




IEEE P802.3ba 40Gb/s and 100Gb/s Ethernet Task Force

Agenda and General Information

Portland, OR
January 2008



Agenda

- Welcome and Introductions
- Appoint/Volunteer Recording Secretary
- Task Force Administrative Matters
- Approve Agenda
- Approve the Minutes
- Goals for this Week
- Ground Rules
- Reflector and Web
- IEEE
 - Structure
 - Bylaws and Rules
 - Call for Patents
 - IEEE Standards Process
- Liaisons
- Presentations
- Discussion and Motions
- Future Meetings

Task Force Administrative Matters

- Task Force Chair
 - Appointed by the IEEE 802.3 Working Group Chair
 - Confirmed by the Task Force (75% majority)

Task Force Decorum



- Press (i.e., anyone reporting publicly on this meeting) are to announce their presence (2007 SASB Op Manual 5.3.3.5)
- Photography or recording by permission only (5.3.3.4)
- Cell phone ringers off
- Wear your badges at all times in meeting areas

IEEE 802.3 HSSG Organization

- Study Group Chair:
 - John D'Ambrosia (jdambrosia@ieee.org)
- Web Master
 - Frank Chang (ychang@vitesse.com)
- “Reach” Ad Hoc Chair
 - Andy Moorwood (amoorwood@extremenetworks.com)

Reflector and Web

- To subscribe to the IEEE P802.3ba Task Force reflector, send an email to:

ListServ@ieee.org

with the following in the body of the message (do not include “<>”):

[subscribe stds-802-3-hssg <yourfirstname> <yourlastname>](#)
[end](#)

- Send IEEE P802.3ba Task Force reflector messages to:

STDS-802-3-HSSG@listserv.ieee.org

- Task Force web page URL:

<http://www.ieee802.org/3/ba/>

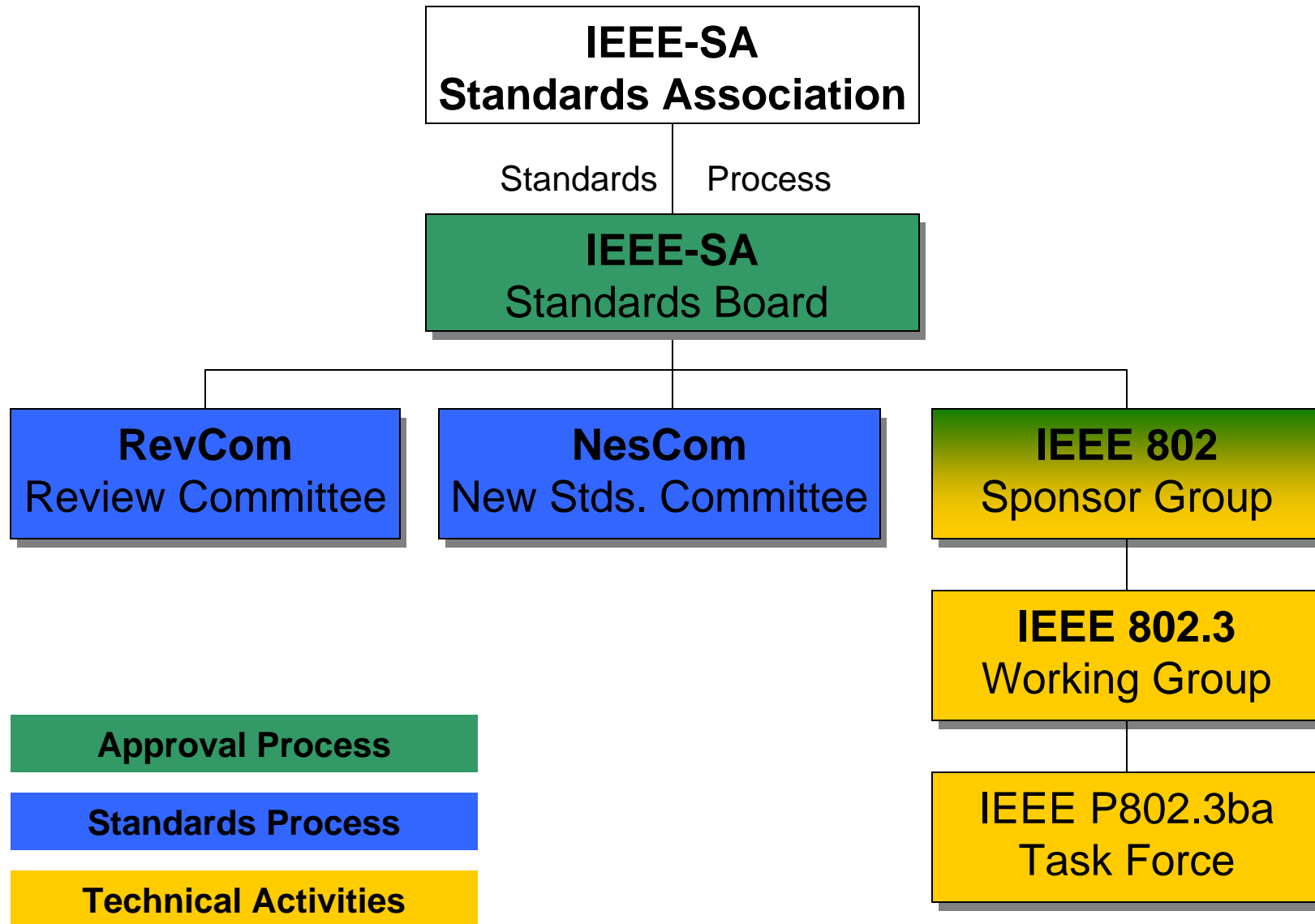
Goals for the Week

- Project organization
- Progress towards generating D1.0
 - Hear Proposals
 - Hear Technical Presentations
 - Identify “big ticket” items
- Review liaison from ISO / IEC JTC 1/SC 25/WG3
- Lay groundwork for the next meeting

