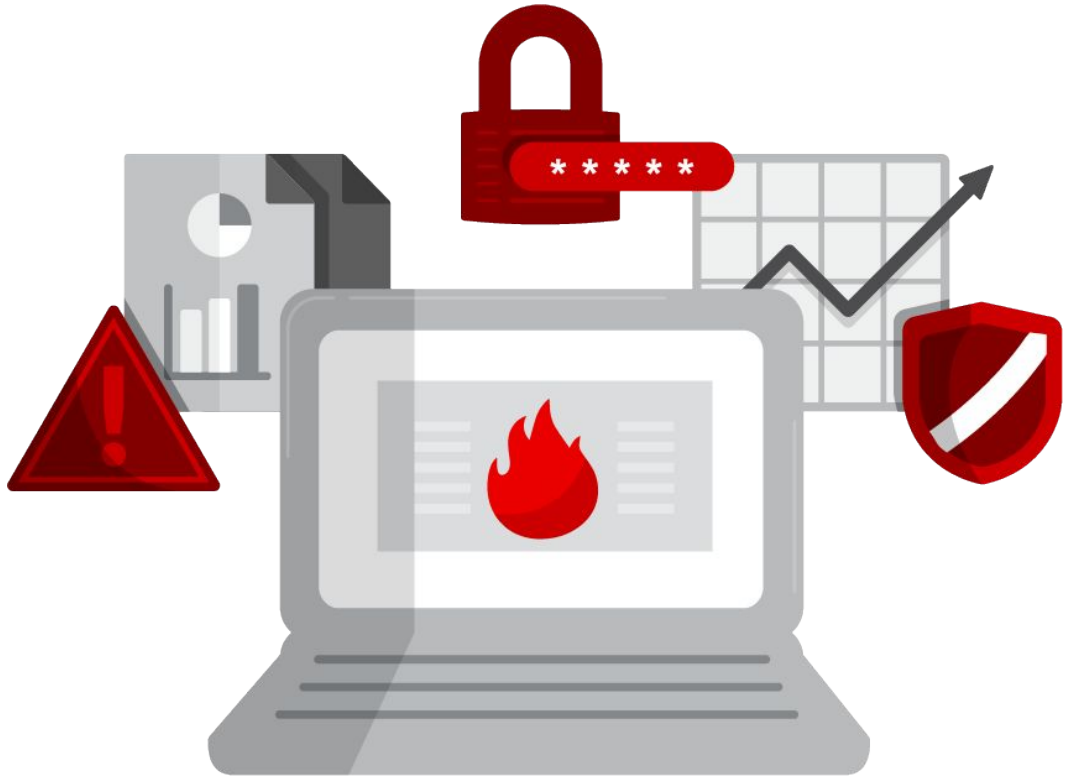
Improved firewall management with nftables



