5 features to explore in Red Hat Enterprise Linux in the cloud

Gain a consistent operating foundation across environments

Red Hat Enterprise Linux provides an ideal foundation for hybrid and multicloud environments.

- Streamline operations and management.
- Improve cloud security and compliance.
- Maintain flexibility and choice.
- Access expert support in the cloud.
- Expand your current skills and processes to your cloud systems.
- Take advantage of convenient purchasing options and draw down spend commitments

Modern IT starts with Red Hat Enterprise Linux

Your operating system (OS) plays a critical role in your IT infrastructure. As an efficient, security-focused foundation for innovation, Red Hat® Enterprise Linux® provides a consistent, tailored experience across environments—including physical, virtualized, hybrid cloud, multicloud, and edge infrastructures. By standardizing on Red Hat Enterprise Linux for both on-site datacenter and cloud environments, you can improve operational efficiency, reduce complexity, and enhance security across your entire IT system.

Red Hat worked closely with Amazon Web Services (AWS), Microsoft Azure, and Google Cloud computing providers, to create cloud-optimized Red Hat Enterprise Linux offerings that are jointly engineered, integrated, and supported. These offerings are tailored to each hyperscaler environment, providing you with pretuned, ready-to-run images designed for optimal performance, smooth integration with cloud-native services, and enhanced observability so you can focus on innovation rather than operations. Red Hat Enterprise Linux provides features and capabilities that deliver more value for your organization.

- Uniform, consistent experiences across on-site, cloud, and edge environments let you maintain operational stability and reduce complexity when deploying workloads in different locations.
- Trusted software supply chains based on verified and curated sources help you reduce the risk of vulnerabilities, ensure compliance, and confidently deploy enterprise applications on a reliable foundation.
- A large certified partner ecosystem with broad support from hardware, software, and cloud providers offers compatibility and interoperability, giving you the flexibility to choose the best technologies for your workloads.
- Predictive analytics and remediation tools help you detect and resolve potential issues before they affect performance, improving system reliability and reducing downtime.
- Integrated automation and management tools streamline operations, simplify configuration processes, and reduce manual tasks, helping you deploy, administer, and scale systems more efficiently.
- Support for 64-bit x86 and Arm architectures provides the flexibility to run workloads on the hardware that best meets your performance, scalability, and efficiency requirements.
- Enterprise-capable security features—including Security-Enhanced Linux (SELinux)—help you meet compliance requirements and protect systems against evolving threats.
- Tuning and profiling capabilities let you analyze system performance and adjust configurations to optimize application performance.
- Native support for container technologies allows you to develop, deploy, and manage applications in an efficient, scalable environment.

Operate efficiently across cloud environments

Red Hat Enterprise Linux includes many optimizations to ensure reliable, security-focused performance in a cloud environment. It provides a consistent operating foundation for hybrid and multicloud environments, so you can run applications where it makes the most sense.

Learn more about the value of Red Hat Enterprise Linux.

Explore these 5 key features in Red Hat Enterprise Linux on the public, private, or hybrid cloud of your choice.

Simplify operations with Red Hat Enterprise Linux system roles

You can automate many common administrative tasks with Red Hat Enterprise Linux system roles. This library of automation content is included in your Red Hat Enterprise Linux subscription. Streamline administration of OS features like networking, storage, and metrics. Ensure consistent, repeatable system configurations across on-site infrastructure, public cloud resources, and edge devices. Simplify security management—including SELinux, firewalls, and virtual private networks—to maintain compliance and reduce risk. Standardize configurations and upgrades across multiple Red Hat Enterprise Linux versions to reduce manual effort and potential errors. And because Red Hat Enterprise Linux system roles are delivered as collections of Ansible® automation content, you can use them as provided or customize your system roles to meet specific requirements.

Security-related Red Hat Enterprise Linux system roles let you administer security policies consistently and with less manual effort across your organization.

- Manage transport layer security (TLS) and secure sockets layer (SSL) certificate issuance and renewal.
- Administer an automated session recording.
- Define network bound disk encryption for clients and servers.
- Configure secure shell (SSH) clients and servers.
- Establish system-wide cryptographic policies.
- Set up virtual private networks (VPNs).

With configuration-related Red Hat Enterprise Linux system roles, you can streamline and speed administration tasks across your hybrid cloud environment.

- Configure kernel settings and crash dump.
- Define networking and local storage.
- Set up high availability clusters.
- Administer postfix email servers.
- Manage logging and system metrics.

