PRESS RELEASE

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Time is what you measure with a clock

Real-time support for Precision Time Protocol

Kithara Software, specialist for industrial real time, has announced the support for the Precision Time Protocol (IEEE 1588 v2). With PTP, multiple network participants in a distributed system can be precisely synchronized and triggered in real time with Kithara RealTime Suite.

The PTP stack expands the well-known Ethernet drivers of the real-time library by Kithara with the network protocol for precise PC synchronization. The real-time capabilities allow for the generating of accurate timestamps with deviations in the sub-microsecond range in order to precisely match the clocks of all participants within a distributed system. Furthermore, with connection to GPS, otherwise separate computer networks can even be synchronized on a global scale, without the need for a direct physical link.

In practice, PTP can be utilized to align image data for multi-camera applications, determine high-precision measurement data in high resolutions or perform accurate parallel robotic tasks.

Uwe Jesgarz, managing director of Kithara Software GmbH continued: "With the addition of the Precision Time Protocol, we advance several of our most important fields of application. Our Ethernet drivers have been used successfully for 12 years now and are being constantly extended and improved upon. The inclusion of the IEEE 1588 standard is therefore mandatory for us. Additionally, PTP is also relevant for both automation as well as machine vision— two major fields we have actively promoted with our PC-based real-time system for years."

Besides manually setting master and slave functionality, PTP synchronization can also be initiated via the "Best Master Clock Algorithm". The BMCA determines the participant with the most accurate system clock within a network and sets it as reference for all other participants.

With the PTP stack by Kithara, raw Ethernet as well as IP/UDP can be used as transport layer. For high-precision timestamping, a variety of PTP-compatible network controllers are supported. The priorities, according to which the BMCA determines the best clock, can be adjusted with the API. Otherwise, parameters such as accuracy or the type of time source (e.g. GPS, atomic clock) are prioritized.

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About Kithara Software GmbH

Kithara Software is a specialist for real-time solutions, especially for the Windows® operating systems family. The real-time extension RealTime Suite is a comprehensive system library for hardware-dependent programming, communication, automation and image processing in real-time. The software is an easy-to-use and powerful technical basis for advanced applications in robotics, image processing, measurement and control engineering as well as automation. It is the key element in machine building, for testing rigs and other specialized applications. Kithara Software has representations in the USA as well as China and supports global companies in their innovative projects.

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