Unconfirmed Minutes

IEEE 802.3 CSMA/CD PLENARY
Austin, TX
November 12-15, 2001

MONDAY, 12 NOVEMBER

ADMINISTRATIVE MATTERS

Mr. Geoff Thompson, Chair 802.3 CSMA/CD, opened the Working Group plenary at 1312, by welcoming meeting attendees and introducing Mr. David Law, Vice-Chair 802.3, Mr. Robert Grow, Secretary 802.3 who recorded these minutes, and the Task Force Chairs: Mr. Jonathan Thatcher (802.3ae), Mr. Steve Carlson (802.3af), and Mr. Howard Frazier (802.3ah).

Mr. Thompson explained attendance rules, the email reflectors maintained by the committee, and described information available on the web site. The Working Group web pages contain a wealth of information about 802.3. This includes the 802.3 Operating Rules, descriptions of how to subscribe to the various email reflectors, meeting minutes and an archive of presentations to the Working Group and its subgroups. The 802.3 home page is: http://www.ieee802.org/3. Mr. Thompson stressed the importance of keeping contact information current as it is required to retain member status and for participation in Working Group ballot.

The meeting agenda was distributed, and corrected. Mr. Thompson reviewed the voting members of the Working Group <Voters> and the requirements to qualify for voting membership. The voters in peril list was presented <Voters in Peril> those on the list not meeting minimum attendance requirements will lose voter status. He presented the potential voter list. The following indicated by * on <Potential Voters> requested to become voting members: Barrett, Bob; Beck, Michael; Bisberg, Jeff; deBie, Michael; Finch, Robert; Fraser, Roger; Matsuo, Hideyuki; Sankey Mark; Song; Jian; Townsend, Rick; Van Laanen, Peter; Wong, David; Yoder, Doug; Zona, Bob.

The attendance lists were explained and circulated. All attendees were told of the obligation to register for the meeting and pay the $300 meeting fee. A discounted pre-registration rate of $250 was available for this meeting and will be available for the March St. Louis meeting. A list of future meetings and registration instructions are available through the IEEE 802 web site home page, http://www.ieee802.org.

Agenda & Minutes (Monday)

MOTION:

Approve the agenda as amended <Opening Agenda>.

M: T. Dineen
S: S. Carlson

Approved without objection.

Approve the July 2001 Portland meeting minutes.

M: T. Dineen
S: R. Brand
Approved by voice without objection.

Working Group Activities Since Portland

Between the July Portland meeting and this meeting, 1802.3Rev was approved for publication, 802.3ag completed Sponsor Ballot and is on the December RevCom agenda. Working Group recirculations were held on 802.3ae prior to and after the interim meeting. Task Force review continued on 802.3af.

The September interim meeting hosted by Intel and scheduled for Copenhagen, Denmark was cancelled because of disruption to travel. Interim meetings were held for 802.3af in Manchester, NH sponsored by UNH IOL and for 802.3ae and 802.3ah in Los Angeles sponsored by the 10 GEA, in October.

Standards Board Report

Std. 802, 2001, Overview & Architecture was approved at the June meeting. A recirculation ballot was held at the direction of and on changes made by IEEE Staff. Disapprove ballots were submitted noting that the PAR was closed when the document was approved at the June meeting and therefore the recirculation was invalid. This will be discussed in 802.1 this week. This unusual sequence of events is believed to be connected to the trademark licensing activities of IEEE.

The PAR for Ethernet in the First Mile was approved by NesCom and the Standards Board.

Executive Committee Report

The IEEE Std. 802 ballot was discussed with some Executive Committee members expressing serious concerns about the process. Mr. James Carlo had previously indicated his decision to step down as 802 Chair. Mr. Paul Nikolich was elected unanimously as his successor and he will assume the position after this meeting. IEEE Ballot Services was discussed and the possible negative effects of recent policy changes aired using the 802.3ae Sponsor Ballot as an example. Distribution of hard copies of standards to qualified contributors will continue. Timeliness of posting drafts for sale was felt deficient. Networking of the 802 plenary meeting is still being provided on an ad hoc basis – there will be an SEC meeting on this during the week. Mr. Thompson indicated he believes this should be kept simple. Meeting organizer contract scope will also be discussed in another SEC meeting. Web registration now runs in excess of 80%. Future plenary meetings were announced as listed at the bottom of these minutes. Next meeting information is available on the web site. One tutorial will be held this week on the 802.16 MAC. It is expected that there will also be a call for interest on longer reach PMD for 10 GbE on Tuesday evening.

PARs for Executive Committee Action

A PAR from 802.1 to revise the Overview and Architecture to add definitions of Ethertypes for vendor specific development will be considered by the Executive Committee on Thursday. Mr. Thompson indicated his intent to support this modest PAR, which should help conserve the Ethertype space.

External Liaison Report – SC25/WG3

Mr. Alan Flatman reviewed the work on structured cabling standards within ISO and CENELEC <SC25/WG3 Report>. ISO 11801 2nd Ed CD2 vote was balloted positively and will be moved to FCD. He summarized the scope and new and changed material in this draft and active issues. Work is targeted for completion in September 2001.

ISO 15018 on SOHO cabling is moving along as well as 18010 Pathways and Spaces.

External Liaison Report – TIA TR-42

Mr. Chris Diminico reported on the infrastructure standards work done within TR-42 <TR-42 Report>. He reviewed the Ethernet related activites of various committees. TR-42.1 handles building cabling and TR-42.3 covers Pathways and Spaces. The TIA/EIA-862 project is specifying link powered building control systems characteristics. TR-42.7 and TR-42.8 cover copper and fiber telecommunications cabling respectively.

State of the Standards

Mr. David Law, Vice Chair of 802.3, presented the IEEE Project 802.3 Working Group Standards Status <Standards Status> that includes the development status of published standards and both approved and proposed 802.3 projects. He indicated that it is time to consider starting another maintenance project.

It is expected that a IEEE Std. 802.3, 2002 edition will be created and published. Mr. Thompson introduced Ms. Jennifer Longman to present some proposals for dividing the standard into multiple volumes. She stressed the collection will only be sold as a set. The division is required because the size for both download and hard copy is now excessive. Interest was expressed that the division simplify the addition of material from new projects, though it was noted that all volumes must be updated and published together since it is one standard.

External Liaison Report – FO2.2

Mr. Steve Swanson reported on the activities of FO2.2.1 <FO2.2 Report>. This work mostly includes multimode fiber specifications.

Call for Patents

Mr. Thompson presented a call for patents <Patent Call> [1995 letter]. IEEE 802.3 makes this call in support of the IEEE patent policy as recorded in the IEEE Bylaws and Operations Manual. The IEEE requests release letters from holders of patents that may apply to either standards in development or approved standards. These letters state the

patent holder's willingness to comply with the IEEE patent policy. Letters are also solicited on patents that have been filed but not yet issued, since it is easier to get release letters while company representatives are active in the working group.

The current IEEE patent policy and a template response letter can be found in the IEEE Standards Companion, or on the web following links from http://www.standards.ieee.org.

Schedule for the Week

The Task Forces will meet all day Tuesday and Wednesday and Thursday morning. The closing 802.3 plenary will begin at 1:00 p.m. on Thursday. A call for interest on longer reach optics will be held Tuesday evening at 6:00 pm. The Wednesday night social was also announced.

Operating Rules of 802.3

Mr. Law reviewed the state of the 802.3 rules <Opening Rules Report>. No change requests have been received. There were no questions on the rules.

Other Business

Mr. Thompson reminded participants that elections for Chair of 802.3 will be held in March 2002. He announced that he will not stand for reelection in March. He has requested that Mr. Nikolich consider him for the position of Vice Chair, 802. He also indicated that Mr. Grow intends to stand for election as Chair of 802.3 in March and invited any others interested in the position to contact him.

MAINTENANCE (802.3ag)

Mr. Law reported on the current maintenance status <Opening 802.3ag Report>. Comments on 802.3ag were addressed at the October interim. Comment status allowed the document to be forwarded to RevCom for the December meeting. Therefore no meeting will be required for 802.3ag this week, though a maintenance committee meeting will be scheduled for this week to discuss new and unresolved maintenance requests and the opening a new PAR for Maintenance #7.

INTERPRETATIONS

Mr. Law summarized the outstanding interpretation requests <Opening Interpretations Report>. Two new interpretation requests have been received since the July meeting. There are now three items on clause 40 (1000BASE-T), and one on clause 36 (1000BASE-X). He reviewed each of the requests and the material from the draft that is the subject of the question. He requested those with expertise in these areas to attend the interpretations meeting.

Interpretation 1-03/01 was the subject of a Working Group ballot that closes at midnight. The response so far is under what is required to close the ballot and the abstain rate too high.

CONFORMANCE TEST (1802.3)

The revision of IEEE Std. 1802.3 was approved at the Standards Board and has been published.

10 GIGABIT ETHERNET (802.3ae)

Mr. Jonathan Thatcher presented the status of the Task Force <Opening 802.3ae Report>. The project is in Working Group ballot, with two recirculation ballots completed since the July meeting. The Sponsor Ballot Pool has been reopened because the initial group was not balanced by interest group. Mr. Thompson reviewed the process for joining the ballot pool.

Mr. Thatcher reviewed the progress with detail on the disapprove ballots. Additional reports are expected on the subject of technical feasibility during the week. It is anticipated that conditional approval for going forward to Sponsor Ballot will be requested on Thursday.

DTE POWER VIA THE MDI (802.3af)

Mr. Steve Carlson reviewed the progress of the Task Force <Opening 802.3af Report>. The group met in Portsmouth, NH at a meeting hosted by the UNH Ethernet Interoperability Lab. Work on discovery, power supply and cable produced changes to the draft. The revision was not ready prior to the meeting, to meet the requirements in the 802.3 rules for entering Working Group Ballot.

TECHNICAL MOTION:

Suspend rule requiring 1 week pre-submission of draft for 802.3af to allow a vote to forward to WG ballot on Thursday, 11/15/01. Distribute draft for review Tuesday morning 11/13/2001, 9:00am.

M: Mr. H. Frazier
S: Mr. S. Carlson

Y: 81, N: 1, A: 12, Passes

Mr. Carlson showed a ruggedized connector appropriate for applications of UTP Ethernet versions (in place of the RJ-45). While this came from the entertainment industry, industrial and other Ethernet applications might also benefit from such a connector. Those interested were requested to talk to Mr. Carlson to determine if interest exists for an appropriate project.

ETHERNET IN THE FIRST MILE (802.3ah)

Mr. Howard Frazier reviewed the progress of the Study Group <Opening 802.3ah Report>. The 802.3ah PAR was approved by the Standards Board making the three day Los Angles meeting the initial meeting of the 802.3ah Task Force. There were 60 presentations at the meeting, so it was very busy. The officers of 802.3ah were selected including sub-task group leaders. The group also adopted a timeline for the project. Mr. Frazier presented the plan for the meeting week, which again will be very busy.

Other Business

Room assignments were made for the Task Forces, and Ad Hoc meetings. The opening 802.3 plenary was adjourned at 1735.

THURSDAY, 15 NOVEMBER

ADMINISTRATIVE MATTERS

Mr. Geoff Thompson, Chair 802.3, opened the Working Group closing plenary at 1300 and welcomed those attending the meeting. The attendance lists were circulated.

Mr. Thompson presented the potential voter list, and the following requested to become voters (indicated by - on <Potential Voters>: Anderson, Tony; Egan, John; Kaufman, Dave; Kramer, Glen; Lindsay, Tom; Maislos, Ariel; McCammon, Kent; Murphy, Thomas; Sefidvash, Khorvash; Ooka, Toshio; Pesavento, Gerry; Mizrahi Jacob; Wong, Percy. He also displayed the <Voters in Peril> and <Voter> list.

The IEEE patent policy was again discussed, and Mr. Thompson's call for patents letter was read.

MOTION:

The agenda was approved without correction or objection.

Liaison letters were deferred to the Task Force reports.

PARS

Mr. Thompson reminded the group that an 802.1 PAR for "Playpen Ethertypes" will be considered and supported by 802.3. An 802.16 maintenance PAR will be also supported.