Red Hat Enterprise Linux system roles also support popular enterprise workloads.

- Simplify deployment of SAP workloads on Red Hat Enterprise Linux.
- Install, configure, and tune Microsoft SQL Server.

Access the Build a standard operating environment with system roles lab to learn about how you can build a standard operating environment, configure, and update system configurations with Red Hat Enterprise Linux system roles.

Save time and effort with Red Hat Lightspeed

Red Hat Lightspeed delivers business value across your organization:[1]

- **US$103,500** average annual benefits per 100 cloud servers or virtual machines.
- **20%** more efficient IT system management teams.
- **24%** more efficient security teams.
- **33%** faster time to market for new applications and features.
- **18%** higher developer productivity.
- **76%** less unplanned downtime.

Optimize your cloud environment with Red Hat Lightspeed

Red Hat Lightspeed (formerly Red Hat Insights) is a unique suite of hosted services that helps you manage and optimize hybrid and multicloud environments. Included with Red Hat Enterprise Linux and accessed through the Red Hat Hybrid Cloud Console, Red Hat Lightspeed adds proactive, AI-powered management and advanced security capabilities to your existing Red Hat subscription. Red Hat Lightspeed uses predictive analytics and deep domain expertise to streamline operational tasks and infrastructure lifecycles from Day 0 to Day 2. It also works across on-site and cloud environments so you can manage everything from a single interface. You can even link your Red Hat account to your cloud provider account and automatically connect your cloud-based systems to Red Hat Lightspeed and other Red Hat services upon provisioning.

With a focus on operations, security, and business outcomes, the services within Red Hat Lightspeed helps you stay ahead of critical issues and allows your staff to focus on innovation.

- **Red Hat Lightspeed** streamlines patching and update management across your hybrid environment. Review Red Hat product advisories, available patches, and affected hosts to generate update plans. Configure reusable patch templates to control which hosts receive what updates. Deploy your updates remotely to any host from a single web console, regardless of location.
- **Security analytics tools** help you manage risk effectively. Scan your systems for Common Vulnerabilities and Exposures (CVEs), collect scan information, and access remediation guidance from a single interface. Prioritize remediation actions based on the severity, risk type, and impact of the change. Audit regulatory compliance with OpenSCAP policies, correct noncompliant systems, and generate compliance reports. Define security policies, monitor systems for compliance, and alert teams of compliance issues. Additionally, rapidly detect active malware signatures in systems across your hybrid cloud.
- **Configuration assessment capabilities** rapidly identify operational risks and provide remediation guidance based on Red Hat support cases, industry best practices, and issues found by our technology and service partners. The drift service detects configuration deviations that can lead to performance, availability, security, and compliance issues. Compare your system configurations to customized baselines, other systems, and historical profiles to find changes and notify stakeholders before end users are affected.
- **Enhanced cloud observability capabilities** allow you to monitor your Red Hat Enterprise Linux instances directly within the tools you already use. Telemetry is automatically configured to feed into services like Amazon CloudWatch, Azure Monitor, and Google Cloud Observability, letting you view Red Hat Enterprise Linux assets in the same way you view the rest of your cloud resources.
- **The subscription management service** lets you track and manage your organization's Red Hat subscription use across your environment efficiently and confidently. Explore your account-wide subscription profile via a user-friendly web console. Gain complete visibility into subscription use at the organization, cluster, node, and project levels. Track and visualize historical use to better plan future IT investments.

1 *IDC Business Value Snapshot, sponsored by Red Hat. "The Business Value of Red Hat Lightspeed." Document #US51795124. February 2024.*

Choose your cloud provider

Red Hat works with all major cloud providers, plus a large selection of regional providers, to ensure Red Hat Enterprise Linux runs well in the largest public clouds.

Learn more about our cloud partnerships:

- Amazon Web Services (AWS)
- Microsoft Azure
- Google Cloud

Find the right certified cloud provider for your organization.

- **Resource optimization capabilities** help you understand and select the right size for your public cloud deployments using processor, memory, and network performance metrics. They monitor system performance over a 24-hour period, give a score for each metric, and assess systems as optimized, undersized, oversized, under pressure, or idling. Use this information to balance your cloud costs with the performance requirements of critical applications.

Try the Remediate and report vulnerabilities with Red Hat Lightspeed lab to learn how you can manage vulnerabilities with Red Hat Lightspeed.