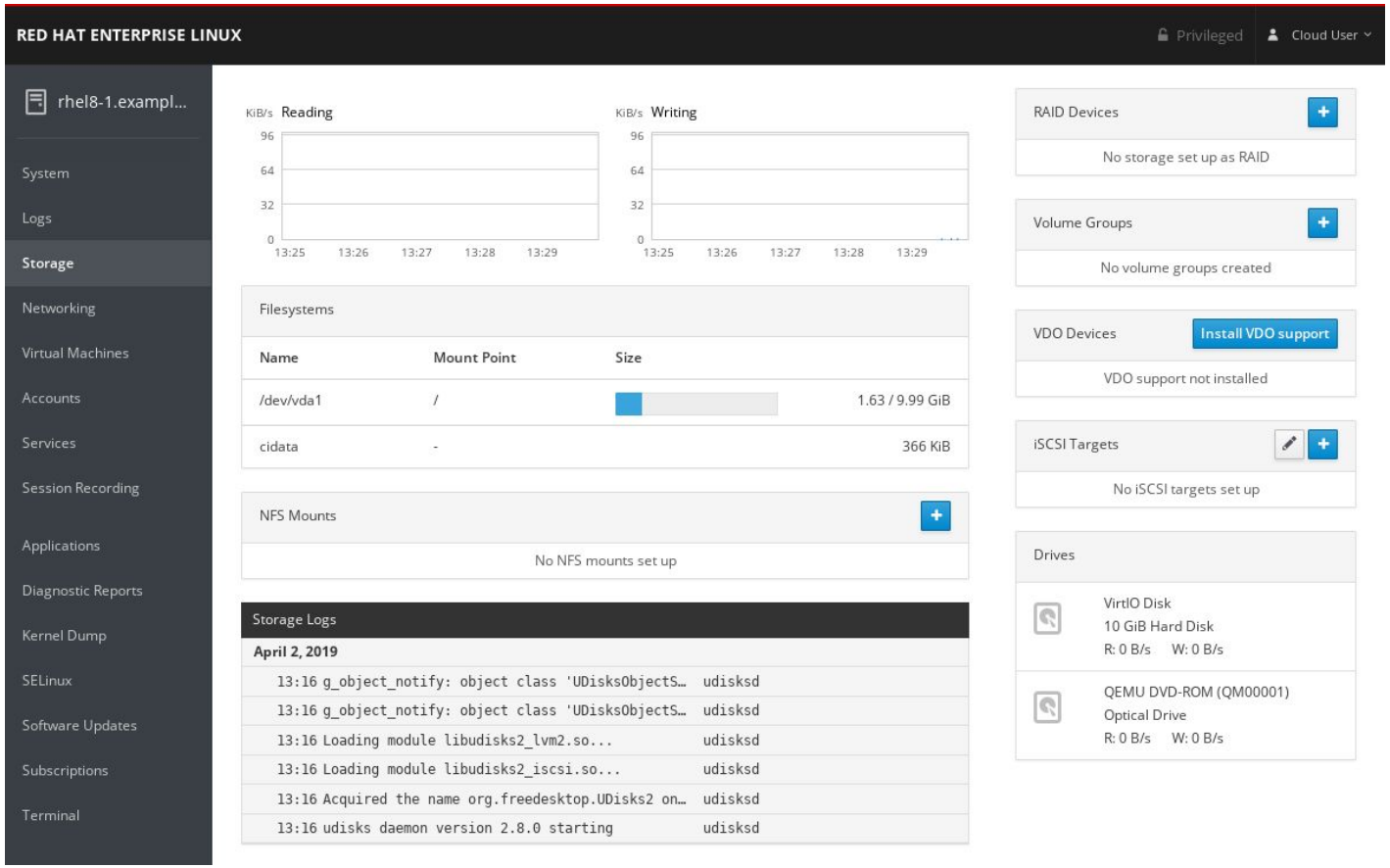
Consolidated filtering
Supports IPv4, IPv6, ARP, and Bridge filtering in a single tool

