

Approved Minutes
IEEE P802.3bs 400 GbE Task Force
Plenary Meeting
March 10-12, 2015
Berlin, Germany
Prepared by Peter Stassar and Kent Lusted

Table of Contents

Table of Contents.....	1
IEEE P802.3bs Task Force Meeting – 10 March 2015:	2
IEEE P802.3bs Task Force Meeting – 11 March 2015:	6
IEEE P802.3bs Task Force Meeting – 12 March 2015:	12
Attendees	16

IEEE P802.3bs Task Force Meeting – 10 March 2015:

Prepared by Peter Stassar and Kent Lusted

IEEE P802.3bs 400 Gb/s Task Force interim meeting convened at 1:01 p.m., Tuesday, 10 March 2015, by John D'Ambrosia, IEEE P802.3bs Task Force Chair.

Chair appointed Peter Stassar as Task Force recording secretary for today's meeting.

Introductions were made.

Agenda & General Information

By – John D'Ambrosia

See -- http://www.ieee802.org/3/bs/public/15_03/agenda_3bs_01a_0315.pdf

Chair reviewed the agenda.

Motion #1:

Move to approve the agenda

- Moved by: Thananya Baldwin
- Second by: Steve Trowbridge
- Pass by voice without opposition

January 2015 interim meeting minutes were posted after the meeting. Peter Stassar noted that presentation #35 was allocated twice. So at the second instance it should be renumbered to "presentation #36.

Motion #2:

Move to approve the IEEE P802.3bs January 2015 interim meeting minutes as modified during the meeting.

- Moved by: Pete Anslow
- Second by: Thananya Baldwin
- Pass by voice without opposition

Chair noted that photography and recording not allowed without permission.

Chair called for members of the press. John D'Ambrosia noted that he talks with press but will only disclose high level details available from published meeting material. No one else responded.

Chair continued with the introductory presentation.

Goals:

- Hear technical proposals and supporting presentations
- Assess Resolution of Big Ticket Items (BTI)
- Re-evaluate timeline

Chair noted that the draft, and any other content, is posted for Task Force review only, and neither the content nor access information should be copied or redistributed to others in violation of document copyrights.

Chair displays the Bylaws and Rules slides in

http://www.ieee802.org/3/bs/public/15_03/agenda_3bs_01a_0315.pdf

IEEE Patent Policy: Chair reviewed the Patent related slides on the 4 slides contained in the agenda. Chair calls for potentially essential patents. No one responded. Chair read the Guidelines for IEEE-SA meetings. No one responded.

Chair advised the WG attendees that:

- The IEEE's patent policy is described in Clause 6 of the *IEEE-SA Standards Board Bylaws*;
- Early identification of patent claims which may be essential for the use of standards under development is strongly encouraged;
- There may be Essential Patent Claims of which the IEEE is not aware. Additionally, neither the IEEE, the WG, nor the WG chair can ensure the accuracy or completeness of any assurance or whether any such assurance is, in fact, of a Patent Claim that is essential for the use of the standard under development.

No one responded.

Chair reviewed the ground rules.

Chair reviewed the IEEE 802.3 Standards process.

Chair displayed links to the adopted objectives, PAR, CSD and timeline.

At this stage of the meeting no communication or liaison letters had been received.

Chair showed the BTI progress including an assessment of the BTI status which was provided in http://www.ieee802.org/3/bs/public/15_03/agenda_3bs_01a_0315.pdf.

David Lewis announced that proposals for DMT 500m and DMT 2km will be withdrawn.

Chair reminded attendees to sign into the IEEE-SA Meeting Attendance Tool and to sign book. Update affiliation, if necessary.

Chair reviewed the plans for the week.

Presentation #1:

Title: Chief Editor's Report: Document structure, naming and open questions

By: Pete Anslow, Ciena

See http://www.ieee802.org/3/bs/public/15_03/anslow_3bs_01_0315.pdf

Note: Currently a placeholder for the starting clause has been shown to be Clause 200, which now has provisionally been allocated to be Clause 116.

Presentation #2:

Title: Logic Ad hoc Updates

By: Mark Gustlin, Xilinx

See: http://www.ieee802.org/3/bs/public/15_03/gustlin_3bs_01_0315.pdf

Presentation #3:

Title: SMF Ad Hoc Updates

By: Pete Anslow, Ciena

See: http://www.ieee802.org/3/bs/public/15_03/anslow_3bs_02_0315.pdf

Presentation #4:

Title: Electric Interface Ad Hoc Update

By: Vasu Parthasarathy, Broadcom

See: http://www.ieee802.org/3/bs/public/15_03/goergen_3bs_01_0315.pdf

The weblink in the presentation will require fixing in order to make presented information available to the Task Force.