Ground Rules

- Based upon IEEE 802.3 Rules
 - Foundation based upon Robert's Rules of Order
 - Anyone in the room may speak
 - Anyone in the room may vote
- **RESPECT**... give it, get it
- NO product pitches
- NO corporate pitches
- NO prices!!!
 - This includes costs, ASPs, etc. no matter what the currency
- NO restrictive notices

IEEE Structure



Bylaws and Rules

- IEEE-SA Operations Manual:
 - <http://standards.ieee.org/sa/sa-om.pdf>
- IEEE-SA Standards Board Bylaws:
 - <http://standards.ieee.org/guides/bylaws/sb-bylaws.pdf>
- IEEE-SA Standards Board Operations Manual:
 - <http://standards.ieee.org/guides/opman/sb-om.pdf>
- LAN/MAN Standards Committee (LMSC) Policies and Procedures:
 - <http://ieee802.org/policies-and-procedures.pdf>
- IEEE 802.3 Working Group Operating Rules:
 - http://ieee802.org/3/rules/P802_3_rules.pdf

Highlights of the *IEEE-SA Standards Board* *Bylaws* on Patents in Standards

- **Participants have a duty to tell the IEEE if they know (based on personal awareness) of potentially Essential Patent Claims they or their employer own**
- **Participants are encouraged to tell the IEEE if they know of potentially Essential Patent Claims owned by others**
 - This encouragement is particularly strong as the third party may not be a participant in the standards process
- **Working Group required to request assurance**
- **Early assurance is encouraged**
- **Terms of assurance shall be either:**
 - Reasonable and nondiscriminatory, with or without monetary compensation; or,
 - A statement of non-assertion of patent rights
- **Assurances**
 - Shall be provided on the IEEE-SA Standards Board approved LOA form
 - May optionally include not-to-exceed rates, terms, and conditions
 - Shall not be circumvented through sale or transfer of patents
 - Shall be brought to the attention of any future assignees or transferees
 - Shall apply to Affiliates unless explicitly excluded
 - Are irrevocable once submitted and accepted
 - Shall be supplemented if Submitter becomes aware of other potential Essential Patent Claims
- **A “Blanket Letter of Assurance” may be provided at the option of the patent holder**
- **A patent holder has no duty to perform a patent search**
- **Full policy available at <http://standards.ieee.org/guides/bylaws/sect6-7.html#6>**

IEEE-SA Standards Board Bylaws on Patents in Standards

6.2 Policy

IEEE standards may be drafted in terms that include the use of Essential Patent Claims. If the IEEE receives notice that a [Proposed] IEEE Standard may require the use of a potential Essential Patent Claim, the IEEE shall request licensing assurance, on the IEEE Standards Board approved Letter of Assurance form, from the patent holder or patent applicant. The IEEE shall request this assurance without coercion.

The Submitter of the Letter of Assurance may, after Reasonable and Good Faith Inquiry, indicate it is not aware of any Patent Claims that the Submitter may own, control, or have the ability to license that might be or become Essential Patent Claims. If the patent holder or patent applicant provides an assurance, it should do so as soon as reasonably feasible in the standards development process. This assurance shall be provided prior to the Standards Board's approval of the standard. This assurance shall be provided prior to a reaffirmation if the IEEE receives notice of a potential Essential Patent Claim after the standard's approval or a prior reaffirmation. An asserted potential Essential Patent Claim for which an assurance cannot be obtained (e.g., a Letter of Assurance is not provided or the Letter of Assurance indicates that assurance is not being provided) shall be referred to the Patent Committee.

A Letter of Assurance shall be either:

- a) A general disclaimer to the effect that the Submitter without conditions will not enforce any present or future Essential Patent Claims against any person or entity making, using, selling, offering to sell, importing, distributing, or implementing a compliant implementation of the standard; or
- b) A statement that a license for a compliant implementation of the standard will be made available to an unrestricted number of applicants on a worldwide basis without compensation or under reasonable rates, with reasonable terms and conditions that are demonstrably free of any unfair discrimination. At its sole option, the Submitter may provide with its assurance any of the following: (i) a not-to-exceed license fee or rate commitment, (ii) a sample license agreement, or (iii) one or more material licensing terms.

IEEE-SA Standards Board Bylaws on Patents in Standards

Copies of an Accepted LOA may be provided to the working group, but shall not be discussed, at any standards working group meeting.

The Submitter and all Affiliates (other than those Affiliates excluded in a Letter of Assurance) shall not assign or otherwise transfer any rights in any Essential Patent Claims that are the subject of such Letter of Assurance that they hold, control, or have the ability to license with the intent of circumventing or negating any of the representations and commitments made in such Letter of Assurance.

The Submitter of a Letter of Assurance shall agree (a) to provide notice of a Letter of Assurance either through a Statement of Encumbrance or by binding any assignee or transferee to the terms of such Letter of Assurance; and (b) to require its assignee or transferee to (i) agree to similarly provide such notice and (ii) to bind its assignees or transferees to agree to provide such notice as described in (a) and (b).

This assurance shall apply to the Submitter and its Affiliates except those Affiliates the Submitter specifically excludes on the relevant Letter of Assurance.

