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INDUSTRY INVITED TO PARTICIPATE IN NEW IEEE 802.3(TM) GROUP FORMED TO BUILD CONSENSUS AROUND ETHERNET'S NEXT SPEED

IEEE 802.3 Ethernet Bandwidth Assessment Report Predicts Capacity
for Wireline Applications to Reach 10 Terabit Per Second in 2020

PISCATAWAY, N.J., USA, 20 August 2012 – IEEE, the world's largest professional organization advancing technology for humanity, today announced formation of the IEEE 802.3™ Industry Connections Higher Speed Ethernet Consensus group, to build toward the next speed of Ethernet for wireline applications. Those invited to participate include users and producers of systems and components for telecommunications carriers, Internet exchanges, financial markets, data centers, multiple system operators (MSOs) networking systems, high-performance computing, network storage and servers and other individuals interested in potential future IEEE 802.3 Ethernet wireline standards.

Launch of the IEEE 802.3 Industry Connections Higher Speed Ethernet Consensus group (WEBSITE) follows the approval of the IEEE 802.3 Ethernet Bandwidth Assessment report, which shows that global bandwidth requirements of multiple application spaces are continuing an exponential climb. The report—available for download via http://www.ieee802.org/3/ad_hoc/bwa/BWA_Report.pdf—forecasts that, if current trends continue, networks will need to support capacity requirements of 1 terabit per second in 2015 and 10 terabit per second by 2020.

"We continue to seek to streamline the early stages of work of potential future IEEE 802.3 Ethernet wireline standards-development activities," said John D'Ambrosia, chair of the IEEE 802.3 Ethernet Bandwidth Assessment Ad Hoc and IEEE 802.3 Industry Connections Higher Speed Ethernet Consensus group and chief Ethernet evangelist, CTO office, Dell. "The information gathered by the Bandwidth Assessment Ad Hoc demonstrates the ongoing, exponential bandwidth growth that is happening in varying application spaces on a global nature. The launch of the IEEE 802.3 Industry Connections Higher Speed Ethernet Consensus group will facilitate an open forum to explore the start beyond 100Gb/s Ethernet."

In creating the IEEE 802.3 Ethernet Bandwidth Assessment report, input was collected from a variety of application spaces (servers, data center networks, high-performance computing, financial markets, carrier and cable operators, Internet exchanges, the scientific community, etc.) and from different geographic regions. The report confirms that growth is being driven across multiple application spaces and markets by simultaneous increases in users, access methodologies, access rates and services (such as video on demand and social media). The report indicates that bandwidth requirements of network-aggregation nodes are growing at an even faster rate than end-station applications, which initiate the transmission and receipt of data. Among industries, the most aggressive growth rates are shown by the financial sector and data-intensive science, with compounded annual growth rates (CAGRs) of 95 percent and 70 percent, respectively.

“The IEEE 802.3 Ethernet Bandwidth Assessment report offers a simple but meaningful explanation of the underlying forces that are driving the never-ending, global bandwidth explosion,” said Brad Smith, senior vice president and industry analyst with LightCounting.com, a market research firm that analyzes and forecasts high-speed interconnects. “The data from smartphones, tablets, PCs and another 16 billion devices forecasted to be on the Internet by 2020 all flow through the wireless, CATV and wired access points, through the metro, long-haul and undersea networks, to a data-center server anywhere in the world. Add to this the dramatic increase in the use of live and streaming video, and the data traffic calculations become simply astronomical. The only way all these different devices are going to communicate with each other is via industry standards set by groups such as the IEEE. The ability to support this exponential rise in traffic will continue to pressure the entire Ethernet eco-system to continue to drive cost per bit downward, so that manufacturers, service providers and users can be offered cost-effective, standards-based solutions, products and services.”

