

Approved Minutes
IEEE P802.3ba Task Force
Sept 16 – 19, 2008
Seoul, South Korea

Prepared by: Steve Trowbridge

Meeting convened at 8:39 am, Tuesday, Sept 16, 2008.

Agenda & General Information

By – John D'Ambrosia

See – agenda_01_0908.pdf

- Introductions – Everyone introduced themselves and stated their affiliation.
- Steve Trowbridge was appointed as recording secretary for this meeting.
- Chair asked if there were any reporters in the room. No one responded. Chair reminded everyone that photographs are not allowed without permission.
- Chair went through his introduction presentation
- Motion to approve the agenda
 - Motion moved to accept the agenda by Thananya Baldwin, 2nd by Alan Flatman.
 - Meeting agenda was approved by voice vote without objection.
- Motion to approve the July 2008 Plenary minutes
 - Motion moved to accept minutes by Pete Anslow, 2nd by Thananya Baldwin, with following changes:
 - Attendance record for John McDonough;
 - July Plenary Meeting Minutes were approved by voice vote without objection.
- The Chair thanked the host LG-Nortel for the effort to substitute at the last minute for the original host and location that had been planned prior to the earthquake in Chengdu.
- The Chair reported that the 5-criteria update approved by the Task Force and WG in March was approved by the EC in July.
- The Chair appointed Ryan Latchman, editor for the XLAUI / CAUI annex.
- The Chair made the following appointments / changes
 - Mark Gustlin - Chair, "Logic" Sub-Task Force from "Logic" Sub-Task Force Chief Editor
 - Chris DiMinico – Chair, "Cu" Sub-Task Force from "Cu" Sub-Task Force Chief Editor
 - Pete Anslow – Chair, "Optical" Sub-Task Force from "Optical" Sub-Task Force Chief Editor
 - Chair asked for affirmation of appointments from Task Force. Approval by voice vote without objection.
- Goals for this meeting
 - Progress towards generating D1.0
 - Review D0.9
 - Resolve $40G \geq 10km$ SMF Objective
 - Proposals
 - Technical Presentations

- Choose Baseline Proposal / Text
- Ground Rules
- IEEE Structure, Bylaws & Rules
- IEEE Patent Policy
 - Chair read and presented the IEEE Patent Policy slide set
 - Chair advised the Task Force:
 - The IEEE's patent policy is consistent with the ANSI patent policy and 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 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.
 - The chair provided an opportunity for participants to identify patent claim(s)/patent application claim(s) and/or the holder of patent claim(s)/patent application claim(s) that the participant believes may be essential for the use of that standard. No one came forward.
- Inappropriate Topics for IEEE meetings read to the body by Chair.
- Presented Task Force Schedule and Timeline, and items to be addressed this week.
 - Chair discussed Draft 1.0, and the need to start locking things down.
 - The review of Draft 0.9 with its associated comments will be used to generate Draft 1.0, as well as if the TF makes a decision regarding the 40G 10km SMF objective and its associated text.
 - Review of Draft 0.9 – not time for debating changes.
- Presented list of presentations and some rules to keep us on-time
 - Request by the author to add new data to cole_02_0908.pdf relevant to discussion on the reflector. There were no objections to hearing the additional slide.
 - Chair received a late request for a presentation, "cole_03_0908.pdf". Due to time constraints, it was thought that there would not be enough time for another presentation, but the Chair is willing to fit it in, if there is time. The Chair asked if there were any objections to adding the presentation to Tuesday's schedule if time permits. There were no objections.
 - Chair asked that everyone be succinct in their presentations and comments. If necessary, the Chair will define the time limit for discussion.
 - Chair noted that a number of requests for presentation times were made for this meeting related to the XLAUI / CAUI clause, which the requestors agreed, given the scope of this meeting, could be held off until November when detailed discussions regarding specific values in the clause could be held. However, given the interest in the subject, the Chair has decided to form the nAUI Ad Hoc to be chaired by Ryan Latchman. The charter of the group will be to work on technical details / values related to the nAUI specification.
- In response to a request received via email from Pete Anslow, the ITU-SG15 Liaison, the Chair asked Pete Anslow to draft an informal communication to ITU-SG15, forwarding it Draft 0.9.
- Chair presented slides on The IEEE-SA Meeting Attendance Tool.
- Chair reminded everyone of their responsibilities to maintain their 802.3 voting rights.

