

Oracle Linux FAQ

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General Overview

What is Oracle Linux?

Oracle Linux is an open source operating system available under the GNU General Public License (GPL) and is available for free download through [Oracle E-Delivery](#). Oracle offers 24x7, global support for Oracle Linux through a paid subscription.

Oracle Linux offers two Linux kernels to choose from:

- The Red Hat Compatible Kernel, for those who prefer strict Red Hat compatibility or
- The new Unbreakable Enterprise Kernel, for those who want to leverage the latest features in Linux and boost performance and scalability.

What is Oracle's Unbreakable Enterprise Kernel for Linux?

Oracle's Unbreakable Enterprise Kernel is a fast, modern, reliable Linux kernel that is optimized for enterprise software and hardware. Oracle Linux combined with Oracle's new Unbreakable Enterprise Kernel brings the latest Linux innovations to market delivering extreme performance, advanced scalability and reliability for enterprise applications. Existing applications run unchanged on this kernel. Oracle Unbreakable Enterprise Kernel is the default kernel starting with Oracle Linux 5.6 and Oracle Linux 6.

The Unbreakable Enterprise Kernel is now the only Linux kernel Oracle recommends for use with not only Oracle software for all enterprise applications running on Linux. Unbreakable Enterprise Kernel is available for x86-64 servers.

What are the key benefits of Oracle's Unbreakable Enterprise Kernel?

Based on the stable 2.6.32 Linux kernel and including optimizations from collaboration between Oracle's Linux, Database, Middleware, and Hardware engineering teams, the Unbreakable Enterprise Kernel offers:

- **Fast**—Delivers more than 75 percent performance gain in 8 socket OLTP performance tests over a Red Hat 5 Compatible Kernel; 200 percent speedup of Infiniband messaging; 137 percent faster solid state disk access;
- **Modern**—Optimized for large servers; improved power management and energy efficiency; fine grained CPU and memory resource control; derived from the stable 2.6.32 mainline Linux kernel
- **Reliable**—Supports the Data Integrity Extensions and T10 Protection Information Model, improves application uptime
- **Optimized for Oracle**—Built and tested to run Oracle hardware, databases, and middleware

Read the [Unbreakable Enterprise Kernel Data Sheet](#) for more details on features.

Does Oracle still offer Red Hat Enterprise Linux compatibility?

Oracle stays committed to offering compatibility with Red Hat. We will continue to release and support the Red Hat Compatible Kernel as part of Oracle Linux, for customers that require strict compatibility.

How can I get support for the Unbreakable Enterprise Kernel?

The Unbreakable Enterprise Kernel is supported under the current Oracle [Linux Support Program](#) . There is no change in pricing.

What are advantages of using Oracle Linux 5 with the Unbreakable Enterprise Kernel vs. RHEL6?

Here are some important advantages of using Oracle Linux 5 and the Unbreakable Enterprise Kernel:

- **No re-installation required to take advantage of Linux kernel 2.6.32**
Unbreakable Enterprise Kernel is based on Linux kernel 2.6.32 and can be deployed today together with Oracle Linux 5 without reinstalling the entire operating system. Third party applications run unchanged. So, you can take advantage of the 2.6.32 kernel without doing a complete re-install of the operating system and re-certification of your applications. In RHEL6, Red Hat has made thousands of changes on top of 2.6.32, none of which have been tested with Oracle software. Furthermore, deploying RHEL6 requires a complete reinstallation.
- **Extreme Performance**
Oracle Linux 5 with Unbreakable Enterprise Kernel represents very high boost in Linux performance. Oracle made numerous improvements in Infiniband, RDS, as well as overall networking, I/O and NUMA enhancements to ensure that Linux runs comfortably on systems with many sockets and backed by high performance networking and storage infrastructure. Oracle's largest and highest performance Exadata system now runs Oracle Linux 5 with Unbreakable Enterprise Kernel.
- **Fully tested with Oracle**
Unbreakable Enterprise Kernel represents a small set of changes on top of the stable 2.6.32 mainline kernel. These changes are focused on performance and stability and are tested around the clock in Oracle's development and QA farms. On any given day, roughly 80,000 hours worth of tests are run with Oracle software on top of Unbreakable Enterprise Kernel.
- **Your existing applications run unchanged on Oracle Linux**
Third party applications run unchanged and the installation of Unbreakable Enterprise Kernel can be easily and safely undone without affecting the operating system. RHEL6 implements a new set of system libraries, including glibc, demanding a complete re-validation and re-certification of all applications.

What is Oracle Linux Support?

