What is new in Red Hat Enterprise Linux 10 and beyond

Overview

As the IT landscape rapidly changes, organizations face challenges with tight resource constraints, shifting and accelerating cloud adoption, changing and ongoing security threats, and the adoption of AI.

Red Hat® Enterprise Linux® 10 helps organizations face these challenges by giving them tools to innovate more quickly, reduce operational complexity, strengthen security posture, and establish trust across their hybrid infrastructure. Designed to meet the needs of enterprise IT for the present and the future, Red Hat Enterprise Linux 10 offers features from AI-ready capabilities and image mode deployments to expanded hardware support and compliance enhancements.

Smarter tools for transformation

Organizations need to innovate in a timely manner—without becoming mired in complexity. The advanced AI capabilities of Red Hat Enterprise Linux 10 promote continuous improvement and spark innovation. For teams that need tools to help them spend less time maintaining systems or filling skills gaps, and more time creating, Red Hat Enterprise Linux 10 has features to help.

▸ **Red Hat Enterprise Linux Lightspeed**

  ▸ Enhances the usability of Red Hat Enterprise Linux with intelligent, proactive AI guidance and recommendations.

  ▸ Includes a command-line assistant powered by generative AI (gen AI) to troubleshoot, answer questions, and parse logs, all while using natural language prompts.

  ▸ Recommends relevant packages during image creation to enhance system utility.

▸ **Red Hat Lightspeed planning for Red Hat Enterprise Linux**

  ▸ Red Hat Lightspeed planning for Red Hat Enterprise Linux centralizes roadmap and lifecycle details for AppStreams and Red Hat Enterprise Linux minor releases, tailoring the view to the current state of inventoried systems. This helps organizations anticipate operating system (OS) feature releases.

  ▸ Provides roadmap visibility for upcoming Red Hat Enterprise Linux feature releases and deprecations.

▸ **Supporting emerging AI innovation**

  ▸ An optimized platform for running AI models with a security-focused framework.

  ▸ Adds image mode support and confidential computing for a security-focused model execution.

  ▸ Integrates with Postgres Vector Database and plans support for Model Context Protocol (MCP).

  ▸ Backed by a growing extensions repository and validated hardware/software partner ecosystem.

▸ **RISC-V developer preview**

  ▸ Red Hat Enterprise Linux 10, packaged as a developer preview in partnership with SiFive, offers developers early access to the security focus and reliability of a Red Hat Enterprise Linux deployment on their HiFive Premier P550 RISC-V platform.

  ▸ Offers early access to evaluate the RISC-V ISA for future server adoption.

▸ **Updated developer tools**

  ▸ New versions: PHP 8.3, NGINX 1.26, Git 2.47, Maven 3.9, and MySQL 8.4.

  ▸ Expanded support for Redis, Valkey, and new password/authentication options.

  ▸ Microsoft Windows Subsystem for Linux (WSL) can now run a Red Hat Enterprise Linux development environment on Windows without having to spin up a traditional virtual machine (VM).

Consistent, scalable operations

Complex infrastructure slows teams and increases costs—especially when building applications and juggling multiple OSs. Red Hat Enterprise Linux 10 accelerates development and deployment of critical applications, delivering consistent experiences across physical, virtual, cloud, and edge environments.

▸ **Image mode for Red Hat Enterprise Linux**

  ▸ Streamlines OS management using container workflows.

  ▸ Offers bootc image customization from scratch.

  ▸ Compliance hardening (including STIG, PCI, CIS).

▸ **Image builder enhancements**

  ▸ Improved user interface (UI) and feature parity with Insights image builder.

  ▸ Supports public cloud, bare metal, virtual, and WSL images.

▸ **Enhanced integration on clouds**

  ▸ Red Hat Enterprise Linux 10 offers jointly engineered, pretuned, and cloud-optimized images integrated with Amazon Web Services (AWS), Google Cloud, and Microsoft Azure to provide enhanced security, unified observability, integrated management tools, and streamlined deployment options.

▸ **Web console improvements**

  ▸ Remote management with packageless sessions.

  ▸ New text editor, Stratis FS config, and integrated high availability cluster management.

▸ **System roles expansion**

  ▸ Adds roles for AIDE, Podman (with Quadlet), and systemd user unit support.