- Chair reminded everyone to declare his or her affiliation.

Presentation #1

Title – Chief Editor's Report
By – Ilango Ganga, Intel
See – ganga_01_0908.pdf

Discussion

- Some discussion occurred on the risks to the schedule if the 40GbE SMF decision is not made this week.

Break at 9:57 AM

Reconvened at 10:18 AM

Presentation #2

Title – Statistical Eye Ad Hoc
By – Piers Dawe, Avago
See – dawe_02_0908.pdf

Discussion

- There was no discussion, but no objection to proposal from the Chair to change the charter of the ad hoc per items 2, 3, 4 of dawe_02_0908.pdf (how to apply to 802.3ba)

Presentation #3

Title – 802.3ba XR Ad Hoc Status
By – John Petrilla, Avago
See – petrilla_01_0908.pdf

Discussion

- Poll for how many would be interested in attending a meeting of the extended reach ad hoc if a room can be found: about a dozen.

Presentation #4

Title – 40GbE Market: Timing and Opportunity
By – Alessandro Barbieri, Cisco Systems
See – barbieri_01_0908.pdf

Discussion

- Clarifying questions were asked and answered.

Break for lunch at 11:51am.

Reconvene at 1:15pm

The Chair informed the task force that the room would not be available after 8:00pm, so we would not have the planned dinner breaks. Wednesday will begin at 8:30am until 8:00pm, Thursday will begin at 7:30am.

Presentation #5

Title – Tutorial – Comments and Comment Entry Tool
By – Wael Diab, Broadcom
See – diab_01_0908.pdf

Discussion

- Some discussion, mostly about appropriateness of rejecting comments with no proposed resolution. May be a case where a hole is identified.
- Tool may not work on non-windows platforms

Presentation #6

Title – Improved specifications for 40GBASE-LR2 40 Gb/s PMD for 10 km duplex SMF
By – Piers Dawe
See – dawe_01_0908.pdf

Discussion

- Clarifying questions were asked and answered.

Presentation #7

Title – Demonstration of 40 Gb/s 1310nm EA-DFB Laser feasibility for 40GbE 10km SMF Application
By – Kiyu Hiramoto, Opnext
See – hiramoto_01_0908.pdf

Discussion

- Clarifying questions were asked and answered.

Presentation #8

Title – RF Interconnection Technologies for 40G Serial
By – Kazuyuki Mori, Fujitsu Labs
See – mori_02_0908.pdf

Discussion

- Clarifying questions were asked and answered.

Presentation #9

Title – Merits of a 40GbE serial solution for the 40GbE 10km SMF PMD Objective
By – Kazuyuki Mori, Fujitsu Labs
See – mori_01_0908.pdf

Discussion

- Martin Carroll (Verizon) inquired regarding the name of his colleague Glenn Wellbrock on the supporters page as he is aware that Glenn is now supporting CWDM. The chair asked that Glenn and the authors discuss offline, and that the contribution be updated if necessary.
- Lots of discussion involving challenges to many of the cost and power numbers in the presentation.
- Clarifying questions were asked and answered.

Break at 3:04pm

Reconvened at: 3:22pm

Presentation #10

Title – 40GbE 10km SMF PMD Specifications
By – Chris Cole, Finisar
See – cole_01_0908.pdf

Discussion

- The presenter indicated that there were some minor tweaks to the numbers from last time which he could discuss offline, but no major changes. There was no discussion.

Presentation #11

Title – 4x10G vs Serial 40G SerDes Maturity and Cost
By – Ali Ghiasi, Broadcom
See – ghiasi_01_0908.pdf

Discussion

- There was no discussion

Presentation #12

Title – 40G SMF Analysis –XLAUI CDR vs 40G Mux / Demux
By – Ryan Latchman
See – latchman_01_0908.pdf

Discussion

- Clarifying questions were asked and answered.

Presentation #13

Title – 40GE 10km SMF PMD Alternatives
By – Chris Cole
See – cole_02_0908.pdf

Discussion

- Clarifying questions were asked and answered.
- The presenter agreed to make a change to slide 3 the second generation serial size to indicate QSFP.

