



Connect

Hidden Treasures

Top 10 underrated tools included in your Red Hat Enterprise Linux subscription

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Speaker



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The value of Red Hat Enterprise Linux



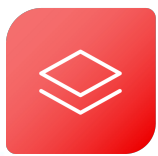
Innovate

Boost innovation across the hybrid cloud



Protect

Operate confidently with security in mind from the start



Simplify

Optimize operations with a single platform



Trust

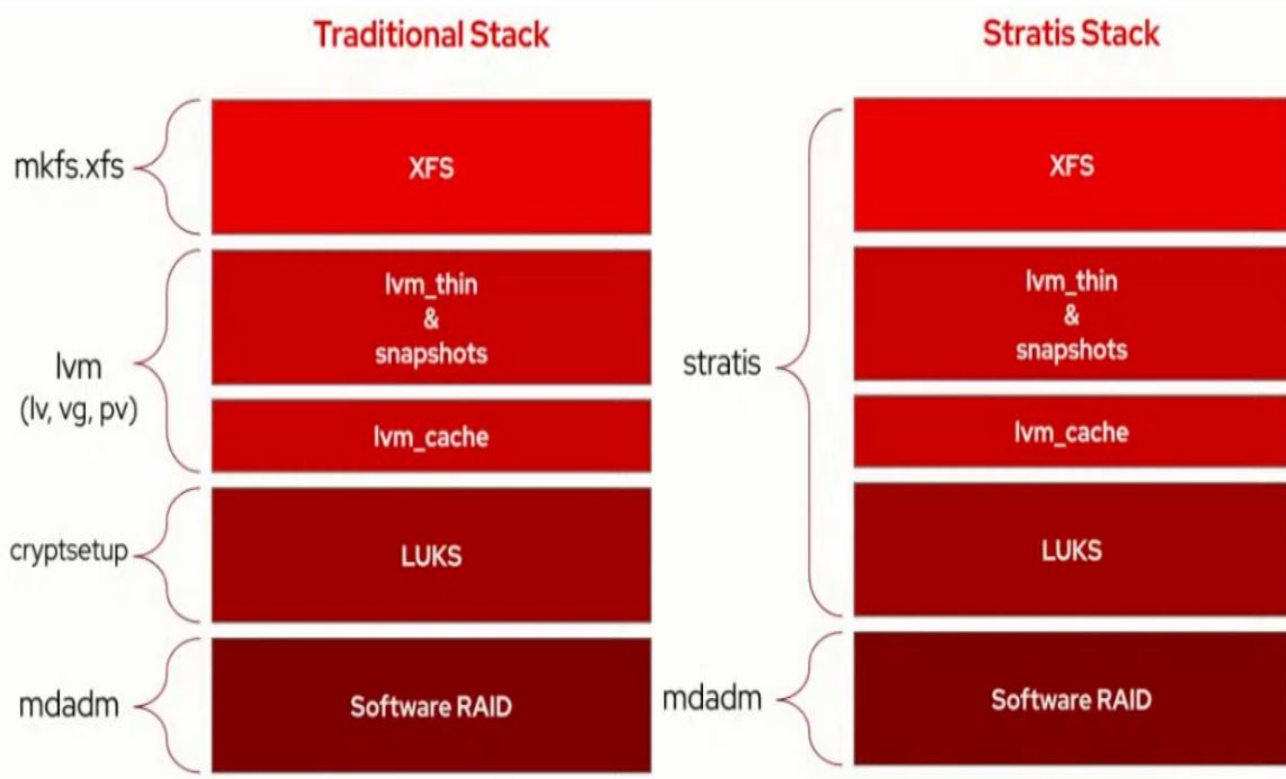
Transform technology with a trusted foundation

10 underrated tools



Stratis

Simplify local storage management



► Consolidated volume & file system management:

- Integrated encryption
- Trusted Platform Module support
- Snapshots
- Thin provisioning
- Dynamic storage expansion

► Consistent Interfaces: Web console, CLI, API.

RHEL system roles

A collection of supported Ansible roles included in a RHEL subscription to help automate consistent and repeatable OS tasks and configurations.

