

IEEE LAUNCHES 40GB/S ETHERNET OPTICAL INTERFACE STANDARD IN RECORD TIME

IEEE responding to industry needs quickly develops a 40Gb/s interface to enable smooth transition and fast adoption of Ethernet technologies on carrier networks.

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PISCATAWAY, N.J., USA, xx April, 2011 -- IEEE, the world's leading professional association for the advancement of technology, today announced the ratification of IEEE Std 802.3bg™-2011, 40Gb/s Ethernet Single-mode fiber [PMD optical interface](#), a new standard enabling 40 Gb/s serial Ethernet interfaces to be deployed on single-mode fiber. An amendment to the IEEE 802.3 Ethernet standard, IEEE 802.3bg, paves the way for carriers to have smooth and rapid adoption of Ethernet technology in their networks.

The IEEE 802.3bg standard, ratified March 31, 2011, enables [telecom carriers to deploy equipment that supports 40 Gb/s Ethernet ~~that could also~~ and optimizes optical compatibility with the installed base of telecom carrier 40Gb/s interfaces. The new standardized interface, called 40GBASE-FR, supports transmission up to 2km of single-mode fiber and can enable equipment to](#) be configurable to interoperate with installed [base of equipment conforming to existing telecom and ITU standards such as OC-768, OTU3, STM-256 or 40G ~~Packet-over-SONET \(POS-based equipment\).~~](#) The new standardized interface, called 40GBASE-FR, supports transmission up to 2km of single-mode fiber and its serial transmission optimizes optical compatibility with the installed base of carrier 40Gb/s interfaces.

~~The~~ [The telecom](#) carrier community is very keen to adopt Ethernet technologies but also needs to leverage its significant installed base of OTN, SONET, SDH or POS equipment. Once the need was determined, the IEEE was able to quickly gather forces and develop a standard that meet both the technical requirements as well as the schedule needs of the user community." said Mark Nowell, Chair, IEEE P802.3bg Task Force, Senior Director Engineering, SP Routing Technology Group, Cisco. "The excellent cooperation between the IEEE and ITU standards bodies and members enabled us to develop and complete this IEEE Ethernet specification in record time for an optical interface. Completing in only 16 months from the original Call for Interest and 12 months from the project approval enables the

industry to quickly respond to the growing need for Ethernet adoption in the carrier networks."

The new standard builds upon last year's release of the IEEE Std 802.3ba™-2010, IEEE's 40Gb/s and 100Gb/s Ethernet standard. The 40GBASE-FR interface was a specific need identified by the [telecom](#) carrier network operators as a key factor in their ability to seamlessly transition from installed equipment to new equipment supporting 40Gb/s Ethernet.

"This was truly an excellent example of the collaborative power of the IEEE Standards organization working with and responding to the industry users and the other industry standards bodies," said David Law, Chair, IEEE 802.3 Working Group. "IEEE 802.3bg ensures that we can meet today's needs without abandoning yesterday's investments."

In addition to providing a second 40Gb/s Ethernet optical interface for single-mode fiber, it remains compatible with the existing IEEE 802.3 standards and installations. It is anticipated that the equipment suppliers will be able to support the new 40GBASE-FR interfaces in equipment that is already designed to support 40GBASE-LR4. Similarly, multi-protocol equipment can be built that would be software configurable between 40Gb/s Ethernet, OTU3, STM-256, OC-768 or 40G POS enabling this new equipment to interoperate with legacy installed equipment as well as current or future designed equipment optimized for 40Gb/s Ethernet. Key stakeholders for the IEEE 802.3bg project included telecommunications carriers, users and producers of systems and components for networking system and data centers.

Simon Zelingher, Vice President of Global Optical, IP, & Data Development at AT&T stated: "AT&T has been leading the industry in deployment of 40G technology. The IEEE 802.3bg standard provides a bridge between the already standardized 40G interface and future 40G Ethernet technologies. We appreciate the flexibility and support of the IEEE to drive this standard forward."

Paul Nikolich, Chairman, IEEE 802 LAN/MAN Standards Committee, stated: "I wish to extend my congratulations to the IEEE 802.3 Working Group and the IEEE P802.3bg Task Force on the success of this project. It is yet another example of the industry coming together in IEEE 802 and quickly reaching consensus that will benefit all users and providers of Ethernet network-based services and products."

"The IEEE 802.3bg Task Force exceeded expectations in swiftly moving the new 40Gb/s Ethernet single-mode fiber PMD standard to final approval," said Martin Carroll, Distinguished Member of Technical Staff, Network and

Technology, Verizon. "The resultant standard reflects the cooperative spirit among participants involved in both IEEE and ITU-T initiatives to enhance and improve 40Gb/s capabilities across Ethernet and transport networking arenas."

For additional information please visit: [IEEE P802.3bg](#). The CD version of the approved standard will be available for [purchase](#) on 22 June. The PDF version will be available for [purchase](#) on xx April.

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