Presentation #14

Title – Advances in Silicon Photonics Muxs for CWDM and LAN WDM Applications
By – Dave DeAndrea, Finisar (in place of Arlon Martin)
See – martin_01_0908.pdf

Discussion

- Clarifying questions were asked and answered. A few were deferred to discuss offline after the author's arrival tonight.

Presentation #15

Title – Feasibility Study of 4x10G CWDM – Potential Evolution of Technology
By – Eddie Tsumura, Excelight
See – tsumura_01_0908.pdf

Discussion

- Clarifying questions were asked and answered.

Presentation #16

Title – One End user's Perspective on 40GE SMF
By – Henk Steenman, AMS-IX
See – steenman_01_0908.pdf

Discussion

- There were some editorial updates to the presentation which will be uploaded
- Clarifying questions were asked and answered.

Presentation #17

Title – 40GbE SMF Recommendations
By – Mark Nowell, Cisco
See – Nowell_01_0908.pdf

Discussion

- Clarifying questions were asked and answered.

Presentation #18

Title – 40GE 10km SMF PMD Gen1 Serial Cost Analysis
By – Chris Cole, Finisar
See – cole_03_0908.pdf

Discussion

- There were some editorial updates to the presentation which will be uploaded
- Clarifying questions were asked and answered.

After some discussion the following Straw Polls were taken.

Straw Poll #1: (Chicago Rules)

I would support a decision for a 40G SMF solution this week based on:

- a) 4x10G CWDM per cole_01_0908.pdf
- b) 2x20G CWDM per dawc_01_0908.pdf
- c) Serial per traverso_02_0708.pdf

All in the room:	802.3 voters:
a) 70	a) 35
b) 12	b) 10
c) 31	c) 20

Straw Poll #2: (select 1 only)

I would support a decision for a 40G SMF solution this week based on:

- a) 4x10G CWDM per cole_01_0908.pdf
- b) 2x20G CWDM per dawc_01_0908.pdf
- c) Serial per traverso_02_0708.pdf
- d) Abstain

All in the room:	802.3 voters:
a) 61	a) 33
b) 4	b) 4
c) 24	c) 16
d) 8	d) 3

Straw Poll #3: I would support the removal of the 40GbE 10km objective if no agreement

All in the room

Y: 20

N: 54

A: 19

Straw Poll #4: proposed by Jeff Maki

I would support a 40G Serial proposal based on 40G electrical lane

Y: 5

N: 23

A: 55

Break for the night at 18:50 on Tuesday 16 September

Reconvened at 8:39am on Wednesday 17 September

The chair displayed the patent slides. A call was made for patents, and no one came forward.

The chair summarized the schedule for the remainder of the week. The chair reminded participants about the web attendance tool and the sign-in sheets.

Motion #1: Move to adopt 2x20G CWDM as per “dawe_01_0908.pdf” as the baseline proposal for the 40GE 10km SMF PMD objective.

Technical $\geq 75\%$

M: H. Frazier

S: S. Muller

All in room

802.3 voters

Y: 15

Y: 11

N: 51

N: 33

A: 24

A: 10

Motion fails

Motion #2: Move to adopt Serial as per “traverso_02_0708.pdf” as the baseline proposal for the 40GE 10km SMF PMD objective.

Technical $\geq 75\%$

M: H. Frazier

S: S. Muller

All in room

802.3 voters

Y: 39

Y: 23

N: 49

N: 33

A: 16

A: 3

Motion fails

Motion #3: Move to adopt 4x10G CWDM as per “cole_01_0908.pdf” as the baseline proposal for the 40GE 10km SMF PMD objective.

Technical $\geq 75\%$

M: H. Frazier

S: P. Anslow

All in room

802.3 voters

Y: 74

Y: 41

N: 26

N: 20

A: 6

A: 1

Motion fails

Motion #4: Move to remove the 40GE 10km SMF PMD objective from the P802.3ba project.

Technical $\geq 75\%$

M: C. Cole

S: B. Booth

All in room

802.3 voters

Y: 33

Y: 16

N: 43

N: 21

A: 27

A: 19

Motion fails

Break at 10:00am

Reconvene at 10:35am

Presentation #19

Title – SFP+ Compliance Boards Requirements and Construction

By – Ali Ghiasi, Broadcom

See – ghiasi_02_0908.pdf

Discussion

- Several spoke favorably toward the idea of creating a compliance board ad hoc
- an update will be made to the presentation to correct mislabeled figures

Presentation #20

Title – TP1 and TP4 Testing with Compliance Boards

By – Mike Dudek, JDSU

See – dudek_01_0908.pdf

Discussion

- Clarifying questions were asked and answered.