He also reviewed the issues related to Std. 802 Overview and Architecture. Two negatives were reinforced with additional negatives raising the total to six, where there were no negatives on D29. The recirculation of D30 was questioned in that the standards board had unconditionally approved D29. This problem was created by the imposition of a new IEEE trademark policy and standards language. Mr. Thompson reminded committee participants that this project illustrates that interested parties should not assume that everything will go right without participating in the final steps of project approval.

MAINTENANCE

Mr. Law reported on the Maintenance meeting <Closing Maintenance>. It is recommended that a new maintenance PAR be generated because 802.3ag should be submitted to the December standards board meeting for approval. He reviewed the five criteria and draft PAR for a Maintenance #7 project that would be called 802.3aj. The quick to completion in the proposed schedule was questioned. It was explained that there were issues on 1000BASE-T that should be fixed because of heavy market growth of this technology and because the current maintenance backlog includes a significant defect.

TECHNICAL MOTION:

IEEE 802.3 approves the PAR and 5 Criteria as submitted for 802.3aj Maintenance #7.

IEEE 802.3 requests the IEEE P802 LMSC Executive Committee to submit the 802.3aj PAR to NESCOM.

M: Mr. D. Law
S: Mr. T. Dineen

Y: 96, N: 0, A: 1, Passed

INTERPRETATIONS REPORT

The <Closing Interpretations Report> discussed the interpretation ballot that closed this week as well as new requests. There are three issues on 1000BASE-T.

Mr. Law reviewed 1-11/01, the first issue being on the encoding table. The recommended response was that the standard is unambiguous, but a maintenance request will be generated to improve readability. The next item is the request about how exit conditions from the EXTEND state are evaluated. Again the clause is not ambiguous. The third item is classified as a defect, which will be handled as an errata in maintenance.

TECHNICAL MOTION:
IEEE 802.3 submits the proposed Interpretation response to the Interpretation request 1-11/01 for a 30 day Working Group letter ballot after published standard has been checked against the approved draft.

M: Mr. D. Law
S: Ms: T. Dineen

Y: 87, N: 0, A: 0, Passes

Interpretation 2-11/01 on clause 36 has been classified as a defect to be corrected in maintenance.

TECHNICAL MOTION:
IEEE 802.3 submits the proposed Interpretation response to the Interpretation request 2-11/01 without the need for a 30 day letter ballot.

M: Mr. D. Law
S: Ms: S. Carlson

Y: 78, N: 0, A: 3, Passes

He reviewed the letter ballot on 1-03/01. The response and approval ratios have been met, but the abstain ratio was not met because of the very technical nature of the request.

TECHNICAL MOTION:
IEEE 802.3 authorises a Working Group recirculation ballot of Interpretation 1-03/01 on the basis of a suspension of the Working Group rule that the abstention ratio must be less than 30%.

M: Mr. D. Law
S: Ms: T. Dineen

Y: 89, N: 0, A: 5, Passes

Mr. Flatman reported on a maintenance request related to cabling specifications scattered throughout the IEEE 802.3 standard. Some of these references are obsolete

because of evolution of referenced documents being incorporated into other documents. He requested attention from the group to this item that will be addressed at the March meeting.

LONGER DISTANCE 10 GIGABIT CALL FOR INTEREST

Mr. Bill Wiedemann reported on the call for interest held this week. The meeting discussed the market and potential approaches for longer link reaches. The appropriateness of forming a Study Group for this work was polled in the CFI with less than a majority favoring formation.

10 GIGABIT ETHERNET (802.3ae)

Mr. Jonathan Thatcher reported on the work of the Task Force (no presentation). Most of the meeting business was accomplished quickly. Mr. Brad Booth reviewed the status of comment resolution efforts <Editor Report>. It was a light week, especially for the logic portions of the specification. All but one negative voter converted their ballots to approve, with only two unresolved TR comments. The Task Force has voted that the technical feasibility has been demonstrated for all critical areas of the project.

The current plan is to conduct a recirculation ballot following this meeting and with conditional approval of the Working Group conduct a Sponsor Ballot prior to the January interim meeting. If only one recirculation ballot is required, the Standards Board could review the project at its March meeting. If an additional recirculation ballot is required, the review would occur at the June SB meeting.

TECHNICAL MOTION:

IEEE 802.3 requests that the Sponsor Executive Committee forward IEEE P802.3ae/D4.0 for Sponsor ballot and recirculations conditional upon successful completion of Working Group ballot as per LMSC Operating Rules Procedure 10.

Furthermore, IEEE 802.3 requests that the Sponsor Executive Committee grant conditional approval to forward IEEE P802.3ae/D4.1 to RevCom based on successful Sponsor ballot satisfying the conditions of LMSC Operating Rules Procedure 10.

M: Mr. B. Booth
S: R. Grow

Y: 87, N: 0, A: 2, passes

Mr. Thatcher reviewed a liaison letter from ITU-T SG15 <ITU-T Letter> and a response generated on behalf of 802.3ae <ITU-T Response>. The letters discuss differences in specification method and test methodology. He reviewed the important aspects of the response.

TECHNICAL MOTION:

802.3 requests that the SEC approve the response to ITU-T SG 15 Question 16/15.

M: Mr. J. Thatcher
S: Mr. T. Lindsay

Y: 68, N: 0, A: 4, passes

DTE POWER VIA THE MDI (802.3af)

Mr. Steve Carlson reported on the progress of the DTE Power TF meeting <Closing 802.3af Report>. The group responded to comments from formal Task Force review producing a new draft for consideration by the Working Group prior to approving Working Group ballot.

Mr. Mike McCormick reviewed changes made between D2.0 and D2.1. It was noted that the level of change was not excessive when compared to previous projects moving to ballot.

TECHNICAL MOTION:

IEEE 802.3 forward P802.3af TF Draft 2.1 to Working Group ballot, and authorize meetings and recirculation ballots as required, and that 802.3 request formation of a Sponsor Ballot group.

M: Mr. S. Carlson
S: Mr. M. McCormack

Y: 76, N: 0, A: 1, passes

Mr. Thompson reviewed the process for joining the Sponsor ballot pool and ballot group in anticipation of initiating formation of the SB group in January. To join the pool, interested people should join IEEE and the IEEE-SA, then go on the web and register for the pool. Members of the pool will then receive an invitation to ballot on individual projects.

ETHERNET IN THE FIRST MILE (802.3ah)

Mr. Frazier reviewed the progress of the Study Group <Closing 802.3ah>. Additional officers were elected. The subtask force groups discussed objectives. The Task Force adopted an optics error rate objective. The task force also adopted objectives related to copper media, including an objective for operation on multiple pairs, and two distance/wire_diameter/speed objectives.

Questions were asked for clarification on these objectives. One of the objectives lists a data rate outside the rate range in the PAR. The need to revise the PAR was discussed with comments supporting that a PAR change would be required and others that it wouldn't. Concern about scope centered on the possibility of problems in the future when the project is reviewed for approval. Others pointed out that four pair would deliver 1 Mb/s, that the same PHY could satisfy both objectives thus operating within the PAR range. Another concern expressed was that this speed of operation was a significant change to what Ethernet has delivered traditionally and could be interpreted as just an attempt to cash in on the Ethernet name.

Mr. Frazier has an action item to work on improved wording of the objectives and ratification by 802.3 was not requested at this time.

Two liaison letters and responses were presented. The ITU-T SG15 letter was discussed and modified. The letter from ITU-T was evaluated to be a formal liaison request and therefore requiring response from 802.3 rather than the EFM Task Force.

TECHNICAL MOTIONS:

Approve the liaison letter to ITU-T SG15 as modified.

M: Mr. S. Carlson
S: Mr. H. Barrass

Y: 43, N: 0, A: 0

The second letter from T1E1 was strongly supportive of the EFM efforts, and the response indicates that many of the current proposals reference T1E1.4.

TECHNICAL MOTIONS:

Approve the liaison letter to T1E1 as modified.

M: Mr. M. Beck
S: Mr. H. Barrass

Y: 36, N: 0, A: 0

With no further business to conduct, the meeting was adjourned without objection at 1730.

Future Meetings

Interim meetings for all 802.3 Task Forces will be held in Raleigh, NC in January. A meeting of 802.3ae will be announced for mid February, most likely in the San Jose, CA area (this meeting will be cancelled if not needed). Detailed meeting information will be posted on the 802.3 web site.

Ethernet in the First Mile SG 10 Gigabit Ethernet (802.3ae) DTE Power via the MDI (802.3af)	Raleigh, NC	14-18 January 2002
10 Gigabit Ethernet (802.3ae)	TBD	mid-February 2002
802.3 Working Group Plenary	St. Louis, MO Vancouver, BC Kauai, HI	11-15 Mar 2002 7-12 July 2002 11-15 Nov 2002

Respectfully submitted 16 November 2001

Robert Grow

IEEE 802.3 Secretary

bob.grow@intel.com

IEEE 802.3 CSMA/CD WORKING GROUP Draft AGENDA

See our web site: http://www.ieee802.org/3/index.html

November 12, 2001, Austin, Texas

Start at 1:00 PM

MONDAY, 12 November

1300- Administrative Matters ..... Geoff Thompson

- Welcome, Introductions and General Announcements
- Introduce Secretary for the meeting: Bob Grow
- Attendance, address list/e-mail list maintenance
- Review of Voting Membership
  - Additions to voting membership list
- Agenda, review and revise as needed
- Approval of Minutes: 7/01
- Announce WG activities since Portland
- Standards Board Report
- Executive Committee Report & Action Items
- Liaison Reports
- PARs for approval this week (from other groups. Comments by 5PM Tuesday)
  EtherType Playpen PAR, 802.1 Overview & Architecture Amendment 1
- Call for Patents
- Schedule for the Week
- 802.3 continues through for remainder of Monday afternoon
- Schedule & venue of Sub-Group Meetings: **Continues until Thursday noon**
- Social as usual on Wednesday
- Schedule for closing 802.3 Plenary: **Thursday AFTERNOON, not AM**
- Any Other business
- Regarding Sponsor Ballot Pool

- State of the Standard and the Operating Rules of 802.3 ..... David Law/Jennifer Longman
- Maintenance/Reaffirmations ..... David Law
  - Update/Status of P802.3ag Maintenance #6 Ballot
  - Update/Status of maintenance requests
- Interpretation requests ..... David Law
  - Update/Status
- Ad Hoc reports
  Ad Hoc on Balanced Copper Cable Discharge ..... Dan Dove
  - Meeting this week ??
- **Task Force and Study Group Reports**

  P802.3ae, Task Force (10 Gig Ethernet) ..... Jonathan Thatcher
  - Update/Status of the project
  - Plans for this week

1500-1520 BREAK

P802.3af, DTE Power via MDI ..... Steve Carlson
- Update/Status of the project
- Plans for this week

P802.3ah Ethernet in the First Mile Task Force ..... Howard Frazier
- Update/Status of the project
- Plans for this week

