Unapproved Minutes
IEEE P802.3bj 100 Gb/s Backplane and Copper Cable Task Force
Interim and Plenary Meetings
November 7-10, 2011
Atlanta, Georgia

Prepared by: David Chalupsky

802.3bj Interim meeting convened at 8:03am, Monday, November 7, 2011 by John D'Ambrosia, 802.3bj Chair.

<u>Agenda & General Information</u>
By – John D'Ambrosia
See – http://grouper.ieee.org/groups/802/3/bj/public/nov11/agenda_01b_1111.pdf
Chair outlined the agenda for the meeting.
- Introductions – Everyone introduced themselves and stated their affiliation.
- Chair outlined purpose of this interim is for 802.3bj Task Force and 100Gb Next Gen Optics Study Group to work on common interest items.
- Chair reminded everyone that photographs or recordings are not allowed without permission. Chair asks audience if anyone objected that he photograph the roomful of attendees. No objection.
- Chair asked if there were any reporters in the room. No one responded.
- Chair noted that the interim is adjacent to and co-located with the plenary, and attendance at the interim would not count towards voting requirements.

Motion #1: Motion to approve the agenda
- Moved by Steve Trowbridge
- Second by Hugh Barrass
- Approved by voice vote without objection.

Motion #2: Motion to approve the July 2011 minutes.
- Moved by Kent Lusted
- Second by Andre Szczepanek
- Approved by voice vote without opposition.

Chair continued with his introductory presentation
- Ground Rules
- Chair gives instructions for recording attendance
- IEEE Structure, Bylaws & Rules
    - Chair read the Guidelines for IEEE-SA meetings

IEEE Patent Policy: Chair reads aloud the patent policy text contained in the agenda.
Chair calls for essential patents. One response from Yasuo Hidaka who submitted a written letter. The Chair stated that we are not going to get into discussions of essentiality.

OIF MLG Liaison:

OIF Multi-Link Gearbox liaison received from the OIF.
See: http://www.ieee802.org/3/minutes/nov11/incoming/OIF_IEEE_liaison_27Oct11.pdf
Discussion on whether a response is necessary.   Consensus that no response is necessary, liaison is informational only.

Presentation #1
Title – FEC architectural considerations
By –   Mark Gustlin
See – http://grouper.ieee.org/groups/802/3/bj/public/nov11/gustlin_01a_1111.pdf
Discussion – Clarifying questions were asked regarding the use of FEC. Noted that with the low-latency FEC being discussed, bit manipulation or changing lanes widths cannot be done while data FEC encoded. Discussion of alternatives.

Presentation #2
Title – System OEM design guidelines for chip to module interfaces
By –   Gary Nichol
See – http://grouper.ieee.org/groups/802/3/bj/public/nov11/nicholl_01_1111.pdf
Reference File: http://grouper.ieee.org/groups/802/3/bj/public/nov11/oif2010_132_011.pdf
Discussion – Clarifying questions were discussed regarding the host channel reach requirements, and the potential use of FEC (mandatory vs. optional).

Presentation #3
Title – Channel Specifications Discussions
By –   John D'Ambrosia
See – http://grouper.ieee.org/groups/802/3/bj/public/nov11/dambrosia_01_1111.pdf
Discussion – Clarifying questions were asked regarding the material.

ACTION ITEM: Reach out to test &measurement vendors for contributions on measurement techniques (John D'Ambrosia).

Break 10:00 to 10:20.

Presentation #4
Title – 100GBASE-CR4 Compliance Board and MDI Definition
By –   Ali Ghiasi
See – http://grouper.ieee.org/groups/802/3/bj/public/nov11/ghiasi_01_1111.pdf
Discussion – Clarifying questions were asked regarding the material.

Presentation #5
Title – MDI for 4x25G Copper and Fiber Optic I/O
By –   Nathan Tracy
See – http://grouper.ieee.org/groups/802/3/bj/public/nov11/tracy_01_1111.pdf
Discussion – Clarifying questions were asked regarding the material.

Presentation #6
Title – Marrying Copper and Optical.
By –   Mike Dudek
See – http://grouper.ieee.org/groups/802/3/bj/public/nov11/dudek_01a_1111.pdf

Discussion – Clarifying questions were asked regarding the material. Noted that original document contained a typo and will be updated to 01a. Action item: Send updated presentation 01a DONE and posted.