During the following presentation Mr. Bob Grow chaired the meeting. It was noted that the Ad Hoc webpage needs updated.

Presentation #5:

Title: Timeline Revisited

By: John D'Ambrosia, Dell

See: http://www.ieee802.org/3/bs/public/15_03/dambrosia_3bs_01a_0315.pdf

John D'Ambrosia resumed Chair responsibility.

Afternoon break starting at 2:48PM. Reconvened at 3:17PM

Presentation #6:

Title: Nomenclature

By: Kent Lusted, Intel

See: http://www.ieee802.org/3/bs/public/15_03/lusted_3bs_01_0315.pdf

Presentation #7:

Title: Thoughts on Big Ticket Items

By: Brad Booth, Microsoft

See: http://www.ieee802.org/3/bs/public/15_03/booth_3bs_01a_0315.pdf

Presentation #8:

Title: 400GbE PCS and PMA Baseline Proposals

By: Mark Gustlin, Xilinx

See: http://www.ieee802.org/3/bs/public/15_03/gustlin_3bs_02a_0315.pdf

Presentation #9:

Title: Muxing and Interleaving

By: Oded Wertheim

See: http://www.ieee802.org/3/bs/public/15_03/wertheim_3bs_01a_0315.pdf

Presentation #10:

Title: Further investigation on bit multiplexing for 400GbE PMA

By: Tongtong Wang, Huawei

See: http://www.ieee802.org/3/bs/public/15_03/wang_t_3bs_01a_0315.pdf

2nd afternoon break starting at 5:00PM

Reconvened at 5:15PM

Presentation #11:

Title: Proposal for 400GbE FEC Architecture

By: Xinyuan Wang, Huawei

See: http://www.ieee802.org/3/bs/public/15_03/wang_x_3bs_01_0315.pdf

Presentation #12:

Title: OTN Support Proposal

By: Steve Trowbridge, Alcatel-Lucent

See: http://www.ieee802.org/3/bs/public/15_03/trowbridge_3bs_01_0315.pdf

Presentation #13:

Title: Parametric Test and Measurement for 400 Gb/s

By: Greg Lecheminant, Keysight Technologies

See: http://www.ieee802.org/3/bs/public/15_03/lecheminant_3bs_01a_0315.pdf

There was no objection from the Task Force to hearing the next late presentation from Chris Cole.

Presentation #14:

Title: 400G System Use Cases

By: Chris Cole, Finisar and Jeffery Maki, Juniper

See: http://www.ieee802.org/3/bs/public/15_03/cole_3bs_01_0315.pdf

No objections were raised to making an updated version of this presentation to correct an error.

(Post meeting – Chris Cole confirmed that the slides were correct, and no update was necessary.)

Broke for the day at 6:27 p.m.

IEEE P802.3bs Task Force Meeting – 11 March 2015:

Prepared by Kent Lusted

Resumed at 8:00 a.m. on 11 March 2015 by John D'Ambrosia, IEEE P802.3bs Task Force Chair.

Chair displayed agenda slides:

http://www.ieee802.org/3/bs/public/15_03/agenda_3bs_01a_0315.pdf

Patent policy: Chair displayed the patent policy related slides in the agenda (http://www.ieee802.org/3/bs/public/15_03/agenda_3bs_01a_0315.pdf). Chair asked if anyone is unfamiliar with the IEEE patent policy. No one responded. Chair called for potentially essential patents. No one responded.

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Chair reminded participants to observe the proper decorum.

Chair outlined the plans for the day: hear 20 presentations and build consensus.

Chair asked if objection to hearing Chris Cole's presentations. No one objected.

Chair reminded attendees to sign into the IEEE-SA Meeting Attendance Tool and sign the book. Update affiliation, if necessary.

Presentation #15:

Title: Improved Mellitz_3bs_03bs_01_0714 C2C channels with exceed the Goergen_3bs_01a_1114 Loss Line

By: Rich Mellitz

See: http://www.ieee802.org/3/bs/public/15_03/mellitz_3bs_01_0315.pdf

- Chair noted that the channel contributions will be moved to the channel area.