The meeting moved to a review of the draft 0.9 from the Editorial team, chaired by Ilango Ganga at 11:20am.

Review of draft 0.9 done through page 34 line 40.

Break for lunch at 12:04pm.

Reconvene at 1:30pm to continue document review

Review completed through page 80.

Break at 3:04pm

Reconvene at 3:42pm

Break at 6:04pm

Reconvened at 6:30pm

Break at 8:00pm on September 17, 2008

Reconvene at 7:34am on September 18, 2008. The Chair displayed the patent slides and made a call for patents. No one came forward.

Review of draft 0.9 continued.

Break at 10:04am

Reconvened at 10:36am

Continued review of draft 0.9

Break at 12:05pm for lunch

Reconvened at 1:35pm.

The Chair opened with some remarks responding to questions he had been asked about procedural aspects of bringing a possible motion for reconsideration of an earlier motion.

Review of draft 0.9 continued.

Break at 3:08pm

Reconvene at 3:30pm

Continued review of draft 0.9

After completion of the review of clause 156, the Chair informed the task force that there was a request to put a motion before the group. A task force member from the prevailing side of Motion #3 offered the following to allow the group another opportunity to reach consensus on the baseline for the 40GbE 10km SMF interface:

Motion #5: Move to reconsider Motion #3.

Procedural >50%

M: S. Sambasivan S: H. Frazier

Y: 91

N: 0

A: 10

Motion passes

The motion returned to the table as:

Motion #3 Reconsidered: Move to adopt 4x10G CWDM as per "cole_01_0908.pdf" as the baseline proposal for the 40GE 10km SMF PMD objective.

Technical ≥75%

M: H. Frazier S: P. Anslow

All in room 802.3 voters

Y: Y:

N: N:

A: A:

Motion #6: Move to postpone discussion of "Motion #3 reconsidered" to Friday, September 19 after the Chair's opening remarks.

Procedural >50%

M: H Frazier S: T. Baldwin

Passes by voice without opposition

Review of draft 0.9 continued with clause 158.
Review of draft 0.9 was completed.

The chair announced that the meeting would resume at 8:30am on Friday. After opening remarks, the reconsideration of motion 3 will take place. If this succeeds, the Task Force will review proposed text for cole_01_0908.pdf (see http://www.ieee802.org/3/ba/private/king_01_0908.pdf).

Break for the day at 6:30pm

Reconvene at 8:37am on September 19, 2008.

The Chair displayed the patent slides and issued a call for patents. No one came forward.

The Chair reminded the task force per Motion #5 that Motion #3 would be reconsidered. If this reconsideration is successful, the proposed text in king_01_0908.pdf would be reviewed for clause 157 as possible text for inclusion in Draft 1.0.

The Chair announced that he is investigating whether he can add an adjacent and co-located interim meeting on Sunday prior to the plenary meeting in November.

Motion #3 Reconsidered: Move to adopt 4x10G CWDM as per "cole_01_0908.pdf" as the baseline proposal for the 40GE 10km SMF PMD objective.

Technical $\geq 75\%$

M: H. Frazier S: P. Anslow

All in room 802.3 voters

Y: 71 Y: 39

N: 3 N: 2

A: 23 A: 16

Motion passes

Straw Poll #5: (Requested by Matt Traverso) I believe that the 40GbE serial PMD proposal is worthy of consideration in a future project.

Y: 86

The meeting then undertook review of king_01_0908.pdf, proposed draft text for cole_01_0908.pdf adopted above in "Motion 3 Reconsidered".

Break at 10:04am

Reconvene at 10:40am

Resume review of king_01_0908.pdf

After completing review of the draft of clause 157, the group returned to reconsider a few definitions.

Break for lunch at 11:29am.

Reconvene at 1:40pm

Motion #7: Move to adopt Draft 0.9 and king_01_0908 as modified by the comments contained in D0_9_Comments_0908.pdf as the basis for Draft 1.0.