Presentation #7
Title – Active cables in a passive copper and optical module world
By – Tom Palkert
See – http://grouper.ieee.org/groups/802/3/bj/public/nov11/palkert_01_1111.pdf
Discussion – Clarifying questions were asked regarding the material.

Presentations concluded. Chair calls for any additional discussion (none).

Motion #3: Motion to adjourn.
- Moved by Ali Ghiasi
- Second by Mike Dudek
- Approved by voice vote without opposition.

802.3bj Interim meeting adjourned at 11:25am

Tuesday, November 8, 2011
802.3bj Plenary meeting convened at 9:05am by John D'Ambrosia, 802.3bj Chair.

Agenda & General Information
By – John D'Ambrosia
See – http://grouper.ieee.org/groups/802/3/bj/public/nov11/agenda_01b_1111.pdf
Chair outlined the agenda for the meeting.
- Introductions – Everyone introduced themselves and stated their affiliation.

Motion #1: Motion to approve the agenda
- Moved by Mike Dudek
- Second by Mike Bennett
- Approved by voice vote without objection.

Chair continues with introductory presentation:
- Chair reminded everyone that photographs or recordings are not allowed without permission. Chair asks audience if anyone objected that he photograph the roomful of attendees. No objection.
- Chair asked if there were any reporters in the room. Scott Kipp informed that he would be writing a blog for the Ethernet Alliance; contents will be based on posted meeting output rather than blow-by-blow description of the discussion.
- Chair reviews attendance procedures, IEEE bylaws and rules links.
- **IEEE Patent Policy**: Chair reads aloud the patent policy text contained in the agenda. Chair calls for essential patents. No one responded.
- Chair continues with Other Guidelines for IEEE WG Meetings
- Chair gives an overview of standard development process flow.

Liaisons and Communications:
Title – Proposed Informal Communication to PICMG
By – Kent Lusted
See – http://grouper.ieee.org/groups/802/3/bj/public/nov11/lusted_03a_1111.pdf
Discussion – The Chair asks the audience to review the document and contact Kent if there are issues to be addressed. The TF will review on Thursday for approval via motion to send the letter. Clarifying questions were asked regarding the material.

Presentation #1
Title – Intro to PICMG
By – Kent Lusted
See – http://grouper.ieee.org/groups/802/3/bj/public/nov11/lusted_02_1111.pdf
Discussion – Clarifying questions were asked regarding the channel lengths and materials; Request for information on the PICMG market size.

Presentation #2
Title – The Case for Legacy Channels
By – Kent Lusted
See – http://grouper.ieee.org/groups/802/3/bj/public/nov11/lusted_01a_1111.pdf

Discussion – ACTION ITEM send updated presentation DONE & POSTED. Clarifying questions were asked regarding the material.

Break at 10:35 to 11:05am

Presentation #3
Title – Channel Characteristics at 12.5GHz
By – Vasu Parthasarathy
See – http://grouper.ieee.org/groups/802/3/bj/public/nov11/parthasarathy_01a_1111.pdf
Discussion – Clarifying questions were discussed regarding the material.

Presentation #4
Title – PAM-2 Broad Market Potential
By – Scott Kipp
See – http://grouper.ieee.org/groups/802/3/bj/public/nov11/kipp_01_1111.pdf
Discussion – Clarifying questions were discussed regarding the material.

Break for lunch at 11:58am. Resumed at 1:37pm.

Presentation #5
Title – Blade Servers & The Relative Cost Impact of Materials
By – John D'Ambrosia
See – http://grouper.ieee.org/groups/802/3/bj/public/nov11/dambrosia_02_1111.pdf
Discussion –Clarifying questions were discussed regarding the impact of circuit board cost in the total system cost, possible future trends.

Presentation #6
Title – PCB Technology Future Trends
By – Dr. Karl Minten
See – http://grouper.ieee.org/groups/802/3/bj/public/nov11/minten_01a_1111.pdf

Discussion – Clarifying questions were asked regarding the material.

