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Draft 2.1, 8th November 2015
Sponsor: C/LM - LAN/MAN Standards Committee

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New IEEE 802.3bw™ 100BASE-T1 Standard Intended to Support 100 Mb/s Ethernet Operation Over a Single Balanced Twisted Pair Cable

New IEEE 802.3™ Ethernet standard driven primarily by growing industry interest in new, standards-based architecture for internal networking within automobiles

PISCATAWAY, N.J., USA, XX Month 2015 – IEEE, the world's largest professional organization dedicated to advancing technology for humanity, today announced the approval of IEEE 802.3bw™, IEEE Standard for Ethernet Amendment: Physical Layer Specifications and Management Parameters for 100 Mb/s Operation over a Single Balanced Twisted Pair Cable (100BASE-T1), driven primarily by the needs of the global automotive industry.

Mainstream adoption of emerging in-car applications such as advanced driver assistance systems (ADAS) and infotainment has created the need for cost-effective, high-bandwidth connectivity. IEEE 802.3bw will provide 100 Mb/s Ethernet over a single twisted-pair and is intended to enable the consolidation of these new, as well as legacy, in-car applications on a homogenous network architecture.

“The introduction of new bandwidth-intensive applications must deal with the constant pressure the automotive industry faces to minimize the total weight of the vehicle,” said Thomas Hogenmueller, senior manager with Bosch, who chaired the initial phase of the IEEE 802.3bw development project. “The definition of a 100 Mb/s Ethernet standard that operates over a single twisted pair will address both of these issues.”

“The standard is the first step in a global market migration to a modern, elegant and powerful, standards-based communications architecture,” added Steve Carlson of High Speed Design, Inc., who chaired the final phase of the IEEE P802.3bw project. “This will simplify the cumbersome, heavy and complicated wiring harnesses in use today, while providing high data rates.”

The need to reduce wiring is shared by other applications, such as industrial automation and avionics, and the IEEE 802.3bw development effort grew out of global market interest from all application areas for an IEEE 802.3 Ethernet standard.

“This is another example of the diversification of Ethernet into new application areas, providing the opportunity for them to leverage the vast wealth of Ethernet technology,” said David Law, chair of the IEEE 802.3 Ethernet Working Group and distinguished technologist with Hewlett Packard Enterprise. “The 100BASE-T1 standard was based upon, and is interoperable with, the existing OPEN Alliance BroadR-Reach® automotive specification. 100BASE-T1, however, is only the first in a family of Ethernet standards, with other projects underway in IEEE 802.3 to develop 1 Gb/s operation and power delivery over a single twisted pair cable, as well as traffic prioritization, to address these application areas.”

Added Daryl Inniss, practice leader, Ovum: “The impact of Ethernet on the automotive space stands to be profound. Not only is the automotive industry looking to Ethernet to deliver widely needed enhancements in capabilities today, the industry also is positioning itself to take advantage of varied, ongoing innovation across the IEEE 802.3 Ethernet standards family moving forward.”

For more information on IEEE 802.3bw, please visit http://standards.ieee.org/develop/project/802.3bw.html.

Deployment of technology defined by IEEE 802® standards is already globally pervasive, driven by the ever-growing needs of data networks around the world. New application areas are constantly being considered that might leverage IEEE 802 standards in their networks from wireless, to twisted-pair cabling, to fiber-optic cabling solutions. To better address the needs of all of these areas, IEEE 802 standards are constantly evolving and expanding. The success of IEEE 802 standards—from their inception through today—has been their fair, open and transparent development process.

For more information about the IEEE 802.3 Ethernet Working Group, please visit http://standards.ieee.org/develop/wg/WG802.3.html.

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