

FSMLabs TimeKeeper Supports Red Hat Enterprise Linux 6 For High-Precision Time Synchronization

*Support of Leading Linux Platform Enables Refined Market Response
And Venue Arbitrage through Precision Time Data Delivered to Trading Apps*

Austin, TX – JANUARY 4, 2011 – [FSMLabs](#)®, a premier provider of enterprise real-time and timekeeping technology, today announced that FSMLabs [TimeKeeper](#)™ now supports Red Hat® Enterprise Linux® 6. Together these technologies provide a rapidly deployable solution for synchronizing time in high-performance technical environments, such as high-frequency trading. TimeKeeper is a time-synchronization software technology that rapidly synchronizes servers and applications to reference time from GPS or other time sources.

The combination of Red Hat and TimeKeeper provides a software-only time synchronization solution that performs faster convergence to the correct time at system startup, offering accuracy within the single-digit microsecond range. With the addition of hardware assist through commonly available time-enabled network chips, accuracy in the 300 nanosecond range is achievable. TimeKeeper works with both Network Time Protocol (NTP) and the newer Precision Time Protocol (PTP) communications standards, and can leverage existing NTP or hardware time servers to provide more accurate time service.

TimeKeeper's unique benefit to high-speed trading operations is due to not only its synchronization of time to high accuracy across networks and application clusters, but also to its unique approach to the "last mile" of time data availability to applications. In particular, TimeKeeper makes use of Red Hat Enterprise Linux 6 to minimize the overhead of getting time all the way through the system. Rather than requiring applications to jump into the kernel with time-consuming context switches, TimeKeeper creates a fast path into the application. Even applications that span multiple processors can access accurate time in just a few nanoseconds without having to go beyond the processor core.

"This speed of access to high-precision time gives the time more value in mission-critical operations like high-frequency trading," notes FSMLabs CEO Victor Yodaiken. "It means that applications can be programmed to evaluate comparative latency of trade data arrival or trading venue response, enabling more informed use of market data and more precise pursuit of liquidity and management of orders. The fact that, unlike other time delivery approaches, TimeKeeper doesn't create discontinuous time or jumps in clock time gives trading strategists a competitive edge against firms using less accurate and stable systems."

"Red Hat Enterprise Linux 6 delivers improvements in scalability, datacenter operational flexibility and reliability," said Tim Burke, vice president, Linux Development at Red Hat. "Through the combination of the new features and capabilities in Red Hat Enterprise Linux 6 and FSMLab's TimeKeeper, customers who need precise time synchronization among computers have a solid joint solution."

[Red Hat Enterprise Linux 6](#) is the latest edition of Red Hat's enterprise operating platform, which was released in November 2010. TimeKeeper users are implementing the new support features as they upgrade.

For more information about TimeKeeper with Red Hat Enterprise Linux 6, please download the [TimeKeeper whitepaper](#), or contact the firm at sales@fsmlabs.com to schedule a demo.

About FSMLabs

With more than 12 years as a provider of real-time operating systems and software solutions, FSMLabs serves industries, such as avionics, robotics and finance, where time is a mission-critical resource. Current innovations include real-time enhancements to off-the-shelf operating systems and TimeKeeper, the groundbreaking software for accurate distribution and synchronization of time data from reference clocks to the application layer in networked environments. FSMLabs is a privately held firm headquartered in Austin, Texas. For more information, visit www.fsmlabs.com.

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