Room Assignments and Task Force Schedules ..... Geoff Thompson

Adams, Martin
Agazzi, Oscar
Alderrou, Don
Alexander, Thomas
Amer, Khaled
Amundsen, Keith
Anderson , Arlan J.
Anderson, Eric
Andersson, Ralph
Andresen, Jack
Ataee, Mehran
Auld, Phil
Babanezhad, Joseph N
Bachand, Gerard E
Baldman, Andy
Barrass, Hugh
Baumer, Howard
Beaudoin, Denis
Bennett, Mike
Berglund, Sidney
Bestel, John L.
Bhatt, Vipul
Bohbot, Michel
Booth, Brad
Bottorff, Paul
Bourque, Gary
Bovill, Kirk
Brand, Richard
Brierley-Green, Andrew
Brikovskis, Rhett
Brooks, Rick
Brown, Benjamin
Brown, Kevin
Buck, Steve F.
Buckman, Lisa
Burgess, James
Burton, Scott
Busse, Robert
Bynum, Roy
Caldwell, Donald
Cam, Richard
Carlson, Steve
Chang, Edward G.
Chang, Justin
Chen, Xiaopeng
Chen, Zinan
Chin, Hon Wah
Chow, Kuen
Claseman, George
Cobb, Terry
Coleman, Doug
Colla, Régis
Congdon, Herb
Cornejo, Edward
Cross, Richard
Cruikshank, Brian
Cullin, Chris
Cunningham, David
D'Ambrosia, John
Dahlgren, Robert
Daines, Kevin
Dallesasse, John
Dance, Rupert S
Darshan, Yair
Dartnell, Peter
Dawe, Piers
Debiec, Tom
Dedrick, Joel
Di Minico, Chris
Diab, Wael
Dineen, Thomas
Dobson, Hamish
Dolfi, David W.
Dove, Dan
Draper, Daniel S
Drever, Brian
Dudek, Mike
Dugan, Richard
Dwelley, David
Eddings, Clay
Effenberger, Frank J
Eisler, George
Elhøj, Martin
Ewen , John F.
Ferrant, Jean-Loup
Feuerstraeter, Mark
Fiedler, Jens
Figueira, Norival
Firoozmand, Farzin
Flatman, Alan
Frazier, Howard
Freitag, Ladd
Frojdh, Krister
Fujimoto, Yukihiro
Furlong, Darrell
Gaither, Justin
Gentry, Denton
George, John
Ghiasi, Ali
Gilliland, Pat
Goergen, Joel
Goldis, Moty
Goldman, Matthew
Goodman, Timothy D
Graham, Rich
Grann, Eric B.
Gray, C. Thomas
Greenlaw, Jonathan E.
Grow, Robert M.
Gummalla, Ajay
Hackert, Michael
Haddock, Stephen
Hakimi, Sharam
Hamidy, Farid
Hansen, Johannes
Hanson, Del
Hassoun, Marwan
Hatley, Tom
Healey, Adam
Heldman, Ronen
Hendel, Itzik
Herrity , Ken
Hesson, James H
Hinrichs, Henry
Hinzel, David
Hirth, Ryan
Hoge, Jay
Hyer, David W.
Ichino, Haruhiko
Ishida, Osamu
Jackson, Steve
Jacobson, Michael R.
Jaffa, Brent
Jang, Eric
Jang, Woo-Hyuk
Jensen, Ernie
Jetzt, John
Jewell, Jack L
Jiang, Wenbin
Joh, Clarence
Jørgensen, Thomas K.
Kabal, David
Kaku, Shinkyo
Kalkunte, Mohan
Kamat, Puru
Karam, Roger
Kelly, N. Patrick
Kenny, John J.
Kesling, Dawson
Kim, Yongbum
Kohl, David E
Kolesar, Paul
Kooistra, David
Kuyt, Gerard
Lackner, Hans
Lamers, Lawrence J.
Lane, William
Langston, Daun
Larson, Donald C.
Latchman, Ryan

Law, David
Le, Quang
Lee, Changoo
Lee, Eugene
Lee, Hyeong Ho
Lee, Wesley
Lehr, Amir
Lemoff , Brian E.
Leo, Lisa
Leonowich, Robert H.
Lerer, Michael
Levy, Avinoam
Liu, Fengkun
Love, Bob
Loveless, Rick
Lucas, Fred A.
Lum, Meilissa R.
Lynch, Jeffrey
Lynskey, Eric R.
Lysdal, Henning
MacLeod, Brian
Mashiko, Koichiro
Mathey, Thomas
Matni, Ziad Albert
Mayer, Bob
McCarron, Philip L
McCormack, Michael S
McCoy, Gary
Metzger, Jo Beth
Micallef, Joseph
Michalowski, Richard
Moattar, Reza
Mohamadi, Fred
Mohl, Dirk S.
Montstream, Cindy
Moore, Paul B.
Moore, Robert
Moriwaki, Shohei
Muir, Robert
Muller, Shimon
Murphy, Denis
Murray, Brian
Nadeau, Gerard
Naganuma, Ken
Naidu, Hari
Nakamura, Karl
Nazari, Nersi
Nelson, Kristian
Nikolich, Paul
Nishida, Glenn
Nootbaar, Michael
Noseworthy, Bob
O'Toole, Michael
Obara, Satoshi
Oh, Stephen
Ohlén, Peter
Orlik, Philip
Oughton, George
Pace, Robert R.
Palkert, Tom
Pannell, Don
Parhi, Keshab K.
Parsons, Elwood T
Paslaski, Joel
Patel, Dipak M.
Pavlovsky, Alex
Payne, John
Pepeljugoski, Petar
Phanse, Abhijit
Pitzer, Armin
Plunkett, Timothy R.
Pondillo, Peter
Porter, Jeff
Prediger, Bernd
Quackenbush, William
Quilici, Jim
Quinn, Patrick W.
Quirk, John
Rabinovich, Rick
Rahn, Jurgen
Raman, Naresh
Rasimas, Jennifer G.
Rausch, Dan
Rautenberg, Peter
Reintjes, Maurice
Rennie, Lawrence
Rizk, Ramez
Robinson, Stuart
Rogers, Shawn
Romascanu, Dan
Römer, Tume
Ross, Floyd
Rubin, Larry
Ryu, Hyunsurk
Sala, Dolors
Sanders, Anthony
Sasaki, Akira
Savara, Raj
Schulz, Klaus
Schwartz, Peter
Selee, Steve
Sendelbach, Lee
Seto, Koichiro
Shain, Vadim
Shergill, Robbie
Simmons, Tim
Stanley, Patrick H.
Stapleton, Nick
Stetter, Claus
Stewart, Donald S
Stoddart, Dean M
Stoltz, Mario
Suzuki, Hiroshi
Svensson, Daniel
Swanson, Steve
Szostak, Tad
Taborek, Rich
Tailor, Bharat
Tajima, Akio
Tate, Mike
Tavacoli, James M.
Thaler, Pat
Thatcher, R. Jonathan
Thirion, Walter
Thompson, Geoffrey
Tolley, Bruce
Torgerson, Paul
Turner, Edward
Tusiray, Bulent
Twu, Bor-long
Vaden, Sterling A.
van Doorn, Schelto
van Oosten, Erik
Venkatavaraton, Vinod
Vepa, Ramakrishna
Vergnaud, Gérard
Vogel, David
Wagner, Martin
Warland, Tim
Warren, Jeff
Washburn, Ted
Watanabe, Yuji
Weniger, Fred
Whitlow, Tony
Wiedemann, Bill
Wolcott, John
Won, Jonghwa
Won, King
Won, Shin-Hee
Wong, Edward
Wong, Leo
Wurster, Stefan M.
Yorks, Jason
Young, Leonard
Yousefi, Nariman
Zannini, Hank

802.3 POTENTIAL VOTERS JULY 2001 137 Qualify

11/11/2001

If you wish to become a voter you must say so during THAT agenda item in the 802.3 Plenary Meeting.
This will be done early in the meeting Monday PM and Thursday PM.

Abul-Ella, Ayad
Alluri, Prasad
Anderson, Stephen
-Anderson, Tony
Atias, Ilan
Augusta, Steve
Aytac, Haluk
*Barrett, Bob
*Beck, Michaël
Belhora, Abdelkrim
Belkeir, Ed
Bennett, John
Bhoja, Sudeep
*Bisberg, Jeff E.
Blauvelt, Hank
Bouvy, Ralph
Bradshaw, Scott
Bremner, Duncan
Buchheit, Steve
Campello, Jorge
Carlisle, Robert S
Carrigan, James
Charuk, Bill
Closs, Dave
Coenen, Robert B.
Collins, Doug
Collins, Henry B
Cook, Charles I
Cook, Ron
Cooke, Janeen A
Copeland, Greg
Daaboul, Fouad
Dahan, Motti
Day, Doug
*deBie, Michael
Dhamejani, Suveer
Eaton, George
Eckert, Edward J.
Edwards, Gareth
-Egan, John
Egerton, Clive
Evans, Jennifer
Finch, Jim
*Finch, Robert G
Finch, Stephen
Forsythe, Larry
*Fraser, Roger
Golob, Larry
Groenenberg, Robert W.
Grolnic, Joseph
Gyurek, Russ
Haile-Mariam, Atikem
Hansen, Mogens
Haran, Onn
Hilfer, Godehard
Hochberg, Jim
Hudgins, Clay
Hughes, Bob
Inn, Bruce
Ivry, Raanan
Jacobs, Gordon
Jepsen, Tom
Johnson, Richard V
Kaaja, Harald
Kamisugi, Harold
Kanama, Rami
Kang, Taekyu
Karimi, Hamid
-Kaufman, Dave
Kincaid, John
Kloth, Axel
Knutzen, Henriette Molberg
Koon, David
Kota, Kishore
Koyama, Tetsu
-Kramer, Glen
Ku, Solomon
Kubicky, Jay
Kumar, Y. N.
Kuo, JC
Kwan, William
Kwong, Norman S
Levy, Steve
Lin, Louis
-Lindsay, Tom
Longo, Lorenzo
Ly, Anh
Madigan, Mark
-Maislos, Ariel
*Matsuo, Hideyuki
Matsuoka, Takashi
-McCammon, Kent
-Mizrahi, Jacob (Kobi)
Moody, Kristann L
Moore, Frank H
Moseley, Simon
Murata, Hiroshi
-Murphy, Thomas
Nagashima, Takashi
Olsson, Fredrik
-Ooka, Toshio
-Pesavento, Gerry
Pilens, Guy
Polk, James M
Pullela, Soma
Remein, Duane
Renner, Martin
Reysen, Bill
Rich, Bill
Ross, Tam
Rudberg, Björn
Rundquist, Ron
*Sankey, Mark
Schaefer, John
-Sefidvash, Khorvash (Kory)
Shen, Steven
Sherry, William M
Skirmont, David
*Song, Jian
Sørensen, Søren Friis
Soto, Walt
Speers, Ted
Stack, Jared
Staszak, Marty
Ta, John
Tang, Thomas
Thomas, Stephen
Thorne, David
*Townsend, Rick
*Van Laanen, Peter
*Wong, David
-Wong, Percy
Worsham, A Hodge
*Yoder, Doug
Yokouchi, Jim (Jungo)
Yu, Jinguo (Jay)
*Zona, Bob

IEEE 802.3 VOTERS IN PERIL Nov., 2001

If your name is on this list AND you wish to remain an 802.3 Voter you need to make sure that you sign the book every day that you are in 802.3.

"Voter in Peril" means that the persons listed will not be voters after this meeting unless they meet the "full attendance" requirement for this meeting. That is, they sign-in at least 3 of the 4 days.

Anderson , Arlan J.
Anderson, Eric
Babanezhad, Joseph N
Chang, Edward G.
Chang, Justin
Claseman, George
Feuerstraeter, Mark
Goergen, Joel
Jensen, Ernie
Jørgensen, Thomas K.
Kim, Yongbum
Kooistra, David
Larson, Donald C.
Lee, Changoo
Lee, Hyeong Ho
Lemoff , Brian E.
Lerer, Michael
Love, Bob
Loveless, Rick
McCoy, Gary
Micallef, Joseph
Moattar, Reza
Nishida, Glenn
O'Toole, Michael
Palkert, Tom
Parhi, Keshab K.
Paslaski, Joel
Phanse, Abhijit
Pondillo, Peter
Prediger, Bernd
Robinson, Stuart
Sendelbach, Lee
Simmons, Tim
Stetter, Claus
Tavacoli, James M.
Watanabe, Yuji
Won, Jonghwa
Yousefi, Nariman