Presentation #16:

Title: CEI-56G-XSR-NRZ a candidate C2EO CDAUI-8

By: Piers Dawe for Graeme Boyd

See: http://www.ieee802.org/3/bs/public/15_03/dawe_3bs_01_0315.pdf

- It was noted that this proposal for LPPI would be CAUI-8 in the Architecture.

Presentation #17:

Title: LPPI "The Ultra Low Power C2C Interface"

By: Ali Ghiasi

See: http://www.ieee802.org/3/bs/public/15_03/ghiasi_3bs_01a_0315.pdf

- Ali to send updated presentation with additional supporters and link to Piers Dawe presentation.
- Discussed implementations today using similar interfaces for optical interfaces.
- Discussed clock forwarding impact to the system solution.
- Concern was raised that LPPI is not "L" and not un-retimed. Recommend to make a decision about supporting it and progress forward.
- Chair noted that the big ticket item for LPPI was to assess consensus in the task force. A decision needs to be made.

Chair reminded attendees to sign into the IEEE-SA Meeting Attendance Tool and sign the book. Update affiliation, if necessary.

Presentation #18:

Title: 50Gbps NRZ Measurement Results

By: Jeff Twombly

See: http://www.ieee802.org/3/bs/public/15_03/twombly_3bs_01a_0315.pdf

Presentation #19:

Title: Channel operating margin for PAM4 CDAUI-8 chip-to-chip interfaces

By: Adam Healey

See: http://www.ieee802.org/3/bs/public/15_03/healey_3bs_01_0315.pdf

- Chair noted that adjustments to the COM from P802.3bj may be necessary for P802.3bs. No COM proposal has yet to be adopted for the 50G signaling.
- Author noted that the presentation outlines aspects of COM that could be adjusted for this project, if the Task Force deemed it necessary.

Broke at 10:10 a.m. Resume at 10:30 a.m.

Presentation #20:

Title: Baseline Proposal for CDAUI-8 Chip-to-Module (c2m)

By: David Brown

See: http://www.ieee802.org/3/bs/public/15_03/brown_3bs_01a_0315.pdf

Presentation #21:

Title: PAM4 Modulation on a 28G-VSR Channel

By: David Brown

See: http://www.ieee802.org/3/bs/public/15_03/brown_3bs_02a_0315.pdf

Presentation #22:

Title: Baseline Proposal for CDAUI-8 Chip-to-Chip (c2c)

By: Mike Li

See: http://www.ieee802.org/3/bs/public/15_03/li_3bs_01a_0315.pdf

- Presentation updated with additional supporters.
- Questions were asked and answered

Presentation #23:

Title: Status Review on BTIs for the PAM4 Chip-to-Chip (c2c) Baseline Development

By: Mike Li

See: http://www.ieee802.org/3/bs/public/15_03/li_3bs_02a_0315.pdf

- Updated presentation with additional supporters.
- Chair thanked the authors for preparing the summary.
- Chair asked if any participant wanted to see more information on this proposal. No one responded.

Presentation #24:

Title: PAM-4 Link Simulations with a Chip-to-Chip (c2c) Channel

By: Mike Li

See: http://www.ieee802.org/3/bs/public/15_03/li_3bs_03a_0315.pdf

- Chair noted that participants ask for more analysis but have not provided more channels for analysis.

Presentation #25:

Title: PAM4 Results For Copper Channels

By: Vasu Parthasarathy

See: http://www.ieee802.org/3/bs/public/15_03/parthasarathy_3bs_01_0315.pdf

Chair reminded attendees to sign into the IEEE-SA Meeting Attendance Tool and sign the book. Update affiliation, if necessary.

Chair noted that the afternoon session will be in a different room. Please check the schedule.

Presentation #26:

Title: Decoupling electrical and Optical Modulation

By: Andre Szczepanek

See: http://www.ieee802.org/3/bs/public/15_03/szczepanek_3bs_01a_0315.pdf

- Updated presentation with additional supporters.

Break for lunch at 11:55 a.m. Resume at 1:03 p.m.

