

400 Gigabit Ethernet Call-For-Interest Closing Report

IEEE 802.3 Ethernet Working Group
IEEE 802 March 2013 Plenary, Orlando, FL

CFI Consensus Meeting Summary

- 132 Attendees
- Presentations
 - “The Bandwidth Explosion,”
 - David Ofelt, Juniper
 - “Beyond 100 Gigabit Ethernet, Technical Challenges,”
 - Mark Nowell, Cisco.
 - “400 Gigabit Ethernet- Why Now,”
 - John D’Ambrosia, Dell.
- Strawpolls

Contributors

- **Pete Anslow, Ciena**
- **Chris Cole, Finisar**
- **Kai Cui, Huawei**
- **John D'Ambrosia, Dell**
- **Mark Gustlin, Xilinx**
- **Mike Li, Altera**
- **Jeff Maki, Juniper**
- **Andy Moorwood, Infinera**
- **Gary Nicholl, Cisco**
- **Mark Nowell, Cisco**
- **David Ofelt, Juniper**
- **Brian Teipen, ADVA**
- **Jim Theodoras, ADVA**
- **Steve Trowbridge, Alcatel-Lucent**
- **IEEE 802.3 Higher Speed Ethernet Consensus Ad Hoc**

Supporters Across the Eco-System (1 of 3)

- Ghani Abbas, Ericsson
- John Abbott, Corning
- Shamim Akhtar, Comcast
- Arne Alping, Ericsson
- Jon Anderson, Oclaro
- Pete Anslow, Ciena
- Liav Ben Artsi, Marvell
- Andrew Bach, Juniper
- Thananya Baldwin, Ixia
- Shen Bailin, ZTE
- Stephen Bates, PMC-Sierra
- Mike Bennett, LBNL
- Chris Bergey, Luxtera
- Gary Bernstein, Leviton
- Ralf-Peter Braun, Deutsche Telecom
- David Brown, Semtech
- Matt Brown, Applied Micro
- Steve Carlson, High Speed Design
- Martin Carroll, Verizon
- Derek Cassidy, BT
- Dave Chalupsky, Intel
- Frank Chang, Vitesse
- Che-Hoo Cheng, CUHK/HKIX
- Wheling Cheng, Juniper
- Derek Cobb, LINX
- Chris Cole, Finisar
- Kai Cui, Huawei
- John D'Ambrosia, Dell
- Wael Diab, Broadcom
- Chris DiMinico, MC Communications
- Dan Dove, Applied Micro
- Mike Dudek, Qlogic
- Hesham ElBakoury, Huawei
- Arash Farhood, Cortina
- Jan Filip, Maxim Integrated
- Alan Flatman, LAN Technologies
- Harry Forbes, Nexans
- Howard Frazier, Broadcom
- Galen Fromm, Cray
- Ilango Ganga, Intel
- Ali Ghiasi, Broadcom
- Mark Gustlin, Xilinx
- Marek Hajduczenia, ZTE
- Hiroshi Hamano, Fujitsu Labs
- Bernie Hammond, TE Connectivity
- Adam Healey, LSI
- Brian Holden, Kandou Bus, S.A.
- Lu Huang, China Mobile
- Xi Huang, Huawei
- Alexander Ilin, MSK-IX
- Scott Irwin, MoSys
- Hideki Isono, Fujitsu Optical Components
- Tom Issenhuth, Microsoft
- Jack Jewell, Independent, CommScope
- Mark Jones, Xtera Communications
- Shinkyō Kaku, Allied Telesis
- Jonathan King, Finisar
- Scott Kipp, Brocade

Supporters Across the Eco-System (2 of 3)