Name	Company	Mon	Tue	Wed	Thur	
Alexander, Thomas	PMC-Sierra		P	P	P	3
Anderson, Stephen	Xilinx	P	P	P		3
Anderson, Tony	Zonu c/o ROI Technologies		P	P	P	3
Artman, Doug	Texas Instruments Incorporated		P	P	P	3
Aspell, Stephen M	SBC Technology Resources, Inc.		P			1
Auld, Phil	Agere Systems	P	P			2
Bachand, Gerard E	Avaya Inc.	P	P	P	P	4
Bailey, Chuck	SBC Technology Resources, Inc.		P	P	P	3
Baldman, Andy	UNH Interoperability Lab	P	P	P		3
Bar-Or, Shahar	Metalink Ltd	P	P	P	P	4
Barrass, Hugh	Cisco Systems, Inc.	P	P	P	P	4
Barrett, Bob	Fiber In The Loop	P	P	P	P	4
Bartur, Meir	Zonu		P	P	P	3
Beaudoin, Denis	Texas Instruments	P	P	P	P	4
Beck, Michaël	Alcatel Bell N.V.	P	P	P	P	4
Bemmel, Vincent	Alloptic		P	P	P	3
Bennett, Mike	Lawrence Berkeley Lab		P	P	P	3
Berglund, Sidney	3M		P	P	P	3
Berman, David J.	Passave Networks	P	P	P	P	4
Beverly, Harlan T	Intel Corporation	P	P		P	3
Bhatt, Vipul			P	P	P	3
Birch, Michael	Zarlink Semiconductor	P	P	P	P	4
Bisberg, Jeff E.	Cielo Communications, Inc.	P	P	P		3
Blakey, Samantha	Mindspeed		P	P	P	3
Bluvstein, Ilan	Infineon Technologies North America		P	P	P	3
Booth, Brad	Intel Corp.	P	P	P	P	4
Bottorff, Paul	Nortel Networks	P	P	P	P	4
Bovill, Kirk	Blaze Network Products	P	P	P		3
Boyd, Edward	Terawave Communications		P	P	P	3
Bradow, Timothy N	Xilinx		P			1
Brand, Richard	Nortel Networks	P	P	P	P	4
Brandner, Rudolf	Siemens AG	P	P	P	P	4
Brikovskis, Rhett	Lantern Communications		P			1
Bromberg, Keith	Proxim		P	P		2
Brown, Benjamin	AMCC	P	P	P	P	4
Brown, Kevin	Broadcom Corporation	P	P	P	P	4
Buckmeier, Brian	Bel Fuse		P	P		2
Burke, Bob	Bandspeed	P		P	P	3
Burton, Scott	MITEL Corporation	P	P	P	P	4
Busse, Robert	Transition Networks	P	P	P	P	4
Bynum, Roy	Independent	P	P	P	P	4
Cam, Richard	PMC-Sierra, Inc.		P	P	P	3
Carlisle, Robert S	Corning Inc.		P			1
Carlson, Steve	ESTA	P	P	P	P	4
Carnine, Dan	Metalink Inc.		P	P	P	3
Chang, Justin	Quake Technologies, Inc	P	P	P		3
Chen, Raymond	Virata		P	P	P	3
Chow, Jacky	Jubilant Communications		P	P		2
Cobb, Terry	Avaya Communication	P	P	P	P	4
Cody, Jeffrey G.	Optical Coating Laboratory Inc.	P	P			2
Cole, Terry	AMD			P		1
Coleman, Doug	Corning Cable Systems	P	P	P	P	4
Cooke, Janeen A	Essex Corporation	P	P	P		3
Cross, Richard	DoD Cryptologic Systems	P	P		P	3
Cullin, Chris	Cisco Systems, Inc.	P	P	P	P	4
Cunningham, David	Agilent Technologies	P	P	P	P	4
D'Ambrosia, John	Tyco Electronics	P	P	P		3

Name	Company	Mon	Tue	Wed	Thur	
Daines, Kevin	World Wide Packets		P	P	P	3
Dallesasse, John	Molex Inc	P	P	P		3
Darshan, Yair	PowerDsine Ltd.		P	P	P	3
Dawe, Piers	Agilent Technologies	P	P	P	P	4
deBie, Michael	Wavecrest	P	P	P	P	4
Di Minico, Chris	CDT Corporation	P	P	P		3
Diab, Wael	Cisco Systems, Inc	P	P	P		3
Dineen, Thomas	Dineen Consulting	P	P	P	P	4
Dwelley, David	Linear Technology		P	P	P	3
Easley, J. Craig	Extreme Networks		P	P	P	3
Eaton, George	Intel Corporation		P			1
Egan, John	Infineon Technologies		P	P	P	3
Ewen , John F.	IBM Microelectronics	P	P	P	P	4
Feuerstraeter, Mark	Intel Corporation	P	P	P		3
Figueira, Norival	Nortel Networks	P	P	P	P	4
Finch, Robert G	IBM	P	P	P	P	4
Flatman, Alan	LAN Technologies	P	P	P	P	4
Ford, Brian	BellSouth		P			1
Fosmark, Klaus	First Mile Systems A/S		P	P		2
Fraser, Roger	Elastic Networks	P	P	P	P	4
Frazier, Howard	DomiNet Systems	P	P	P	P	4
Freedman, Martin G	Molex Connector Corporation	P				1
Freitag, Ladd	IBM	P	P	P	P	4
Frojdh, Krister	Optillion AB	P	P	P		3
Frosch, Richard	PowerDsine		P	P		2
Fujimoto, Yukihiro	NTT	P	P	P	P	4
Gaglianello, Robert D	Bell Laboratories		P	P	P	3
Gaither, Justin	Xilinx	P	P		P	3
Gentry, Denton	Dominet	P	P	P	P	4
Georgalti, George	SEMTECH	P				1
George, John	Lucent Technologies		P	P	P	3
Goldis, Moty	Avaya Communication	P	P	P	P	4
Graham, Rich	Enterasys Networks	P	P	P		3
Grann, Eric B.	Blaze Network Products		P	P		2
Gray, C. Thomas	Tality LP	P	P	P	P	4
Greenlaw, Jonathan E.	Hewlett-Packard	P	P		P	3
Grow, Robert M.	Intel Corporation	P	P	P	P	4
Gummalla, Ajay	Broadcom Corporation	P	P	P	P	4
Guss, Dave	Texas Instruments/Silicon Systems	P				1
Gustafsson, Jonas	Ericsson Telecom AB	P	P	P	P	4
Haas, Steven	Infineon Technologies Savan		P	P	P	3
Haddad, Tariq	Zarlink Semiconductor	P	P	P	P	4
Haddock, Stephen	Extreme Networks		P		P	2
Hart, Greg	Honeywell	P	P	P	P	4
Hassoun, Marwan	RocketChips, Inc.	P	P		P	3
Hemmah, Steven	Texas Instruments		P	P		2
Hesson, James H	Hesson Labs, Inc.	P	P	P		3
Hickey, Tony	Fujitsu Network Communications	P	P	P	P	4
Hinrichs, Henry	Pulse Engineering, Inc.	P	P	P	P	4
Hirth, Ryan	Terawave Communications		P	P	P	3
Holloway, Tim	World Wide Packets		P	P	P	3
Hong, Jaeyeon	Samsung Electronics	P	P	P		3
Hui, Sue	Texas Instruments	P	P		P	3
Huynh, Thong	Maxim Integrated Products	P	P	P	P	4
Ikeda, Hiroki	Hitachi America, Ltd.		P	P	P	3
Ip, Baldwin	NEC Electronics Inc.	P	P	P		3
Jackson, Steve	Hatteras Networks, Inc.	P	P	P	P	4

Name	Company	Mon	Tue	Wed	Thur	
Jaffa, Brent	Enterasys Networks		P	P	P	3
Jetzt, John	Avaya Communications	P	P	P	P	4
Jiang, Wenbin	E2O Communications, Inc		P	P	P	3
Johnson, Richard V	Infineon Technologies Corporation		P	P	P	3
Jones, Chad	Cisco Systems, Inc.	P	P	P	P	4
Jonsson, Ulf	Ericsson Radio Systems AB	P	P	P	P	4
Kabal, David	Picolight Incorporated	P	P	P		3
Kaku, Shinkyo	Allied Telesyn International	P	P	P	P	4
Kamat, Puru	Sprint	P	P	P	P	4
Kao, Min Sheng	Industrial Technology Research	P	P	P	P	4
Karam, Roger	Cisco Systems, Inc.	P	P	P	P	4
Kaufman, Dave	Elastic Networks		P	P	P	3
Kelly, N. Patrick	Bandspeed		P			1
Kenny, John J.	Wave7 Optics	P	P	P		3
Khermosh, Lior	Passave Networks		P	P		2
Kinard, Brad	Marconi		P			1
Kittredge, Fletcher	Great Works Internet		P	P		2
Kleiner, Norbert	Motorola		P	P	P	3
Knittle, Curtis	Harmonic Inc.			P		1
Kohl, David E	System Engineering International Inc.		P	P	P	3
Kolesar, Paul	Lucent Technologies	P	P	P		3
Koyama, Tetsu	NEC Electronics, Inc.		P			1
Kramer, Glen	Alloptic		P	P	P	3
Kutzavitch, Walter	Philips Semiconductors	P	P	P	P	4
Lackner, Hans	QoSCom	P	P	P	P	4
Langston, Daun			P	P	P	3
Lavasani, Javad	Maxim Integrated Products	P	P	P	P	4
Law, David	3Com Corporation	P	P	P	P	4
Le, Quang	Intel Corporation		P	P	P	3
LeCheminant, Greg	Agilent Technologies, Inc.	P	P	P	P	4
Lee, Eugene	Force10 Networks, Inc.	P	P	P	P	4
Lee, Minhyo	Samsung Electronics	P	P	P		3
Li, Sheung	Atheros Communications, Inc.	P				1
Liang, Sam	D-Link Systems Inc.	P	P			2
Liao, Peter	D-Link Systems	P	P			2
Limb, John O.	Broadcom Corporation		P	P	P	3
Lindsay, Tom	Stratos Lightwave, Inc.		P	P	P	3
Ling, Stanley K	Intel Corporation	P	P	P		3
Lynskey, Eric R.	UNH IOL	P	P	P	P	4
MacLeod, Brian	Project 101, Inc.		P	P	P	3
Mahmood, Nasir	PCA Electronics Inc.		P	P		2
Maislos, Ariel	Passave Networks		P	P	P	3
Marris, Arthur	Tality UK Ltd	P	P	P	P	4
Martin, David W.	Nortel Networks		P	P	P	3
Mathey, Thomas	Northern Data Systems	P	P	P	P	4
Matni, Ziad Albert	Vitesse Semiconductor Corp.	P	P	P		3
Matsuo, Hideyuki	Hitachi Cable America, Inc	P	P	P	P	4
McCammon, Kent	SBC Technology Resources, Inc.		P	P	P	3
McCormack, Michael S	3Com Corporation	P	P	P	P	4
McSweeney, Brian	Silicon Software & Systems	P	P	P	P	4
Mickelsson, Hans	Ericsson Radio Systems AB		P	P	P	3
Mizrahi, Jacob (Kobi)	Infineon Technologies Savan		P	P	P	3
Mohamadi, Fred	XL Optics		P	P	P	3
Moseley, Simon	ADVA Optical Networking	P	P	P	P	4
Muller, Shimon	Sun Microsystems Inc.	P	P	P	P	4
Murakami, Ken	Mitsubishi Electric Corporation	P	P	P		3
Murphy, Denis	Bel Fuse		P	P		2

