



TimeKeeper Breaks Microsecond Barrier in Time Synchronization For Trading Applications with Spectracom GPS Card

*Time Accurate to Nanoseconds Enables More Precision
In Trading Strategies and Competitive Advantage in Execution*

Austin, TX and Rochester, NY, September 27th 2010 – [FSMLabs](#)' Timekeeper software combined with [Spectracom](#)'s TSync-PCIe Timecode Processor card has broken the microsecond synchronization barrier, delivering time accurate to the low nanoseconds to trading programs. The announcement was made today by FSMLabs, provider of high-precision time distribution software, and Spectracom, a company of the Orolia Group (NYSE Alternext Paris – FR0010501015 – ALORO) and a provider of hardware-based time and frequency systems for vital communications networks.

The implementation was chosen by a top-five financial institution as the best-of-breed combination for accuracy within a Linux-based application server running multiple trading programs. Connected to a satellite antenna, the embedded Spectracom's PCI express card locks to ultra-precise GPS time, and FSMLabs' Timekeeper synchronizes the operating system clock. The test results, which have been confirmed in FSMLabs' test environment, prove synchronized time accuracy within 30-40 nanoseconds of GPS time from within the server's trading applications – thus bridging the "last mile" between a precision time device and the software that makes use of the information.

"Time precision is the new competitive frontier in high-speed trading. The agility of time-sensitive functions – such as event-triggered algorithmic trading and time-related arbitrage of execution venues – jumps to a new dimension with this timekeeping combination," said Victor Yodaiken, CEO of FSMLabs. "For applications, time data is a vulnerable point, because of the common inaccuracy of time distribution architectures at the micro- and nanosecond levels. This combination puts high-precision time where it is needed, inside the application, to deliver competitive advantage to the traders."

Extending time distribution beyond the application server to downstream clients, time accuracy was maintained within one-to-two microsecond of GPS time. Other configurations, embedding PCI express cards in correspondent servers, can be used to refine trans-server accuracy into the nanosecond range. The test was executed with Precision Time Protocol (PTP) messaging, which provides significantly better results than the older messaging standard of Network Time Protocol (NTP).

"This implementation is an excellent example of how a high-end GPS-based timing device in the application server can supercharge a software-based time distribution system," said John Fischer, chief technology officer of Spectracom. "While both Spectracom and FSMLabs have applications in many industries where time must be managed with precision, there is no

question that financial traders can show the most dramatic ROI. The potential to pull the trigger in nanoseconds changes the world in terms of competitive advantage and risk management.”

Availability

FSMLabs' TimeKeeper is available now, optimized for servers including blade servers running Red Hat Linux (RHEL 5.x) with GPS time sources. TimeKeeper uses intelligent algorithms to maintain accuracy of time data in transit from source to destination, to enable instantaneous synchronization of networked servers, clients and data sources, and to deliver accurate time data “the last mile” into applications. TimeKeeper supports both NTP and PTP time protocols.

Spectracom's TSync-PCIeTimecode Processor Card, known for the highest resolution of reference time in the market, is currently available, including a PTP version. This low-profile PCIe card incorporates Linux and Windows drivers for easy integration into servers and PCs.

About Spectracom

Spectracom, a company of the [Orolia Group](#) (NYSE Alternext Paris – FR0010501015 – ALORO), supports a variety of applications in vital communications networks and high throughput test & measurement throughout the world. Our products, systems and services enable our customer's success by Synchronizing Critical Operations®. We offer outstanding customer service backed by continuous certification to ISO9001 and other quality programs in locations covering the globe. For more information, visit www.spectracomcorp.com.

About FSMLabs

With more than 12 years as a provider of real-time operating systems and software solutions, FSMLabs serves the 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.

TimeKeeper is a trademark of FSMLabs Inc. FSMLabs is a registered trademark of Finite State Machine Labs Inc.

Spectracom and Synchronizing Critical Operations are registered trademarks of Spectracom Corporation.

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More information about TimeKeeper and Spectracom can be found at the following links:

[FSMLabsTimeKeeper Bolsters High-Frequency Low-latency Trading and Market Data Streams With Microsecond-AccurateTime](#)

[FSMLabs and Spectracom Partner to Provide Precision Timekeeping for High Frequency Low Latency Trading](#)

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