Break at 2:59pm, resume at 3:29pm

Presentation #7
Title – IEEE 802.3bj Twinaxial Cu cable assembly objective
By – Chris Di Minico
See – http://grouper.ieee.org/groups/802/3/bj/public/nov11/diminico_01a_1111.pdf
Discussion – ACTION: SEND UPDATED FILE – DONE & POSTED Clarifying Clarifying questions were asked regarding the material.

The Chair reminds presenters to please notify him in advance of the presentation if there are changes to the material.

Presentation #8
Title – EEE Support for 100Gb/s
By – Mark Gustlin
See – http://grouper.ieee.org/groups/802/3/bj/public/nov11/gustlin_02_1111.pdf
Discussion – Clarifying questions were discussed regarding the material. Noted that faster wakeup time is not just a matter of alignment markers; analog & timing recovery circuits need time. Question on whether all lanes participate in the refresh; suggestion to rotate. Concern expressed over the possibility that EEE could have a net *increase* in power

Presentation #9
Title – A PAM-2 based solution for legacy backplane channels
By – Sanjay Kasturia
See – http://grouper.ieee.org/groups/802/3/bj/public/nov11/kasturia_01a_1111.pdf
Discussion – Clarifying questions were discussed regarding the complexity & requirements in comparison to other proposals.

Presentation #10
Title – Evaluation of Various Channels
By – Charles Moore
See – http://grouper.ieee.org/groups/802/3/bj/public/nov11/moore_02_1111.pdf
Discussion – Clarifying questions were discussed regarding the material. Noted that difference in evaluation methods by different participants is yielding different results on the same channels.

5:23pm – break for the day

Wednesday, November 9, 2011
802.3bj Plenary meeting re-convened at 9:06am by John D'Ambrosia, 802.3bj Chair.

Agenda & General Information
By – John D'Ambrosia
See – http://grouper.ieee.org/groups/802/3/bj/public/nov11/agenda_01b_1111.pdf
Chair outlined the agenda for the meeting.
- Chair displayed and discussed the IEEE patent policy. Chair calls for essential patents. No one responded.

Presentation #11
Title – Analysis of 30dB Channel Using IBIS-AMI Models
By –   Walter Katz
See – http://grouper.ieee.org/groups/802/3/bj/public/nov11/katz_01_1111.pdf
Discussion – Clarifying questions were discussed regarding the material.

Break at 10:00 to10:15

Presentation #12
Title – Feasibility of PAM-2 on a 1 Meter Backplane Channel
By –   Vittal Balasubramanian
See – http://grouper.ieee.org/groups/802/3/bj/public/nov11/balasubramanian_01_1111.pdf
Discussion – Clarifying questions were discussed regarding the material

Presentation #13
Title – Line Signaling Performance Comparison on 1m Improved FR4 Channel
By –   Mounir Meghelli
See – http://grouper.ieee.org/groups/802/3/bj/public/nov11/beukema_01_1111.pdf
Discussion – Clarifying questions were discussed regarding the material. . ACTION ITEM
Presenter to provide update/correction to PAM 4 crosstalk. ACTION ITEM: Post channel

Presentation #14
Title – S/N comparison for NRZ and PAM4
By –   Charles Moore
See – http://grouper.ieee.org/groups/802/3/bj/public/nov11/moore_01a_1111.pdf
Discussion – Clarifying questions were discussed regarding the material. ACTION ITEM: update
slide 10 to indicate channel info from Di Minico was not intended as a target channel for 802.3bj.
DONE AND POSTED.

Break for lunch at 12:00pm, resumed at 1:37pm

Presentation #15
Title – Sensitivity to Timing Error Jitter for NRZ and PAM-4
By –   Will Bliss
See – http://grouper.ieee.org/groups/802/3/bj/public/nov11/bliss_01a_1111.pdf
Discussion – Clarifying questions were discussed regarding the material.

Presentation #16
Title – Performance Analysis of PAM4 Receivers over Long Backplane Channels
By –   Dariush Dabiri
See – http://grouper.ieee.org/groups/802/3/bj/public/nov11/dabiri_01_1111.pdf
Discussion – Clarifying questions were discussed regarding the material.

