Oracle Linux

A highly optimized and secure operating environment for application development and deployment, Oracle Linux delivers virtualization, management, automation, and cloud native computing tools, along with the operating system, in a single, easy-to-manage offering. It is supported on-premises, in the cloud, and at the edge. Oracle Linux is an ideal choice for users who need a stable Red Hat Enterprise Linux (RHEL)-compatible alternative.

Software features

Choice of OS kernels

- The Unbreakable Enterprise Kernel (UEK) delivers the latest Linux operating system innovations and business-critical performance and security optimizations for cloud and on-premises deployment while providing binary compatibility with applications certified to run on Red Hat Enterprise Linux (RHEL). UEK Release 7, based on the mainline long term support (LTS) Linux kernel version 5.15, includes many upstream enhancements and is available on Oracle Linux 8 and 9.
- The Red Hat Compatible Kernel (RHCK). RHCK allows users to run their existing RHEL-compatible software on Oracle Linux without modification and to take advantage of Oracle's own optimizations and features.

Security and compliance

- Ksplice zero-downtime updates patch the kernel, hypervisor, and critical user space libraries without requiring a reboot or interruption.
- Ksplice known exploit detection enables auditing and alerting for known privilege escalation vulnerabilities.
- Common Criteria (CC) Certification and FIPS 140-2 validation of its cryptographic modules. FIPS 140-3 validation is in progress.
- Published Security Technical Implementation Guide (STIG) in Security Content Automation Protocol (SCAP) format.

Cloud native DevSecOps

- Oracle Cloud Native Environment is software for configuring, deploying, updating, and upgrading infrastructure for running cloud native applications. It is based on open standards, specifications, and APIs defined by the Open Container Initiative and Cloud Native Computing Foundation (CNCF), including a CNCF-certified Kubernetes module, container runtimes, service mesh, storage, networking, observability, and diagnostics.

Key features

- Zero-downtime kernel, hypervisor, and user space updates with Ksplice
- KVM server virtualization and oVirt-based virtualization manager
- AWX- and Ansible-based Automation Manager and Automation Engine
- Cloud native tools such as Kubernetes
- Linux management and high availability

Key benefits

- Increase security by applying patches with zero-downtime
- Improve performance of enterprise workloads
- Simplify and automate operations with a single complete support offering
- Proven performance and reliability in Oracle Engineered Systems and Oracle Cloud
- Free to use, free to distribute, free to update
- Lower total cost of ownership (TCO)

Virtualization

- Kernel-based Virtual Machine (KVM) hypervisor is included with Oracle Linux, supporting Intel VT-x and VT-d hardware extensions and Secure Encrypted Virtualization (SEV) for AMD-V enabled processors.
- Oracle Linux Virtualization Manager configures, monitors, and manages Oracle Linux KVM.

File systems

- XFS is the default file system for Oracle Linux 7, 8 and 9.
- Btrfs, for large storage subsystems.
- Oracle Cluster File System 2 (OCFS2), a general purpose, extent-based clustered file system.
- Gluster Storage for Oracle Linux, a scalable, distributed file system.
- Oracle Linux also supports the T10 Protection Information Model (T10-PIM) to help prevent silent data corruption.

High availability

- Corosync and Pacemaker, the de-facto standard open source high availability solution for Linux, are supported along with `HAproxy` and `keepalived` which provide load balancing services.
- Oracle Clusterware, an enterprise high-availability software solution, is included with Oracle Linux Support subscriptions.

Management tools

- Oracle Linux Automation Manager and Engine, based upon the open source AWX and Ansible projects respectively, enables users across an organization to create, share, and manage infrastructure automation tasks.
- Oracle Linux Manager provides tools for managing the Oracle Linux software life cycle. It also helps automate a kickstart installation, system configuration, and maintenance tasks.
- DTrace, a dynamic tracing framework, provides insight into the behavior of the operating system and user programs in real time.
- Oracle Enterprise Manager base installation is included with every Oracle Linux Support subscription.
- Additionally, customers have the option of using the OS Management Service to automate common operating system management tasks such as patch and package management, and security and compliance reporting for Oracle Linux and Microsoft Windows compute instances deployed in Oracle Cloud.