Presentation #27:

Title: 400G-PSM4: A Proposal for the 500m Objective using 100 Gb/s per Lane Signaling

By: Tom Palkert on behalf of Brian Welch

See: http://www.ieee802.org/3/bs/public/15_03/welch_3bs_01b_0315.pdf

- Updated presentation with additional supporters (01b)

Presentation #28:

Title: A Review of 400G-PSM4

By: Tom Palkert on behalf of Brian Welch

See: http://www.ieee802.org/3/bs/public/15_03/welch_3bs_02b_0315.pdf

- Request for test results that show error performance to 1E-6.
- Request for more information to support the BTI in the proposal.
- Request for more data on the technical feasibility experimental results
- Request for more information on welch_3bs_01b_0315.pdf (slide 5) on the difference between sim performance and silicon performance.

Presentation #29:

Title: 100Gb/s/Lambda 2km PAM4 Big Ticket Items

By: Alan Tipper

See: http://www.ieee802.org/3/bs/public/15_03/tipper_3bs_01a_0315.pdf

- Updated presentation with additional supporters
- Clarifying questions were asked and answered

Presentation #30:

Title: Proposal for 400GE Optical PMD for 2km SMF Objective based on 4 x 100G PAM4

By: David Lewis

See: http://www.ieee802.org/3/bs/public/15_03/lewis_3bs_01a_0315.pdf

- Updated presentation with additional supporters.

Presentation #31:

Title: Experimental Investigation on Dispersion Tolerance of 8x53.2Gbps NRZ for 400GbE 2km and 10km PMD

By: Yangjing Wen

See: http://www.ieee802.org/3/bs/public/15_03/wen_3bs_01_0315.pdf

Break at 3:06 p.m. Resume at 3:31 p.m.

Presentation #32:

Title: Big Ticket Items and supplemental information for 8x50G NRZ

By: Mizuki Shirao

See: http://www.ieee802.org/3/bs/public/15_03/shirao_3bs_01a_0315.pdf

- Updated presentation with additional supporters

Presentation #33:

Title: Big Ticket Items for DMT

By: Sacha Corbeil

See: http://www.ieee802.org/3/bs/public/15_03/corbeil_3bs_01a_0315.pdf

- Updated presentation with additional supporters.
- Author noted that 500m and 2km proposals were withdrawn in order to focus on 10km.

Presentation #34:

Title: Chromatic Dispersion Penalty of 4x100G DMT for 10km SMF PMD

By: Toshiki Tanaka

See: http://www.ieee802.org/3/bs/public/15_03/tanaka_3bs_01a_0315.pdf

- Updated presentation with additional supporters.
- Clarifying questions were asked and answered.

Chair asked if there was objection to hearing an updated presentation from Peter Stassar with new test data. No one responded.

Presentation #35:

Title: Update on BTI's for 8x50G PAM4 over 10km SMF

By: Peter Stassar

See: http://www.ieee802.org/3/bs/public/15_03/stassar_3bs_01a_0315.pdf

Presentation #36:

Title: 400GBase-LR8: A Proposal for 10 km Objective Using 50 Gb/s PAM4 Signaling

By: Ali Ghiasi

See: http://www.ieee802.org/3/bs/public/15_03/ghiasi_3bs_02a_0315.pdf

- Updated ghiasi_02 with list of supporters and correcting type AOP value on page 6 to -3.2 dBm
- Author noted an error on slide 9 that he will correct.

Presentation #37:

Title: 400Gb/s 2km duplex SMF NRZ PMD Baseline Specifications

By: Chris Cole

See: http://www.ieee802.org/3/bs/public/15_03/cole_3bs_03_0315.pdf

- Chair requested that the Task Force hold questions until after the 10km proposal presentation.

Presentation #38:

Title: 400Gb/s 10km duplex SMF NRZ PMD Baseline Specifications

By: Chris Cole

See: http://www.ieee802.org/3/bs/public/15_03/cole_3bs_04_0315.pdf

Presentation #39:

Title: SMF PMD Modulation Observations

By: Chris Cole

See: http://www.ieee802.org/3/bs/public/15_03/cole_3bs_02_0315.pdf

- Clarifying questions were asked and answered.

Chair reminded participants to work on consensus building on the related proposals. Chair intends to review the proposals tomorrow for progress against the BTI and consensus proposal. Chair observed that the BTI points were answered on PAM4.

Chair encouraged offline consensus building in order to progress the Task Force.

Chair announced a start time of 8:30 a.m. on Thursday.

Break for the day at 5:55 p.m.

IEEE P802.3bs Task Force Meeting – 12 March 2015:

Prepared by Kent Lusted

Resumed at 9:00 a.m. on 12 March 2015 by John D'Ambrosia, IEEE P802.3bs Task Force Chair.