- Paul Kolesar, CommScope
- Masashi Kono, Hitachi
- Ryan Latchman, Mindspeed
- Greg Lecheminant, Agilent
- David Lewis, JDSU
- Junjie Li, China Telecom
- Mike Li, Altera
- Sharon Lutz, US Conec
- Valerie Maguire, Siemon
- Jeff Maki, Juniper
- Edwin Mallette, Bright House Networks
- Roger Marks, Consensii LLC
- Arthur Marris, Cadence
- Tomizawa Masahito, NTT
- Tom McDermott, Fujitsu Network Communications
- John McDonough, NEC
- Greg McSorley, Amphenol
- Mounir Meghelli, IBM
- Rich Mellitz, Intel
- Inder Monga, ESnet
- Andy Moorwood, Infinera
- Shimon Muller, Oracle
- Karl Muth, Texas Instruments
- Ed Nakamoto, Spirent
- Gary Nicholl, Cisco
- Arnold Nipper, DE-CIX
- Susumu Nishihara, NTT
- Takeshi Nishimura, Yamaichi Electronics
- Mark Nowell, Cisco
- David Ofelt, Juniper
- Hiroataka Oomori, Sumitomo Electric
- Tom Palkert, Xilinx, Luxtera, Molex
- Pravin Patel, IBM
- Martin Pels – AMS-IX
- Petar Pepeljugoski, IBM
- Jerry Pepper, Ixia
- Randy Perrie, OneChip Photonics
- John Petrilla, Avago
- Rick Pimpinella, Panduit
- Scott Powell, Clariphy
- Rick Rabinovich, Alcatel-Lucent
- Michael Ressler, Hitachi
- Jorge Salinger, Comcast
- Sam Sambasivan, AT&T
- Martin Saner, SNT
- Shawn Searles, Independent
- Ted Seely, Sprint
- Oren Sela, Mellanox
- K. Seto, Hitachi Cable
- Megha Shanbhag, TE Connectivity
- Song Shang, Semtech
- Steve Shellhammer, Qualcomm
- Kapil Shrikhande, Dell
- Scott Sommers, Molex
- Xiaolu Song, Huawei
- Ted Sprague, Infinera
- Peter Stassar, Huawei
- Henk Steenman, AMS-IX
- Andre Szczepanek, Inphi

Supporters Across the Eco-System (3 of 3)

- Daniel Stevens, Fujitsu Semiconductor Europe
- Steve Swanson, Corning
- Norm Swenson, Clariphy
- William Szeto, Xtera Communications
- Akio Tajima, NEC
- Takejiro Takabayashi, JPIX
- Tomoo Takahara, Fujitsu Labs
- Toshiki Tanaka, Fujitsu Labs
- Katsuhisa, Tawa, Sumitomo Electric
- Brian Teipen, ADVA
- Jim Theodoras, ADVA
- Masahito Tomizawa, NTT
- Hidehiro Toyoda, Hitachi
- Nathan Tracy, TE Connectivity
- Matt Traverso, Cisco
- Francois Tremblay, Semtech
- Steve Trowbridge, Alcatel-Lucent
- Eddie Tsumura, Sumitomo Electric
- Ed Ulrichs, Source Photonics
- Sterling Vaden, OCC
- Paul Vanderlaan, Nexan
- Arien Vijn, AMS-IX
- Xiaofeng Wang, Qualcomm
- David Warren, HP
- Winston Way, Neophotonics
- Cheng Weiqiang, China Mobile
- Glenn Wellbrock, Verizon
- CK Wong, FCI USA LLC
- Chengbin Wu, ZTE
- Helen Xuyu, Huawei
- Andy Zambell, FCI
- Wenyu Zhao, CATR
- Pavel Zivny, Tektronix

Summary

- **IEEE 802.3 BWA Forecast**
 - 2015 Capacity, 10x requirements of 2010 - Terabit
 - 2020 Capacity 100x requirements of 2010 – 10 Terabit
- **Traffic is growing everywhere**
 - More Internet users
 - More ways to access the internet faster
 - Higher bandwidth content
 - New applications enabled
 - And it goes on
- **Higher Speed @ lower cost per bit needed by Ethernet Interconnect**
 - Not “can it be done” but “can it be done at right cost!”
- **We believe there is a path forward to cost-effective 400 Gb/s Ethernet!**

Straw Polls Results

- **Room Count: 132**
- **Should a Study Group be formed for “ 400 Gb/s Ethernet”?**

