Approved Minutes
IEEE 802.3 Higher Speed Study Group
November 13-15, 2007
Plenary Meeting
Atlanta, Georgia

Prepared by: George Oulundsen, Trey Malpass, and Gourgen Oganessyan

Meeting convened at 8:30 AM, Tuesday, November 13, 2007.

Agenda & General Information
By – John D'Ambrosia
See – agenda_01_1107.pdf

- Introductions – Everyone introduced themselves
- Appointed Secretary – George Oulundsen appointed by Chair as Secretary for Tuesday (11/13) and Wednesday (11/14) and Trey Malpass appointed be Chair as Secretary for Thursday (11/15)
- Motion to approve the agenda-
    - Moved by Steve Trowbridge, 2nd by Larry Green
    - Approved by voice vote without objection
- Motion to approve the September, Seoul Korea Interim meeting minutes
    - Moved by Pete Anslow, 2nd by Larry Green
    - Approved by voice vote without objection
- Chair reviewed the Study Group decorum and rules and asked if members of the press were present; none noted.
- Chair reviewed the HSSG organization
- Goals for meeting
    - Chair summarized how well the tutorial held last night was received
    - Chair noted that we are still a study group
    - Hear Technical Presentations
    - Identify potential "Big Ticket Items"
- Ground Rules – reviewed by Chair
- IEEE Structure, Bylaws & Rules – reviewed by Chair
- IEEE Patent policy
    - Chair showed the five slides to the body, reading slides 1 and 5 aloud
    - The Chair advised the HSSG that:
        - 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.
    - The group was reminded that Mr. Law provided a tutorial on the Patent Policy and the group was encouraged to review that information. (See http://www.ieee802.org/802_tutorials/march07/patent_policy_tutorial_0307.pdf)
- Study Group function and IEEE Standards Process Flow
    - Function of the SG and the completed steps were reviewed
    - PAR and Task Force approval is expected in December from NesCom and the SASB; Pending approval Task Force meetings will begin in January
    - Key dates going forward were reviewed
- Reviewed Approved HSSG Project Documents and Objectives
- Possible Task Force timeline for standard development was reviewed
- Chair commented that there are a record number of presentations this week.
    - In order to accommodate all the presentations the group will have to split into two rooms on Wednesday.
    - One track will be a referred to as the Fiber Track and the other as the Copper Track.
- Chair noted that he will change the deadline for presentation requests to two Fridays before the meeting. The presentation submission deadline will remain the Tuesday before the meeting.
- Joel Goergen has two presentations. He notified the Chair that he would be unable to attend and could not give his presentations. The Chair will remove "goergen_02_1107.pdf" from the website and the agenda. The Chair will give Joel's other presentation "goergen_01_1107.pdf". The Chair will present Joel's second presentation.
- The HSSG Chair appointed Ilango Ganga to chair the second track (Copper track). Gourgen Oganessyan was appointed the recording Secretary for the second track (Copper track).
- There was one additional liaison report from the OIF. The Chair will add it to the website.
- Reviewed voting privileges and requirements to maintain those rights
- Chair reminded the HSSG to make sure they declared their affiliation
- Reviewed list of presentations

Presentation #1

Title – ITU Liaison ITU-T SG15
By – Pete Anslow, Nortel
See – ITU-T SG15 liaison_1107.pdf

Discussion:
The HSSG will need to send a response to the ITU. Gary Nicholl has volunteered to prepare the response.

Presentation #2

Title – OIF Liaison
By – John D'Ambrosia, Force 10 Networks
See – OIF liaison_1107.pdf

Note:
The Chair noted that he did not present the OIF liaison report on behalf of the OIF, but rather as the Chair of the HSSG to bring it to the attention of the HSSG.

Discussion:
The HSSG will need to send a response to the OIF. Adam Healey volunteered to prepare the response.