Manage systems with the Red Hat Enterprise Linux web console

Some configuration and management tasks—for both local systems as well as servers located in your network environment—are best done interactively via the Red Hat Enterprise Linux web console. Through a simplified web interface, you can efficiently administer and monitor many aspects of your Red Hat Enterprise Linux infrastructure. The web console uses the same system application programming interfaces (APIs) that you use in a terminal, and actions you perform in a terminal are immediately reflected in the web console.

The web console lets you perform a range of common administration tasks across your local and remote Red Hat Enterprise Linux systems.

- Set up and adjust kernel dump settings for enhanced troubleshooting.
- Configure SELinux to increase security.
- Manage virtual machines (VMs) for flexible, scalable deployments.
- Monitor system performance in real time.
- Access and review system logs for proactive maintenance.
- Generate detailed reports to diagnose and resolve issues.
- Apply OS updates rapidly and efficiently.
- Track and manage system subscriptions in a single location.

Access the Update a Red Hat Enterprise Linux host with the web console lab to try the web console.

Speed OS administration with Red Hat Lightspeed

Red Hat Lightspeed incorporates decades of enterprise Linux expertise to inform both novice and experienced IT professionals and simplify how they build, deploy, and manage Red Hat Enterprise Linux across complex hybrid and multicloud environments. When using Red Hat Lightspeed image builder, you can now access proactive package recommendations powered by Red Hat Enterprise Linux. These recommendations can help you make more informed decisions at build time, when it is often easier and more cost-effective to make changes.

The new command line assistant in Red Hat Enterprise Linux, based on Red Hat Lightspeed, adds generative AI (gen AI) support by incorporating knowledge from resources like Red Hat Enterprise Linux documentation and knowledge base articles. You can interact with the command line assistant in plain language by simply asking a question via the command line and receive a natural language response. This user-friendly interaction helps you find critical information and solutions, so you can

Adopt a container-native approach

Image mode for Red Hat Enterprise Linux is an optional deployment method that uses a container-native approach to build, deploy, and manage the OS as a bootable container image.

Learn more about image mode for Red Hat Enterprise Linux.

efficiently manage Red Hat Enterprise Linux across diverse environments. As a result, your newer team members can be productive right away, while senior team members can deliver even more value in less time.

This AI-driven assistance, combined with the preconfigured performance profiles of cloud-optimized Red Hat Enterprise Linux images, dramatically shortens the time to value for your cloud workloads.

Deploy workloads simply and consistently with image mode

Image mode for Red Hat Enterprise Linux introduces a new way to build, deploy, and manage workloads rapidly and efficiently across hybrid cloud environments. By treating OSs as bootable container images, image mode lets you build, deploy, and manage Red Hat Enterprise Linux workloads with the same tools and techniques that you use for your container-based applications. With container-native technologies, you can encapsulate runtimes, drivers, and dependencies into a single, comprehensive image, and then deploy that image across your hybrid cloud environment—from physical servers to VMs to edge devices. This unified approach lets you work with a consistent set of tools and reduces the need for separate processes and toolsets to manage different environments. Running a cloud-optimized Red Hat Enterprise Linux image ensures this modern, container-native approach is built upon a foundation that is already pretuned for performance and deeply integrated with your chosen cloud provider's fabric.

The container-based processes and tools offered by image mode make managing the OS itself more efficient. You can use container-native methodologies like GitOps and continuous integration and continuous delivery (CI/CD) to manage Red Hat Enterprise Linux at scale. Automated updates, version control, and continuous improvement workflows can reduce manual intervention and the risk of errors, helping you focus on innovative projects rather than ongoing management tasks.

Image mode also addresses the challenges of managing Linux across large and complex environments. By standardizing system management through containers, image mode makes certain that updates, security patches, and configurations are applied consistently across your workloads, improving reliability, reducing downtime, and minimizing configuration deviations.

Try the Introduction to image mode for Red Hat Enterprise Linux lab to learn more.

Get started

Start your no-cost Red Hat Enterprise Linux trial and explore these key features on your preferred platform.

- Red Hat Enterprise Linux for AWS Cloud Marketplace trial
- Red Hat Enterprise Linux on-premise trial

About Red Hat

Red Hat helps customers standardize across environments, develop cloud-native applications, and integrate, automate, secure, and manage complex environments with award-winning support, training, and consulting services.

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