Chair displayed agenda slides:

http://www.ieee802.org/3/bs/public/15_03/agenda_3bs_01a_0315.pdf

Chair reminded attendees to sign the book and into the IEEE Attendance Tool. Update affiliation, if necessary.

Patent policy: Chair displayed the patent policy related slides in the agenda (http://www.ieee802.org/3/bs/public/15_03/agenda_3bs_01a_0315.pdf). Chair asked if anyone is unfamiliar with the IEEE patent policy. No one responded. Chair called for potentially essential patents. No one responded.

Chair displayed the Guidelines for IEEE WG meetings.

Chair noted that all presentations have been completed. Chair noted that he intends to revisit the BTI assessment for each area.

Motion #3: 9:09 a.m.

Move to adopt RS(544,514,10) as the FEC in the 802.3bs 400GbE architecture

- M: Mark Gustlin
- S: David Ofelt
- Technical ($\geq 75\%$),
- Y: 87 , N: 0 , A: 10
- Result: passes 9:14 a.m.

Motion #4: 9:14 a.m.

Move to adopt li_3bs_01a_0315.pdf as the baseline proposal for CDAUI-8 chip-to-chip electrical I/O interface except for the differential return losses (on slide 11) for the TX and the RX shall be TBD .

- M: Gary Nicholl
- S: Vasu Parthasarathy
- Technical ($\geq 75\%$),
- Y: 84 , N: 3 , A: 18
- 802.3 voters: Y: 63 N: 3 A: 15
- Result: passes 9:37 a.m.

Discussion on motion #4: Chair displayed li_3bs_01a presentation (see http://www.ieee802.org/3/bs/public/15_03/li_3bs_01a_0315.pdf). Mike Li reviewed the additional supporters and the editorial changes to the presentation. Chair asked if there were questions about the changes highlighted by Mike Li. No one responded. Continued discussion on the motion.

David Brown reviewed the additional supporters and the changes to the original CDAUI-8 chip-to-module presentation. (see http://www.ieee802.org/3/bs/public/15_03/brown_3bs_01a_0315.pdf)

Motion #5: 9:38 a.m.

Move to adopt brown_3bs_01a_0315.pdf as the baseline proposal for CDAUI-8 chip-to-module electrical I/O interface.

- M: Gary Nicholl
- S: Vasu Parthasarathy
- Technical ($\geq 75\%$),
- Y: 82 , N: 4 , A: 17
- 802.3: Y: 64 N: 2 A: 15
- Result: pass 9:53 a.m.

Broke at 9:53 a.m. resume at 10:30 a.m.

Chair reviewed BTI spreadsheet with BTI out of March Plenary. (see http://www.ieee802.org/3/bs/public/15_03/bti_3bs_01_0315.pdf) Chair noted that moving forward, items related to the baselines that have been adopted will be removed from the BTI list. The Chief Editor will assess the baselines for deficiencies and maintain the list around the adopted proposals in the Editors report.

Chair reminded participants of the request for channel data.

Chair asked Steve Trowbridge to prepare an informal communication with the adopted baseline proposals from the March 2015 meeting and request for future communications on the XSR interface.

Discussed the LPPI interface. Chair asked if there was objection to removing LPPI from consideration by the Task Force. There was no objection.

Chris Cole withdrew both 500m PSM4 proposals.

Chris Cole asked to put the 500m NRZ proposal back on the table. Chair emphasized that proposals need support from multiple company. Chair assigned Atsushi Takai ownership for the 500m MRZ proposal.

Chair asked Chris Cole and Keisuke Kojima to work together on a 2km proposal.

Motion #6:

Move to add to the BTI list for the 2km and 10km SMF NRZ PMDs the item provide evidence for the premise that packaged 50GHz components will be the same cost as 25GHz components in 2017.

- M: Martin Bouda
- S: Sacha Corbeil
- Technical ($\geq 75\%$),
- Y: 15 , N: 45 , A: 30
- Result: Fails 11:29 a.m.

Discussion on motion #6: Chair noted that he considers the details of this motion to be part of the economic feasibility.

Reviewed proposed informal communication letter to OIF. See http://www.ieee802.org/3/bs/public/15_03/trowbridge_3bs_02_0315.pdf . Discussed concerns with the proposed text referencing CEI-XSR-56G. There was consensus to remove the text.

Motion #7: 11:45 a.m.