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

Improved service delivery brings Linux to more new users

Remote single-system views in the web console



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

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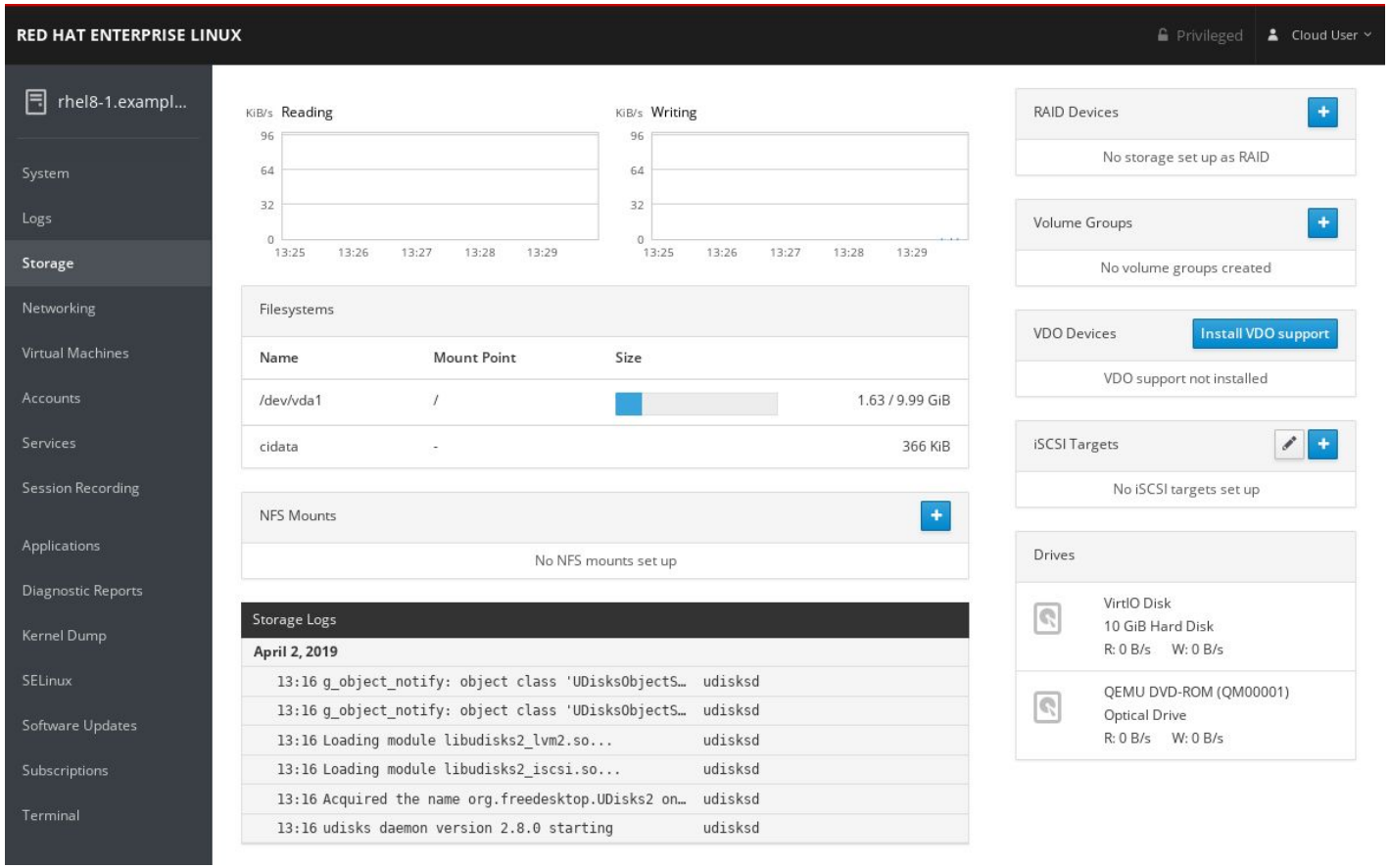
New in the web console



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

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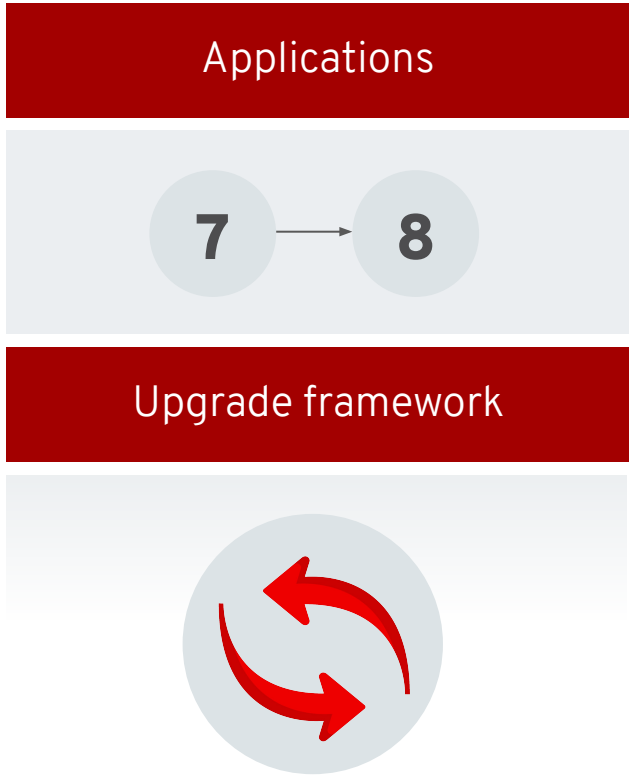
Gain new capabilities while giving up nothing

