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LINUX

ORACLE LINUX WITH ORACLE'S UNBREAKABLE ENTERPRISE KERNEL

FAST, MODERN, AND RELIABLE

KEY FEATURES

- Modern kernel based on 2.6.32, optimized by Oracle for server deployments
- Includes OCFS2 1.6 for clustered volumes
- Includes OFED 1.5.1
- Advanced NUMA support
- New diagnostic and tracing tools, including performance counters
- Complete data integrity checking from application to disk
- Hardware fault management

KEY BENEFITS

- Tested and recommended by Oracle
- Easy to install — no need to reinstall the operating system
- Existing applications run unchanged
- Extreme performance, especially for large systems
- Fine grained control over memory and CPU resources
- Improved power management
- Improved application uptime
- Faster problem resolution
- Avoids silent data corruption

Part of Oracle Linux, Oracle's new Unbreakable Enterprise Kernel brings the latest innovations and improvements from upstream Linux development to the datacenter.

Fast, Modern, and Reliable Linux Kernel

With Unbreakable Enterprise Kernel, Oracle delivers the latest innovations from upstream development to customers who run Red Hat Enterprise Linux 5 or Oracle Linux 5.

Unbreakable Enterprise Kernel is based on a stable 2.6.32 kernel and includes optimizations developed in collaboration with Oracle's Database, Middleware and Hardware engineering teams to ensure stability and optimal performance for the most demanding enterprise workloads.

Oracle Linux also includes a Red Hat compatible kernel, compiled directly from Red Hat Enterprise Linux source. Under the Unbreakable Linux Support program, Oracle will continue to support the Red Hat Compatible kernel. This means you have a choice at boot time: strict RHEL compatibility with the Red Hat Compatible Kernel or a system optimized for running enterprise software with the Unbreakable Enterprise Kernel.

Easy Installation on top of Oracle Linux 5

Unbreakable Enterprise Kernel is delivered via Unbreakable Linux Network, so installation on top of Oracle Linux 5 is quick and easy. To install Unbreakable Enterprise Kernel, customers may subscribe to a new Oracle Linux 5 Latest channel on the Unbreakable Linux Network (ULN). Unbreakable Enterprise Kernel is available for x86-64 servers.

Existing Applications Run Unchanged

Oracle Linux is fully compatible— both source and binary—with Red Hat Enterprise Linux as it includes the exact same set of packages at the same version levels based on the same source code as the Red Hat Enterprise Linux. Oracle Linux is available as a free DVD download via edelivery.oracle.com/linux and is free to install, use and re-distribute. Because Unbreakable Enterprise Kernel doesn't require you to reinstall the operating system, existing applications run unchanged. No changes to glibc are required, which means the Application Binary Interface used by *userspace* applications is unchanged.

Extreme Performance

Unbreakable Enterprise Kernel has been engineered and tested with performance in mind and internal benchmarks show tremendous performance improvements compared to a standard Enterprise Linux 5 kernel (2.6.18-194).

Unbreakable Enterprise Kernel includes enhancements and bug fixes to improve virtual memory performance, network and disk I/O performance as well as improvements for large NUMA (Non-Uniform Memory Access) systems:

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- The latest Infiniband software stack, OFED 1.5.1

- Improved RDS (reliable datagram sockets) stack for high speed, low latency networking

- Overall networking performance has been improved—especially at high loads—due to the inclusion of receive packet steering

- Improved asynchronous write back performance

- Increased scalability on fast storage such as solid state disk (SSD)

- Advanced support for large NUMA systems

The Latest Innovations from Upstream Linux Development

In addition to performance improvements for large systems, Unbreakable Enterprise Kernel contains many new features that are relevant to Linux running in the data center, including:

- Task Control Groups for fine grained control of memory, CPUs and devices

- Hardware fault management to avoid system crashes and improve application uptime

- Power management features to reduce power consumption when a system is idle

- Data integrity features to avoid corrupt data from being written

- OCFS2 1.6, the latest release of Oracle's clustered file system

- Latencytop support, allowing the administrator to quickly find the cause of long latencies in any command

- Fallocate() system call to quickly pre-reserve space in large files

Tested and Recommended by Oracle

Oracle uses Unbreakable Enterprise Kernel exclusively for building and testing of Oracle software including Fusion Middleware and Oracle Database. Unbreakable Enterprise Kernel is also included in Oracle Exadata and Oracle Exalogic. Oracle recommends customers use Unbreakable Enterprise Kernel not just for all Linux-based Oracle deployments, but for any Linux deployments that can benefit from boost in performance, reliability and scalability.

Contact Us

For more information about Oracle Linux, visit oracle.com.

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