Move that the IEEE P802.3bs 400 GbE Task Force approve the text in [trowbridge_3bs_02_0315.pdf](#) with editorial license granted to the Chair (or his appointed agent) as an informal communication by the Chair to OIF.

- M: Trowbridge
- S: booth
- Procedural (>50%)
- Result: passes by voice vote w/o opposition

Attendance Straw Polls

- I will attend the IEEE 400 Gb/s meetings at the May interim in Pittsburgh, PA, USA (week of May 18, 2015)
 - Y: 70 , Maybe: 16 , N: 16
- I will attend the IEEE 400 Gb/s meetings at the July plenary in Hawaii, USA (week of July 12, 2015)
 - Y: 61 , Maybe: 25 , N: 15

Chair reviewed the future meeting schedule.

Future Meetings

- May 2015 Interim - Week of May 18, 2015
 - Omni William Penn Hotel, Pittsburgh, PA, USA
- July 2015 Plenary - Week of July 12
 - Hilton Waikoloa Village
- Sept 2015 Interim – Week of Sept 14
 - – Hyatt Regency Coconut Point, Bonita Springs, FL
- Nov 2015 Plenary
 - Hyatt Regency Dallas, Dallas, TX, USA

Anyone interested in hosting a meeting should contact the Chair or Steve Carlson.

Chair noted that the consensus building is an important part of the process. Please work together to formulate proposals and work offline.

Chair noted that the realm of Ethernet is changing and the participants of IEEE 802.3 should consider this in the future.

Motion #8:

Motion to Adjourn:

- M: Thananya Baldwin
- S: David Ofelt
- Pass by voice without opposition.

Meeting ended at 12:00 p.m.

Attendees

IEEE P802.3bs 400GbE Task Force			3/10/2015	3/11/2015	3/12/2015
Last Name	First Name	Employer / Affiliation	Tues	Wed	Thurs
Andrewartha	Mike	Microsoft		x	x
Anslow	Pete	Ciena Corporation	x	x	x
Baden	Eric	Broadcom		x	x
Baldwin	Thananya	Ixia	x	x	x
Baler	Mortiz	FhG-HHI	x	x	
Bhatt	Vipul	Inphi	x	x	x
Bietti	Ivan	Marvell Semiconductor	x	x	x
Bliss	Will	Broadcom	x	x	x
Booth	Brad	Microsoft		x	x
Bouda	Martin	Fujitsu	x	x	x
Braun	Ralf-Peter	Deutsche Telekom	x	x	
Brooks	Paul	JDSU	x	x	x
Brown	David	Semtech	x	x	x
Brown	Matt	Applied Micro		x	x
Carroll	Martin	Verizon	x	x	x
Chang	Xin	Huawei	x	x	x
Clairardin	Xavier	FCI	x		
Cole	Chris	Finisar	x	x	x
Collings	Brandon	JDSU		x	
Conroy	Keith	MultiPhy	x	x	x
Corbeil	Sacha	JDS Uniphase	x	x	x
D'Ambrosia	John	Dell	x	x	x
Dawe	Piers	Mellanox		x	x
De Geest	Jan	FCI	x	x	x
De Keulenaer	Timothy	Ghent University	x	x	x
Dedic	Ian	Socionext	x	x	x
Diab	Wael			x	
Dudek	Mike	QLogic		x	x
Ewen	John	IBM		x	x
Filip	Jan	Maxim Integrated Products Inc.	x	x	
Ghiasi	Ali	Ghiasi Quantum	x	x	x
Gong	Zhigang	D-Net		x	x
Gorshe	Steve	PMC_Sierra	x	x	x
Grillaert	Joost	Nexans	x	x	x
Grow	Bob	RMG Consulting	x		
Gustlin	Mark	Xilinx	x	x	x
Healey	Adam	Avago Technologies		x	x
Hidaka	Yasuo	Fujitsu Laboratories of America		x	x
Hirai	Riu	Hitachi	x	x	x
Holden	Brian	Kandou Bus	x	x	
Ingham	Jonathan	Avago Technologies		x	x
Irwin	Scott	Mosys		x	x
Ishibe	Kazuhiko	Anristu	x	x	x
Isono	Hideki	Fujitsu Ltd.	x	x	x
Issenhuth	Tom	Microsoft	x	x	x
Jackson	Kenneth	Sumitomo		x	
Kang	Vincent	GUC	x	x	x

