



8 Linux Distributions to Replace CentOS

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In 2021, RedHat decided to discontinue CentOS, a subscription-free alternative to RHEL that many companies, administrators, developers and end users rely on. CentOS provides an advantage to those needing to test platforms or development environments.

CentOS's end-of-support date is June 30, 2024. This means users must find an alternative distribution. There are several options to compare. Read through eight distributions that are similar to CentOS to narrow down which is best for you and your company.

Compatibility concerns

For organizations' production environments, one major concern of replacing CentOS is application compatibility. In-house projects, proprietary software, configuration files and data repositories all assume a certain structure. These connections and hierarchies might unravel if you shift the underlying platform from CentOS. Therefore, the goal of many distributions is to provide a highly compatible alternative to CentOS.

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CentOS Stream is set to replace CentOS; it is part of the flow from Fedora to RHEL. It's a rolling release that integrates CI/CD principles, making it unsuitable to enterprise environments that require consistency and reliability. It's not a beta platform, but it is also not a long-term support distribution.

Once CentOS Stream was announced as a replacement for CentOS, several distributions started providing 1-to-1 binary compatibility with RHEL, such as Rocky Linux. This means all aspects of the OS should operate the same as RHEL. Applications, kernel modules and bugs will be part of these distributions' releases.

Open source values and practices are at risk with the discontinuation of CentOS. Red Hat stopped open source cooperation, which forced new distributions, such as AlmaLinux, to move from a 1-to-1 commitment to an Application Binary Interface (ABI) approach. This means applications and services might run the same as they do on RHEL, but the underlying infrastructure might not be the same. One positive aspect is that each distribution can now implement bug fixes as it sees fit.

What makes a distribution similar to CentOS?

There are several considerations when looking at CentOS alternatives. Some distributions are RHEL clones with ABI compatibility, while others are not related to RHEL. Some distributions include enterprise support, and others are community

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driven. Some also offer migration tools to ease moving from CentOS to their own distribution.

Application compatibility is one consideration. Another aspect is package management. Many Linux package managers exist outside of RPM versus DEB. Make sure to use package managers that are compatible with the distribution you choose. For example, RPM is used for Red Hat based-distributions (Fedora and CentOS), while DEB is used for Debian-based distributions (Ubuntu and Linux Mint). Companies must also decide what support levels they might need and what installation platforms are supported.

Consider the workload or purpose of your Linux devices. Your developers may benefit from one Linux distribution, while your infrastructure servers might need to be something else. The migration away from CentOS may also be a time to consider cloud-based alternatives.

Distributions similar to CentOS

The following comparisons highlight overall compatibility, installation options, support options and migration tools. The list provides eight alternatives to CentOS.

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RED HAT ENTERPRISE LINUX (RHEL)

Instead of looking for something that is compatible with RHEL, just use RHEL. There are options for free versions of RHEL within specific boundaries, such as the number of installations. However, full access to RHEL requires a subscription. Advantages to RHEL include long-term support and development by Red Hat.

- **Name.** Red Hat Enterprise Linux.
- **Purpose.** Stable and predictable server platform.
- **RHEL clone.** It is RHEL.
- **Compatibility.** This is the binary the other distributions in this article are measured against.
- **Primary package manager.** DNF using .rpm packages.
- **Installation options.** Support for Intel, AMD, ARM and IBM Z.
- **Migration tools for CentOS.** Convert2RHEL utility.
- **Support tiers.** Various subscription offerings that relate to support windows and features.

ROCKY LINUX

Rocky Linux is based on the RHEL binaries, offering an enterprise-class Linux distribution. Rocky Linux is a compelling choice for those moving away from CentOS. The distribution claims to be "bug-for-bug" compatible with RHEL and still supports

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the spirit of open source. While Rocky is community driven, it includes long-term sponsors, such as Ctrl IQ.

- **Name.** Rocky Linux.
- **Purpose.** Enterprise server OS.
- **RHEL clone.** Yes.
- **Compatibility.** 1-to-1 binary compatibility.
- **Primary package manager.** DNF using .rpm packages.
- **Installation options.** Standard, alternative, cloud and OpenStack.
- **Migration tools for CentOS.** Rocky Linux includes a migration script.
- **Support tiers.** Offered by sponsors.

ALMALINUX

Much like Rocky Linux, AlmaLinux is a response to the discontinuation of CentOS. The organization and its sponsors are committed to long-term support under the open source ideals. AlmaLinux is community-driven and maintains complete compatibility with RHEL. This distribution works for individuals, small organizations and worldwide enterprises.

- **Name.** AlmaLinux.
- **Purpose.** Enterprise server OS.
- **RHEL clone.** Yes.
- **Compatibility.** ABI.
- **Primary package manager.** DNF using .rpm packages.

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- **Installation options.** ISO, cloud, containers, Vagrant, Raspberry Pi and Windows Subsystem for Linux.
- **Migration tools for CentOS.** Migration application.
- **Support tiers.** Offered by sponsors.

ORACLE LINUX

Oracle Linux emphasizes security, automation and ease of management. Oracle is a viable alternative for organizations migrating from CentOS to enterprise-class support. One of Oracle's big selling points is the Unbreakable Linux Network. This service provides resources, patches, updates and additional applications to members, providing a support environment reminiscent of the Red Hat Network.