Break at 9:25 AM
Reconvened at 9:37 AM

Presentation #3

Title – The Path to Working Group Ballot
By – Howard Frazier, Broadcom
See – frazier_02_1107.pdf

Discussion-
Assuming that the HSSG becomes a Working Group, the Chair called for volunteers to be editors and help create the documents for standardization. If anyone is interested, please contact the HSSG Chair, John D'Ambrosia.

Presentation #4

Title – Architecture Overview
By – Ilango Ganga, Intel
See – ganga_01_1107.pdf

Presentation #5

Title – Management - MIBS
By – David Law, 3com
See – law_01_1107.pdf

Presentation #6

Title – IEEE P802.3ba document structure
By – Ilango Ganga, Intel
See – ganga_02_1107.pdf

Break for lunch at 11:52 AM
Reconvened at 1:16 PM

Presentation #7

Title – APL Update
By – Howard Frazier, Broadcom
See – frazier_01_1107.pdf

Presentation #8

Title – PBL Model update
By – Trey Malpass, Huawei
See – malpass_01_1107.pdf

Break at 3:05 PM
Reconvened at 3:20 PM

Presentation #9

Title – CTBI: A simple lane bonding mechanism for both 40GE and 100GE Interfaces
By – Gary Nicholl, Cisco
See – nicholl_01_1107.pdf

Presentation #10

Title – MTTFPA Considerations for 40GE and 100GE
By – Mark Gustlin Cisco
See – gustlin_01_1107.pdf

Presentation #11

Title – Error Distribution in Optical Links
By – Pete Anslow, Nortel
See – anslow_01_1107.pdf

Presentation #12

Title – Throughput of different lane aggregation methods
By – Steve Trowbridge, Alcatel-Lucent
See – trowbridge_02_1107.pdf

Presentation #13

Title – Nx10G Electrical I/O Issues
By – Chris Cole, Finisar
See – cole_02_1107.pdf

Discussion –
Before his presentation Chris Cole let the Chair know that he made some editorial modifications to "cole_02_1107.pdf". The Chair asked the HSSG if there were any objections there were none. Chris will send the Chair an updated presentation and the Chair will upload it to the website.

Presentation #14

Title – Comparison of Linear vs Limiting Electrical Interface for 4x10G and 10x10G
By – Ali Ghiasi, Broadcom
See – ghiasi_01_1107.pdf

Discussion –
The Chair asked Ali if he could share the s-parameter channel data. Ali confirmed he could. The Chair will get it uploaded to the website.

Chair noted that he has not received any questions from last night's Tutorial. So this evening we have no questions to review, and tomorrow we can start with presentations and do not need to prepare responses to questions.

Presentation #15

Title – FEC applicability to 40 GbE and 100 GbE
By – Steve Trowbridge, Alcatel-Lucent
See – trowbridge_03_1107.pdf

Meeting breaks for the day at 6:51 PM

Meeting reconvenes at 9:05 AM, Wednesday, November 14, 2007.

The Chair made some opening comments regarding the number of attendees. The turnout has been better than expected.

The Chair explains that, after the morning break, there will be two HSSG Tracks – a Fiber Track and a Copper Track. The Fiber Track will remain and meet in this room, the International South room. The Copper Track will reconvene after the break in the Manila room. The HSSG Chair, appointed Ilango Ganga as the Operating Chair to oversee the second track (Copper track) and Gourgen Oganessyan was appointed by the HSSG Chair, as the recording Secretary for the second track (Copper track).

The Chair noted that he has set a precedent for adding late presentations to the agenda. The Chair has always asked the HSSG if they would like to hear the late presentation. Going forward the Chair will reserve the right to not accept late presentations depending on the meeting schedule.

The Chair received one request for a late presentation from Marcus Duelk. The Chair asked if there were any objections to hearing the presentation pending available time, and there were none. Marcus Duelk had informed the Chair that he would not be attending the HSSG anymore after this meeting. The Chair asked the HSSG if there were any objections to posting Marcus' presentation to the website if there was not sufficient time to hear the presentation. There were no objections. The Chair will post Marcus' presentation to the website as "gutierrez_04_1107.pdf".