IEEE P802.3bs 400GbE Task Force			3/10/2015	3/11/2015	3/12/2015
Last Name	First Name	Employer / Affiliation	Tues	Wed	Thurs
Kareti	Upen Reddy	Cisco	x	x	x
Karinou	Fotini	Huawei	x		
Kawatsu	Yasuaki	Hitachi-Metals	x	x	x
Kayschke	Michael	Socionext	x	x	x
Kelsen	Michael	Time Warner Cable	x		x
King	Jonathan	Finisar Corp.		x	
Klempa	Mike	UNH-IOL		x	x
Koehler	Daniel	More than IP		x	x
Kojima	Keisuke	Mitsubishi Electric Res. Lab	x	x	x
Langhammer	Martin	Altera	x	x	x
Law	David	HP	x		
LeCheminant	Greg	Keysight Technologies	x	x	x
Lee	Arthur	MediaTek Inc	x	x	
Lewis	Dave	JDSU	x	x	x
Li	Lei	Fujitsu	x	x	x
Li	Mike	Altera	x	x	x
Lillie	Andrew	Intel		x	x
Lusted	Kent	Intel	x	x	x
Maki	Jeffery	Juniper Networks	x	x	x
Malkman	Yonaton	Mellanox		x	x
Marris	Arthur	Cadence			x
Masuda	Takeo	OITDA		x	x
Matsubara	Satoshi	Fujitsu Laboratory Ltd	x	x	x
McDonough	John	NEC America	x	x	x
Mellitz	Richard	Intel		x	x
Mooney	Paul	Spirent Communications	x	x	x
Moritake	Toshiyuki	JAE		x	
Muir	Ron	JAE		x	x
Nowell	Mark	Cisco		x	x
Ofelt	David	Juniper Networks	x	x	x
Ogura	Ichiro	Petra	x	x	x
Palkert	Tom	Luxtera		x	x
Park	Moon	OE Solutions	x	x	x
Parthasarathay	Vasudevan	Broadcom	x	x	x
Pepper	Gerald	Ixia		x	x
Pierco	Ramses	Ghent University	x	x	x
Rabinovich	Rick	Alcatel-Lucent	x	x	
Ran	Adee	Intel		x	x
Richter	Thomas	TU-Berlin		x	
Roth	Chris	Molex		x	x
Rotolo	Salvatore	STM Microelectronics	x	x	x
Sambasivan	Sam	AT&T		x	
Shimada	Shusaku	Sohubiquist Technologies Guild		x	
Shirao	Mizuki	Mitsubishi Electric	x	x	x
Slavick	Jeff	Avago Technologies		x	x
Sommers	Scott	Molex	x	x	x
Sone	Yoshiaki	NTT	x	x	x
Stassar	Peter	Huawei	x	x	x

IEEE P802.3bs 400GbE Task Force			3/10/2015	3/11/2015	3/12/2015
Last Name	First Name	Employer / Affiliation	Tues	Wed	Thurs
Stellpflug	Gregor	Socionext	x	x	x
Stone	Rob	Broadcom		x	x
Swanson	Steve	Corning	x	x	x
Szczepanek	Andre	Inphi	x	x	x
Szeto	William	Xtera	x	x	x
Tailor	Bharat	Semtech Corp	x	x	x
Tajima	Akio	NEC Corporation	x	x	x
Takahara	Tomoo	Fujitsu Laboratories	x	x	x
Takahata	Kiyoto	NTT	x	x	x
Takai	Atsushi	Oclaro	x	x	x
Tanaka	Toshiki	Fujitsu Laboratories	x	x	x
Ten	Sergey	Corning	x	x	x
Tipper	Alan	Semtech	x	x	x
Toyserkani	Pirooz	Cisco		x	x
Tracy	Nathan	TE Connectivity	x	x	x
Trowbridge	Steve	Alcatel-Lucent	x	x	x
Twombly	Jeff	Credo Semiconductor	x	x	
Ulrichs	Ed	Source Photonics	x	x	x
Valle	Stefano	ST Microelectronics	x	x	x
Wang	Tongtong	Huawei	x	x	x
Wang	Xinyuan	Huawei	x	x	x
Weber	Markus	Socionext	x	x	x
Wen	Yangjing	Huawei	x	x	x
Wertheim	Oded	Mellanox	x	x	x
White	Martin	Cavium		x	x
Xu	Yu	Huawei	x	x	x
Zivny	Pavel	Tektronix	x	x	x