If, after providing a Letter of Assurance to the IEEE, the Submitter becomes aware of additional Patent Claim(s) not already covered by an existing Letter of Assurance that are owned, controlled, or licensable by the Submitter that may be or become Essential Patent Claim(s) for the same IEEE Standard but are not the subject of an existing Letter of Assurance, then such Submitter shall submit a Letter of Assurance stating its position regarding enforcement or licensing of such Patent Claims. For the purposes of this commitment, the Submitter is deemed to be aware if any of the following individuals who are from, employed by, or otherwise represent the Submitter have personal knowledge of additional potential Essential Patent Claims, owned or controlled by the Submitter, related to a [Proposed] IEEE Standard and not already the subject of a previously submitted Letter of Assurance: (a) past or present participants in the development of the [Proposed] IEEE Standard, or (b) the individual executing the previously submitted Letter of Assurance.

IEEE-SA Standards Board Bylaws on Patents in Standards

The assurance is irrevocable once submitted and accepted and shall apply, at a minimum, from the date of the standard's approval to the date of the standard's withdrawal.

The IEEE is not responsible for identifying Essential Patent Claims for which a license may be required, for conducting inquiries into the legal validity or scope of those Patent Claims, or for determining whether any licensing terms or conditions are reasonable or non-discriminatory.

Nothing in this policy shall be interpreted as giving rise to a duty to conduct a patent search. No license is implied by the submission of a Letter of Assurance.

In order for IEEE's patent policy to function efficiently, individuals participating in the standards development process: (a) shall inform the IEEE (or cause the IEEE to be informed) of the holder of any potential Essential Patent Claims of which they are personally aware and that are not already the subject of an existing Letter of Assurance, owned or controlled by the participant or the entity the participant is from, employed by, or otherwise represents; and (b) should inform the IEEE (or cause the IEEE to be informed) of any other holders of such potential Essential Patent Claims that are not already the subject of an existing Letter of Assurance.

Other Guidelines for IEEE WG Meetings

- All IEEE-SA standards meetings shall be conducted in compliance with all applicable laws, including antitrust and competition laws.
- Don't discuss the interpretation, validity, or essentiality of patents/patent claims.
- Don't discuss specific license rates, terms, or conditions.
 - Relative costs, including licensing costs of essential patent claims, of different technical approaches may be discussed in standards development meetings.
 - Technical considerations remain primary focus
- Don't discuss fixing product prices, allocation of customers, or dividing sales markets.
- Don't discuss the status or substance of ongoing or threatened litigation.
- Don't be silent if inappropriate topics are discussed... do formally object.

If you have questions, contact the IEEE-SA Standards Board Patent Committee Administrator at patcom@ieee.org or visit <http://standards.ieee.org/board/pat/index.html>

See *IEEE-SA Standards Board Operations Manual*, clause 5.3.10 and "Promoting Competition and Innovation: What You Need to Know about the IEEE Standards Association's Antitrust and Competition Policy" for more details.

This slide set is available at <http://standards.ieee.org/board/pat/pat-slideset.ppt>

Voting privileges

- The rules regarding obtaining and maintaining that privilege are found here:
<http://www.ieee802.org/3/rules/member.html>

- To become a voter:
 - Complete and current contact information recorded in the Working Group 802.3 database.
 - You must attend and sign attendance book for at least 75% of sessions of two 802.3 WG plenary meetings (within the last four)
 - Full attendance at a two-day 802.3 WG Interim can be substituted for one Plenary
 - Request to become a voter during the opening or closing Plenary meeting when solicited by the Chair from the “potential voters list”

- To remain a voter
 - Maintain Complete and current contact information in the Working Group 802.3 database.
 - Have 75% attendance during at least two of the last four plenaries
 - Attendance at an interim can substitute for attendance at no more than 1 plenary
 - Participate in Working Group ballots.
 - You can be dropped for lack of participation !

Remember to Declare Your Affiliation

- From the IEEE SA Standards Board By-laws

- **5.2.1.5 Disclosure of affiliation** (<http://standards.ieee.org/guides/bylaws/sect5.html#5.2.1.5>)

- Every member and participant in a working group, Sponsor ballot, or other standards development activity shall disclose his or her affiliation. An individual is deemed "affiliated" with any individual or entity that has been, or will be, financially or materially supporting that individual's participation in a particular IEEE standards activity. This includes, but is not limited to, his or her employer and any individual or entity that has or will have, either directly or indirectly, requested, paid for, or otherwise sponsored his or her participation. Failure to disclose every such affiliation may result in complete or partial loss of rights to participate in IEEE-SA activities. An individual is not excused from compliance with this policy by reason of any claim of a conflicting obligation (whether contractual or otherwise) that prohibits disclosure of affiliation.

- From the IEEE SA Standards Board Operations Manual

- **5.3.3.1 Disclosure of affiliation** (<http://standards.ieee.org/guides/opman/sect5.html#5.3.3.1>)