Y: 132 N: 0 A: 1

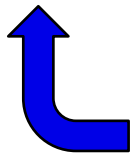
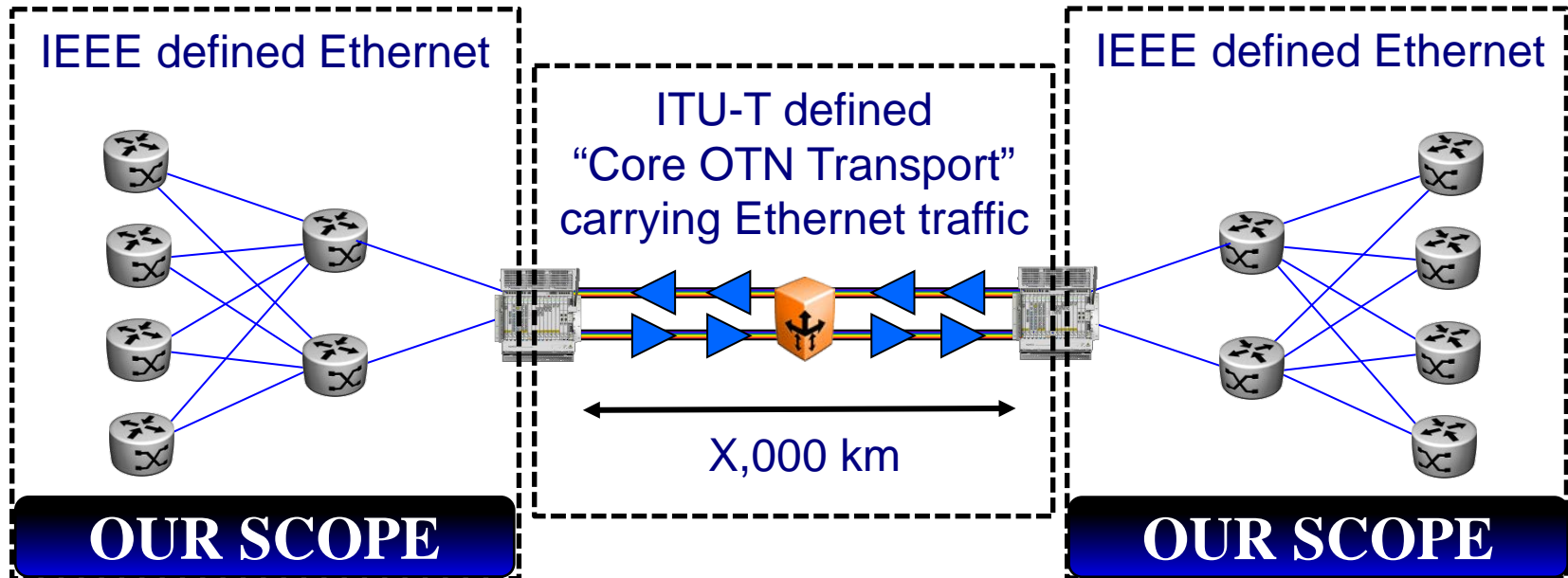
- **I would participate in the “400 Gb/s Ethernet” Study Group in IEEE 802.3.**

Tally: 94

- **My company would support participation in the “400 Gb/s Ethernet” Study Group in IEEE 802.3**

Tally: 60

What Are We Talking About?



- What reaches?
- What PHYs?
- The 400 GbE Architecture

WG Motion

Move the IEEE 802.3 Working Group authorizes the formation of a study group for “400 Gb/s Ethernet.”

- M: John D’Ambrosia
- S: Mark Nowell
- >50%
- 802.3 Voters: Y: N: A:
- Motion

WG Motion

Move that the IEEE 802.3 Working Group request the IEEE 802 EC to request that the Industry Connections "Higher Speed Ethernet Consensus Activity" be disbanded contingent on the approval of the 400 Gb/s Study Group.

- M: John D'Ambrosia
- S: Pete Anslow
- Procedural / Technical
- 802.3 Voters: Y: N: A:
- Motion

The background is a dark blue gradient with several glowing, curved lines in shades of light blue and cyan. On the left side, there is a faint grid pattern of intersecting lines, also in light blue. The overall effect is a dynamic, futuristic, and high-tech aesthetic.

THANK YOU!