3:00pm break until 3:15pm

Presentation #17
Title – Time-domain performance analysis for recently contributed channels using PAM-4 signaling
By –   Adee Ran
See – http://grouper.ieee.org/groups/802/3/bj/public/nov11/ran_01a_1111.pdf

Discussion – Clarifying questions were discussed regarding the material.

Presentation #18
Title – Output Voltage Proposal for PAM-4 Transmitter
By – Ziad Hatab
See – http://grouper.ieee.org/groups/802/3/bj/public/nov11/hatab_01a_1111.pdf
Discussion – Clarifying questions were discussed regarding the material.

Presentation #19
Title – Low Transmission Loss Multi-layer Material for High speed & High Frequency Application
By – Ken Ikeda
See – http://grouper.ieee.org/groups/802/3/bj/public/nov11/ikeda_01_1111.pdf
Discussion – Clarifying questions were discussed regarding the material. Speaker noted that the material presented runs about 3-4x the cost of standard FR-4, but anticipates it is lower cost than other materials of similar loss characteristics.

Presentation #20
Title – FEC Requirements for 100G Backplane
By – Phil Northcott
See – http://grouper.ieee.org/groups/802/3/bj/public/nov11/northcott_01_1111.pdf
Discussion – Clarifying questions were discussed regarding the material. Discussion on the trade-offs & potential difficulty of meeting all of the requirements presented. Suggestion to investigate affect/relationship of far end reflections.

Chair discusses plans for Thursday morning. Chair not expecting any polls/motions in the morning, so the remaining presentations, which had been scheduled for today, will be pushed to Thursday morning.   Chair asks that anyone needing agenda time for polls/motions tomorrow notify him today.

5:30pm adjourn for the day.

Thursday, November 10, 2011
802.3bj Plenary meeting re-convened at 9:03am by John D'Ambrosia, 802.3bj Chair.

Agenda & General Information
By – John D'Ambrosia
See – http://grouper.ieee.org/groups/802/3/bj/public/nov11/agenda_01b_1111.pdf
Chair outlined the agenda for the meeting.
• Chair displayed and discussed the IEEE patent policy. Chair calls for essential patents. No one responded.

Presentation #21
Title – Transcoding and FEC Options and Trade-Offs for 100 Gb/s Backplane and Copper Cable
By – Roy Cideciyan
See – http://grouper.ieee.org/groups/802/3/bj/public/nov11/cideciyan_01a_1111.pdf
Discussion – ACTION ITEM: Send updated presentation.   Clarifying questions were discussed regarding the material.

Presentation #22
Title – Performance Evaluation of Transcoding and FEC Schemes for 100 Gb/s Backplane and Copper Cable
By – Roy Cideciyan
See – http://grouper.ieee.org/groups/802/3/bj/public/nov11/cideciyan_02a_1111.pdf
Discussion – Clarifying questions were discussed regarding the material.

10:20am: break until 10:30.

Presentation #23
Title – Further Studies of FEC Code for 100G-KR
By – Zhongfeng Wang
See – http://grouper.ieee.org/groups/802/3/bj/public/nov11/wang_01a_1111.pdf
Discussion – Clarifying questions were discussed regarding the material.

Presentation #24
Title – Bringing Forward the Df & Dk Algebraic Model
By – Beth Kochuparambil
See – http://grouper.ieee.org/groups/802/3/bj/public/nov11/goergen_01_1111.pdf
Discussion – Clarifying questions were discussed regarding the material. Request to recommend loss/unit length benchmark for "improved FR-4."   Suggestion to relate loss to Amax. ACTION: provide updated tool with surface roughness, provide recommendation for benchmark loss/unit length metric based upon the adopted definition of improved FR-4, hold conference call

Presentation #25
Title – Recap: Motivation for EEE in this project
By – Mike Bennett
See – http://grouper.ieee.org/groups/802/3/bj/public/nov11/bennett_01_1111.pdf
Discussion – Clarifying questions were discussed regarding the material.