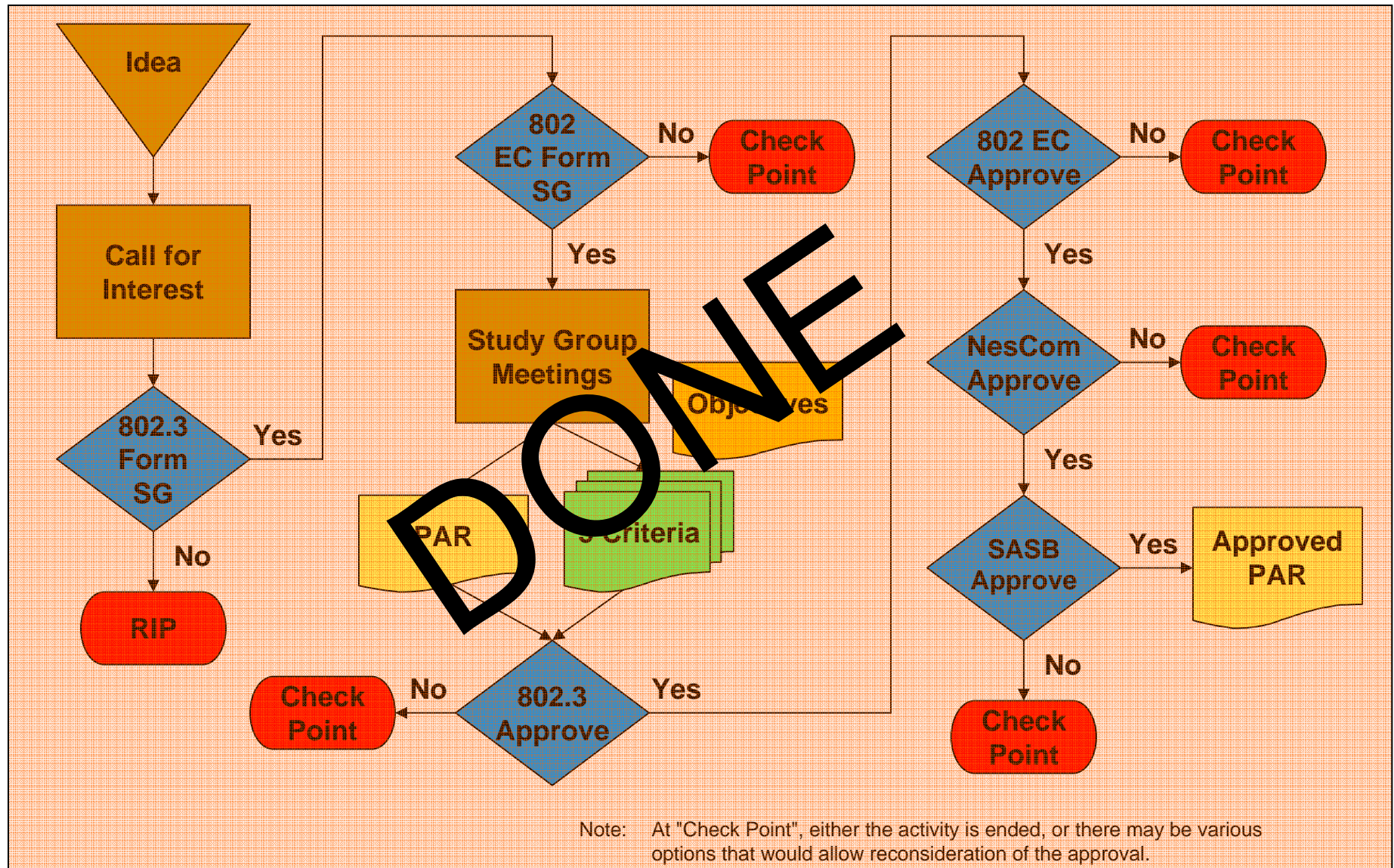
- Each participant's affiliation shall be disclosed at any working group or project meeting. The chair or the chair's delegate shall inform the meeting of the requirement for disclosure of affiliation (see [5.2.1.5](#) of the *IEEE-SA Standards Board Bylaws*). This shall be via a sign-in (e.g., sign-in sheet, electronic sign-in, verbal disclosure, or electronic communication) that provides for disclosure of employer and any other affiliation, a reminder of the definition of affiliation, and possible penalties for non-compliance.

Whenever an individual is aware that the ownership of his or her employer or other affiliation may be material to the process, or when the Sponsor or the IEEE-SA Standards Board requests, that individual shall also declare the "ultimate parent entity" of their affiliation. The ultimate parent entity is an entity that directly or indirectly, through one or more intermediaries, controls the entity identified as the individual's affiliation. For the purposes of this definition, the term "control" and its derivatives, with respect to for-profit entities, means the legal, beneficial or equitable ownership, directly or indirectly, of more than fifty percent (50%) of the capital stock (or other ownership interest, if not a corporation) of an entity ordinarily having voting rights. "Control" and its derivatives, with respect to nonprofit entities, means the power to elect or appoint more than fifty percent (50%) of the Board of Directors of an entity.