Name	Company	Mon	Tue	Wed	Thur	
Murphy, Thomas	Infineon Technologies AG		P	P	P	3
Myers, Brock	Harmonic Inc.		P	P		2
Nadeau, Gerard	UNH IOL	P	P	P	P	4
Naganuma, Ken	Toko America, Inc	P	P	P	P	4
Naidu, Hari	Fujikura Technology America	P	P		P	3
Nakamura, Karl	Cisco Systems, Inc.	P	P	P	P	4
Nazari, Nersi	Marvell Semiconductor		P	P	P	3
Nelson, Kristian	Packet Engines, Inc.	P	P	P	P	4
Nguyen, Trung	National Semiconductor Corporation	P	P	P	P	4
Nikolich, Paul			P			1
Noseworthy, Bob	Univ of New Hampshire	P				1
O'Mahony, Barry	Intel Corporation			P	P	2
Obara, Satoshi	Fujitsu Laboratories of America	P	P	P	P	4
Oksman, Vladimir	Broadcom Corporation		P	P	P	3
Ooka, Toshio	Sumitomo Electric USA Inc.		P	P	P	3
Orlik, Philip	MERL	P	P	P		3
Oughton, George	Invensys Energy Systems North	P	P	P	P	4
Pace, Robert R.	Texas Instruments		P			1
Papandrea, Gabriel D	Oki Network Technologies	P	P	P	P	4
Parsons, Glenn	Nortel Networks	P				1
Patel, Gautam	Teradyne, Inc		P			1
Payne, John	JLP Associates	P	P	P	P	4
Peng, Y. Lisa	Corning Incorporated		P	P	P	3
Pepeljugoski, Petar	IBM Research		P	P	P	3
Pesavento, Gerry	Alloptic		P	P	P	3
Phuc, Paul Tuong Them	Symmetricom		P	P		2
Pickens, John	Com 21		P	P		2
Quinn, Patrick W.	Wave7 Optics	P	P	P		3
Quirk, John	Maxim Integrated Products	P	P	P		3
Rabinovich, Rick	Spirent Communications	P	P	P	P	4
Rahn, Jurgen	Lucent Technologies	P	P	P	P	4
Raj, Kannan	Primarion		P			1
Raman, Naresh	LSI Logic	P	P	P		3
Rasimas, Jennifer G.	Nortel Networks	P	P	P	P	4
Ray, Dan	JatoTech Ventures			P		1
Reintjes, Maurice	Mindspeed	P	P		P	3
Renteria, Victor	Pulse Engineering, Inc.	P	P	P	P	4
Rezvani, Behrooz	Ikanos Comm	P	P	P	P	4
Rogers, Shawn	Texas Instruments Incorporated		P	P		2
Romascanu, Dan	Avaya Communications	P	P	P	P	4
Rooke, Sterling	Stratos Lightwave, Inc.		P	P	P	3
Ross, Floyd		P	P	P	P	4
Rubiano, Rodrigo	Tyco Electronics Power Components	P	P	P	P	4
Rubin, Larry	Banderacom, Inc.	P	P	P		3
Rundquist, Ron	Optical Solutions		P	P		2
Sala, Dolors	Broadcom Corporation	P	P		P	3
Sambasivan, Sam	SBC	P	P	P	P	4
Sankey, Mark	Calix	P	P	P	P	4
Savara, Raj	Network Elements Inc.	P	P	P		3
Schmitt, Paul	Calix	P	P			2
Schneider, Kevin W	Adtran		P	P	P	3
Schramm, Thomas	Richard Hirschmann GmbH & Co	P	P		P	3
Schreiber, Ed	PowerDsine Ltd.		P			1
Schwartz, Peter	Micrel Semiconductor	P	P	P	P	4
Sefidvash, Khorvash (Kory)	Broadcom	P	P		P	3
Selee, Steve	Blaze Network Products	P	P	P		3
Seto, Koichiro	Hitachi Cable Ltd.	P	P	P	P	4

Name	Company	Mon	Tue	Wed	Thur	
Shah, Sunil	Voyan Technology		P	P	P	3
Shain, Vadim	NEC Electronics	P	P	P		3
Shen, Steven	Silicon bridge, Inc.	P	P	P		3
Shih, Cheng-Chung	Allayer Technologies Corp.		P	P		2
Sisk, James (Randy)	Cisco Systems		P	P	P	3
Smith, Michael A.	MAS Development	P	P	P		3
Song, Jian	Salira Optical Network Systems Inc.	P	P			2
Squire, Matthew B.	Hatteras Networks	P	P	P	P	4
Stalcup, Wes	Texas Instruments Incorporated	P	P	P	P	4
Stanley, Patrick H.	Elastic Networks	P	P	P	P	4
Starr, Tom	Ameritech		P	P	P	3
Stetter, Claus	Allayer Communications	P	P	P		3
Stitcia, Jim	Virata		P	P	P	3
Stoddart, Dean M	The Siemon Company	P	P		P	3
Stuart, Richard	Aware, Inc.	P	P	P	P	4
Suzuki, Hiroshi	Cisco Systems, Inc		P	P		2
Swanson, Steve	Corning Incorporated	P	P	P	P	4
Szostak, Tad	3M		P	P	P	3
Taborek, Rich	Intel Corporation	P	P	P	P	4
Tate, Mike	Alcatel Internetworking		P	P	P	3
Tatum, Jim	Honeywell Inc.		P			1
Thaler, Pat	Agilent Technologies	P	P	P	P	4
Thatcher, R. Jonathan	World Wide Packets	P	P	P	P	4
Thompson, Geoffrey	Nortel Networks, Inc.	P	P	P	P	4
Thorne, David	BT		P	P		2
Tolley, Bruce	Cisco Systems		P	P	P	3
Townsend, Rick	Bell Labs/Lucent	P	P	P	P	4
Turner, Edward	3Com Europe Ltd -WRONG!	P	P	P	P	4
Tusiray, Bulent	Tality, LP	P	P	P	P	4
Twu, Bor-long	Pine Communications		P	P	P	3
van Doorn, Schelto	Intel Corporation	P	P	P	P	4
Van Laanen, Peter	Infineon Technologies Corporation	P	P	P		3
Vogel, David	Intel Corp	P	P	P		3
Wake, Jeff	Integral Access	P	P	P	P	4
Wang, Chiung Hung	Industrial Technology Research	P				1
Wang, David Z.	Metro Optix		P		P	2
Warland, Tim	Quake Technologies	P	P	P	P	4
Warren, Jeff	Extreme Networks	P	P	P		3
Wei, Dong	SBC Technology Resources, Inc.		P	P	P	3
Welch, Jim		P	P	P	P	4
Weniger, Fred	MindSpeed/Conexant		P	P		2
Wiedemann, Bill	Blaze Network Products		P	P	P	3
Williamson, Douglas M	Dept of Defense	P	P			2
Willson, Jenifer	Pine Photonics Communications		P			1
Wilson, Jack G	Wiltec Technologies		P			1
Wong, David	Broadcom Corp.	P	P	P		3
Wong, Percy	Intel Corporation		P	P	P	3
Woodfin, Andrew D.	Corning Incorporated				P	1
Wu, Willie	Aeluros, Inc.	P	P			2
Wurster, Stefan M.	Sierra Research & Technology	P	P	P	P	4
Yang, Steven	Cisco Systems		P	P		2
Yoder, Doug	Primarion	P	P	P		3
Yorks, Jason	Cielo Communications Inc.		P	P	P	3
Yoshihara, Osamu	Nippon Telegraph and Telephone Corp.	P	P	P	P	4
Zagalsky, Nelson	ADC Broadband Access & Transport		P	P	P	3
Zona, Bob	LightLogic Inc	P	P	P	P	4
Zuhdi, Muneer	Marconi		P	P		2

IEEE Project 802.3 Working Group Standards Status November 12th, 2001

ISO/IEC approved

ANSI/IEEE approved

ISO/IEC 8802-3:2000
ANSI/IEEE Std. 802.3-2000

- ***CSMA/CD Overview**
- ***MAC**
- ***Repeater**
- ***PLS/AUI**
- ***MAUs (B5,B2,BT,BrB)**
- ***Mgmt**
- ***1BASE5 Specifications**
- ***10BASE5 PICS**
- ***Full Duplex**
- ***100BASE-T2**
- ***Changes for VLANs**
- ***Link Aggregation**
- ***10BASE-T PICs**
- ***MAU Mgmt.**
- ***Rptr. Mgmt.**
- ***GDMO of LM**
- ***FO & Sys. Cons.**
- ***120 Ohm annex**
- ***150 Ohm annex**
- ***Maint. 2, 3, 4 & 5**
- ***100BASE-T**
- ***Gigabit Ethernet**
- ***1000BASE-T**

Clauses 1-32, 34-43

Published 10/00

Correction Sheet
Published 1st May 01

IEEE Std. 1802.3-2001
Conformance Test
10BASE-T
Published 19-Oct-01

Network Systems Tutorial
Published June 95

.3
Policy and Procedures
Approved 11/97

802.3 WG in process

.3ae
10Gb/s Ethernet Task Force
(J. Thatcher)
Working Group Recirc Ballot closed 07-Nov-01

.3af
DTE Power via MDI Task Force
(S. Carlson)
PAR approved 01/00

.3ag
Maintenance #6
(D. Law)
Passed Sponsor Ballot 08-Aug-01

.3ah
Ethernet in the First Mile Task Force
(H. Frazier)
PAR approved 09/01

Liaison
802.1

802.3 WG new work items

Longer Distance 10 Gb/s Call for Interest
(Bill Wiedemann)

Maintenance #7
(D. Law)
Discussion in Maintenance meeting

Patent policy of IEEE P802.3

To: 802.3 From: Geoff Thompson, WG Chair
Date: March 14, 1995, Revised:March 27, 1998

The following is the current Patent Policy of P802.3. It is subject to modification to meet the real requirements of the IEEE.

In support of the patent policy of the IEEE the CSMA/CD Working Group has the policy to solicit submissions from those parties who hold patents (U.S. or foreign) that have been granted or are under application and who feel that such patents cover technology described in a CSMA/CD WG standard that is under development or has been approved.

The request is that any such party submit a letter to be kept on file at the IEEE Standards office. These letters will be made available to any party upon request. We ask assurance that any granted patent will be licensed to all applicants on reasonable and non-discriminatory terms. The letter should also include contact information that will be appropriate as a long term reference point.

The submitter should feel free to include any other information that they wish to communicate in such a letter that will be available on a long term basis.

The letter should be addressed and submitted to the Working Group Chair and signed by a responsible party that holds or will hold assignment rights to the patent.

State of 802.3 Operating Rules

No Rules Revision request have been received

802.3 Operating Rules URL:

http://www.ieee802.org/3/rules/index.html

Web site Provides

802.3 Operating Rules in HTML and pdf

Revision history

IEEE 802.3
Interpretations Report

November 12th, 2001
Austin, TX

David Law

Interpretations

Interpretations: Occasionally questions may arise regarding the meaning of portions of standards as they relate to specific applications. When the need for interpretations is brought to the attention of IEEE, the Institute will initiate action to prepare appropriate responses. Since IEEE Standards represent a consensus of all concerned interests, it is important to ensure that any interpretation has also received the concurrence of a balance of interests. For this reason, IEEE and the members of its societies and Standards Coordinating Committees are not able to provide an instant response to interpretation requests except in those cases where the matter has previously received formal consideration.

Interpretations Status

- 2 Interpretations received
  - Clause 40 (1000BASE-T)
    - 3 Question
  - Clause 36 (1000BASE-X)
    - 1 Question
- Response to 1-03/01 currently in Working Group Ballot

Interpretation 1-11/01

Question 1, Clause 40.3.1.3

Referring to Fig.40-9, state - 'CARRIER EXTENSION' transmits either CEXT symbols if TXD<7:0> = 0x0F or CEXT_Err symbols if TXD<7:0> != 0x0F

However if we look at Table 40-1 and Table 40-2 Bit-to-symbol mapping (even and odd subsets) there is no mapping for CEXT_Err.

Further in Clause 40.3.3.1, variable CEXT_Err is defined as code-group generated in Idle mode to denote carrier extension with error indication, as specified in Clause 40.3.1.3

Interpretation 1-11/01 (con’t)

So the question is : what symbols does one transmit on the 4-twisted pairs to denote CEXT_Err ?
Are they from Idles/CEXT portion of table 40-1 dependent on Sd(n)[1:0] as per Clause 40.3.1.3.4 ?

