November 3, 2015

Trimble's New Thunderbolt PTP Grandmaster Clock Changes the Landscape of Small Cell Network Design and Deployment

Solution Sets New Standard for Cost Efficient Timing and Synchronization for Next-Generation Networks

EDINBURGH, Scotland, Nov. 3, 2015 /PRNewswire/ -- Trimble (NASDAQ:TRMB) introduced today a new addition to its precision time and frequency portfolio to address the synchronization needs of the fast growing next-generation LTE-Advanced and small cell network market—the Trimble® Thunderbolt® PTP Grandmaster Clock (GC).

The announcement was made at the ITSF 2015 Time and Synchronization in Telecoms Conference.

Trimble value-engineered the industry-standard grandmaster clock, focusing on the features required in next-generation networks, including dual gigabit Ethernet ports and a Small Form-Factor Pluggable (SFP) module port for optical connections. Its low price point enables network architects to move the timing source from the core to the edge of the network, enabling higher phase and frequency precision at the PTP clients.

"Trimble entered this market to expand on our success in GNSS timing solutions for telecom networks," said Karen Guldan, general manager of Trimble's Time & Frequency Division. "The design and development of the GC focused on creating an optimized solution for network providers—at a price point of less than $2,000, it is intended to be a game-changer in small-cell network design. The GC's features provide superior value to service providers."

With flexible network interface protocols and easy integration, Trimble optimized the GC to deliver precise frequency and phase synchronization signals for LTE-Advanced and small cell networks supporting IEEE 1588 Precision Time Protocol (PTP), Network Time Protocol (NTP) and Synchronous Ethernet (SyncE) simultaneously. The GC supports up to 250 simultaneous PTP clients and 5,000 NTP transactions per second, making it ideal for small and medium scale deployment.

With a small form factor of half rack 1RU, users may deploy the Trimble GC either indoors or outdoors. In a server room, the Trimble GC deploys in a side-by-side configuration to provide timing redundancy. For outdoor applications, the Trimble GMC also features an extended operating temperature range for use in non-typical networking environments such as a telecom cabinet. The Trimble GC configures for AC and DC power.

The GC was designed to provide continuous availability of traceable time. The GC includes an embedded, multi-GNSS (GPS, GLONASS, BeiDou and Galileo-ready) receiver to generate precise 10MHz and pulse per second outputs. Utilizing the latest in GNSS technology combined with a precision oscillator, the GC provides better than 3 microsecond phase holdover over a 24-hour period.

The Trimble Thunderbolt PTP Grandmaster Clock is expected to be available in the first quarter of 2016.

About Trimble GNSS Time & Frequency

Communication systems, financial networks, utilities, and other critical infrastructure sectors rely on precision timing for synchronization and operational efficiency. Trimble GNSS receivers provide the precision time and frequency for some of the world's largest communications and computer networking companies. Trimble offers precision time and frequency products to 3G/4G wireless, broadband and digital broadcast networks. With more than 35 years of experience, Trimble takes GNSS receivers and disciplined clocks to higher levels of integration and performance, providing superior technology, quality and cost benefit to customers.

For more information, visit: www.trimble.com/timing.

About Trimble

Trimble applies technology to make field and mobile workers in businesses and government significantly more productive. Solutions are focused on applications requiring position or location—including surveying, construction, agriculture, fleet and asset management, public safety and mapping. In addition to utilizing positioning technologies, such as GPS, lasers and optics, Trimble solutions may include software content specific to the needs of the user. Wireless technologies are utilized to deliver the solution to the user and to ensure a tight coupling of the field and the back office. Founded in 1978, Trimble is

headquartered in Sunnyvale, Calif.

For more information, visit: www.trimble.com.

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