Technical ≥75%

M: I. Ganga

S: H. Barrass

Y: 59

N: 0

A: 1

Motion passes

Presentation #21

Title – Chief Editor's Closing Report

By – Ilango Ganga, Intel, Chief Editor

See – ganga_02_0908.pdf

Discussion

- Key items needing comments and supporting presentations were identified
- Clarifying questions were asked and answered.

Presentation #22

Title – The Case for Extended Reach MM Objectives

By – Paul Kolesar, CommScope

See – kolesar_01_0908.pdf

Discussion

- Clarifying questions were asked and answered.

Presentation #23

Title – Long Data Centre Links vs Length

By – Alan Flatman, LAN technologies

See – flatman_01_0908.pdf

Discussion

- Clarifying questions were asked and answered.

Break at 3:05pm

Reconvene at 3:33pm

Straw Poll #6: (Requested by Paul Kolesar) The goal for extending the reach on MMF should be:

A. at least 150m on OM3

B. at least 250m on OM4

C. both A and B

D. at least 200m on OM4

E. both A and D

F. there should be no goal for extended reach

Result:

A: 7

B: 3

C: 5

D: 1

E: 0

F: 27

Motion #8: Move that 802.3ba approve the text in anslow_01_0908.pdf, attaching 8023ba_D0_9.pdf and king_01_0908.pdf, with editorial license granted to the Chair (or his appointed agent) as an informal communication by the Chair to ITU-T Study Group 15.

Technical $\geq 75\%$

M: P. Anslow S: J. King

Passed unopposed by voice

The Chair reminded participants that the next meeting of the Task Force will be at the November 2008 plenary in Dallas. The Chair is investigating holding a co-located interim on the Sunday prior to the plenary week (November 9) and will transmit details as soon as this can be confirmed.

The January interim will be a 4-day meeting, provisionally the week of January 12 in New Orleans.

Straw Poll #7: How many will attend the 802.3ba task force meetings at the January 2008 interim (provisionally New Orleans, w/o January 12, 2009)?

By the chair's estimate, approximately 3/4 in the room raised their hand, but as many participants had already departed this could not be relied on as an accurate count.

Future Meetings:

Nov 2008 Plenary

- Nov 10 – 13
- Hyatt Regency Dallas at Reunion
- Dallas, Tx, USA
- Possibility of adjacent and co-located interim meeting on Sunday, November 9

Jan 2009 Interim

- Jan 12-16
- Hotel TBD
- New Orleans, LA, USA

Mar 2009 Plenary

- Mar 10 – 13
- Hyatt Regency Vancouver and Fairmont Hotel
- Vancouver, BC, Canada

Motion to adjourn - moved by T. Palkert; 2nd by B. Booth. Motion approved unopposed by voice.

Meeting adjourned at 4:20pm on September 19, 2008

IEEE 802.3ba Attendance Sheet - Interim Meeting, Sept. 16-19, Seoul, KR				9/16/2008	9/17/2008	9/18/2008	9/19/2008
Last Name	First Name	Employer	Affiliation	Tues	Weds	Thurs	Friday
Abbas	Ghani	Ericsson, UK	Ericsson, UK	x	x	x	x
Alie	Stephen	Cortina Systems	Cortina Systems	x	x	x	x
Alping	Arne	Ericsson AB	Ericsson AB	x	x	x	x
Alush	Yehuda	Nokia Siemens Networks	Nokia Siemens Networks	x	x	x	
Anslow	Pete	Nortel	Nortel	x	x	x	x
Baird	James	Agilent Technologies		x	x		x
Baldwin	Thananya	Ixia	Ixia	x	x	x	x
Bandyopadhyay	Jaya	Juniper Networks	Juniper Networks	x	x	x	x
Barbieri	Alessandro	Cisco	Cisco	x	x	x	
Barrass	Hugh	Cisco	Cisco		x	x	x
Bennett	Mike	LBNL	LBNL		x	x	
Booth	Brad	AMCC	AMCC		x		
Bottorff	Paul	Nortel	Nortel Networks				x
Braun	Ralf-Peter	Deutsche Telekom, T-Systems	Deutsche Telekom, T-Systems	x	x	x	x
Breuer	Dirk	Deutsche Telekom, T-Systems	Deutsche Telekom, T-Systems	x	x	x	x
Caggioni	Francesco	AMCC	AMCC	x	x	x	x
Carroll	Martin	Verizon	Verizon	x	x	x	x
Chang	Frank	Vitesse	Vitesse	x		x	x
Chang	Sun-Hyok	ETRI		x	x	x	x
Chiwu	Ding	Huawei	Huawei	x	x	x	x