Presentation #16

Title – 40 GbE and 100 GbE PCS considerations: November 2007 update
By – Steve Trowbridge Alcatel-Lucent
See – trowbridge_01_1107.pdf

Presentation #17

Title – OTN-Compatible 40 GBe and 100GBe interfaces
By – Jorge-Peter Elbers, Adva Optical Networking
See – elbers_01_1107.pdf

Presentation #18

Title – 40GE OTN Support Consideration
By – Trey Malpass, Huawei
See – malpass_02_1107.pdf

The Chair needs to get a head count of who plans on attending future meetings.

How many people plan on attending the January interim meeting in Portland, OR? 95

How many newcomers are present and plan on attending future HSSG meetings? 21

How many people plan on attending the March Plenary meeting? 104

The Chair explains that, after the break, there will be two HSSG Tracks – a Fiber Track and a Copper Track. The Fiber Track will remain and meet in this room, the International South room. The Copper Track will reconvene at 1:30 PM in the Manila room. The HSSG Chair had appointed Ilango Ganga to chair the Copper Track and Gourgen Oganessyan to be the recording Secretary for the Copper Track.

Break at 10:45 AM
Fiber Track Meeting Reconvened at 11:09 PM

Fiber Track:

Fiber Track Acting Chair: John D'Ambrosia
Fiber Track Recording Secretary: George Oulundsen

Presentation #19 Fiber Track

Title – Advanced MMF Standardization
By – Paul Kolesar, CommScope
See – kolesar_01_1107.pdf

Presentation #20 Fiber Track

Title – 10G transmission over OM3 MMF with relaxed TOSA specifications
By – Robert Lingle, Jr., OFS
See – sun_01_1107.pdf

Fiber Track Meeting break for lunch at 12:15 Noon
Reconvened at 1:36 PM

The Chair noted that the next presenter, Karim Tatah, would like to add a slide to his presentation ("tatah_01_1107.pdf"). The additional slide contains pictures of connectors. The Chair asked the HSSG if there were any objections to allowing the additional slide. There were no objections. The Chair will upload the updated presentation to the website.

Presentation #21 Fiber Track

Title – 100 Gb/s Active Optics Cables
By – Karim Tatah, Cray
See – tatah_01_1107.pdf

Presentation #22 Fiber Track

Title – Single Mode Fibre Skew Variation and Link Models
By – Pete Anslow, Nortel
See – anslow_02_1107.pdf; accompanying spreadsheet – anslow_03_1107.pdf

Discussion –
Presenter recommended that the Excel fiber characteristic spreadsheet in "anslow_03_1107.pdf" be added to the HSSG Tools web page as "Fibre characteristics V 3.0". The Chair asked if there were any objections to adding the spreadsheet to the HSSG Tools web page as "Fibre characteristics V 3.0". There were no objections.

Presentation #23 Fiber Track

Title – 100GbE Components for SMF Reaches
By – Mike Shahine, Ciena
See – shahine_01_1107.pdf

Fiber Track meeting break for 3:01 PM
Reconvened at 3:22 PM

Presentation #24 Fiber Track

Title – Feasibility Study for 25Gb/s 10km Transmission Using DML
By – Hideki Isono, Fujitsu
See – isono_01_1107.pdf

Presentation #25 Fiber Track

Title – SMF 1310nm PMD Link
By – Matt Traverso, Opnext
See – traverso_01_1107.pdf

Presentation #26 Fiber Track

Title – Analysis of 4x25-Gb/s 40-km 1310-nm PMD with SOA Pre-Amplifier
By – Marcus Duelk, Alcatel-Lucent
See – gutierrez_01_1107.pdf

Presentation #27 Fiber Track

Title – Using SOAs as Booster and/or Preamplifier for 4x25Gb/s 40-km 1310-nm PMD
By – Marcus Duelk, Alcatel-Lucent
See – gutierrez_02_1107.pdf