- ▶ Save time and streamline deployments by automating manual tasks and reduce human error
- ▶ Automate security workflows and maintain them over time, at scale, and with minimal resources.
- ▶ Installed and run from a central node referred to as the control node (which can be Ansible Automation Platform, Red Hat Satellite, or a Red Hat Enterprise Linux system)



Try it for yourself:
red.ht/rhel-system-roles

RHEL system roles

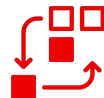
Streamline system deployment and management



Security

Automate security workflows and maintain them over time, at scale, and with minimal resources. Consistency helps streamline governance and compliance requirements.

- ▶ SELinux
- ▶ Certificate
- ▶ Firewall
- ▶ NBDE client and server
- ▶ Sudo
- ▶ Tlog
- ▶ SSH client
- ▶ SSH server
- ▶ Crypto policies
- ▶ VPN
- ▶ Fapolicyd
- ▶ AIDE
- ▶ Keylime server



Configuration

Save time and streamline deployments by automating manual tasks that ensure a consistent administrative experience and scales across systems.

- ▶ Kdump
- ▶ Network
- ▶ Storage
- ▶ Timesync
- ▶ Kernel settings
- ▶ Podman
- ▶ Journald
- ▶ systemd
- ▶ Logging
- ▶ Metrics
- ▶ Postfix
- ▶ HA cluster
- ▶ Cockpit
- ▶ RHC
- ▶ Snapshot
- ▶ Bootloader
- ▶ AD integration



Workloads

Easily optimize the most popular workloads at the time of deployment and simplify ongoing administration by automating workload-specific tasks.

- ▶ SAP
- ▶ Microsoft SQL Server
- ▶ PostgreSQL



Image Builder

Streamline Red Hat Enterprise Linux system deployments across the hybrid cloud



Facilitate rapid deployment of images and updates



Streamline the path from development to production



Deploy to the cloud more easily and accelerate cloud workload migrations



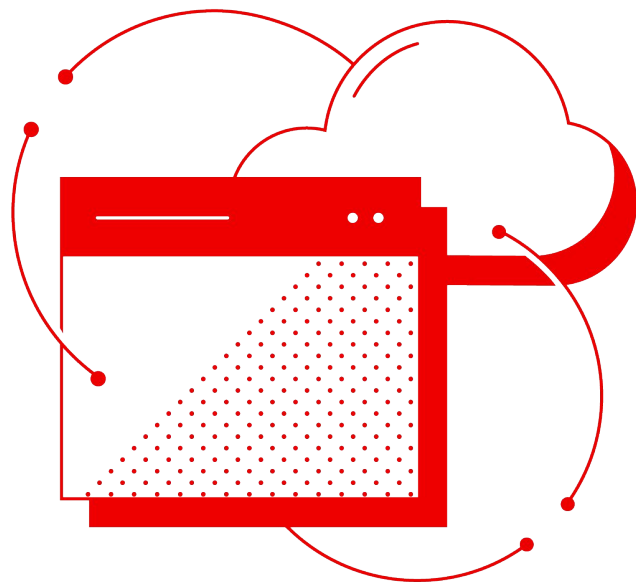
Configure systems consistently across the hybrid cloud



Mitigate risk with the power of automation and workflows



Implement your chosen standard operating environment strategy



Multiple ways to use Image Builder



Image Builder | On premise

- ▶ Command line tool
- ▶ On-premises build node
- ▶ Included with Red Hat Enterprise Linux (RHEL) subscription



RHEL Web Console | On premise

- ▶ Via interface in RHEL web console
- ▶ On-premises build node
- ▶ Included with RHEL subscription



Red Hat Lightspeed Image Builder | Hosted

- ▶ Cloud-hosted experience
- ▶ No infrastructure required
- ▶ Included with RHEL subscription
- ▶ API for CI/CD automation
- ▶ console.redhat.com



Soft reboot

Faster deployment of changes and minimal maintenance downtime

For Image Mode a soft-reboot can reload your system after an image update in almost the same time it takes to just reload services, as long as the kernel hasn't changed.