Cho	Eun-Young	ETRI					x
Chung	Hwan-Seok	ETRI	ETRI	x	x	x	x
Cole	Chris	Finisar	Finisar	x	x	x	x
D'Ambrosia	John	Force 10 Networks	Force 10 Networks	x	x	x	x
D'Andrea	Dave	Lightwire	Lightwire	x	x	x	x
Dawe	Piers	Avago Technologies	Avago Technologies	x	x	x	x
Diab	Wael	Broadcom	Broadcom	x		x	
DiMinico	Christopher	MC Communications/LEONI	MC Communications/LEONI	x	x	x	x
Dove	Dan	Procurve by HP	Procurve by HP				x
Dudek	Mike	JDSU	JDSU	x	x	x	x
Flatman	Alan	LAN Technologies	LAN Technologies	x	x	x	x
Frazier	Howard	Broadcom	Broadcom	x		x	
Ganga	Ilango	Intel	Intel	x	x	x	x
Gentieu	Paul	Finisar Corp.	Finisar Corp.	x	x	x	x
Ghiasi	Ali	Broadcom	Broadcom	x	x		
Green	Larry	Ixia	Ixia	x	x		x
Grimwood	Michael	Broadcom	Broadcom			x	
Grow	Bob	Intel	Intel		x	x	x
Gu	Yuan	ZTE Corporation		x	x	x	x
Gustlin	Mark	Cisco	Cisco	x	x	x	x
Hammond	Bernie	ADC Telecommunications	ADC Telecommunications	x	x		
Han	Kyeong-Ean	ETRI		x	x		

Healey	Adam	LSI	LSI		x	x	x
Hiramoto	Kiyo	Opnext Japan	Opnext Japan	x	x	x	x
Horner	Rita	Avago Technologies	Avago Technologies	x	x	x	x
Huang	Xi	Huawei	Huawei		x	x	x
Ishibe	Kazuhiko	Anristu	Anristu	x	x	x	x
Ishida	Osamu	NTT	NTT	x	x	x	x
Isono	Hideki	Fujitsu Ltd.	Fujitsu Ltd.	x	x	x	x
Iwadate	Hirotake	Sumitomo Electric		x	x	x	x
Jones	Nevin	LSI	LSI	x			x
Joo	Bheom Soon	ETRI	ETRI	x		x	x
Kang	Tae-kyu	ETRI	ETRI	x	x		x
Kang	Sae_kyoung	ETRI	ETRI		X		
Kim	Seung- Hwan	ETRI	ETRI	x	x	x	x
King	Jonathan	Finisar Corp.	Finisar Corp.	x	x	x	x
Kipp	Scott	Brocade	Brocade	x	x	x	
Kiwon	Kim	ETRI					x
Kobayashi	Shoukei	NTT	NTT	x	x	x	x
Kolesar	Paul	CommScope	CommScope	x	x	x	x
Kserawi	Malaz Ahmad	ICU		x	x	x	x
Kumagai	Seiji	Endyna Devices Inc.	Endyna Devices Inc.				x
Kwon	KiYul	LG-NT				x	x
Latchman	Ryan	Gennum	Gennum	x	x	x	