Presentation #28 Fiber Track

Title – 4x25-Gb/s 40-km 1310-nm PMD with SOA Pre-Amplifier: Impact of Channel Spacing
By – Marcus Duelk, Alcatel-Lucent
See – gutierrez_03_1107.pdf

Presentation #29 Fiber Track

Title – WDM Alternatives for 100GE 40km SMF application
By – Kengo Matsumoto, Sumitomo Electric Industries, LTD.
See – matsumoto_01_1107.pdf

Presentation #30 Fiber Track

Title – A Use Case for Short Haul Metro WDM Related to 40 km PHY Definition
By – Ted Woodward, Telecordia
See – woodward_01_1107.pdf

Presentation #31 Fiber Track

Title – 4x25-Gb/s 40-km 1310-nm PMD with SOA Pre-Amplifier: Variation of SOA Gain
By – Marcus Duelk, Alcatel-Lucent
See – gutierrez_04_1107.pdf

Tomorrow the HSSG will be meeting in a different room. The HSSG will reconvene at 8:30 AM tomorrow in the Centennial IV room.

Fiber Track Meeting breaks for the day at 5:48 PM

Copper Track:

Copper Track Acting Chair: Ilango Ganga
Copper Track Recording Secretary: Gourgen Oganessyan

Copper Track Meeting convened at 1:29 PM, Wednesday, November 14, 2007.

- Introductions – Everyone introduced themselves
- Passed around the sign-in sheet

Presentation #32 Copper Track

Title – 40GbE Over 4-Lane 802.3ap Compliant Backplane
By – Rich Melitz – Intel
See – melitz_01_1107.pdf

Discussion on resonances caused by via stubbs. What causes vias to resonate at certain frequencies (spacing between vias), vs the magnitude of resonance (stub length).
Q: Why is 10GBASE-KR a logical step for 40G? Do we have enough evidence that the crosstalk performance will satisfy the needs? A: KR has a crosstalk metric – ICR).
Q: would in a bundled lane situation the aggressors be more in sync, thus making the crosstalk situation better? A: No. Q: So why is bundling good? A: routing, TX/RX grouping.

Presentation #33 Copper Track

Title – 10GBASE-KR for 40G Backplane
By – Hiroshi Takatori - Phycore
See – takatori_01_1107.pdf

Discussion

Q: on slide 12, improvement with crosstalk canceller – how does it work? A: It's easy for 4x bundle crosstalk, as it is known.Q: Is it at TX or RX? A: can be both, in this work at RX.

Q: With Salz formula, PSD of the victim and aggressor are assumed to be identical? A: yes; Q: ICR assumes that not all aggressors are identical, so ICR is stringent. But we can probably relax the limit in the 4x bundling case. Q: Was the Xtalk cancellation full matrix? A: Yes, but even with a 2x2 matrix the results look good. Q: So does he have an idea of relative improvement he gets with full matrix vs only a couple of cancelled aggressors? A: no, but not a lot given that the number of DFE taps he used was variable.

Q: Is the crosstalk canceller decision-based, or does it use training sequence? A: decision-based.

Q: We're kind of on the edge with KR? What about non-uniformity caused by weave? A: The sims were done with S-parameters, which should have contained all that information.

Q: Yes, but not if the TX is skewed.

Q: In FC spec, they have used TWDP to look at those things.