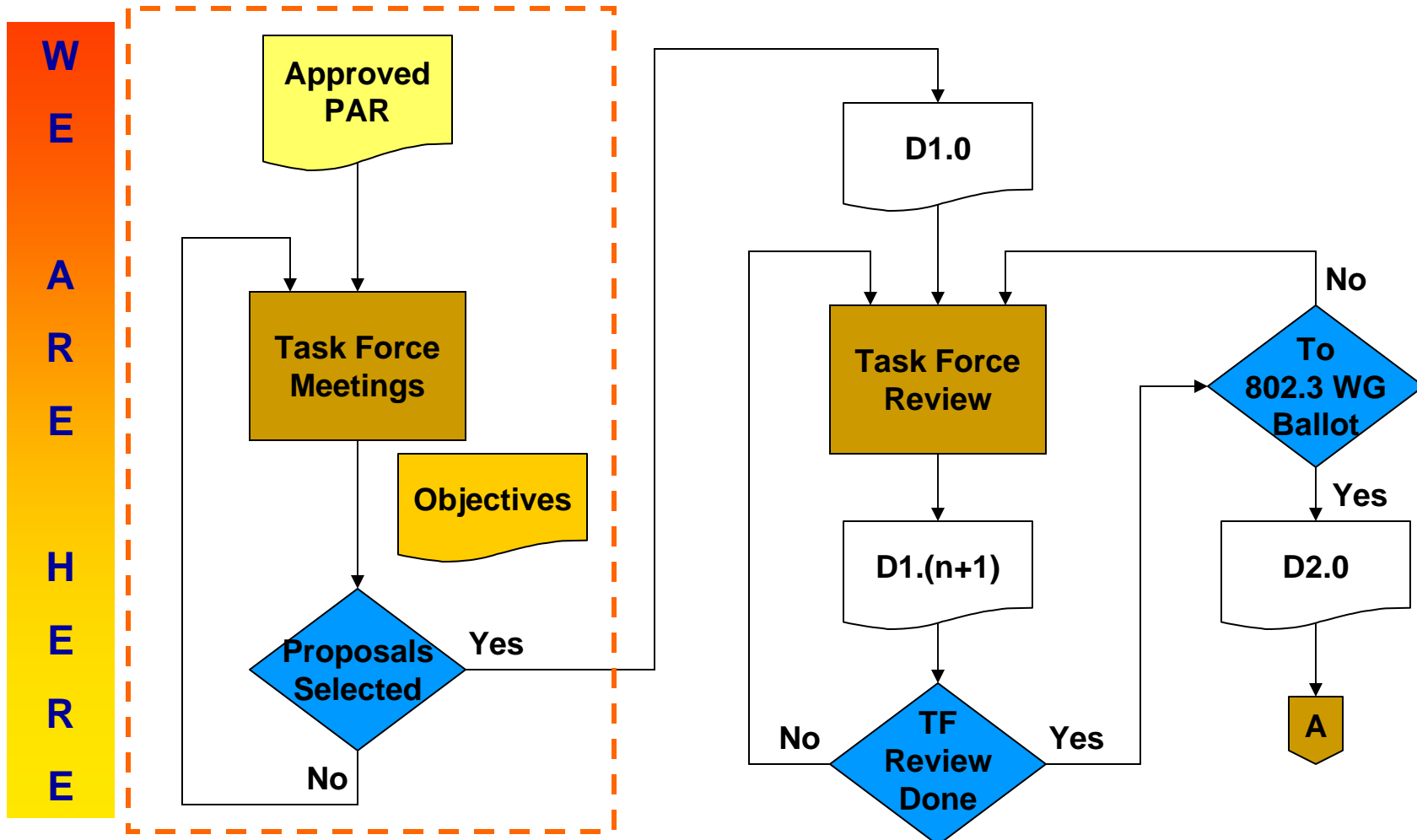
- **5.3.3.2 False or misleading disclosure** (<http://standards.ieee.org/guides/opman/sect5.html#5.3.3.2>)

- A meeting attendee who fails to disclose affiliation shall not accrue any membership rights, including rights of or towards voting membership, until such disclosures have been made. The chair shall review the adequacy of disclosures. Failure to disclose affiliation, or materially false or misleading disclosure of affiliation, shall result in loss of membership privileges and may also result in loss of other participation privileges within the IEEE-SA for such participants and any affiliated entities

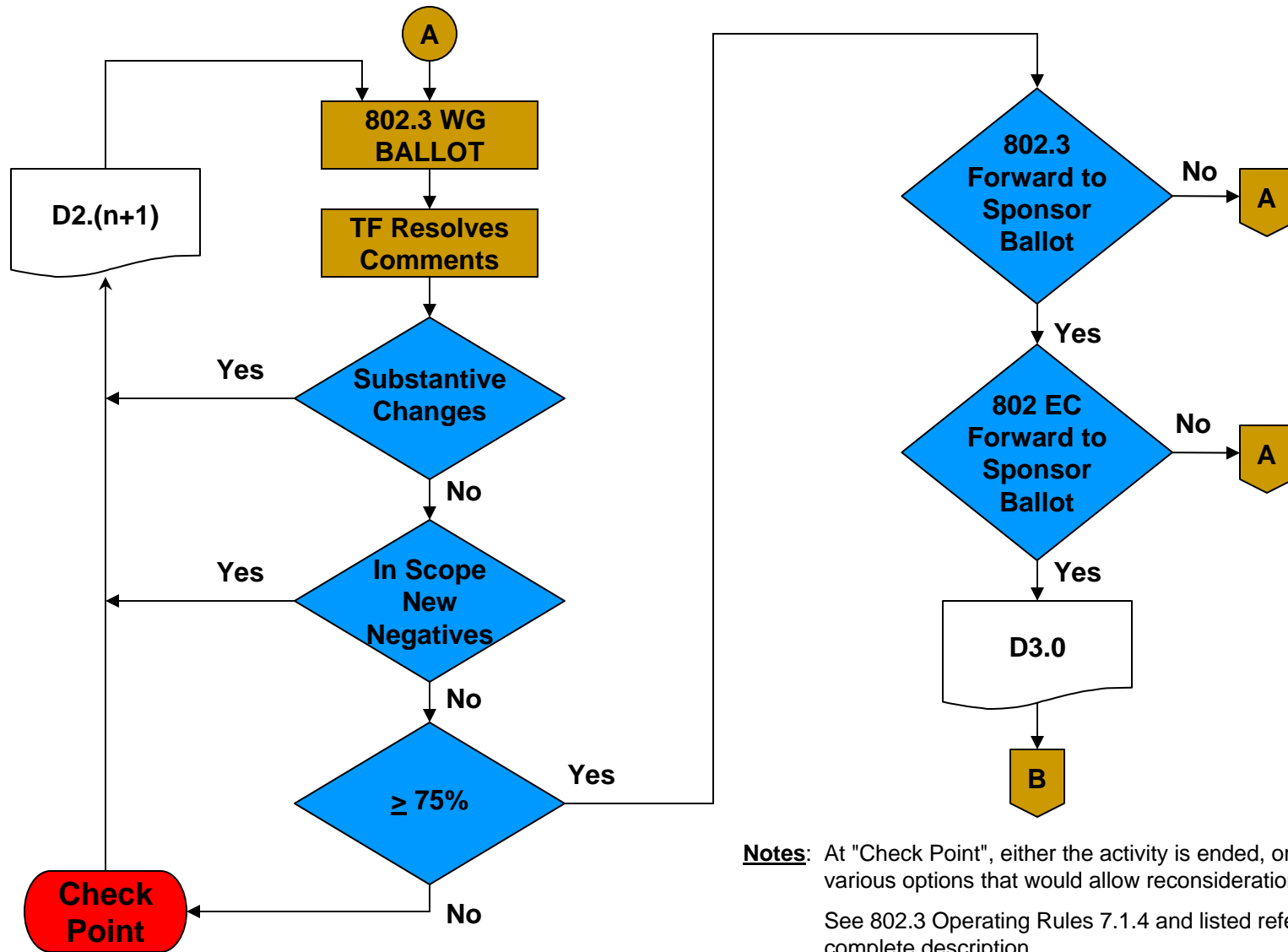
Overview of IEEE 802.3 Standards Process (1/5)- Study Group Phase