In-place upgrades for your systems

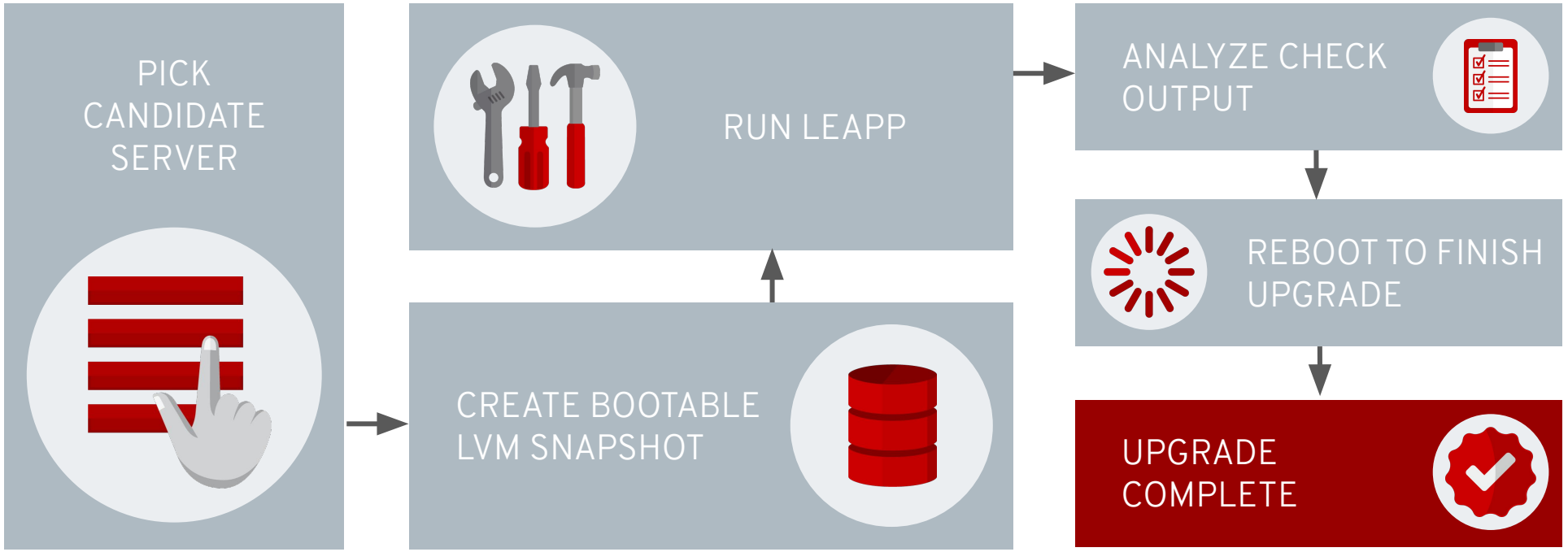


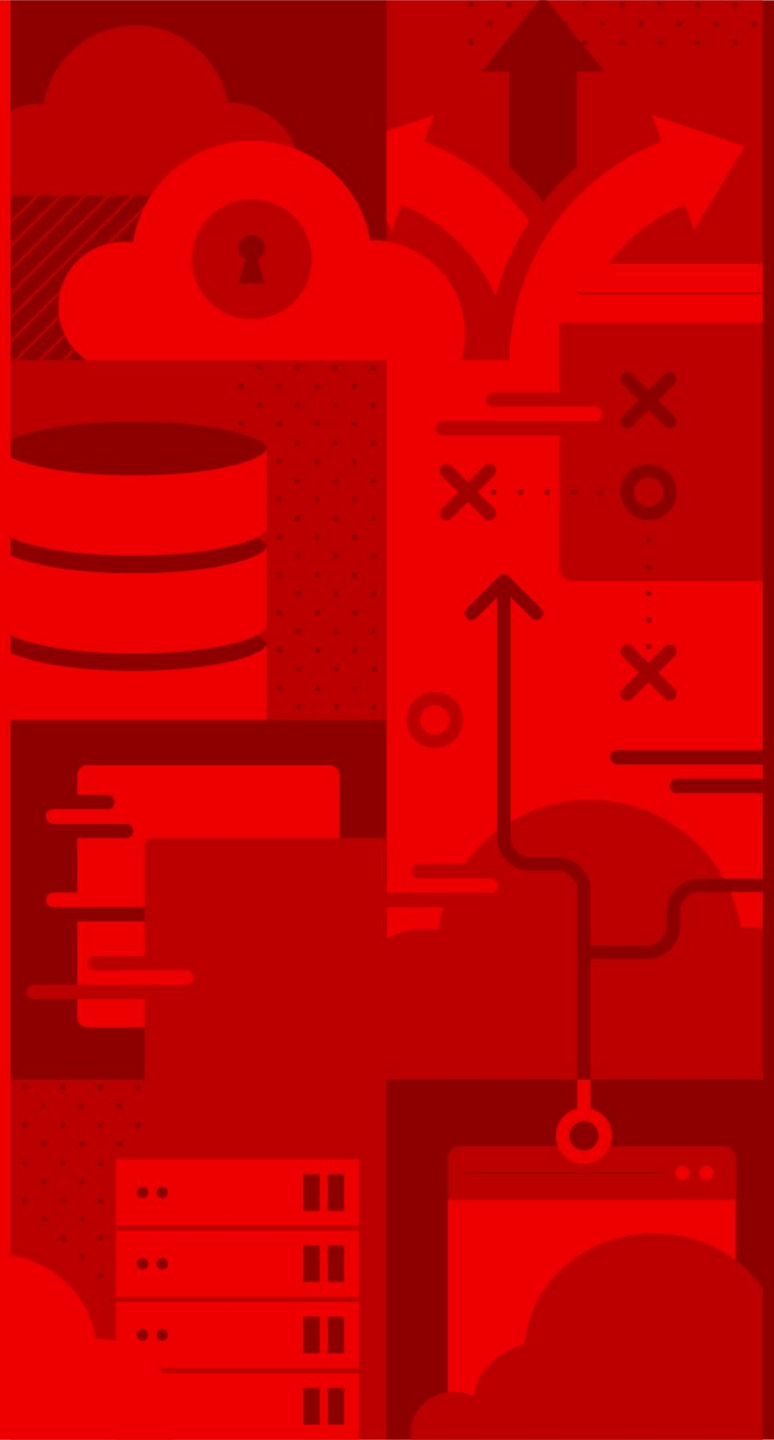
Reduced migrations
Analyze systems to determine if upgrading in place can avoid a costly migration