Presentation #34 Copper Track

Title – Considerations for HSSG Cu cable assembly Interconnect Specifications
By – Chris DiMinico – MC Communications
See – diminico_02_1107.pdf

Discussion:
Q: How come Chris' 24 AWG cable looks so good, is it silver-coated? A: No
Q: Does S-parameter formalism contain all necessary info as far as penalty for equalizer? A: a full S-parameter matrix Q: It's not the S-parameters are insufficient, it's that 10GBASE-KR masks are insufficient
Q: Is PCB excluded from TP1-TP4 channel definition? KR includes it A: Couldn't figure out from KR spec.
Q: Why not update the spec for new technologies, like 65 nm CMOS; also why not update it for 16-port S-parameters A; I don't disagree with you, but we're using multiple s4ps anyway, the intent is to continue using that.
Q: What was the 12X in the slide? A: It's just there to sow what's out there. We'll use 4X to begin with. Q: Is there 12X? A: There is the IB document.
Q: Slide 15: The board connector should be outside TP1, so that it's compatible with optics.
Q: How do we specify cable performance? A: Map onto 10G backplane
Q: Shootout between a few people on how to produce a verifiable spec for cable assemblies.

Copper Track breaks at 3:39PM
Reconvened at 4:00 PM

Presentation #35 Copper Track

Title – 40/100G Copper Feasibility
By – Hiroshi Takatori - Phycore
See – takatori_02_1107.pdf

Discussion
Q: What about 30 AWG cable, can we see some data? A: Sure. Provide S-parameter.
Q: Clarify Model 1, is it cable only, or does it include connector? A: Includes connector. Q: Is the total PSEXT a combination of FEXT and NEXT? A: Yes.
Q: PAM-2: 17 dB, what is PAM-4? A: 23.8 dB

Presentation #36 Copper Track

Title – Higher Speed Copper Operation
By – Ali Ghiasi - Broadcom
See – ghiasi_02_1107.pdf

Discussion
Q: Do the IR curves include connector; A: yes Q: how come they look so good? A: That's because we did a good job designing them
Q: does WDP incorporate crosstalk? A: It is added. Q: but SFP+ is not multi-aggressor, so for 4x10G this is not applicable; A: Wouldn't say not applicable, but needs work.
Q: There are benefits in figures of merit, but underlying all these need to be all the possible impairment, so there is significant benefits in completely characterizing the system
Q: WDP is OK for optics, etc, but for our case it's not clear it's sufficient A: OK, thank you.

Presentation #37 Copper Track

Title – Considerations for Active Cables for Higher Speed Ethernet
By – Gourgen Oganessyan - Quellan
See – oganessyan_01_1107.pdf

Presentation #38 Copper Track

Title – Towards 100G over 100 Meters of CAT-7
By – Dr Mohsen Kavehrad – Penn State University (presented by Ali Enteshari)
See – kavehrad_01_1107.pdf

Copper Track meeting breaks for the day at 5:58 PM.

HSSG Meeting (both Fiber Track and Copper Track together) reconvenes at 8:37 AM, Thursday, November 15, 2007. The Chair appointed Trey Malpass as the Recording Secretary for today.

Request received from Chris Cole to present a contribution containing a cost analysis on 3km/4km/10km reach lengths. There was no opposition from the group to hear this at the end of the presentation list if time permits.

Presentation #39

Title – Fiber Track Report
By – John D'Ambrosia, Force10 Networks
See – dambrosia_01_1107.pdf

Presentation #40

Title – Cu Track Report
By – Ilango Ganga, Intel
See – ganga_03_1107.pdf

Request received from Radha Nagarajan to include 3 additional slides in the following presentation. There was no opposition from the group to hear the additional information.

Presentation #41

Title – Photonic Integration Considerations for the 100GbE SMF PHYs
By – Radha Nagarajan, Infinera
See – nagarajan_01_1107.pdf

Presentation #42

Title – Network Topologies and Distances
By – Chris DiMinico, MC Communications
See – diminico_01_1107.pdf

Break for 9:55 AM
Reconvened at 10:11 AM

Presentation #43

Title – Optical Link Budget Implications for 10km SMF Reach Objective
By – Eddie Tsumura, Excelight
See – cole_01_1107.pdf

John D'Ambrosia asked Ilango Ganga to serve as Chair during the next presentation.

Request received from John to present some additional data that was not included in the original presentation. The Chair asked if there were any objections from the group. There were none.

