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IEEE LAUNCHES STUDY GROUP TO EXPLORE DISTINGUISHED MINIMUM LATENCY TRAFFIC IN A CONVERGED TRAFFIC ENVIRONMENT

New IEEE 802.3™ study group to examine latency needs and Ethernet-convergence opportunities in market segments such as industrial automation and automotive

PISCATAWAY, N.J., USA, xx ~~December~~ January 2013~~2~~ – IEEE, the world's largest professional organization advancing technology for humanity, today announced the formation of an IEEE 802.3™ "Standard for Ethernet" study group to explore the ~~network latency~~ requirements for network latency and real-time control ~~of~~ in ~~particular~~ industries~~,~~ such as industrial automation and automotive. The new IEEE 802.3 Distinguished Minimum Latency Traffic in a Converged Traffic Environment Study Group will look at additional opportunities to expand the overall Ethernet market and their associated technology requirements.

"Companies are eager to efficiently converge all network services – scheduled, streaming and priority-based, and best-effort traffic – onto the same LAN (local area network). But for this to occur, particularly in certain market segments such as industrial automation and automotive, lower end-to-end latency and real-time control are~~is~~ required in support of scheduled traffic in time-sensitive LANs," said Ludwig Winkel, chair of the new IEEE 802.3 study group and a fieldbus standards manager at Siemens Industry Automation Division.

~~Adoption of IEEE standards for precision-time synchronization for Ethernet in major streaming and time-sensitive networking systems has already helped spur the convergence of several dozen proprietary audio/visual (A/V) protocols to mainstream Ethernet LANs.~~ The purpose of the new IEEE 802.3 study group ~~will~~ is to look at the promise of simultaneous support for undisturbed distinguished real-time control traffic and best-effort traffic (e.g. audio and video data) on a single Ethernet Network (converged network), maximizing bandwidth usage while retaining the network's real-time capabilities~~non-disruptively providing minimum latency for time-sensitive traffic in a converged environment (video, voice and data, for example), while providing latencies required~~

~~for time-sensitive control traffic in a single network.~~ overlaying typical, best-effort Ethernet traffic ~~(video, voice and data) onto a tightly timed process control data network~~ to support operations in automotive control, industrial automation and other applications.

Individuals interested in this work are invited to contribute to the new study group~~. Its first meeting is scheduled for~~, which is scheduled to meet 17-22 March 2013 at the Caribe Royale in Orlando, Fla., as part of the IEEE 802 plenary session ~~21-25 January 2013 at the IEEE 802.3 Ethernet Interim Session in Phoenix~~. Please visit http://www.ieee802.org/meeting/index.html ~~http://www.ieee802.org/3/interims/index.html~~ for more information.

"An IEEE 802.3 study group is formed when there is interest in developing a request to initiate an IEEE 802.3 Ethernet standards-development project," said David Law, chair of the IEEE 802.3 Ethernet Working Group and distinguished engineer with HP Networking. "Once there is evidence of enough interest in a particular technology area, an IEEE 802.3 study group provides a forum for global expertise to come together in collaboration and develop a proposal for an IEEE 802.3 Ethernet standards-development project. I look forward to the work of the new study group exploring distinguished minimum latency traffic in a converged traffic environment and its insights into expanding the IEEE 802.3 market."

Ethernet is celebrating its 40th anniversary this year. Deployment of technology defined by the IEEE 802.3 standard is already globally pervasive, driven by the ever-growing needs of local area, access and metropolitan area networks around the world. Beyond traditional networks, new application areas such as networking for industrial, automotive and other industries are looking to expand their reliance on Ethernet in their networks. To better address the needs of all of these areas, the IEEE 802.3 Ethernet standard is constantly evolving and expanding. The success of the standard-from its inception through today-has been its open and transparent development process, which is an example of the "OpenStand" principles (http://open-stand.org). These principles encapsulate a modern paradigm for global, open standards that can be extended broadly to other technology spaces.

~~IEEE 802.3 defines wired connectivity for Ethernet local area, access and metropolitan area networks around the world. IEEE 802.3 technologies and the varied Ethernet networks that they enable are found everywhere, and—as the Ethernet ecosystem recognizes the technology's 40th anniversary this year—the standard's application horizon continues to expand.~~

~~Furthermore, the proven processes that have fueled the successful development and ongoing innovation of IEEE 802.3 and other IEEE 802® standards directly informed the joint creation of the "OpenStand" principles (http://open-stand.org), which encapsulate a modern paradigm for global, open standards.~~

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

To learn more about IEEE-SA, visit us on Facebook at http://www.facebook.com/ieeesa, follow us on Twitter at http://www.twitter.com/ieeesa, connect with us on LinkedIn at http://www.linkedin.com/groups?gid=1791118 or on the Standards Insight Blog at http://www.standardsinsight.com.

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Supporting Quotes

Franz-Josef Goetz, system architect with Siemens AG, Industry Automation Division: "Industrial automation and control systems today are served by about a dozen different dedicated solutions, some of which leverage parts of Ethernet standards already. The new study group addresses the last remaining requirement in scheduled control traffic that allows for convergence of control, streaming and data services and scaling to higher bandwidth in automotive backbone and industrial control networks."

Mike Hannah, manager, networks, with Rockwell Automation: "Industrial automation and control systems using standard Ethernet today to achieve low-latency, high-bandwidth traffic

requirements can take full advantage of these technology advancements. Adopting IEEE 802.3 Ethernet and IEEE 802.1™ bridging techniques for time-sensitive applications would extend the proven cost, efficiency and flexibility benefits of convergence across more of our networking infrastructure."

Oliver Kleineberg, program manager with Hirschmann, a Belden Brand: "Ethernet LAN infrastructure has been adopted in industrial automation since early 2000, and, as the need for converged services and bandwidth requirements grew, Ethernet became the preferred method for industrial automation networks. This study group is a great step forward toward meeting the needs of the industrial automation segment through the IEEE standards process."

Rodney Cummings, senior software engineer with National Instruments: "Both automotive backbone and industrial automation control networks have common and native time-sensitive LAN services requirements from the scheduled control traffic that deals with sensors and actuators. IEEE standards process helped to bring these common requirements under one study group and promote collaboration among automotive, industrial and IT professionals."

Markus Jochim with General Motors R&D: "Currently the automotive industry is focusing on early Ethernet use cases that include diagnostics, infotainment and camera applications. We anticipate time-critical, Ethernet-based control applications to play a significant role in the future of automotive electrical architectures. The support for distinguished minimum latency traffic will simplify the development of such time-critical control applications."

Thomas Hogenmüller, team manager with Robert Bosch GmbH: "The 'distinguished minimum latency traffic in a converged traffic environment' is one important building block for future automotive electronic architectures to enable future Advanced Driver Assistant Systems. After the introduction of Ethernet in infotainment and camera applications in automotive we will see more and more systems will require higher performance than todays solutions can deliver."

Yong Kim, senior technical director with Broadcom: “The result of this study group, in combination with projects going on in IEEE 802.1, would provide support for the convergence of control networks (industrial automation and automotive) onto mainstream IEEE 802® Ethernet and bridging technology, and help to allow future Ethernet networks to converge (scheduled control, streaming and data), reduce infrastructure costs and simplify management and control.”

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