[Oracle Linux](#) Support Program delivers enterprise-class support for Linux with premier backports, comprehensive management, cluster software, indemnification, testing and more, all at significantly lower cost. Oracle is committed to delivering high quality, comprehensive, and integrated support solutions to help ensure that organizations succeed with the Linux operating system.

Under the Oracle Linux Support Program, customers can receive full support for Oracle Linux running with either the Unbreakable Enterprise Kernel or the Red Hat Compatible Kernel.

What does Oracle deliver with Linux support?

Driven by enterprise customer requirements, Oracle offers the following for Linux server deployments:

- [Free installable binaries](#) for Oracle Linux;
- Three levels of Linux support to choose from
 - Network – software, including updates;
 - Basic – 24x7 global support, complete Linux server lifecycle management, cluster software;
 - Premier – 24x7 global support, complete Linux server lifecycle management, cluster software, premier backports, and Oracle Lifetime Support.
- Access to patches, fixes and updates, via a subscriber network, the [Unbreakable Linux Network](#) (ULN)

Who can take advantage of Oracle Linux Support Program?

Anyone can get Linux support from Oracle whether or not they are using Oracle products. Oracle supports both existing Red Hat Enterprise Linux installations as well as new or existing Oracle Linux installations.

How can Oracle provide enterprise-quality support for Linux while lowering cost?

For decades, Oracle has been supporting customers' enterprise-class software deployments for the most mission critical data centers in the world. As the industry's leading enterprise support provider, Oracle offers:

- Thousands of support professionals in 145 countries with 27 local languages and 24x7 global coverage;
- Dedicated Linux engineering team;
- Comprehensive testing and optimization of Linux with third-party hardware, storage, networking, and drivers;
- Complete support for the complete software stack including enterprise applications, middleware, database, Linux, virtualization, servers and storage.
- Services and expertise for installation, configuration and full Linux stack deployment.

Why does Oracle offer Linux support?

Oracle has a long-standing history of supporting standards-based computing to lower the cost of IT infrastructure for customers. Linux is one of the fastest growing operating systems for Oracle software deployments, and as such is very important to our customers. The customer community demands true enterprise quality support for the operating system as they deploy data center solutions with Oracle and Linux. Oracle is deeply committed to delivering high quality enterprise Linux support and advancing Linux technology so that we service our customers better and at the same time accelerate the growth of the Linux operating system as a data center solution. Oracle's backing for Linux, including the Oracle Unbreakable Linux program is critical to the success of Linux in the data center.

How does Oracle work with the Linux community?

Oracle is committed to developing, supporting, and promoting Linux. Oracle has been a key contributor to the Linux community for many years, including major code contributions such as [Oracle Cluster File System](#) (that has been part of the Linux kernel since version 2.6.16) and the [btrfs file system](#) (integrated into the Linux kernel since version 2.6.29). Oracle's Linux Engineering team is a trusted part of the Linux community and several Oracle employees are Linux mainline kernel maintainers. Oracle will continue contributing Linux-related innovations, modifications, documentation and fixes directly to the Linux community on a timely basis. We will strive to set the standard for collaborating with the Linux community.

Oracle puts tremendous effort into testing Linux to run well in the enterprise. Oracle's Linux test lab uses many test kits that are based on real customer workloads to test and stress Linux for performance, reliability, scalability and high availability. The results of these testing efforts make their way into the Linux kernel as bug fixes and new enhancements, thereby making Linux better for our customers. Learn more about [Oracle's work with the Linux community and with other open source projects](#).

How does Oracle use Linux to run its business and product development?

Oracle has realized first-hand the benefit of lower IT costs from using Linux in a grid computing infrastructure. [Oracle On Demand](#), Oracle's outsourcing business, runs on Linux, as does [Oracle University](#). Oracle also runs the Application Demo Systems and Technology Demo Systems, which consist of several hundred servers, on Linux. These systems are utilized by Oracle's worldwide sales organization to provide Oracle product demonstrations to customers and prospects. Oracle Global IT runs Oracle Linux with more than 42,000 servers, supporting more than 4 million external users and 84,000 internal users.

More than 20,000 developers at Oracle use Oracle Linux to develop key Oracle products such as Oracle Database, Fusion Middleware, and E-Business Suite. This includes development for all of Oracle's major products including Oracle E-Business Suite, Oracle Fusion Middleware and Oracle Database. Plus, all of Oracle's internal Linux systems are supported by Oracle's Linux support team.

Learn more about [Oracle's Linux Leadership and Commitment](#).

Pricing

How much do I pay for Linux support from Oracle?