Presentation #44

Title – Support for the 10km Objective
By – John D'Ambrosia, on behalf of Joel Goergen, Force10 Networks
See – goergen_01_1107.pdf

John D'Ambrosia re-assumes the Chair position.

John D'Ambrosia will try to set up a Reach Ad-Hoc meeting before the next Interim meeting to reach some conclusions on the 3km/4km/10km question.

Presentation #45

Title – 10km SMF Reach Objective Relative Cost Analysis
By – Chris Cole, Finisar
See – cole_03_1107.pdf

Motions:

Motion 1: HSSG requests that IEEE 802.3 extend the Higher Speed Study Group.

Moved by – Ali Ghiasi
Second by – Pete Tomaszewski

Procedural (>50%)
Yes – 105 No – 0 Abstain –1

Motion passes.

Motion 2: Approve nicholl_02_1107 as liaison document to the ITU-T SG15.

Moved by – Frank Chang
Second by – Larry Green

Procedural (>50%)
Yes – 93 No – 0 Abstain – 5

Motion passes.

Motion 3: Approve healey_01_1107 as liaison document to the OIF.

Moved by – John McDonough
Second by – Tom Palkert

Procedural (>50%)
Yes – 93 No – 0 Abstain – 0

Motion passes.

Future Meetings:

- January 2008 Interim
  - January 23-25
  - Hotel will be announced at a later date.
  - Portland, OR, USA

- March 2008 Plenary
  - March 18-20
  - Caribe Royale Orlando
  - Orlando, FL, USA

Motion to adjourn – moved by Larry Green; 2nd by Steve Trowbridge. Approved by acclamation.

Meeting adjourns at 11:45 AM on Thursday, November 15, 2007.

Attendance:

HSSG Attendance Sheet- Plenary, Atlanta 11/12-11/15, 2007		
Last Name	**First Name**	**Affiliation**
Abbott	John	Corning
Abbott	Justin	Gennum
Akasaka	Youichi	Fujitsu Labs
Alping	Arne	Ericsson AB
Anslow	Pete	Nortel
Balasubramanian	Vittal	FCI
Baldwin	Thananya	Ixia
Barrass	Hugh	Cisco
Braun	Ralf-Peter	Deutsche Telekom, T-Systems
Cady	Ed	MERITEC
Carroll	Martin	Verizon
Chang	Frank	Vitesse
Cheung	Taesik	ETRI
Chow	Jacky	Marvell
Cole	Chris	Finisar
Conroy	Keith	AMCC
Cutcher	Jeffrey	Ansoft
Dallesasse	John	Emcore Corp.
D'Ambrosia	John	Force 10 Networks
Dawe	Piers	Avago Technologies
DiMinico	Chris	MC Communications
Dineen	Thomas	Self

Dudek	Mike	JDSU
Dupuis	Mark	Madison Cable
Elbers	Jorg-Peter	Adva AG Optical Networking LTD
Ellett	James	Cisco Systems
Enteshori	Ali	Penn State
Ewen	John	IBM
Fiere	Julien	Merge Optics
Firoozmand	Farzin	SMI
Fischer	Thomas	Nokia Siemens Networks
Flatman	Alan	LAN Technologies
Foldenberg	Chen	Compass EOS
Ganga	Ilango	Intel
Gavrilovic	Paul	Cisco
Ghiasi	Ali	Broadcom
Granger	Russ	US Conec
Green	Larry	Ixia
Gustlin	Mark	Cisco
Haywood	Chris	Inpmi Corp.
Healey	Adam	LSI Incorporated
Helster	David	Tyco Enterprises
Herve	Pierre	Intel
Hess	Dave	Nexans
Horner	Rita	Avago Technologies
Hronik	Stan	IDT
Ishibe	Kazuhiko	Anristu
Ishida	Osamu	NTT
Isono	Hideki	Fujitsu Ltd.
Jaeger	John	Infinera
Jewell	Jack	JDSU
Jiang	Wenbin	Huawei
Jimenez	Andrew	Anixter Inc.
Joo	Bheom Soon	ETRI
Jorgensen	Thomas	Vitesse
Kawatsu	Yasuaki	Hitachi-Cable
Kengo	Matsumoto	Sumitomo Electric Lab
Kim	Daeub	ETRI
Kim	Jung-sik	ETRI
King	Jonathan	Finisar Corp.
Kipp	Scott	Brocade
Kiyo	Hiramoto	Opnext Japan
Kobayashi	Shoukei	NTT
Kojima	Keisuke	Mitsubishi Electric Res. Lab