Interpretation 1-11/01 (con't)

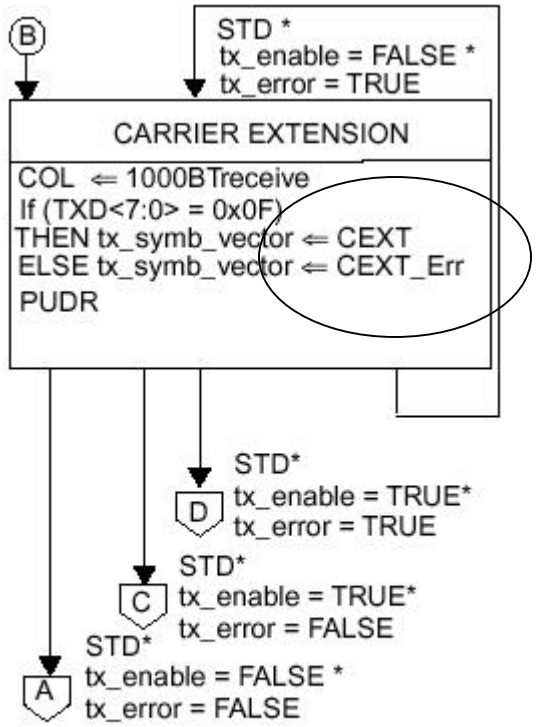

Figure 40-9

Table 40–1—Bit-to-symbol mapping (even subsets) (Continued)

		$Sd_n[6:8]$ = [000]	$Sd_n[6:8]$ = [010]	$Sd_n[6:8]$ = [100]	$Sd_n[6:8]$ = [110]
Condition	$Sd_n[5:0]$	TA_n,TB_n,TC_n, TD_n	TA_n,TB_n,TC_n, TD_n	TA_n,TB_n,TC_n, TD_n	TA_n,TB_n,TC_n, TD_n
Normal	010010	+1,–1,+1,+1	+1,–1,0,0	+1,–2,0,+1	+1,–2,+1,0
Normal	010011	–1,–1,+1,+1	–1,–1,0,0	–1,–2,0,+1	–1,–2,+1,0
Normal	010100	+1,+1,–1,+1	+1,+1,–2,0	+1,0,–2,+1	+1,0,–1,0
Normal	010101	–1,+1,–1,+1	–1,+1,–2,0	–1,0,–2,+1	–1,0,–1,0
Normal	010110	+1,–1,–1,+1	+1,–1,–2,0	+1,–2,–2,+1	+1,–2,–1,0
Normal	010111	–1,–1,–1,+1	–1,–1,–2,0	–1,–2,–2,+1	–1,–2,–1,0
Normal	011000	+1,+1,+1,–1	+1,+1,0,–2	+1,0,0,–1	+1,0,+1,–2
Normal	011001	–1,+1,+1,–1	–1,+1,0,–2	–1,0,0,–1	–1,0,+1,–2
Normal	011010	+1,–1,+1,–1	+1,–1,0,–2	+1,–2,0,–1	+1,–2,+1,–2
Normal	011011	–1,–1,+1,–1	–1,–1,0,–2	–1,–2,0,–1	–1,–2,+1,–2
Normal	011100	+1,+1,–1,–1	+1,+1,–2,–2	+1,0,–2,–1	+1,0,–1,–2
Normal	011101	–1,+1,–1,–1	–1,+1,–2,–2	–1,0,–2,–1	–1,0,–1,–2
Normal	011110	+1,–1,–1,–1	+1,–1,–2,–2	+1,–2,–2,–1	+1,–2,–1,–2
Normal	011111	–1,–1,–1,–1	–1,–1,–2,–2	–1,–2,–2,–1	–1,–2,–1,–2
Normal	100000	+2,0,0,0	+2,0,+1,+1	+2,+1,+1,0	+2,+1,0,+1
Normal	100001	+2,–2,0,0	+2,–2,+1,+1	+2,–1,+1,0	+2,–1,0,+1
Normal	100010	+2,0,–2,0	+2,0,–1,+1	+2,+1,–1,0	+2,+1,–2,+1
Normal	100011	+2,–2,–2,0	+2,–2,–1,+1	+2,–1,–1,0	+2,–1,–2,+1
Normal	100100	+2,0,0,–2	+2,0,+1,–1	+2,+1,+1,–2	+2,+1,0,–1
Normal	100101	+2,–2,0,–2	+2,–2,+1,–1	+2,–1,+1,–2	+2,–1,0,–1
Normal	100110	+2,0,–2,–2	+2,0,–1,–1	+2,+1,–1,–2	+2,+1,–2,–1
Normal	100111	+2,–2,–2,–2	+2,–2,–1,–1	+2,–1,–1,–2	+2,–1,–2,–1

Interpretation 1-11/01 (con’t)

Question 2, Clause 40.3.1.4

Referring to Fig.40-10a (part a), state - 'EXTENDING'
goes to either state 'CARRIER EXTENSION' if Rx(n-1) is CEXT
or state 'CARRIER EXTENSION with ERROR' if Rx(n-1) is IDLE

However if we look at Table 40-1 Bit-to-symbol mapping (even subsets) the mapping for IDLE and CEXT is the same.

Further, as per Clause 40.3.1.3.4, for tx-path :

Sd(n)[1] = Sc(n)[1] ^ cext_err(n) (if tx_enable(n-2) = 0)
Sd(n)[0] = Sc(n)[0] ^ cext(n) (if tx_enable(n-2) = 0)

Interpretation 1-11/01 (con’t)

and so for Rx-path, the answer seems to be :

cext(n) = Sd(n)[0] ^ Sc(n)[0] (if RX_DV = 0)
and
cext_err(n) = Sd(n)[1] ^ Sc(n)[1] (if RX_DV = 0)
and
Idle = others (while RX_DV = 0)

Is this assumption correct ?

So the question is : In the Rx-path how does one differentiate between Idles/CEXT/CEXT_Err in table 40-1?

Seems to be dependent on Sd(n)[1:0] ?

Interpretation 1-11/01 (con't)

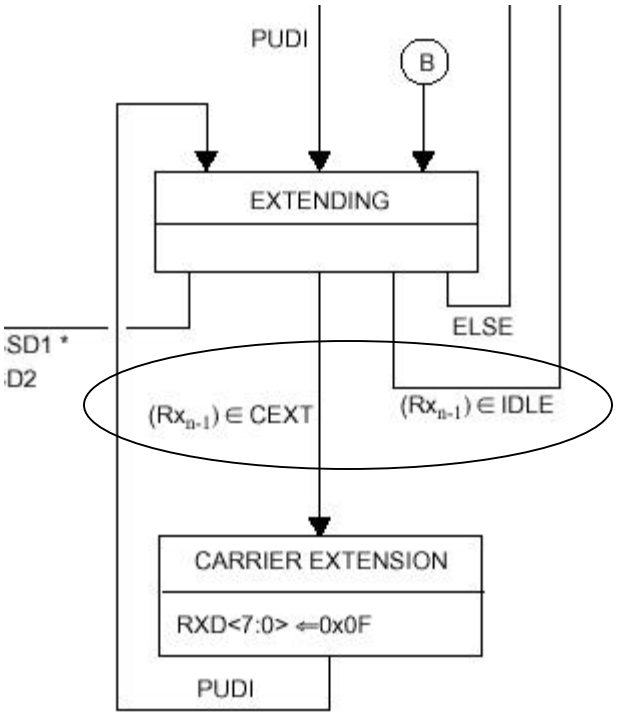

Figure 40-10a

Table 40–1—Bit-to-symbol mapping (even subsets)

		$Sd_n[6:8]$ = [000]	$Sd_n[6:8]$ = [010]	Sc
Condition	**$Sd_n[5:0]$**	**TA_n,TB_n,TC_n, TD_n**	**TA_n,TB_n,TC_n, TD_n**	**TA_n**
Idle/Carrier Extension	000011	–2,–2, 0, 0	—	
Idle/Carrier Extension	000100	0, 0,–2, 0	—	
Idle/Carrier Extension	000101	–2, 0,–2, 0	—	
Idle/Carrier Extension	000110	0,–2,–2, 0	—	
Idle/Carrier Extension	000111	–2,–2,–2, 0	—	

Table 40-1

Interpretation 1-11/01 (con't)

Question 2, Clause 40.6.1.1.2

Lastly, there seems to be a typo in Clause 40.6.1.1.2 - Test Modes of Std 802.3, 2000 Edition

The scrambler generator polynomial should be :

gs1 = 1 + x^9 + x^11

instead of :

s1 = 1 + x^9 + x^1

Interpretation 2-11/01

The specific designation of the standard, including the year of publication: IEEE Std 802.3, 2000 Edition. The specific subsection being questioned: 36.2.4.2.2 Figure 36-7b. The applicable conditions for the case in question:

The transition from RECEIVE to RX_DATA uses notation that is not explained and is not consistent with the notation used elsewhere in the state machines. The transition condition is <element of symbol>[/D/]

Where /D/ is a constant defined as representing the set of data code groups. The problem is that there is nothing on the transition to indicated what is being tested. Normally, the notation would be similar to that used on the left exit from RX_CB in Figure 36-7a. SUDI(<element of symbol>[/D/]) where it is clear that the

Interpretation 2-11/01 (con’t)

condition is a test of whether the code-group in the current SUDI was a data code group.

I believe that the intent of the state diagram is that the test be against the code-group contained from the SUDI that cause the transition to RECEIVE. The notation that is used on the exit from RX_CB can't be used here because the SUDI has already been used to transition to RECEIVE. One way to clarify the notation would be to add to the RECEIVE state an assignment of the parameter from the SUDI to a variable which can be tested in the transition condition. Another alternative is to add text to the description of the receive state machine explaining the deviation in the notation.

Interpretation 2-11/01 (con't)

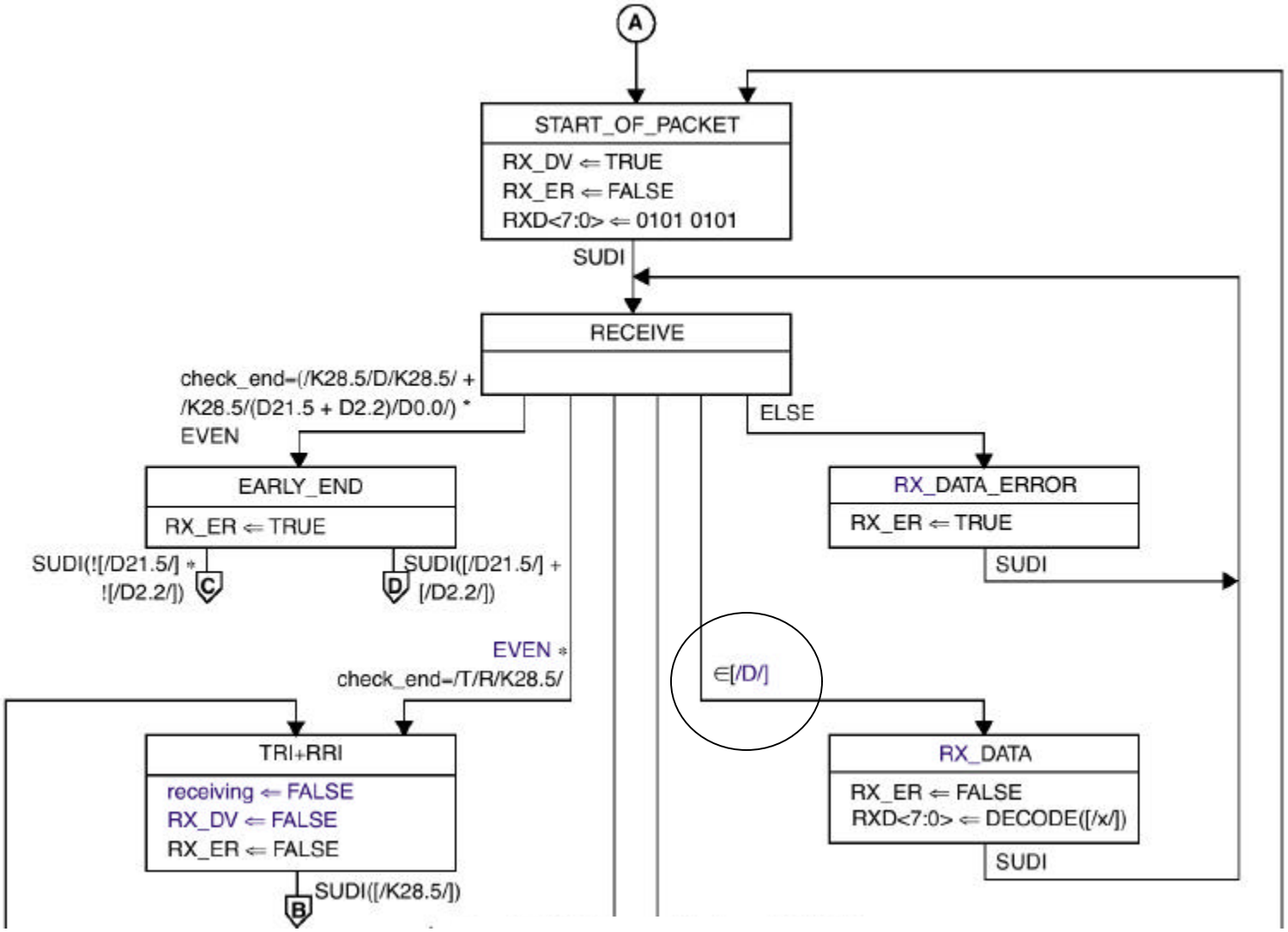

Figure 36-7b

IEEE P802.3 Interpretation 1-03/01 Working Group ballot

Interpretation Number: 1-03/01 - Item2

Topic: Auto-Negotiation register 5 and 8

Relevant Clause: 28 and 32

Classification: Defect

This represents a conflict within the standard. Change requests have been generated by Bob Noseworthy of the Interoperability Lab at the University of New Hampshire available at the URL: http://www.ieee802.org/3/maint/requests/all.html which relate to the conflict. These change requests will be included in the next maintenance ballot.