▸ **Optimized SAP workloads**

    ▸ Red Hat Enterprise Linux 10 and later versions of Red Hat Enterprise Linux 9 simplify the mount structure for high availability clusters managing SAP app servers.

    ▸ The releases also introduce combined high availability resource agents for SAP HANA® scale-up and scale-out deployments.

Modern security focus and compliance tools

Organizations need robust security and the agility to scale applications quickly in hybrid cloud environments. Red Hat Enterprise Linux 10 delivers exactly that, strengthening security posture, simplifying workload management, and mitigating risk. Through clear lifecycles, quick integration, and enhanced flexibility, Red Hat Enterprise Linux 10 gives organizations tools to increase their security focus.

▸ **Post-quantum cryptography**

    ▸ Red Hat Enterprise Linux 10 introduces post-quantum cryptography algorithms designed to protect sensitive data through key-exchange, working to safeguard confidentiality against future quantum computing threats. Red Hat will continue adding algorithms in future releases to help customers meet evolving security standards and regulatory requirements.

▸ **Compliance hardening for image mode**

    ▸ Apply security-hardening profiles across package and image modes.

▸ **Streamlined FIPS validation**

    ▸ Cryptographic standards can be validated separately so that other changes (such as patches) can be performed without the need to obtain a new FIPS validation certificate.

▸ **Encrypted DNS and HSM support in tech preview**

    ▸ Meets U.S. government Office of Management and Budget (OMB) cybersecurity mandates.

    ▸ Supports secure key storage using Hardware Security Modules.

▸ **Domain join via Red Hat Lightspeed**

    ▸ Automates security-focused cloud-based domain joins with hybrid cloud console.

▸ **Red Hat Enterprise Linux Security Select Add-On**

    ▸ Allows prioritized Common Vulnerabilities and Exposures (CVE) fixes for highly regulated industries, delivered on demand, independent of Red Hat's internal CVE ratings.

    ▸ Available in 90-day service level agreements for fast turnaround times that are ideal in highly regulated industries.

    ▸ Can be purchased as a 10-pack.

Lifecycle and management tools designed for enterprise use

Staying competitive while navigating complex systems, hardware, and software lifecycles is a challenge for all enterprise-level organizations. Red Hat Enterprise Linux 10 helps tackle these challenges proactively, simplifying system management and promoting long-term success. With

capabilities such as application compatibility assessments and compliance reporting, Red Hat Enterprise Linux 10 keeps organizations aligned with industry standards and focused on growth.

▶ **Red Hat Lightspeed advisor in Red Hat Satellite**

   ▶ Now available in Red Hat Satellite 6.17 tech preview.

   ▶ Delivers proactive disk detection and configuration recommendations in disconnected environments.

▶ **Satellite 6.17 enhancements**

   ▶ Adds image mode support, Flatpak management, secure boot provisioning, and IPv6 deployment.

▶ **Red Hat Enterprise Linux extensions repository**

   ▶ Hosts vetted community-supported tools, developer packages, and niche utilities built and signed by Red Hat.

▶ **Partner validation program**

   ▶ Simplifies hardware and software compatibility and streamlines customer support experience.

▶ **Upgrade pathways**

   ▶ LEAPP-based upgrades:

      ▶ Red Hat Enterprise Linux 9.6 → Red Hat Enterprise Linux 10 (2 years)

      ▶ Red Hat Enterprise Linux 8.10 → Red Hat Enterprise Linux 9.6 (2 years)

      ▶ Red Hat Enterprise Linux 7.9 → Red Hat Enterprise Linux 8.10 (2 years)

Specifications

The following list outlines the technical details of Red Hat Enterprise Linux 10, including supported hardware, deployment options, and upgrade tools.

▶ Availability: Red Hat Enterprise Linux 10 general availability via standard subscriptions; select features in tech preview or developer preview.

▶ Supported architectures: x86_64, ARM, IBM Power, IBM Z, RISC-V (developer preview).

▶ Deployment options: bare metal, virtual, public cloud, WSL.

▶ Upgrade tools: LEAPP for multiversion transitions.

Discover how Red Hat Enterprise Linux 10 can benefit your organization

Learn more about the features and capabilities of Red Hat Enterprise Linux 10.

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