Oracle's pricing for Linux support is simple, and applies to support for Oracle Linux with either Unbreakable Enterprise Kernel and/or Red Hat Compatible Kernel. Support pricing is calculated on a per system basis as follows:

	Annual price per system with up to 2 physical CPUs	Annual price per system with unlimited physical CPUs	
Installable Binaries and Source	Free	Free	Free installable Linux binaries and source will be available through Oracle E-Delivery
Oracle Linux Network Support	\$119	\$119	Access to software and updates through the Unbreakable Linux Network.
Oracle Linux Basic Support	\$499	\$1,199	Network access plus 24x7 support with global coverage and complete Linux server lifecycle management.
Oracle Linux Premier Support	\$1,399	\$2,299	Network access, 24x7 support with global coverage, complete Linux server lifecycle management, plus back port of fixes to earlier releases as well as Oracle Lifetime Support.

A monolithic integrated circuit with multiple cores or hyperthreading is counted as a single physical CPU when determining the total number of physical CPUs in a system; see the [pricing guide](#) for further details.

Indemnification

Does Oracle indemnify users against intellectual property infringement claims?

Yes. Oracle is committed to the success of the Linux operating system and will stand behind our support offering by providing indemnification for intellectual property claims raised against our customers. This indemnification is offered for all Linux users supported by Oracle, and is included with Network, Basic, and Premier Linux support. The indemnification is not in any way limited to the amount of money a customer has paid Oracle. Oracle's indemnification offer is part of Oracle's Linux support contract, which states

"Provided you are a current subscriber to Oracle Linux support services, if a third party makes a claim against you that any covered programs furnished by Oracle ("material" or "materials"), and used by you for your business operations infringes its intellectual property rights, Oracle, at its sole cost and expense, will defend you against the claim and indemnify you from the damages, liabilities, costs and expenses awarded by the court to the third party claiming infringement or the settlement agreed to by Oracle, if you do the following:

- Notify Oracle promptly in writing, not later than 30 days after you receive notice of the claim (or sooner if required by applicable law);
- Give Oracle sole control of the defense and any settlement negotiations;
- Give Oracle the information, authority, and assistance it needs to defend against or settle the claim."

With Oracle's offer of comprehensive and thorough indemnification against infringement, users can now deploy Linux without hesitation. Oracle's indemnification offer makes Linux an even more attractive choice for enterprise deployments. Read the [Top Five Facts About Oracle's Indemnification for Linux](#) for more information.

Compatibility and Third-Party Solutions

Is Oracle taking Red Hat's source code?

Linux is available under the GPL license, which requires free distribution of the source code. A significant amount of code that is shipped by Red Hat as part of its distribution is actually created by developers outside of Red Hat. Oracle takes the source code that Red Hat makes available under GPL. To offer the Red Hat Compatible Kernel, Oracle will track the Red Hat distribution closely to ensure compatibility for users.

What happens to third party application certification if I start using Oracle Linux Support?

Customers can continue to use any ISV application that has been certified for use with RHEL3, RHEL4 and RHEL5. Oracle will offer support for the operating system running underneath applications that have been certified with these versions of Red Hat Enterprise Linux.

Since 2002, Oracle has been providing patches and fixes for RHEL while fixing P1 issues for the Linux OS for our customers. Oracle has maintained compatibility with RHEL, proving that Oracle can effectively manage this process with 3rd party applications.

Oracle will offer support for the operating system running underneath any ISV application that has been certified for use with Red Hat Enterprise Linux. An ISV does not need to do anything special to test and certify their application with Oracle Linux. Going forward, ISVs may test and certify Oracle Linux by running the same tests they run against RHEL. For more details, see: [Certifying your applications with Oracle Linux](#)

What happens if Red Hat does not take Oracle's patches in their release?

Oracle makes all Linux patches and updates available under GPL and anyone, including Red Hat, can take those fixes. Oracle directly provides patches to Red Hat via their public bug tracking system for consideration for inclusion in their next RHEL updates. Oracle synchronizes with every major RHEL software release including updates. If Red Hat fixes the problem (whether incorporating Oracle's patch or not) Oracle will accept and include Red Hat's fix. If Red Hat does not include Oracle fixes in their update releases and does not otherwise resolve the defect, Oracle will include the additional fixes at the time of each major synchronization with the current RHEL software release.

Which hardware architectures is Oracle Linux supported on?

Oracle Linux is supported on x86 (32 bit), x86-64 (64 bit) and Itanium (ia64) according to this list of [Oracle Linux Supported Releases](#).

Where can I find details about certified hardware for Oracle Linux?

You can read more about certified hardware for Oracle Linux [in this document](#).

Is Oracle Linux support included with Oracle's Sun Fire and Sun Blade systems?