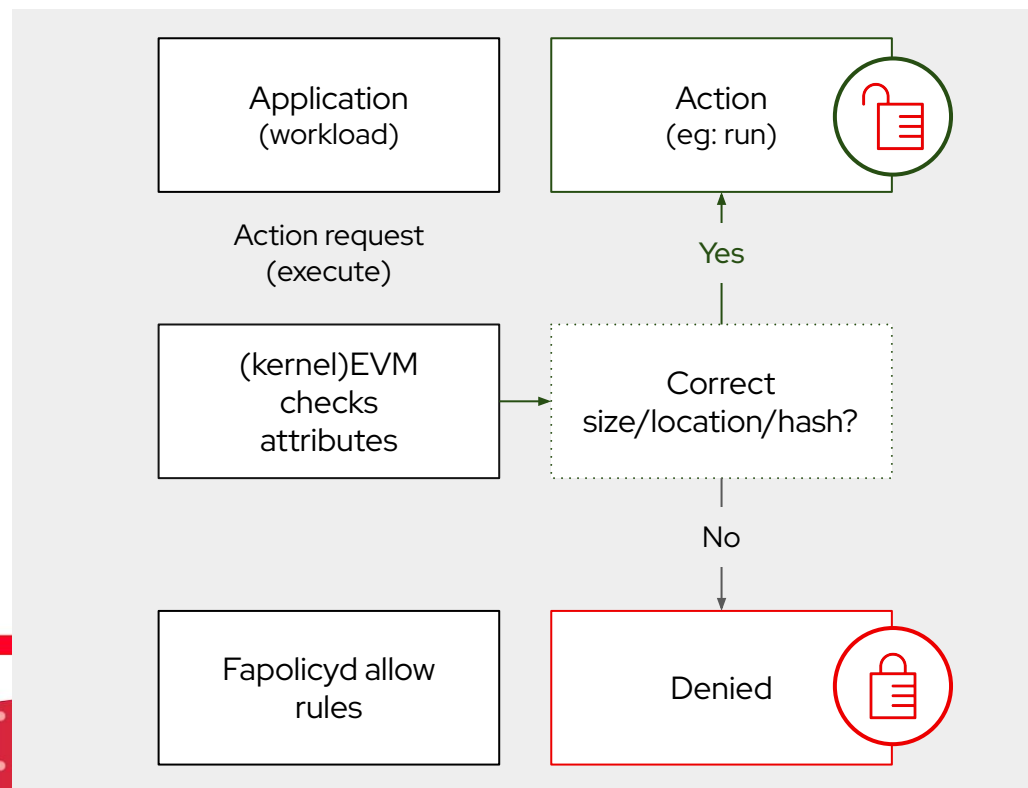
```
# bootc update --soft-reboot=required
```

For Package Mode quickly reload your system after updates, without the need to re-initialize firmware and other boot-time actions.

```
# systemctl soft-reboot
```

fapolicyd

Control the execution of applications based on a user-defined policy



- ▶ Predetermine trusted programs authorized to run on a machine
- ▶ Detect or prevent modified apps from running
- ▶ Leverage predefined policy for most use cases (RPM database)
- ▶ Control execution based on file path, hash, or integrity
- ▶ Allows open/exec for binaries
- ▶ Place more control in the hands of admins

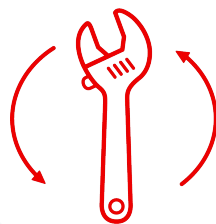
Lightspeed

Remediate all Common Vulnerabilities and Exposures (CVEs)

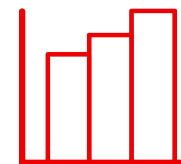
Vulnerability



Assess and monitor the risk of vulnerabilities that impact Red Hat products with operational ease



Remediate known Common Vulnerabilities and Exposures (CVEs)