- **Name.** Oracle Linux.
- **Purpose.** Enterprise deployment.
- **RHEL clone.** Similar but with Red Hat branding removed.
- **Compatibility.** ABI.
- **Primary package manager.** DNF using .rpm packages or the Unbreakable Linux Network.
- **Installation options.** ISO, Vagrant, cloud images, Raspberry Pi and containers.
- **Migration tools for CentOS.** Provides documentation on managing applications and kernel modules for migration.
- **Support tiers.** Basic, Premiere and Extended levels offering 24/7 global support.

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UBUNTU SERVER (OS VIA LINUXONE)

Ubuntu Linux is a user-friendly desktop distribution, but it is also available as a server platform with long-term support options. Ubuntu Linux is not a RHEL derivative. In fact, its origins lie with Debian Linux. That means package management, bug fixes and application support all differ significantly from CentOS. The decision point comes down to how much Red Hat compatibility you need. Ubuntu relies on Snap application management, while RHEL-based distributions use Flatpak.

- **Name.** Ubuntu Server.
- **Purpose.** Enterprise support for containerization and cloud services.
- **RHEL clone.** No.
- **Compatibility.** Not ABI, but most apps run the same on either platform.
- **Primary package manager.** APT using .deb packages.
- **Installation options.** ISO, cloud images, ARM and IBM Z.
- **Migration tools for CentOS.** None.
- **Support tiers.** Multiple support tiers and subscription services.

DEBIAN LINUX

Debian is an old distribution that has exerted an immense influence on the open source environment. This distribution is community driven, flexible and well documented. Debian is a viable choice for power users and developers whether

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freelance or within an enterprise infrastructure. Debian's power and flexibility might be a deciding factor.

- **Name.** Debian.
- **Purpose.** Client-side platform for users and power users.
- **RHEL clone.** No.
- **Compatibility.** Not ABI, but most apps run the same on either platform.
- **Primary package manager.** APT using .deb packages and Snap.
- **Installation options.** ISO, cloud image, live installation and IoT deployments.
- **Migration tools for CentOS.** None.
- **Support tiers.** Community support and documentation.

FEDORA LINUX

Fedora is Red Hat's upstream distribution. While focused on end users, many features that will someday end up in RHEL originate here. Rather than thinking of Fedora as a clone that comes after RHEL, think of it as a precursor to RHEL. Fedora is a robust distribution where Red Hat can work with new ideas and applications to see how they might fit into RHEL. Fedora is not a beta environment.

- **Name.** Fedora.
- **Purpose.** Client-side platform for users, power users and developers.
- **RHEL clone.** No; Fedora previews features that might be integrated into RHEL in the future.
- **Compatibility.** Yes.

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- **Primary package manager.** DNF using .rpm packages.
- **Installation options.** Workstation, server, cloud, IoT and Spins.
- **Migration tools for CentOS.** None.
- **Support tiers.** Community support and extensive documentation.

LINUX MINT

Linux Mint has gained a reputation as a simple and elegant Linux desktop deployment. It's derived from Debian but has a unique identity. Variations center on desktop interface options. Linux Mint is a great option for former CentOS users who need a solid daily driver workstation for content writing, documentation generation, development and other related projects that don't need a server. It's Debian based, so you need to change package managers from CentOS.

- **Name.** Linux Mint.
- **Purpose.** Client-side platform for users and power users.
- **RHEL clone.** No.
- **Compatibility.** Not ABI, but most apps run the same on either platform.
- **Primary package manager.** APT using .deb packages.
- **Installation options.** ISO with various desktop options, plus cloud-based Shells workstations.
- **Migration tools for CentOS.** None.
- **Support tiers.** Community and documentation.

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BONUS OPTIONS

If you're investigating cloud-centric distributions, be sure to consider Amazon Linux 2023 and CloudLinux. Both are optimized for cloud services but are similar to CentOS.

- Amazon Linux 2023 includes a predictable release schedule and emphasizes security. It is free to AWS users. Amazon ended support for the older Amazon Linux AMI distribution on Dec. 31, 2020.
- CloudLinux features strong hosting capabilities, technical support and a broad installation base. It offers several installation options tailored to individuals, small businesses and larger organizations.

What to consider when choosing a new distribution

It's relatively easy to explore Linux options. Do a test install on available hardware or use your favorite virtualization solution. Many distributions have cloud, container and live installation options.

Some distributions have Raspberry Pi installation options as another alternative. These include AlmaLinux, Rocky Linux, Oracle Linux, Ubuntu, Debian and Fedora.

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Time is running out to migrate your organization's critical services away from CentOS. There are plenty of choices, but the options might boil down to a few essential questions:

- Do you need support?
- Do you need binary-level compatibility with RHEL for applications?
- Do you need to retain an RPM-based package manager?
- Do you want help migrating away from CentOS?

This is the time to sanity-check your Linux infrastructure. You might want to start hosting servers in the cloud or deploy a more virtualized platform. Consider differentiating between end-user Linux workstations and behind-the-scenes servers.