Yes, when you purchase Oracle's Sun x86 systems with Premier Support for Systems, Oracle Linux Premier support is included (as well as support for Oracle VM and Oracle Solaris). Read more about [Oracle Premier Support for Systems](#) and [Oracle Premier Support for Operating Systems](#)

How can I find out which third party providers have endorsed Oracle?

Oracle has strategic partnerships with key industry vendors including the ones that run on Linux. Visit the [Partner Endorsements page](#) to see the third party solutions which support for the Oracle Linux support program.

Support Details

What is the Unbreakable Linux Network (ULN)?

The [Unbreakable Linux Network](#) (ULN) is a comprehensive resource for Oracle Linux support subscribers, and offers access to Linux software patches, updates and fixes. ULN is similar to Red Hat Network (RHN). Read the [Unbreakable Linux Network white paper](#) for more information. To access ULN, a valid Customer Support Identifier (CSI) is required. To obtain a CSI, purchase Linux support from the [Oracle Linux Store](#) or through your Oracle Sales contact.

How can users manage their Linux servers once they download patches from ULN?

Oracle Management Pack for Linux delivers comprehensive provisioning, patching, monitoring and administration capabilities via a single, web-based interface, further reducing the complexity and cost of managing Linux environments. Oracle Linux support customers at the Basic and Premier levels have access to the [Oracle Management Pack for Linux](#) license and support, at no additional charge.

Is clustering software included with Oracle Linux support?

Oracle Linux support customers at the Basic and Premier support levels can download and deploy Oracle Clusterware at no additional license fee or support cost. Oracle Clusterware is portable cluster software that groups together individual servers so they can cooperate as a single system. A fundamental component of Oracle Real Application Clusters, Oracle Clusterware can operate independently and helps ensure the protection of an application, Oracle or third-party.

Oracle Clusterware enables high availability, an essential component of business continuity, for applications and databases managed in the cluster environment—including Oracle Single Instance Databases, Oracle Application Servers, Oracle Enterprise Manager components, third party databases, and other applications. For more information, read the [Oracle Clusterware for Oracle Linux FAQ](#).

Does Oracle provide support for Red Hat Global File System (GFS), Red Hat Cluster Suite (RHCS), or Red Hat Application Server (RHAS)?

Red Hat Global File System (GFS) and Red Hat Cluster Suite (RHCS) are part of RHEL5 and Oracle Linux 5 so they are supported by Oracle under the Linux Support Program. However, since GFS and RHCS are not included with RHEL4, Oracle Linux 4 and earlier versions, they are not supported by Oracle with RHEL4, OL4, and earlier versions. Similarly, Oracle Linux 6 does not include support for features that are delivered as extra cost add-ons in Red Hat Enterprise Linux 6, such as the High Availability Add-On for clustering and the Resilient Storage Add-On for GFS2.

Oracle Linux software already includes the [Oracle Cluster File System \(OCFS2\)](#). Developed by Oracle, OCFS2 is a shared storage file system integrated into the Linux kernel (2.6.16 and higher) and released under the GNU General Public License.

Does Oracle Support Xen and KVM as part of Red Hat Enterprise Linux?

Red Hat Enterprise Linux 5 integrates Kernel-based Virtual Machine (KVM) and ships Xen as the default hypervisor, so they are supported by Oracle under the Oracle Linux support program. However, Oracle does not support Oracle products on RHEL's KVM/Xen. Oracle delivers Oracle VM Server for x86, free server virtualization software that fully supports both Oracle and non-Oracle applications, and delivers more efficient performance backed by world-class support at a significantly lower cost. Learn more about [Oracle VM Server for x86](#).

Transition

What is required to transition my existing RHEL installation from RHN to Unbreakable Linux Network (ULN)?

There is no need to reinstall the operating system. To connect your RHEL systems with the [Unbreakable Linux Network](#), follow the steps [outlined here](#). In summary, you download and install registration software and use your customer support identifier (CSI) to register your server. Once you have completed these steps, you may use yum or up2date to download and install updates from ULN.

When switching to Oracle Linux support for my current Red Hat Enterprise Linux installations, am I required to remove any Red Hat logos or other Red Hat files from my system?

As per the [Red Hat license agreement](#), as long as you do not redistribute the Red Hat Enterprise Linux software, you do not have to change or remove any packages in the Red Hat Enterprise Linux distribution when switching to Oracle Linux Support. In order to receive updates for Oracle Linux, you must register your system with Unbreakable Linux Network by following instructions in this document.

More Information

How do I get more information and purchase Linux support from Oracle?

To get more information, visit oracle.com/linux and to purchase Linux support, visit shop.oracle.com.

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