Overview of IEEE 802.3 Standards Process (2/5) - Task Force Comment Phase

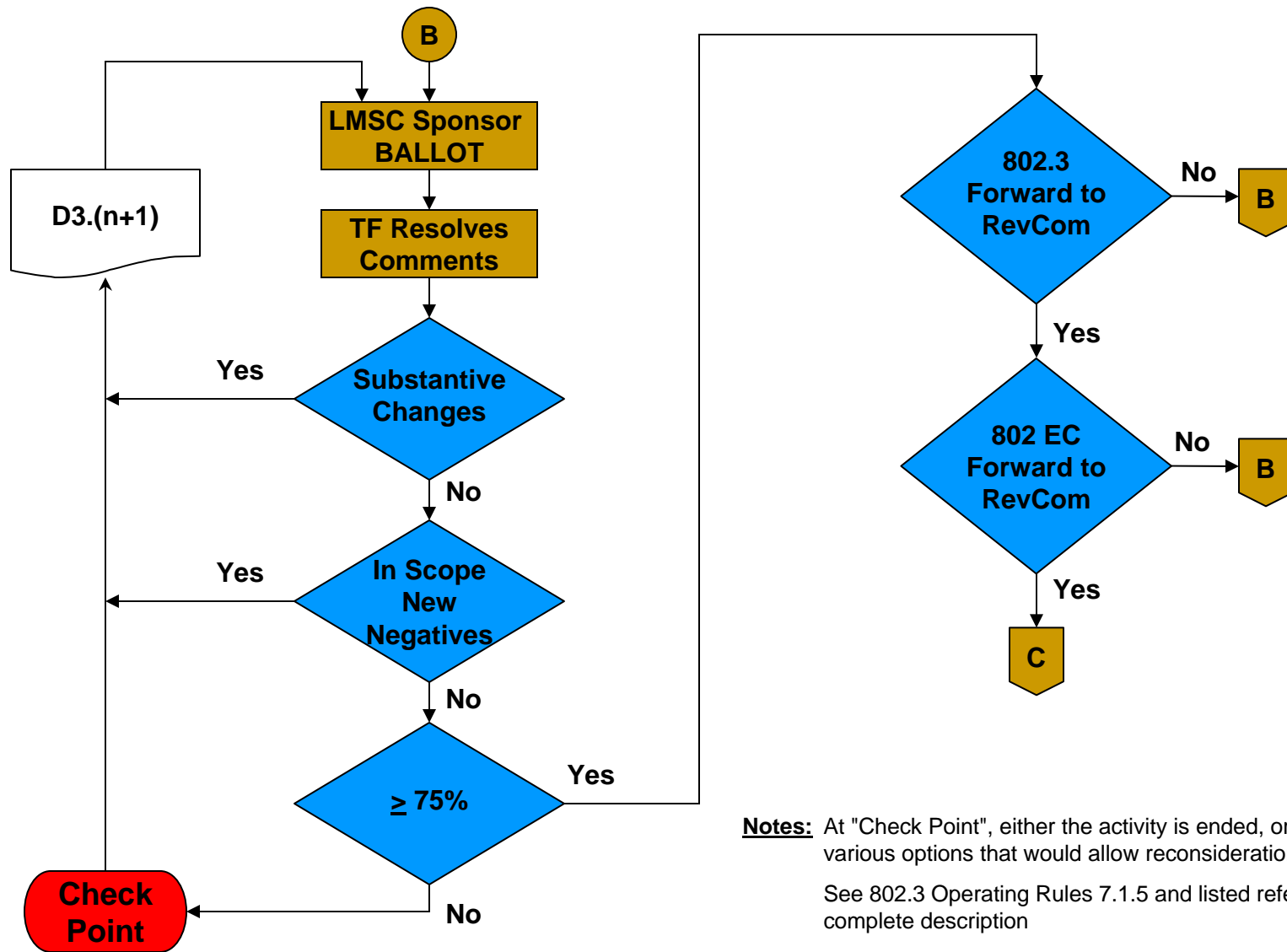


Overview of IEEE 802.3 Standards Process (3/5) - Working Group Ballot Phase



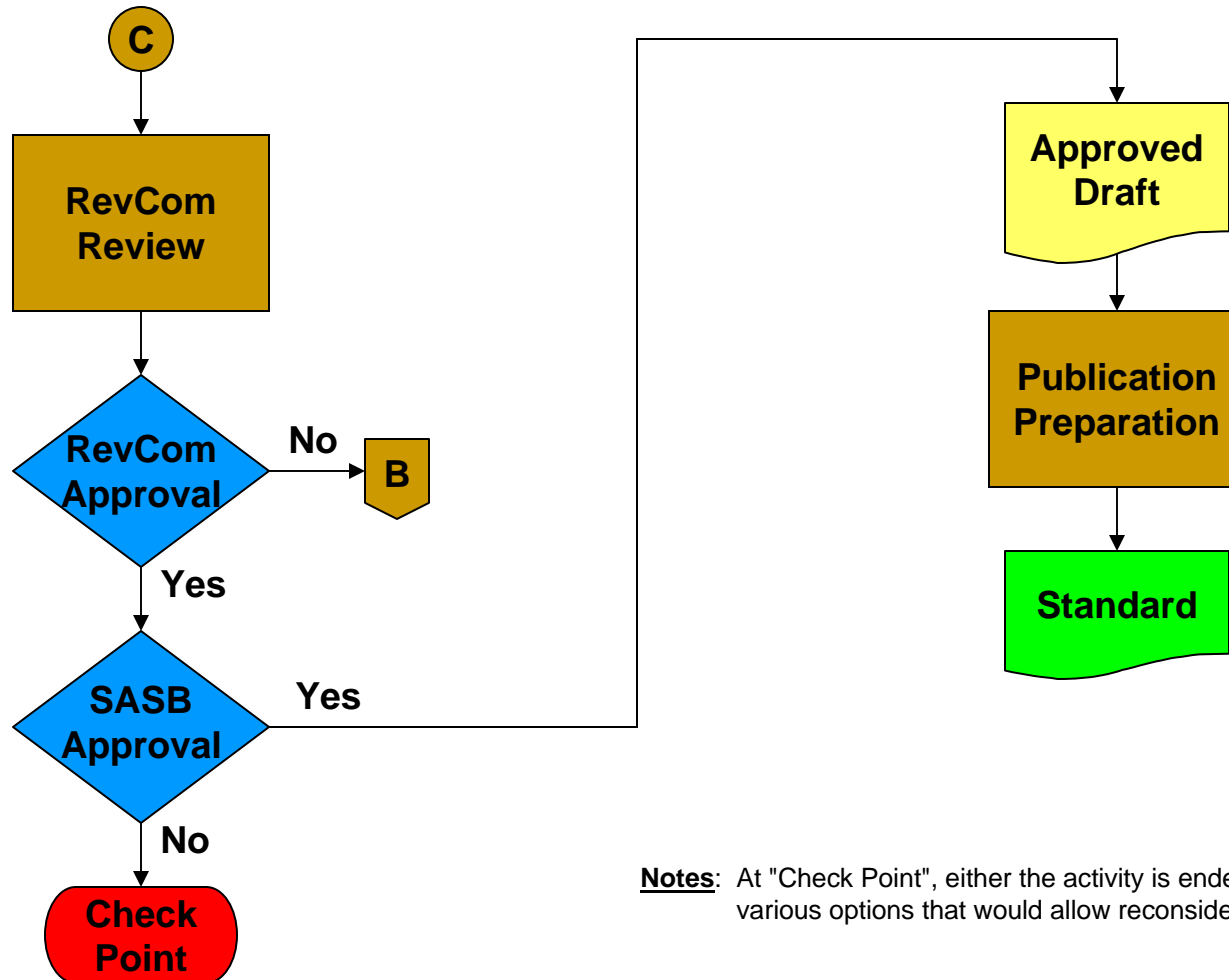
Notes: At "Check Point", either the activity is ended, or there may be various options that would allow reconsideration of the approval. See 802.3 Operating Rules 7.1.4 and listed references for complete description

Overview of IEEE 802.3 Standards Process (4/5)- Sponsor Ballot Phase



Notes: At "Check Point", either the activity is ended, or there may be various options that would allow reconsideration of the approval. See 802.3 Operating Rules 7.1.5 and listed references for complete description

Overview of IEEE 802.3 Standards Process (5/5) - Final Approvals / Standard Release



Notes: At "Check Point", either the activity is ended, or there may be various options that would allow reconsideration of the approval.

Task Force Approved Project Documents

- PAR

- http://ieee802.org/3/ba/PAR/par_0707.pdf

- 5 Criteria

- http://ieee802.org/3/ba/PAR/HSSG_5C_0707.pdf

- Objectives

- http://ieee802.org/3/ba/PAR/HSSG_Objectives_0707.pdf

Task Force Objectives

- Support full-duplex operation only
- Preserve the 802.3 / Ethernet frame format utilizing the 802.3 MAC
- Preserve minimum and maximum FrameSize of current 802.3 standard
- Support a BER better than or equal to 10^{-12} at the MAC/PLS service interface
- Provide appropriate support for OTN
- Support a MAC data rate of 40 Gb/s
- Provide Physical Layer specifications which support 40 Gb/s operation over:
 - at least 100m on OM3 MMF
 - at least 10m over a copper cable assembly
 - at least 1m over a backplane
- Support a MAC data rate of 100 Gb/s
- Provide Physical Layer specifications which support 100 Gb/s operation over:
 - at least 40km on SMF
 - at least 10km on SMF
 - at least 100m on OM3 MMF
 - at least 10m over a copper cable assembly