Kolesar	Paul	CommScope
Krishnamurthy	Subi	Force 10 Networks
Lackner	Hans	QoSCom
Langari	Abdolreza	Qlogic
Lenkisch	Andreas	Schroff Gmbh Germany
Lindner	Alan	Pulse
Lindsay	Tom	Clariphy Communications
Maki	Jeffery	Juniper Networks
Malpass	Trey	Malpass Technology - Huawei
Marris	Arthur	Cadence
Marti	Frank	Leviton
Martin	Arlon	Kotura
McClay	Phil	Zarlink Semiconductor
McDonough	John	NEC America
McGrath	Jim	Molex
McSorley	Greg	Amphenol
Mellitz	Richard	Intel
Miao	Tremont	Analog Devices Inc.
Mori	Kazuyuki	Fujitsu Labs
Muller	Shimon	Sun
Narrayan	Ganesh	STMicroelectronics
Ngi	Alex	Helix AG
Nicholl	Gary	Cisco
Nowell	Mark	Cisco
Obara	Satoshi	Fujitsu
O'Brien	Joe	Efficere Technologies
Oganessyan	Gourgen	Quellan
Oulundsen	George	OFS
Palkert	Tom	Xilinx, Luxtera
Patel	Shashi	Foundry Networks
Peers	Neil	ADVA Optical Networking LTD
Pepeljugoski	Petar	IBM
Pepper	Gerald	Ixia
Petrilla	John	Avago Technologies
Pimpinella	Rick	Panduit Corp.
Rabinovich	Rick	Spirent Communications
Ralph	Stephen	Georgia Tech
Ring	Bill	WSR Optical Device Soln's rep OIDA
Roth	Moran	Corringent Systems
Sambasivan	Sam	AT&T
Sanders	Ross	Stratalight
Savi	Olindo	The Siemon Co.

Seely	Ted	Sprint
Shahine	Mike	Ciena Corp.
Shigematsu	Masayuki	Innovation Core SEI, Inc.
Song	Steve	Excelight
Southworth	Robert	Fulcrum Microsystems
Stook	Christopher	Avanex
Sun	Yi	OFS
Swanson	Steve	Corning
Swenson	Norm	Clariphy Communications
Szczepanek	Andre	Texas Instruments
Takahashi	Hidenori	KDDI R&D Laboratories Inc.
Takatori	Hinoshi	PhyCore Tech
Tatah	Karim	Cray
Theodoras	Jim	Cisco
Thiagarajan	Sashi	Ciena
Timmins	Ian	SMP Data Communications
Tomaszewski	Pete	Force 10 Networks
Toyoda	Hidehiro	Hitachi
Traverso	Matt	Opnext
Trowbridge	Steve	Alcatel-Lucent
Tsumura	Eddie	Excelight
Vareljian	Albert	Altera Corp.
Vetteth	Anoop	Cisco
Wang	Chen Xi	Commscope
Way	Winston	OPVISTA
Weitzner	Andy	Marvell
Wertz	Jason	Sandia National Laboratories
White	Martin	Marvell Semi
Wise	Jeffrey	Motorola
Wong	Aris	Foundry Networks
Woodward	Ted	Telcordia
Younce	Rick	Tellabs
Young	George	AT&T
Zhong	Charlie	LSI