

SUSE[®] Linux Enterprise Real Time 10

October 2008

Key Features

- SUSE® Linux Enterprise Real Time 10 is a fully supported real-time operating system, specifically engineered to reduce the latency and to increase the predictability and reliability of time-sensitive mission-critical applications.
- An extension to SUSE Linux Enterprise Server, SUSE Linux Enterprise Real Time allows you to respond more rapidly to changing business needs and market conditions. SUSE Linux Enterprise Real Time increases the availability of your critical systems and processes and ensures you'll meet your service-level agreements—even under heavy system loads. It also allows you to improve hardware utilization, while maintaining high quality of service, thus maximizing your revenue opportunities and lowering infrastructure costs.
- Key features of SUSE Linux Enterprise Real Time include kernel preemption, CPU shielding and resource assignment, priority inheritance, high resolution timers, and debugging and analysis tools.
- SUSE Linux Enterprise Real Time 10 Service Pack 2 adds support for adaptive locking, OpenFabrics Enterprise Distribution 1.3—the latest open source RDMA software stack from the OpenFabrics Alliance—and the Precision Time Protocol. These enhancements improve the performance of throughput sensitive workloads, enable the implementation of unified high-speed interconnects using InfiniBand and 10-Gigabit Ethernet, and allow more precise synchronization of high-speed networks. With Service Pack 2, Novell becomes the first Linux distributor to support customers using OFED 1.3.

Questions and Answers

What is Novell announcing?

Novell® is announcing the availability of its latest service pack for its enterprise real-time Linux operating system, SUSE Linux Enterprise Real Time 10 Service Pack 2. This innovative offering is part of SUSE Linux Enterprise 10, the award-winning desktop-to-data-center platform from Novell. SUSE Linux Enterprise Real Time helps you reduce the latency and increase the predictability and reliability of your time-sensitive mission-critical applications.

What do you get with SUSE Linux Enterprise Real Time Service Pack 2 that you do not get with Service Pack 1?

In addition to the cumulative security patches, maintenance updates and bug fixes released for SUSE Linux Enterprise Real Time 10 since its introduction in 2006, Service Pack 2 adds support for adaptive locking, OpenFabrics Enterprise Distribution (OFED) 1.3, and the Precision Time Protocol (PTP). SUSE Linux Enterprise Real Time 10 Service Pack 2 introduces a new adaptive locking algorithm for kernel locks that reduces operating system context switching times, dramatically improving the performance of throughput sensitive workloads. Service Pack 2 also includes support for OFED 1.3, the latest open source RDMA software stack from the OpenFabrics Alliance, to enable the implementation of unified high-speed interconnects based on InfiniBand and 10-Gigabit Ethernet. Finally, SUSE Linux Enterprise Real Time 10 Service Pack 2 includes support for PTP, a time transfer protocol standard that allows the precise synchronization of high-speed networks. PTP provides accuracy in the nanosecond range, and significantly improves the precision of time keeping and process accounting, compared to general purpose operating system protocols like NTP and GPS.

How is SUSE Linux Enterprise Real Time different from a general-purpose operating system, such as SUSE Linux Enterprise Server?

SUSE Linux Enterprise Real Time includes enhancements and modifications that make certain operating system processes interruptible, or in other words, preemptible. General purpose operating systems, such as SUSE Linux Enterprise Server, are designed so that certain operating system processes cannot be interrupted once they are started. Because of this design, there is no way to ensure that an application will not be interrupted or delayed by one of these operating system processes. As a real-time operating system, SUSE Linux Enterprise Real Time makes these previously uninterruptible operating-system processes interruptible, or preemptible. You can specify which processes and application threads carry the highest priority, and ensure that these high-priority processes run without resource contention and without interruption from other operating system processes.

How does SUSE Linux Enterprise Real Time benefit you?

When you run your time-critical applications on SUSE Linux Enterprise Real Time, you can respond more rapidly to changing business needs and market conditions. SUSE Linux Enterprise Real Time increases the availability of your critical systems and processes, ensuring you meet your service-level agreements—even under heavy system loads. It also allows you to improve hardware utilization, while maintaining high quality of service, thus maximizing your revenue opportunities and lowering infrastructure costs.

Which businesses should use SUSE Linux Enterprise Real Time?

If the success of your organization depends on minimizing system-wide latency as well as ensuring application predictability and reliability, SUSE Linux Enterprise Real Time is for you. For example, it improves the performance of market data infrastructure solutions, program-trading applications and risk-management algorithms for capital markets firms. It also improves the performance of computer simulations and process-control applications for manufacturing and defense firms.

Are there any prerequisites for SUSE Linux Enterprise Real Time?

Yes, SUSE Linux Enterprise Real Time is an extension, and requires that SUSE Linux Enterprise Server 10 Service Pack 2 first be installed on your system. If you don't have a SUSE Linux Enterprise Server 10 subscription updated to Service Pack 2, you should also obtain one when purchasing a SUSE Linux Enterprise Real Time subscription.

What processor architectures are supported with SUSE Linux Enterprise Real Time?

SUSE Linux Enterprise Real Time is currently supported on 32- and 64-bit processor architectures from Intel and AMD.

What applications are supported on SUSE Linux Enterprise Real Time?

Many time-sensitive ISV applications, like Reuters Market Data System (RMDS) and Wombat's feed handlers are certified and supported on SUSE Linux Enterprise Real Time. In addition, real time Java middleware, including Sun's Java Real Time System and IBM's WebSphere Real Time, are certified and supported on SUSE Linux Enterprise Real Time. For more information, please visit www.novell.com/partner/isv/isvcatalog.

How much does SUSE Linux Enterprise Real Time cost?

The list price for an annual SUSE Linux Enterprise Real Time subscription is \$2,500 per server (up to 32 CPUs). The product is available as an electronic download, and subscribers receive maintenance patches, updates, and technical support (installation and break/fix) for the duration of their subscription period.

What kind of support does Novell offer for SUSE Linux Enterprise Real Time?

Subscribers of SUSE Linux Enterprise Real Time receive maintenance, and basic, standard, or priority level technical support (installation and break/fix) for the duration of their subscription period. The support terms and conditions for SUSE Linux Enterprise Real Time are inherited from your underlying SUSE Linux Enterprise Server 10 subscription. For example, SUSE Linux Enterprise Real Time customers who are entitled to priority support for SUSE Linux Enterprise Server 10 are also entitled to priority support for SUSE Linux Enterprise Real Time.

Where can I buy SUSE Linux Enterprise Real Time?

SUSE Linux Enterprise Real Time is available from Novell and from its extensive network of Novell business partners worldwide. For more information, please visit www.novell.com/realtime