Ability to generate reports to keep relevant stakeholders informed

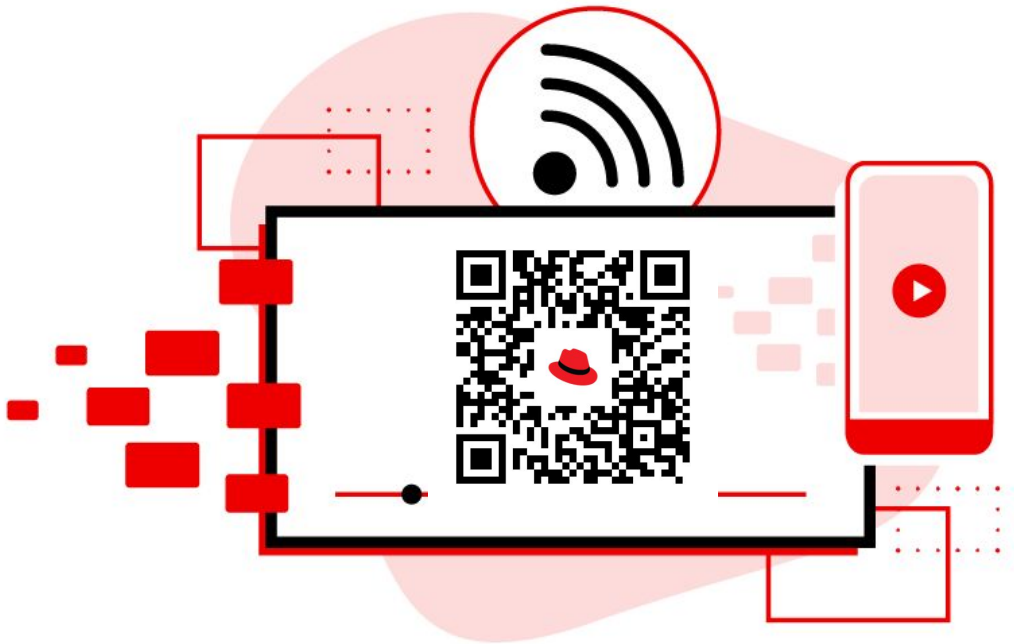


Red Hat

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Terminal session recording

See and log what users are doing in the terminal



- ▶ Based on `tlog`
- ▶ Other modes of session recording can still be used (auditd, script, sudo, etc.)
- ▶ Integrated into the web console
- ▶ Multiple players available for playback



Official Red Hat guide available
<https://red.ht/2pWcvni>

auditd

Kernel-level logging for security auditing and forensics

```
# auditctl -a always,exit -S unlink -S unlinkat -S  
rename -S renameat -F auid>=1000 -F auid!=4294967295 -k  
delete
```



Rules can be easily created

Define a rule that creates a log entry every time a file is deleted or renamed by a system user whose ID is 1000 or larger

- ▶ **Security Tracking:** Monitors and tracks security-relevant events across the system.
- ▶ **Policy Enforcement:** Identifies and discovers security policy violations.
- ▶ **Detailed Logging:** Generates comprehensive log entries for all system events and remote logging.
- ▶ **Forensic Analysis:** Pinpoints violators and their specific actions in mission-critical environments

Quadlet

Automating pods management with systemd



```
[Unit]
Description=A minimal container

[Container]
# We want to use the ubi9 image
Image=ubi9

# In the container we just run sleep
Exec=sleep 60

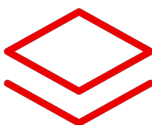
[Service]
# Restart service when sleep finishes
Restart=always

[Install]
WantedBy=multi-user.target default.target
```



Native integration with systemd

describe how to run a container in a format similar to regular systemd unit files. It is available starting with Podman v4.6



Simplify

manage OCI and Docker-formatted containers using the familiar systemctl command



Try it for yourself: red.ht/quadlet-lab

Red Hat IdM

Centralized identity management, enforce security controls, and comply with security standards



Centralize

Manage identities and enforce authentication policies from a centralized location to ensure consistency across all platforms and footprints, improve the user experience, and ease IT burden.



Secure

Configure access requirements and customize permissions to enforce security controls based on the principle of least-privilege, ensuring the right people have the right access at the right time.



Comply

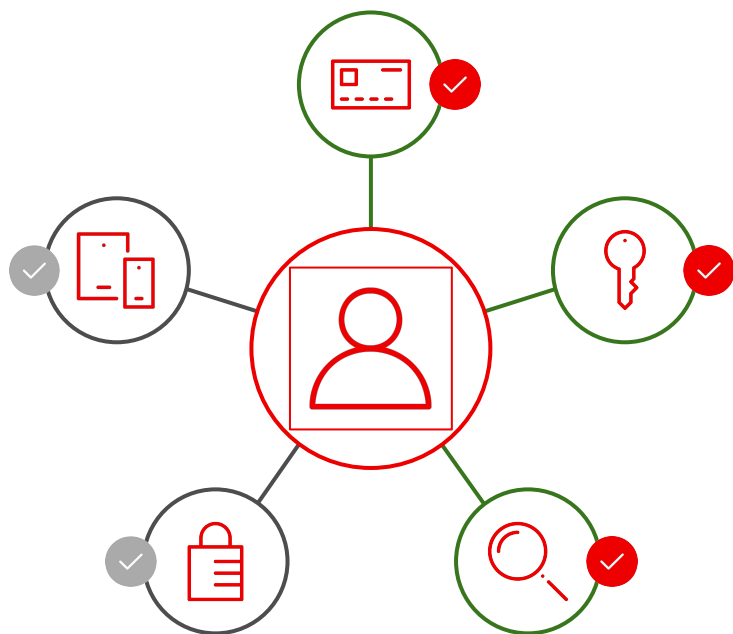
Implement compliance best practices and standards with an independently certified solution that supports your overall identity management strategy.