Adopted by HSSG and approved by 802.3 at July 2007 Plenary

Presentations – Wednesday, Jan 23

Time	Presenter	Affiliation	Title	File Name
9:00 AM			Agenda and General Information	agenda_01_0108.pdf
9:30 AM	Andy Moorwood	Extreme Networks	Reach Ad Hoc Update	moorwood_01_0108.pdf
9:40 AM	Alan Flatman	Lan Technologies, UK	Liaison report from ISO/IEC JTC 1/SC 25/WG 3 to IEEE 802.3	3n856A.pdf
9:50 AM	John D'Ambrosia	Force10 Networks	The IEEE P802.3ba Task Force	dambrosia_01_0108.pdf
10:10 AM				
10:30 AM	Gerard Kuyt	Draka Comteq	OM4 multimode fiber standardization	kuyt_01_0108.pdf
10:50 AM	Alessandro Barbieri	Cisco	Positioning 40 and 100 GbE in data center inter-switch link applications and 40GbE PMD recommendations	barbieri_01_0108.pdf
11:20 AM	Larry Green	Ixia	Lane Bonding Considerations	green_01_0108.pdf
12:00 PM				
1:30 PM	Howard Frazier	Broadcom	Aggregation at the Physical Layer	frazier_01_0108.pdf
2:15 PM	Trey Malpass	Huawei	PBL Solution for HSE	malpass_01_0108.pdf
3:00 PM				
3:20 PM	Mark Gustlin	Cisco	100GE and 40GE PCS and MLD Proposal	gustlin_01_0108.pdf
4:05 PM	Mark Gustlin	Cisco	MLD (CTBI) Updates - MTTFPA	gustlin_02_0108.pdf
4:35 PM	Pete Anslow	Nortel	Wander in MLD (CTBI) encoded links	anslow_01_0108.pdf
4:55 PM	Steve Trowbridge	Alcatel-Lucent	40 GbE and 100 GbE PCS Considerations: Key questions to be answered concerning OTN mapping	trowbridge_01_0108.pdf
5:15 PM	Trey Malpass	Huawei	OTN Support for High Speed Ethernet	malpass_02_0108.pdf

Note – Order of presentations and times listed are subject to change.

Presentations – Thursday, Jan 24

Time	Presenter	Affiliation	Title	File Name
9:00 AM			Opening comments	
9:05 AM	Ilango Ganga	Intel	40/100G Architecture and Interfaces Proposal	ganga_01_0108.pdf
9:35 AM	Joel Goergen	Force10 Networks	Consideration for Electrical Interfaces	goergen_01_0108.pdf
10:00 AM				
10:20 AM	Gourgen Oganessyan	Quellan	A Starting Point for a Common Electrical Interface for Nx10 Higher-Speed Ethernet	oganessyan_01_0108.pdf
10:40 AM	Tom Palkert	Luxtera	Common Electrical I/F Proposal	palkert_01_0108.pdf
11:10 AM	Ali Ghiasi	Broadcom	Architectural Implications of Retimed, Limiting, and Linear Interface for nx10G	ghiasi_01_0108.pdf
11:35 AM	Ali Ghiasi	Broadcom	Overcoming Jitter Budget Issue with Use of "SLI" for nx10G Interface	ghiasi_02_0108.pdf
12:00 PM				
1:30 PM	Ryan Latchman	Gennum	Retimed Interface Considerations for IEEE P802.3ba	latchman_01_0108.pdf
2:00 PM	Hiroshi Takatori	PhyCore Technology	Feasibility of 40/100G Heterogeneous System based on Channel Data	takatori_01_0108.pdf
2:30 PM	Wenbin Jiang	Huawei	Multi-Lane PMD Reliability and Partial Fault Protection (PFP)	jiang_01_0108.pdf
3:00 PM				
3:20 PM	Petar Pepeljugin	IBM	User Perspective for Requirements for a PMD to Achieve 100m over OM3 Fiber	pepeljugoski_01_0108.pdf
3:50 PM	Chris Cole	Finisar	100GE 10km SMF Technology Alternatives	cole_01_0108.pdf
4:20 PM	Matt Traverso	Opnext	SMF PMD Discussion	traverso_01_0108.pdf
4:45 PM	Hideki Isono	Fujitsu	Power budget estimation using DML for 10km & 4km reach in 100G SMF transmission	isono_01_0108.pdf
5:05 PM	John Johnson	CyOptics	4x25G SMF Optics: Channel Spacing Considerations	johnson_01_0108.pdf
5:35 PM	Chris Cole	Finisar	100GE 40km SMF Technology Limitation	cole_02_0108.pdf

Note – Order of presentations and times listed are subject to change.

Presentations – Friday, Jan 25

Time	Presenter	Affiliation	Title	File Name
9:00 AM			Opening comments	
9:05 AM	Rich Mellitz	Intel	IEEE802.3ap Jitter Specification Is Sufficient And Inclusive Of Package Crosstalk for IEEE802.3ba Systems	mellitz_01_0108.pdf
9:25 AM	Chris DiMinico	MC Communications	802.3ba Cu specifications	diminico_01_0108.pdf
9:55 AM				
10:15 AM	Alan Flatman	LAN Technologies	Data Centre Link Survey	flatman_01_0108.pdf
10:45 AM	Scott Kipp	Brocade	High Speed Ethernet Link Loss	kipp_01_0108.pdf
11:15 AM			Discussion	
12:00 PM				
1:30 PM			Discussion, Motions	
3:00 PM				
3:20 PM			Discussion, Motions, Closing Business	
5:00 PM			Adjourn	

Note – Order of presentations and times listed are subject to change.

Future Meetings

<http://grouper.ieee.org/groups/802/3/interims/index.html>

- March 2008 Plenary
 - Tuesday – Thursday, March 18 – 20
 - Caribe Royale Orlando All Suites Resort and Convention Center
 - Orlando, FL, USA
- May 2008 Interim
 - Hosted by Linear Technology
 - Proposed Week of May 12 – 16
 - Munich, Germany
- July 2008 Plenary
 - July 13 – 18
 - Hyatt Regency Denver at the Colorado Convention Center
 - Denver, CO, USA
- Sept 2008 Interim
 - Hosted by Huawei
 - Week of Sept 15
 - ChengDu or ShenZhen, China
- Nov 2008 Plenary
 - Nov 9 – 14
 - Hyatt Regency Dallas at Reunion
 - Dallas, Tx, USA



Thank You!