Law	David	3Com	3Com	x	x		x
LeCheminant	Greg	Agilent Technologies	Agilent Technologies	x	x	x	x
Lee	Kyu Sang	ICU	ICU	x	x	x	
Lee	Sang-Soo	ETRI	ETRI	x	x	x	x
Lee	Joon Ki	ETRI		x	x		
Lee	Chan Kyun	ICU		x	x	x	x
Lee	Jyung Chan	ETRI	ETRI		x		
Li	Mike	Altera	Altera	x	x	x	x
Maki	Jeffery	Juniper Networks	Juniper Networks	x	x	x	x
Mariotti	Carlo	Cisco	Cisco	x	x	x	x
Marris	Arthur	Cadence	Cadence	x	x	x	x
Martin	Arlon	Kotura	Kotura		x	x	x
Martin	David W.	Nortel Networks	Nortel Networks				x
McClay	Phil	Zarlink Semiconductor	Zarlink Semiconductor		x	x	x
McDonough	John	NEC America	NEC America	x	x	x	x
Meyer	Jeffrey	Centellax	Centellax	x	x	x	x
Mooney	Paul	Spirent Communications	Spirent Communications	x	x	x	x
Mori	Kazuyuki	Fujitsu Labs	Fujitsu Labs	x	x	x	x
Muller	Shimon	Sun	Sun	x	x	x	x
Nakamoto	Edward	Spirent Communications	Spirent Communications	x	x	x	x
Neer	Jay	Molex	Molex	x	x	x	
Nicholl	Gary	Cisco	Cisco	x	x		x

Noh	George	Vitesse Semiconductors	Vitesse Semiconductors	x	x	x	x
Nowell	Mark	Cisco	Cisco	x	x	x	x
Obara	Satoshi	Fujitsu	Fujitsu	x	x	x	x
Ofelt	David	Juniper Networks	Juniper Networks	x	x	x	x
Okuyama	Takeshi	Fujitsu			x	x	x
Oomori	Hirota	Sumitomo Electric	Sumitomo Electric	x	x	x	x
Paatzsch	Thomas	Cube Optics	Cube Optics	x	x	x	
Palkert	Tom	Xilinx, Luxtera	Xilinx, Luxtera	x	x	x	x
Parsons	Glenn	Nortel	Nortel				x
Pepper	Gerald	Ixia	Ixia	x	x	x	x
Petrilla	John	Avago Technologies	Avago Technologies	x	x	x	x
Pillai	Velu	Broadcom	Broadcom			x	
Quast	Holger	V.I. Systems GMBH	V.I. Systems GMBH	x	x		x
Rhee	J.-K. Kevin	ICU	ICU	x	x	x	x
Roese	Jasef	Deutsche Telekom, T-Systems					x
Rouyer	Jessy	Alcatel-Lucent					x
Sambasivan	Sam	AT&T	AT&T	x	x	x	x
Sayre	Edward	NESA	NESA	x	x	x	x
Seo	Inshik	LTI		x			
Serbay	Murat	MergeOptics	MergeOptics	x	x	x	x
Shafai	Farhard	Sarance	Sarance		x	x	
Shang	Song	Sierra Monolithics	Sierra Monolithics	x	x		

Shigematsu	Masayuki	Innovation Core SEI, Inc.	Innovation Core SEI, Inc.		x	x	x
Shin	Jong-Yoon	ETRI	ETRI	x	x	x	x
Shin	Myung Ki	ETRI		x			
Shioiri	Satomi	NEC	NEC	x	x	x	x
Simsarian	Jesse	Alcatel-Lucent	Alcatel-Lucent	x	x	x	x
Steenman	Henk	AMS-IX	AMS-IX	x	x	x	x
Suzuki	Kenyichi	NTT	NTT Access Network Systems Labs				x
Swanson	Steve	Corning	Corning	x	x	x	x
Takahashi	Hidenori	KDDI R&D Laboratories Inc.	KDDI R&D Laboratories Inc.	x	x	x	x
Thiagarajan	Sashi	Ciena	Ciena	x	x	x	x
Toyoda	Hidehiro	Hitachi	Hitachi	x	x	x	x
Traverso	Matt	Opnext	Opnext		x	x	x
Trowbridge	Steve	Alcatel-Lucent	Alcatel-Lucent	x	x	x	x
Tsumura	Eddie	Excelight	Excelight	x	x	x	x
Turner	Brad	Juniper	Juniper	x	x	x	x
Vanderlaan	Paul	Nexans	Nexans	x	x	x	x
Vetteth	Anoop	Cisco	Cisco		x		
Yang	Choong-reol	ETRI	ETRI	x	x	x	x
Yao	Alex	The Siemon Co.	The Siemon Co.	x	x	x	x
Yashiki	Kenichiro	NEC	NEC	x	x	x	x
Yuanwang	Zhang	ZTE Corporation		x	x	x	x
Zivny	Pavel	Tektronix	Tektronix	x	x	x	x