Three Ways IEEE 802.3™ is Pushing Ethernet Standards Further and Faster

The IEEE 802.3 Ethernet Working Group recently launched three new study groups in response to industry's ongoing adoption of Ethernet and in continuation of improving the performance and reliability of the technology through standards development. The study groups held their initial meetings at the September 2019 IEEE 802.3 interim session held in Indianapolis, IN, USA and covered the topics of automotive applications, Precision Time Protocol (PTP) timestamping, and 10 Mb/s Single Pair Ethernet Multidrop Enhancements.

Check out overviews of the new study groups:

- IEEE 802.3 Multi Gigabit Automotive Optical PHY Study Group

Currently, there is no IEEE 802.3 standard that supports optical multi-gigabit Ethernet rates for the requirements of automotive applications. The Study Group aims to develop a Project Authorization Request (PAR) and Criteria for Standards Development (CSD) responses for multi-gigabit automotive applications. The proposed project will build on the array of Ethernet component and system design experience, and the broad knowledge base of Ethernet network operation. Multi-gigabit automotive optical data rates will extend the current 1 Gb/s optical automotive standard; and complement the automotive balanced twisted pair multi-gigabit options that are the task of an existing standards development group and for greater than 10 Gb/s an existing study group.

- IEEE 802.3 Improving PTP Timestamping Accuracy Study Group

The scope of the Study Group is to develop a PAR and CSD responses for improving PTP timestamping accuracy on Ethernet interfaces. The newly formed study group will explore technology advancement on network packet timestamping, including investigation into various events that potentially affect network performance, in order to provide network operators with the capability for improved time and frequency communication.

- IEEE 802.3 10SPE Multidrop Enhancements Study Group

Single Pair Ethernet (SPE) is a key technology to enable the transition to Ethernet taking place in the building and industrial automation industries. 10SPE (IEEE P802.3cg™) is designed to use the enormous installed base of single pair copper used in building and industrial automation today and supports 15m and 1000m point to point links with power along with an optional multidrop mixing segment of 25m and 8 nodes without power. The study group looks to build on the imminent IEEE P802.3cg standard by extending the reach of the multidrop segment, adding a multidrop power option, and adding optional support for Time Synchronization Service Interface (TSSI) to enable PTP. The scope of the Study Group is to develop a PAR and CSD responses for 10 Mb/s Single Pair Ethernet Multidrop Enhancements.

These latest IEEE 802.3 activities demonstrate IEEE's ongoing commitment to engage stakeholders in the development of projects and standards that continue to improve and advance the Ethernet ecosystem. The continued dedication of individuals working under the Ethernet Working Group umbrella are essential as Ethernet is widely viewed as the go-to solution supporting new applications and viable business cases.

For more information on how to get involved at future study group meetings, visit the IEEE 802.3 meeting page.