Added Paul Nikolich, chair of the IEEE 802® LAN/MAN Standards Committee: “The IEEE 802.3 Ethernet Bandwidth Assessment report documents a cross-industry understanding of the diverse bandwidth needs of various Ethernet applications. By doing so, it provides a critical head start for potential future development activities of IEEE 802 Ethernet standards, as the time needed to accumulate this knowledge is significant. The report and now the work of the IEEE 802.3 Industry Connections Higher Speed Ethernet Consensus group ultimately will help more quickly yield more meaningful IEEE 802.3 Ethernet wireline standards.”

The IEEE 802.3 Industry Connections Higher Speed Ethernet Consensus group, an IEEE-SA Industry Connections activity, will meet at the IEEE 802.3 Interim Meeting, scheduled for 24-28 September 2012 in Geneva, Switzerland. Through Industry Connections (http://standards.ieee.org/industryconnections), IEEE-SA facilitates like-minded organizations or individuals in coming together quickly, effectively and economically to build industry consensus at strategic points in a technology's lifecycle. Groups have the unique opportunity to leverage IEEE resources in a customized format, host workshops and conferences and produce varied content.

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.

Supporting quotes

Gregory Bell, Director, Energy Sciences Network (ESnet), and Director, Scientific Networking Division, Lawrence Berkeley National Laboratory:
"The phrase 'big data' doesn't adequately describe the revolution occurring in so many scientific disciplines. Consider CERN's recent announcement of a new particle, which is almost certainly the long-sought Higgs boson; that evidence had to be sifted from the gigabytes of data generated every second by the experiments. And CERN data is just the tip of the iceberg. ESnet's 100 Gbps network will keep it ahead of the data curve for a time, but within three to six years we predict the need for a minimum of 400 Gbps connectivity to meet data mobility needs of experiments in fusion, astrophysics, genomics, climate research and other fields. We are glad to see that IEEE is proactively planning for the next speed of Ethernet, and hope the work accomplished by the Industry Connections Higher Speed Ethernet Consensus group will accelerate the development of cost-effective, next-generation, high-speed interfaces we've come to expect from Ethernet."

Arnold Nipper, CTO and COO of DE-CIX:
"DE-CIX supports the findings of the IEEE 802.3 Ethernet Bandwidth Assessment Ad Hoc. As an Internet exchange, we face a never-ending challenge to stay in front of the bandwidth demand of our customers. Solutions based on up-to-date, relevant standards make it easier and more cost-effective to do so. Consequently, we support the consensus forming efforts of the IEEE Industry Connections Higher Speed Ethernet Consensus group in galvanizing industry around the next speed step for Ethernet and streamlining potential future standards-development activities."

Henk Steenman, Chief Technical Officer, Amsterdam Internet Exchange (AMS-IX)
"The IEEE 802.3 Bandwidth Assessment report is the result of a great initiative where different industries showed that the overall expectation is that bandwidth consumption will keep growing for at least the near and medium term future. It also shows the need for IEEE 802.3 to keep evolving the standards to support higher data rates. Industry must not be inhibited tomorrow by today's technology limits. Ongoing, global business growth demands that the Ethernet ecosystem keep evolving beyond 100G through efforts such as the IEEE 802.3 Industry Connections Higher Speed Ethernet Consensus group."

Glenn Wellbrock, Director of Optical Transport, Network Architecture & Design, Verizon:
"The exponential growth cited in the Ethernet Bandwidth Assessment report demonstrates that demand for higher Ethernet rates beyond 100G is rapidly approaching. As the first carrier to deploy a 100G system on its global network as well as recently completing an industry first by transmitting 21.7 terabits per second over field fiber, Verizon is eager to begin the path toward IEEE standardization for the next Ethernet data rate beyond 100G to ensure cost-effective and timely solutions are achieved."

About the IEEE Standards Association
The IEEE Standards Association, a globally recognized standards-setting body within IEEE, develops consensus standards through an open process that engages industry and brings together a broad stakeholder community. IEEE standards set specifications and best practices based on current scientific and technological knowledge. The IEEE-SA has a portfolio of over 900 active standards and more than 500 standards under development. For more information visit http://standards.ieee.org/.

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