Straw Poll #1:   I would support adding an objective to define optional Energy-Efficient Ethernet operation for 100G Backplane and Twinaxial cable PHYs specified in P802.3bj
   Yes: 58   No: 1   Abstain: 19
802.3 voters only
   Yes: 39   No: 1   Abstain: 11

Motion #2:   Move the 802.3bj Task Force add an objective:
To define optional Energy-Efficient Ethernet operation for 100G Backplane and Twinaxial cable PHYs specified in P802.3bj
- Moved by Mike Bennett
- Seconded by David Ofelt
- (Technical >=75%)
- Yes: 57   No: 10   Abstain: 17 (motion passes)
- 802.3 voters only
- Yes: 40   No: 6   Abstain: 11

Liaisons and Communications:
Kent Lusted presented an updated letter as a proposed informal liaison to PICMG.

See - http://grouper.ieee.org/groups/802/3/bj/public/nov11/lusted_03a_1111.pdf

Motion #3:   Move that Task Force approve the text in lusted_03a_1111.pdf, with editorial license granted to the Chair (or his appointed agent) as an informal communication by the Chair to the PCI Industrial Computer Manufacturers Group (PICMG).
- Moved: Kent Lusted
- Second: Mike Li
- (Procedural, >50%)
- Results: Approved by voice vote without objection

Secretary reviews past action item status, and new action items recorded during the meeting.

Volunteer	Action	Date Assigned	Status
Adam Healey	Update spreadsheet to add name & affiliation, FEC parameters, and simulation tool used. Also update example reference.	9/13/2011	pending
Joel Goergen	Provide loss calculator spreadsheet to group	9/13/2011	Done, presented by Beth K. at Nov'11 plenary.
Ed Sayre	Provide channel data for legacy backplanes with updated line cards.	9/14/2011	pending
Ali Ghiasi	Ali to send update presentation correcting proposed HCB trace loss (page 3)	9/14/2011	Done
Joel Goergen	Provide relative cost analysis of board technologies/materials based on Goergen_02_0911.pdf	9/14/2011	pending
Joel Goergen	Provide topology definition/relative frequencies of interest spreadsheet	9/14/2011	pending
Joel Goergen	Provide update of surface roughness calculation in Goergen_02_0911	9/14/2011	pending
Chris Cole	Present CFP4 MSA update to 802.3bj at November meeting. (Note 1)	9/14/2011	Update provided by N. Tracy
New Action Items, November			
John D'Ambrosia	Reach out to test &measurement vendors for contributions on measurement techniques	11/7/2011	
John D'Ambrosia	Post updated version of dambrosia_02_1111.pdf	11/8/2011	
Mounir Meghelli	Provide update/correction to PAM 4 crosstalk in beukema_01_1111.pdf.	11/9/2011	
Mounir Meghelli	Post channel data used in beukema_01_1111.pdf	11/9/2011	
Roy Cideciyan	Send updated version of	11/9/2011	

	cediciyan_01a_1111.pdf		
Beth Kochuparambil	Provide updated tool with surface roughness, provide recommendation for benchmark loss/unit length metric based upon the adopted definition of improved FR-4; hold conference call	11/10/2011	

Note 1: Action item taken during 802.3bj / 100GNGOPTX joint session
Chair reviews future meeting schedule.

Motion to adjourn by Mike Dudek, second by Kent Lusted. Approved by voice without opposition
Meeting adjourned at 12:00pm

Attendee List

IEEE 802.3bj 100Gb/s Cu & BP TF - November 2011			11/7/2011	11/8/2011	11/9/2011	11/10/2011
Last Name	**First Name**	**Affiliation**	**Monday**	**Tues**	**Weds**	**Thurs**
Abbas	Ghani	Ericsson, UK	x			x
Alie	Stephen	Cortina Systems	x	x	x	x
Amleshi	Peerouz	Molex		x	x	x
Anderson	Jon	Opnext	x			
Anslow	Pete	Ciena Corporation	x			
Anstey	Mike	Altera	x	x	x	x
Aslam	Hassaam	Broadcom			x	
Balasubramanian	Vittal	FCI	x	x	x	x
Baldwin	Thananya	Ixia	x			
Barnett	Barry	IBM	x	x	x	x
Barrass	Hugh	Cisco	x	x	x	
Bates	Stephen	PMC Sierra		x	x	x
Beaudoin	Denis	Texas Instruments	x	x		x
Bennett	Mike	LBNL		x	x	x
Bergey	Christopher	Luxtera			x	x
Bhoja	Sudeep	Broadcom	x	x	x	x
Bliss	Will	Broadcom	x	x	x	x
Bolig	Matt	Netlogic Microsystems	x	x	x	x
Booth	Brad	Dell		x		
Brown	Matt	Applied Micro	x	x	x	x
Bugg	Mark	Molex	x	x	x	x
Busse	Robert	Transition Networks		x	x	
Byun	Woo-Jin	ETRI			x	x
Carlson	Steve	HSD		x		
Catlin	Jeff	Accton		x		
Chalupsky	David	Intel	x	x	x	x
Chen	Chung-Jue	Broadcom		x	x	x
Cheng	Wheling	Juniper Networks	x	x	x	x