Red Hat IdM

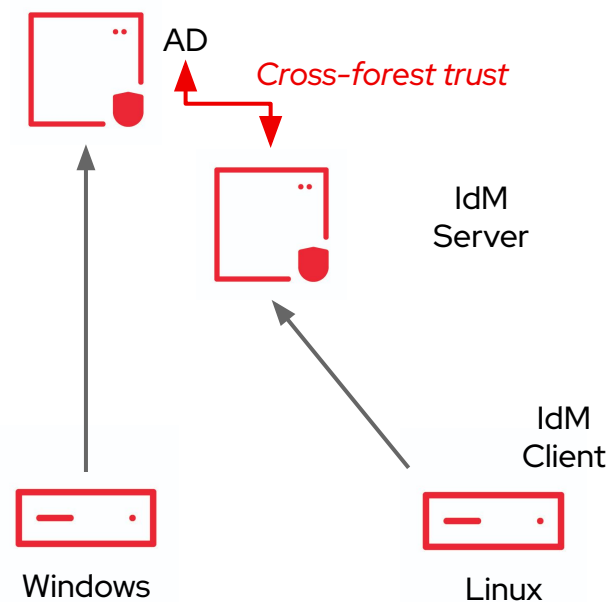
Centralize identity mgmt, enforce security controls, and comply with security standards

Use Multifactor Authentication
as an extra layer of security



Configure password, radius, password OTP, PKINIT, OAuth 2, hardened password, or Passkey support using FIDO2 protocol

Authentication using external
identity providers



Can be integrated with external IdPs using OAuth 2.0, e.g. EntraID, Active Directory, Red Hat build of Keycloak

The Complete List

01 Red Hat IdM

02 Quadlet

03 auditd

04 Terminal Session Recording

05 Lightspeed Vulnerability Service

06 fapolicyd

07 Soft-reboot

08 Image Builder

09 RHEL System Roles

10 Stratis



Thank you

 linkedin.com/company/red-hat

 facebook.com/redhat

 instagram.com/red_hat

 x.com/RedHatSummit

Why Choose Quadlets?



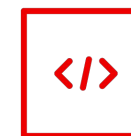
Maintainability

Focuses on high-level container definitions rather than low-level technical details.



Automatic Updates

automatically updated when **systemctl daemon-reload** is executed (e.g., during boot)



Simplified Workflow

Developers can create Quadlet files quickly from scratch and deploy them anywhere due to the simplified syntax



Update Mechanism

A common implementation uses `ExecStart=/usr/bin/podman kube play --replace <file>`. This `--replace` function ensures that every time the service is restarted, the definition is reread, pulling in changes or the latest container images



Advanced Deployment

Quadlets can be used to manage Kubernetes YAML definitions, providing a way to orchestrate multi-container applications locally, similar to how Kubernetes manages them. Additionally, RHEL System Roles for Podman can be leveraged to automate the creation and deployment of Quadlet applications, including configuration for secrets and volumes

Connected Capabilities of Red Hat Lightspeed include



Advisor

Recommendations for misconfigurations and best practices to improve stability, performance & availability



Vulnerability

Identifies, prioritizes and reports on known security Common Vulnerabilities and Exposures (CVEs)



Compliance

Monitors compliance with security baselines to report on and meet regulatory requirements at scale



Planning

Makes it easy to plan ahead, giving you information on the release lifecycle and the tentative roadmap.



Malware Detection

Scans for known malware using a curated signature database developed with IBM X-Force



Patch

Tracks applicable Red Hat errata across environments including security, bug fixes and enhancement advisories



Image Builder

Simplifies image customization via the creation of blueprints and deployment across hybrid environments.



Cost Management

Provides visibility into usage and cost trends across hybrid cloud environments



Subscriptions

Delivers visibility into Red Hat subscription status, usage trends and utilization across your infrastructure



Integrations

Get Red Hat Lightspeed events into tools that you are already using in your daily workflow.

These are just some of the services offered by Red Hat Lightspeed