- Approved for working Group ballot in July
  - Working ballot opened October 8, 2001
- Ballot closes Midnight PST today

IEEE P802.3 Interpretation 1-03/01 Working Group ballot

Ballot summary at 07:00 CST

317	Voters
101	Ballots returned
31.9%	**Return rate (> 50% required)**
54	Approval
1	Approve with comments
1	Disapprove
45	Abstain
98.2%	**Approval rate (> 75% required)**
44.6%	**Abstain rate (< 30% required)**

IEEE P802.3 Interpretation 1-03/01 Working Group ballot

If you have not already voted

PLEASE VOTE

Remember

802.3 Voters are obligated to participate in the ballot in order to retain their voting membership

Plans for the week

- Close the 1-03/01 Working Group ballot
- Meet this week
  - Review interpretation request and draft response
- Present response to Closing 802.3 Plenary
  - Three way vote
    - Approve proposed response
    - Reject proposed response
    - Send proposed response out for Working Group Ballot

IEEE 802.3 CSMA/CD WORKING GROUP Draft AGENDA

See our web site: http://www.ieee802.org/3/index.html

November 15, 2001, Austin, Texas

CLOSING PLENARY: Start at 1:00 PM

THURSDAY, 15 Novembery

1300-1400 Administrative Matters ..... Geoff Thompson

- Welcome, Introductions and General Announcements
- Review of Voting Membership
  - Additions to voting membership list
- Agenda, review and revise as needed
- Venue of future 802 meetings
  - Mar 11-15 2002 - Hyatt Regency, St Louis, MO
  - July 7-12 - Hyatt Vancouver, BC, Canada
  - Nov 11-15 - Hyatt Regency, Kauai
- Liaisons to External Groups:
- PARs for approval this week
  - 802.1 Playpen EtherType
- Elections in March:
  - Nominations for Chair are open. current candidate: Bob Grow
- Any Other business

1400-1430 Maintenance/Interpretations/Rules ..... David Law

- Update/Status of Interpretation Requests & Ballot Motions for 802.3 for Recirculation
- Update/Status of Maintenance
- Proposal for P802.3aj(?) Maintenance #7 PAR
- Update/Status of Rules changes

1430-1440 Report from Call For Interest: Longer Reach 10 GbEthernet ..... Bill Weidemann

1440-1500 BREAK

Task Force Reports

15000-1530 P802.3ae, Task Force (10 Gig Ethernet) ..... Jonathan Thatcher

- Progress this week, motions for 802.3
- Status of Sponsor Balloting Group
- Plans for progress of balloting

1530-1610 P802.3af, DTE Power via MDI ..... Steve Carlson

- Progress this week, motions for 802.3
- Proposal for Forwarding to Working Group ballot
- Regarding Sponsor Ballot Pool

1610-1640 P802.3ah Ethernet in the First Mile ..... Howard Frazier

- Progress this week, motions for 802.3
- Plans for the future

Wrap Up ..... Geoff Thompson

IEEE 802.3
Interpretations Report

November 15th, 2001
Austin, TX

David Law

Interpretations Agenda

- New Interpretations received
  - Clause 40 (1000BASE-T)
    - 3 Question
  - Clause 36 (1000BASE-X)
    - 1 Question
- Report on 1-03/01 Working Group Ballot

IEEE Standards Companion Interpretations

“Interpretations are a unique form of commentary on the standard. They are not explanations of what the standard should have done or meant to say. Interpretations cannot change the meaning of a standard as it currently stands. Even if the request points out an error in the standard, the interpretation cannot fix that error. The interpretation can suggest that this will be brought up for consideration in a revision or supplement (or, depending on the nature of the error, an errata sheet might be issued). However, an interpretation has no authority to do any of this.”

http://standards.ieee.org/guides/companion/part6.html#interpret

IEEE Standards Companion Interpretations

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interpretation cannot fix that error. The interpretation can suggest that this will be brought up for consideration in a revision or supplement (or, depending on the nature of the error, an errata sheet might be issued). However, an interpretation has no authority to do any of this."

We can only interpret what the standard does say, not what it should say.

http://standards.ieee.org/guides/companion/part6.html#interpret

Interpretation 1-11/01

Question 1, Clause 40.3.1.3

Referring to Fig.40-9, state - 'CARRIER EXTENSION’ transmits either CEXT symbols if TXD<7:0> = 0x0F or CEXT_Err symbols if TXD<7:0> != 0x0F

However if we look at Table 40-1 and Table 40-2 Bit-to-symbol mapping (even and odd subsets) there is no mapping for CEXT_Err.

Further in Clause 40.3.3.1, variable CEXT_Err is defined as code-group generated in Idle mode to denote carrier extension with error indication, as specified in Clause 40.3.1.3

Interpretation 1-11/01 (con’t)

So the question is : what symbols does one transmit on the 4-twisted pairs to denote CEXT_Err ?
Are they from Idles/CEXT portion of table 40-1 dependent on Sd(n)[1:0] as per Clause 40.3.1.3.4 ?

Interpretation 1-11/01 (con't)

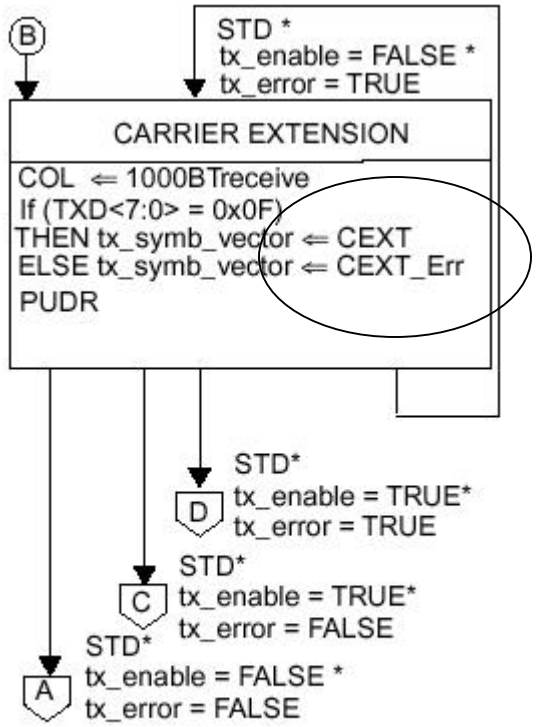


Figure 40-9

Table 40–1—Bit-to-symbol mapping (even subsets) (Continued)

		$Sd_n[6:8]$ = [000]	$Sd_n[6:8]$ = [010]	$Sd_n[6:8]$ = [100]	$Sd_n[6:8]$ = [110]
Condition	$Sd_n[5:0]$	TA_n,TB_n,TC_n, TD_n	TA_n,TB_n,TC_n, TD_n	TA_n,TB_n,TC_n, TD_n	TA_n,TB_n,TC_n, TD_n
Normal	010010	+1,–1,+1,+1	+1,–1,0,0	+1,–2,0,+1	+1,–2,+1,0
Normal	010011	–1,–1,+1,+1	–1,–1,0,0	–1,–2,0,+1	–1,–2,+1,0
Normal	010100	+1,+1,–1,+1	+1,+1,–2,0	+1,0,–2,+1	+1,0,–1,0
Normal	010101	–1,+1,–1,+1	–1,+1,–2,0	–1,0,–2,+1	–1,0,–1,0
Normal	010110	+1,–1,–1,+1	+1,–1,–2,0	+1,–2,–2,+1	+1,–2,–1,0
Normal	010111	–1,–1,–1,+1	–1,–1,–2,0	–1,–2,–2,+1	–1,–2,–1,0
Normal	011000	+1,+1,+1,–1	+1,+1,0,–2	+1,0,0,–1	+1,0,+1,–2
Normal	011001	–1,+1,+1,–1	–1,+1,0,–2	–1,0,0,–1	–1,0,+1,–2
Normal	011010	+1,–1,+1,–1	+1,–1,0,–2	+1,–2,0,–1	+1,–2,+1,–2
Normal	011011	–1,–1,+1,–1	–1,–1,0,–2	–1,–2,0,–1	–1,–2,+1,–2
Normal	011100	+1,+1,–1,–1	+1,+1,–2,–2	+1,0,–2,–1	+1,0,–1,–2
Normal	011101	–1,+1,–1,–1	–1,+1,–2,–2	–1,0,–2,–1	–1,0,–1,–2
Normal	011110	+1,–1,–1,–1	+1,–1,–2,–2	+1,–2,–2,–1	+1,–2,–1,–2
Normal	011111	–1,–1,–1,–1	–1,–1,–2,–2	–1,–2,–2,–1	–1,–2,–1,–2
Normal	100000	+2,0,0,0	+2,0,+1,+1	+2,+1,+1,0	+2,+1,0,+1
Normal	100001	+2,–2,0,0	+2,–2,+1,+1	+2,–1,+1,0	+2,–1,0,+1
Normal	100010	+2,0,–2,0	+2,0,–1,+1	+2,+1,–1,0	+2,+1,–2,+1
Normal	100011	+2,–2,–2,0	+2,–2,–1,+1	+2,–1,–1,0	+2,–1,–2,+1
Normal	100100	+2,0,0,–2	+2,0,+1,–1	+2,+1,+1,–2	+2,+1,0,–1
Normal	100101	+2,–2,0,–2	+2,–2,+1,–1	+2,–1,+1,–2	+2,–1,0,–1
Normal	100110	+2,0,–2,–2	+2,0,–1,–1	+2,+1,–1,–2	+2,+1,–2,–1
Normal	100111	+2,–2,–2,–2	+2,–2,–1,–1	+2,–1,–1,–2	+2,–1,–2,–1

40.3.3 State variables

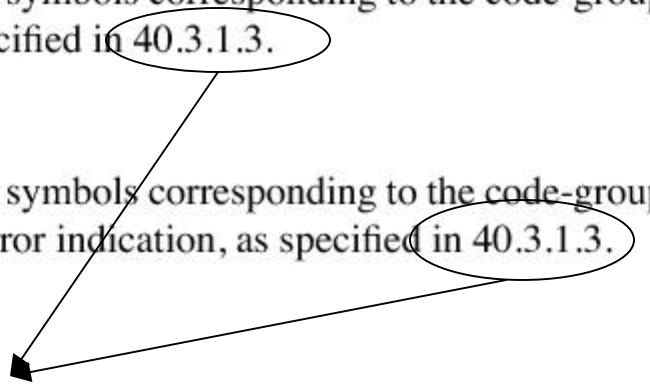
40.3.3.1 Variables

CEXT

A vector of four quinary symbols corresponding to the code-group generated in idle mode to denote carrier extension, as specified in 40.3.1.3.

CEXT_Err

A vector of four quinary symbols corresponding to the code-group generated in idle mode to denote carrier extension with error indication, as specified in 40.3.1.3.



40.3.1.3 PCS Transmit function

The PCS Transmit function shall conform to the PCS Transmit state diagram in Figure 40–9.

The PCS Transmit function generates the GMII signal COL based on whether a reception is occurring simultaneously with transmission. The PCS Transmit function is not required to generate the GMII signal COL in a 1000BASE-T PHY that does not support half duplex operation.