IEEE 802.3bj 100Gb/s Cu & BP TF - November 2011			11/7/2011	11/8/2011	11/9/2011	11/10/2011
Last Name	**First Name**	**Affiliation**	**Monday**	**Tues**	**Weds**	**Thurs**
Cideciyan	Roy	IBM	x	x	x	x
Cole	Chris	Finisar	x			
Cui	Kai	Huawei	x			
Dabiri	Dariush	Applied Micro		x	x	
D'Ambrosia	John	Dell	x	x	x	x
Dati	Angelo	ST Microelectronics		x	x	x
Dawe	Piers	IPtronics	x			
Diab	Wael	Broadcom	x			x
DiMinico	Christopher	MC Communications/Leoni		x	x	x
Donahue	Curtis	UNH - IOL		x	x	x
Dove	Dan	HP	x			
Dudek	Mike	QLogic	x	x	x	x
Dwelley	David	Linear Tech		x	x	x
Estes	Dave	UNH - IOL			x	x
Ferdosi	Nima	PLX Technology	x	x		
Flatman	Alan	LAN Technologies	x			
Frazier	Howard	Broadcom		x		
Fu	Hui	Xilinx	x	x	x	
Gauthler	Claude	Mosys	x	x	x	x
Ghazisaidi	Navid	Ericsson, Inc.	x	x		
Ghiasi	Ali	Broadcom	x			
Giannakopoulos	Dimitris	Applied Micro		x	x	x
Grimwood	Michael	Broadcom			x	x
Gundubogula	Sudhakar	Marvell		x	x	
Gustlin	Mark	Cisco	x	x	x	x
Hamano	Hiroshi	Fujitsu Labs	x			
Hatab	Ziad	Vitesse	x	x	x	x
Healey	Adam	LSI	x	x	x	x
Hidaka	Yasuo	Fujitsu Lab of America	x	x	x	x
Hiramoto	Kiyo	Opnext Japan	x			
Huang	Xi	Huawei	x	x	x	x
Ikeda	Kenichi	Hitachi Chemical		x	x	
Ishida	Osamu	NTT		x		
Iwadate	Hirotake	Sumitomo Electric	x			
Jiang	Hongtao	Broadcom	x	x	x	x
Kabqyo	Youn	LG Electronics	x			
Kasturia	Sanjay	PLX / Inphi		x		
Katz	Walter	Signal Integrity Software	x	x	x	
Kimmitt	Myles	Emulex		x	x	
King	Jonathan	Finisar Corp.	x			
Kipp	Scott	Brocade	x	x		
Kochuparambil	Elizabeth	Cisco Systems	x	x	x	x