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?





Demo Overview

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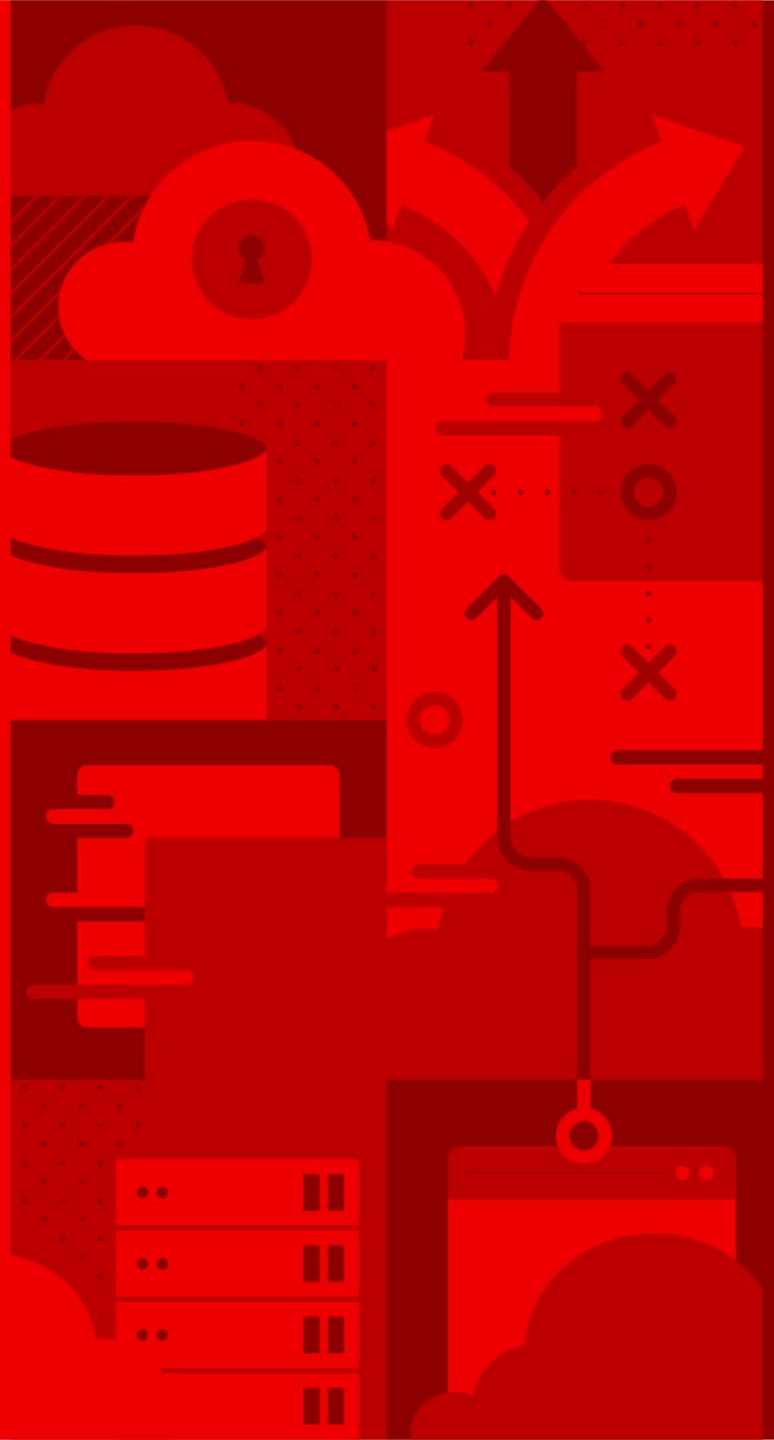
Features and Benefits