Run Oracle Linux on-premises or in the cloud

Customers can choose to run the same Oracle Linux on-premises or in the cloud. Oracle-built Oracle Linux images are available in Oracle Cloud Infrastructure, Microsoft Azure, and Amazon Web Services. This makes it easy to run Oracle Linux instances anywhere.

Supported hardware

Oracle Linux is supported on the following hardware architectures

- 64-bit Intel and AMD (x86-64)
- 64-bit Arm (aarch64)

Visit the Oracle Linux Hardware Compatibility List (HCL)

Related products

- Oracle VM VirtualBox
- Oracle Enterprise Manager
- Oracle Engineered Systems

Related services

Support services for Oracle Linux

- Oracle Linux Support
- Oracle Premier Support for Systems
- Oracle Cloud Infrastructure includes Oracle Linux Premier Support without additional cost

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Great platform for application development and deployment

Since the debut in 2006, Oracle Linux has been completely free to use and easy to download. The same version of software can be run across build, development, QA/test, and production systems, in the cloud or on-premises.

ISO installation images are available from the Oracle Linux yum server and Oracle Software Delivery Cloud. Individual RPM packages are available on the Oracle Linux yum server and the Unbreakable Linux Network (ULN). Container images are available via Oracle Container Registry, GitHub Container Registry and Docker Hub.

There are additional Oracle Linux resources such as scripts to build Oracle Linux images, virtual machine templates and Vagrant projects that can help users rapidly build and provision Oracle Linux instances for Oracle VM VirtualBox, KVM, Oracle Cloud or other clouds.

Oracle Linux compatibility

Oracle Linux is 100% application binary compatible with Red Hat Enterprise Linux. Migrating an existing system from RHEL or CentOS Linux to Oracle Linux does not require the operating system or any application to be reinstalled. Oracle can also take over support for customers' existing RHEL or CentOS Linux systems. Just follow the instructions outlined at linux.oracle.com/switch.html and linux.oracle.com/switch/centos.

Independent Software Vendors (ISV) and Independent Hardware Vendors (IHV) work closely with Oracle to help ensure their offerings are up to date, tested, certified, and supported with Oracle Linux.

Established member of the Linux community

Oracle is a platinum member of the Linux Foundation and the Cloud Native Computing Foundation, and one of the industry's largest contributors to open source.

Free and comprehensive training and learning resources

In addition to documentation, Oracle offers free and comprehensive training resources such as learning paths, tutorials, hands-on labs, and videos to help users develop applications on Oracle Linux and get the best value from their Oracle Linux deployments.

Flexible support options and more value

Oracle is the only vendor in the industry that offers a complete Linux-based solution stack – applications, middleware, database, management tools, operating system, virtualization, hardware, engineered systems, and cloud. With Oracle as their Linux support provider, customers can have a single point of contact for all their support needs.

Oracle Linux Support can be significantly lower in cost than competing vendors' Linux support. Customers can decide which of their systems should be covered by a support subscription and at which level each of them should be supported.

ORACLE

This makes Oracle Linux an ideal choice for both development and production systems.

Support coverage	Premier support	Basic support
24x7 telephone and online support	✓	✓
Around-the-clock access to enhancements, updates, and errata	✓	✓
Oracle Enterprise Manager for Linux Management	✓	✓
Oracle Linux Manager	✓	✓
High availability with Oracle Clusterware	✓	✓
Comprehensive tracing with DTrace	✓	✓
Oracle Linux load balancer	✓	✓
Container runtimes (Docker and Podman)	✓	✓
Comprehensive indemnification	✓	✓
Oracle Linux Virtualization Manager	✓	✗
Zero-downtime patching with Ksplice	✓	✗
Oracle Linux Automation Manager/Engine	✓	✗
Oracle Cloud Native Environment (Kubernetes)	✓	✗
Gluster Storage for Oracle Linux	✓	✗
HA with Corosync and Pacemaker	✓	✗
Premier backports	✓	✗
Lifetime sustaining support	✓	✗

Resources

- Learn more at oracle.com/linux
- Download Oracle Linux
- Oracle Linux documentation and training
- Oracle Linux and Virtualization ISV catalog
- Oracle Linux and Virtualization hardware certification list (HCL)

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