IEEE 802.3bj 100Gb/s Cu & BP TF - November 2011			11/7/2011	11/8/2011	11/9/2011	11/10/2011
Last Name	**First Name**	**Affiliation**	**Monday**	**Tues**	**Weds**	**Thurs**
Kodama	Satoshi	NTT	x			
Kolesar	Paul	CommScope	x			
Kosanivich	Keith	Leviton Network Solutions	x	x	x	x
Kumashiro	Satoru	K-Micro	x			
Kuwata	Hitoshi	Hitachi Cable, Ltd.			x	x
Kvist	Bengt	Ericsson	x	x	x	x
Lackner	Hans	QoSCom			x	
Larsen	Wayne	Commscope		x	x	
Laubach	Mark	Broadcom	x			
Law	David	HP			x	
Lawson	Matthew Todd	Cisco		x	x	x
Li	Mike	Altera	x	x	x	x
Lindsay	Tom	Clariphy Communications	x			
Lozano	Raul	Aruba Networks	x	x	x	x
Lusted	Kent	Intel	x	x	x	x
Maguire	Valerie	Siemon, TIA				x
Maki	Jeffery	Juniper Networks	x			
Marris	Arthur	Cadence	x	x	x	x
Mash	Chris	Marvell		x		
McDermott	Thomas	Fujitsu	x			
McNarney	Martin	Broadcom			x	
Meghelli	Mounir	IBM	x	x	x	x
Meier	Wolfgang	Emerson Network Power EC		x	x	x
Mizuo	Yasuyuki	Hitachi Chemical		x	x	
Moeller	Merrick	Amphenol	x	x	x	
Mok	Osa	Innolight Technology	x			
Moore	Charles	Avago Technologies	x	x	x	x
Moorwood	Andy	Infinera Corp	x	x	x	x
Nagapudi	Venkatesh	Applied Micro	x	x	x	
Noll	Kevin	Time Warner Cable		x		
Nordin	Ron	Panduit Corp.		x	x	
Northcott	Phil	PMC-Sierra		x	x	x
Nowell	Mark	Cisco	x			
Ofelt	David	Juniper Networks	x	x	x	
Ossman	Valentin	PMC Sierra			x	
Palkert	Tom	Xilinx, Luxtera, Molex	x	x	x	
Panguluri	Sesha	Broadcom			x	
Park	Jisang	LS Cable	x			
Parthasarathy	Vasudevan	Broadcom	x	x	x	x
Patel	Pravin	IBM		x	x	x

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Last Name	**First Name**	**Affiliation**	**Monday**	**Tues**	**Weds**	**Thurs**
Pepeljugoski	Petar	IBM	x			
Pepper	Gerald	Ixia	x	x		
Quigley	Thomas	Swiftwater		x	x	
Rabinovich	Rick	Alcatel-Lucent	x	x	x	
Ran	Adee	Intel		x	x	x
Ressl	Michael	Hitachi Cable America		x		
Riani	Jamal	Marvell		x	x	x
Rosenberg	Yoav	Mellanox		x	x	x
Ruotolo	Frank	Legrand Ortronics	x	x	x	x
Salunke	Vineet	Cisco Systems	x			
Savi	Olindo	Hitachi Cable		x	x	
Sayre	Edward	NESA		x	x	x
Searles	Shawn	Advanced Micro Devices	x	x	x	x
Sela	Oren	Mellanox		x	x	x
Seth	Siddharth	Inphi		x		
Shafai	Farhad	Xilinx			x	
Shanbhag	Megha	TE Connectivity	x	x	x	x
Sharma	Atul	Volex	x			
Slavick	Jeff	Avago Technologies		x	x	x
Sommers	Scott	Molex		x	x	x
Sparrowhawk	Bryan	Leviton		x		
Sprague	Ted	Infinera	x			
St. Peter	Matthew	Radisys	x	x	x	
Stassar	Peter	Huawei	x			
Svendsen	Justin	Carlisle		x	x	x
Szczepanek	Andre	Inphi	x			
Tanabe	Takahiro	Hitachi Chemical			x	
Tawa	Katsuhisa	ICS Sumitomo	x	x	x	x
Teipen	Brian	Adva optical	x			
Tracy	Nathan	Tyco Electronics	x			
Tremblay	Francois	Gennum	x		x	
Trowbridge	Steve	Alcatel-Lucent	x			
Umnov	Alexander	Fujitsu	x	x	x	
Vaden	Sterling	Optical Cable Corp.		x	x	
Vanderlaan	Paul	Nexans	x			
Wagner	Bob	Panduit Corp.	x	x	x	x
Wang	Zhongfeng	Broadcom		x	x	x
Wang	Xiaofeng	PMC Sierra		x	x	x
Warland	Tim	Applied Micro	x			
Warren	David	HP		x	x	x
Wu	Wendy	Netlogic		x		x
Yang	Jungwon	Terasquare, Inc	x			

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Last Name	First Name	Affiliation	Monday	Tues	Weds	Thurs
Zang	Meiyan	ZTE Corporation	x			
Zhang	James	Qualcomm		x	x	x
Zhao	Wenyu	CATR China	x			
Zimmerman	George	CME Consulting		x	x	