Creating Images using Blueprints
Cockpit + Blueprints + Image Builder & Image Download

Session Recording + Playback
Use tlog & sssd to record/replay select user sessions

Cockpit Overview
Leverage a web UI for system monitoring and management



Red Hat Cloud Access Overview

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Features and Benefits

Red Hat Subscription benefits anywhere you go

Keep your trusted products as agile and portable as your workloads, and preserve your current IT investment by maintaining consistency and security of your applications

Move to the cloud

Easily move subscriptions and virtual images to certified public cloud providers with a Cloud Access custom image provided by Red Hat or your organization

Build for the future

Ensure portability between your datacenter and preferred cloud providers to meet increased demand or improve response times

BYOS vs. On-Demand

	Red Hat Cloud Access	On-Demand Red Hat Products
Procurement	Customers pay Red Hat for their subscriptions, which should be enabled for Red Hat Cloud Access before deploying to the public cloud.	Customers pay the cloud provider directly for the On-demand Red Hat product on a pay-as-you-go model.
Usage	Customers can upload their own images to the cloud provider repository or use Red Hat Gold Image AMIs with AWS.	Customers access images for their workloads made available from the provider's repositories.
Support	Red Hat provides first-line support for customers running Cloud Access-enabled images on Red Hat Certified Cloud and Service Providers and works closely with providers when necessary to resolve customer issues.	CCSPs provide support for customers running On-demand Red Hat products. This will vary by provider and is defined in the service-level agreement in the partner's subscription.
Updates	Updates leverage customer choice of RHUI/Satellite/RHSM directly from Red Hat	Updates leverage RHUI exclusively from Cloud Providers

Cost Comparison Example

Product	MSRP	Hours/year	Subtotal	Instances/sub	Total
RHEL Standard	$799	8760	$0.091	2	$0.045
RHEL Standard + SM	$1053	8760	$0.120	2	$0.060

For .04-.06 cents per hour, you get consistency between Cloud and on-premise:

- Run the same image
- Patch, manage, and maintain with Satellite
- Get support directly from Red Hat

**Note:

1. Rate goes down relative to volume discounting in customer's current contract
2. Cost is only "wasted" when instances are off
3. Because on-demand pricing is MSRP, when image is on, it costs more (equal to difference between MSRP and negotiated volume discount)

Cost Comparison Example

Product	MSRP	Hours/year	Subtotal	Instances/sub	Total
RHEL Premium	$1299	8760	$0.148	2	$0.074
RHEL Premium + SM	$1553	8760	$0.177	2	$0.088

For 8.5 cents per hour, you get consistency between Cloud and on-premise:

- Run the same image
- Patch, manage, and maintain with Satellite
- Get support directly from Red Hat

**Note:

1. Rate goes down relative to volume discounting in customer's current contract
2. Cost is only "wasted" when Cloud image is off
3. Because on-demand pricing is MSRP, when image is on, it costs more (equal to difference between MSRP and negotiated volume discount)

Additional Information

- Cloud Access
- What is the Difference between Red Hat Cloud Access and Red Hat Enterprise Linux On-Demand Subscriptions in the public cloud?
- Red Hat Cloud Access Frequently Asked Questions
- Red Hat Satellite vs. Red Hat Update Infrastructure (RHUI)
- Red Hat Smart Management

Thank you

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