In each symbol period, PCS Transmit generates a code-group (A_n, B_n, C_n, D_n) that is transferred to the PMA via the PMA_UNITDATA request primitive. The PMA transmits symbols A_n, B_n, C_n, D_n over wire-pairs

40.3.1.3.4 Generation of bits $Sd_n[8:0]$

The PCS Transmit function generates a nine-bit word $Sd_n[8:0]$ from Sc_n that represents either a convolutionally encoded stream of data, control, or idle mode code-groups. The convolutional encoder uses a three-bit word $cs_n[2:0]$, which is defined as

$$Sd_n[6] \wedge cs_n[0] \text{ if } (tx\_enable_n = 1)$$

The bits $Sd_n[1:0]$ are used to transmit carrier extension information during tx_mode=SEND_N and are thus dependent upon the bits $cext_n$ and $cext\_err_n$. These bits are dependent on the variable tx_error_n, which is defined in Figure 40–8. These bits are defined as

$$cext_n = \begin{cases} tx\_error_n \text{ if } ((tx\_enable_n = 0) \text{ and } (TXD_n[7:0] = 0x0F)) \\ 0 \text{ else} \end{cases}$$

$$cext\_err_n = \begin{cases} tx\_error_n \text{ if } ((tx\_enable_n = 0) \text{ and } (TXD_n[7:0] \neq 0x0F)) \\ 0 \text{ else} \end{cases}$$

Interpretation Number: 1-11/01 - Item 1
Topic: Definition of CEXT symbols and CEXT_Err symbols
Relevant Clause: Figure 40-9
Classification: Unambiguous

The standard clearly defines CEXT and CEXT_Err in the variables definition for Figure 40–9, subclause 40.3.3.1 ‘State variables’ as follows:

CEXT

> A vector of four quinary symbols corresponding to the code-group generated in idle mode to denote carrier extension, as specified in 40.3.1.3.

CEXT_Err

> A vector of four quinary symbols corresponding to the code-group generated in idle mode to denote carrier extension with error indication, as specified in 40.3.1.3.

Further, subclause 40.3.1.3.4’ Generation of bits Sd_n [8:0]’, a subclause of 40.3.1.3 referenced by the variable definitions above, clearly defines CEXT and CEXT_Err as follows:

$$cext_n = \begin{cases} tx\_error_n \text{ if } ((tx\_enable_n = 0) \text{ and } (TXD_n[7:0] = 0x0F)) \\ 0 \text{ else} \end{cases}$$

$$cext\_err_n = \begin{cases} tx\_error_n \text{ if } ((tx\_enable_n = 0) \text{ and } (TXD_n[7:0] \neq 0x0F)) \\ 0 \text{ else} \end{cases}$$

It is however noted that the reference is not as tight as it could be and a maintenance change has been raised to make the reference more specific. This change request is available at the URL http://www.ieee802.org/maint/requests/all.html

Interpretation 1-11/01 (con’t)

Question 2, Clause 40.3.1.4

Referring to Fig.40-10a (part a), state - 'EXTENDING'
goes to either state 'CARRIER EXTENSION' if Rx(n-1) is CEXT
or state 'CARRIER EXTENSION with ERROR' if Rx(n-1) is IDLE

However if we look at Table 40-1 Bit-to-symbol mapping (even subsets) the mapping for IDLE and CEXT is the same.

Further, as per Clause 40.3.1.3.4, for tx-path :

Sd(n)[1] = Sc(n)[1] ^ cext_err(n) (if tx_enable(n-2) = 0)
Sd(n)[0] = Sc(n)[0] ^ cext(n) (if tx_enable(n-2) = 0)

Interpretation 1-11/01 (con’t)

and so for Rx-path, the answer seems to be :

cext(n) = Sd(n)[0] ^ Sc(n)[0] (if RX_DV = 0)
and
cext_err(n) = Sd(n)[1] ^ Sc(n)[1] (if RX_DV = 0)
and
Idle = others (while RX_DV = 0)

Is this assumption correct ?

So the question is : In the Rx-path how does one differentiate between Idles/CEXT/CEXT_Err in table 40-1?

Seems to be dependent on Sd(n)[1:0] ?

Interpretation 1-11/01 (con't)

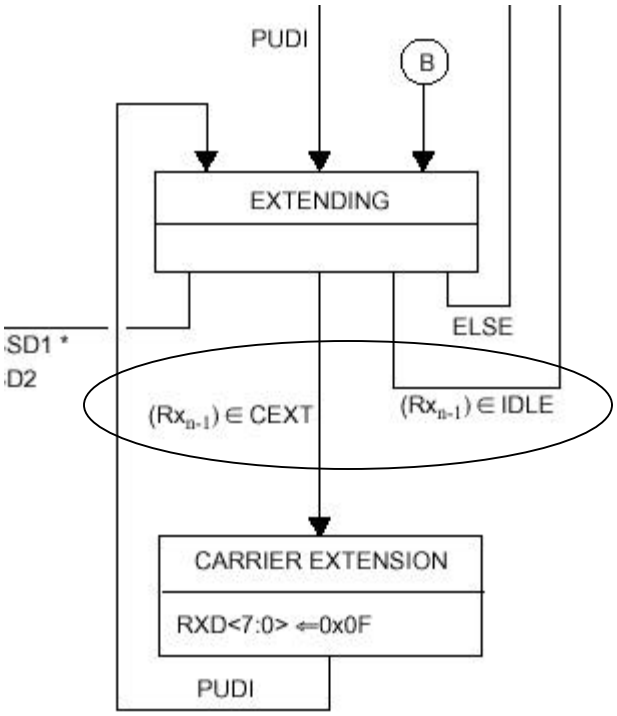


Figure 40-10a

Table 40–1—Bit-to-symbol mapping (even subsets)

		$Sd_n[6:8]$ = [000]	$Sd_n[6:8]$ = [010]	Sc
Condition	**$Sd_n[5:0]$**	**TA_n,TB_n,TC_n, TD_n**	**TA_n,TB_n,TC_n, TD_n**	**TA_n**
Idle/Carrier Extension	000011	–2,–2, 0, 0	—	
Idle/Carrier Extension	000100	0, 0,–2, 0	—	
Idle/Carrier Extension	000101	–2, 0,–2, 0	—	
Idle/Carrier Extension	000110	0,–2,–2, 0	—	
Idle/Carrier Extension	000111	–2,–2,–2, 0	—	

Table 40-1

40.3.3 State variables

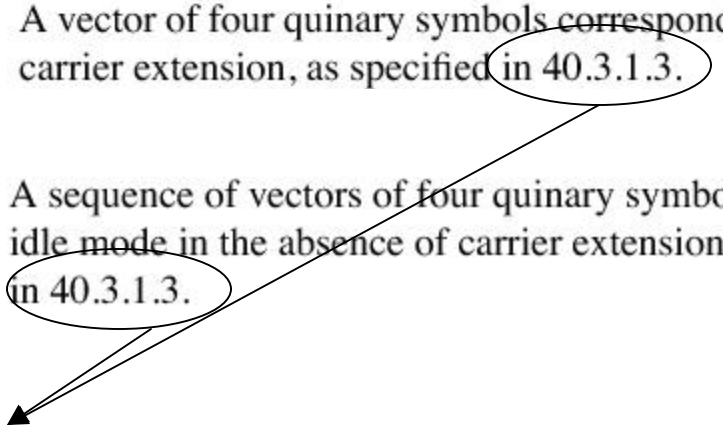
40.3.3.1 Variables

CEXT

A vector of four quinary symbols corresponding to the code-group generated in idle mode to denote carrier extension, as specified in 40.3.1.3.

IDLE

A sequence of vectors of four quinary symbols representing the special code-group generated in idle mode in the absence of carrier extension or carrier extension with error indication, as specified in 40.3.1.3.



40.3.1.3 PCS Transmit function

The PCS Transmit function shall conform to the PCS Transmit state diagram in Figure 40–9.

The PCS Transmit function generates the GMII signal COL based on whether a reception is occurring simultaneously with transmission. The PCS Transmit function is not required to generate the GMII signal COL in a 1000BASE-T PHY that does not support half duplex operation.

In each symbol period, PCS Transmit generates a code-group (A_n, B_n, C_n, D_n) that is transferred to the PMA via the PMA_UNITDATA request primitive. The PMA transmits symbols A_n, B_n, C_n, D_n over wire-pairs

40.3.1.4 PCS Receive function

The PCS Receive function shall conform to the PCS Receive state diagram in Figure 40–10a including compliance with the associated state variables as specified in 40.3.3.

The PCS Receive function accepts received code-groups provided by the PMA Receive function via the parameter rx_symb_vector. To achieve correct operation, PCS Receive uses the knowledge of the encoding rules that are employed in the idle mode. PCS Receive generates the sequence of vectors of four quinary symbols (RA, RB, RC, RD) and indicates the reliable acquisition of the descrambler state by setting the

Interpretation Number: 1-11/01 - Item 2
Topic: Definition of CEXT symbols and IDLE symbols
Relevant Clause: Figure 40-10a
Classification: Unambiguous

The standard clearly defines CEXT and IDLE in the variables definition for Figure 40–9, subclause 40.3.3.1 ‘State variables’ as follows:

CEXT

A vector of four quinary symbols corresponding to the code-group generated in idle mode to denote carrier extension, as specified in 40.3.1.3.

IDLE

A sequence of vectors of four quinary symbols representing the special code-group generated in idle mode in the absence of carrier extension or carrier extension with error indication,as specified in 40.3.1.3.

With the transmit encoding rules specified in 40.3.1.3. In addition

the standard clearly states in 40.3.1.4 PCS Receive ‘To achieve correct operation, PCS Receive uses the knowledge of the encoding rules that are employed in the idle mode.’

Hence to extract IDLE/CEXT/CEXT_Err from Rx_n (which maps to Sd_n), knowledge of the current scrambler state (via Sc_n) is required.

Interpretation 1-11/01 (con't)

Question 3, Clause 40.6.1.1.2

Lastly, there seems to be a typo in Clause 40.6.1.1.2 - Test Modes of Std 802.3, 2000 Edition

The scrambler generator polynomial should be :
gs1 = 1 + x^9 + x^11 instead of : s1 = 1 + x^9 + x^1

Interpretation Number: 1-11/01 - Item 3
Topic: Scrambler generator polynomial
Relevant Clause: 40.6.1.1.2
Classification: Defect

This represents a conflict within the standard. A change request has been generated to correct this which is available at the URL http://www.ieee802.org/maint/requests/all.html

IEEE 802.3 Motion

IEEE 802.3 approves the proposed Interpretation response to the Interpretation request 1-11/01 as presented without the need for a 30 day letter ballot.

M: David Law	S:	Tech 75%/Proc 50%
PASSED/FAILED		Date: 15th Nov 2001
Y:	N: A:	Time:

IEEE 802.3 Motion

IEEE 802.3 submits the proposed Interpretation response to the Interpretation request 1-11/01 for a 30 day Working Group letter ballot after published standard has been checked against the approved draft.

M: David Law S:Tom Dineen Tech 75%/Proc 50%
PASSED/FAILED Date: 15th Nov 2001
Y: 87 N: 0 A: 0 Time: 14:21

Interpretation 2-11/01

The specific designation of the standard, including the year of publication: IEEE Std 802.3, 2000 Edition. The specific subsection being questioned: 36.2.4.2.2 Figure 36-7b. The applicable conditions for the case in question:

The transition from RECEIVE to RX_DATA uses notation that is not explained and is not consistent with the notation used elsewhere in the state machines. The transition condition is <element of symbol>[/D/]

Where /D/ is a constant defined as representing the set of data code groups. The problem is that there is nothing on the transition to indicated what is being tested. Normally, the notation would be similar to that used on the left exit from RX_CB in Figure 36-7a. SUDI(<element of symbol>[/D/]) where it is clear that the

Interpretation 2-11/01 (con’t)

condition is a test of whether the code-group in the current SUDI was a data code group.

I believe that the intent of the state diagram is that the test be against the code-group contained from the SUDI that cause the transition to RECEIVE. The notation that is used on the exit from RX_CB can't be used here because the SUDI has already been used to transition to RECEIVE. One way to clarify the notation would be to add to the RECEIVE state an assignment of the parameter from the SUDI to a variable which can be tested in the transition condition. Another alternative is to add text to the description of the receive state machine explaining the deviation in the notation.

Interpretation 2-11/01 (con't)

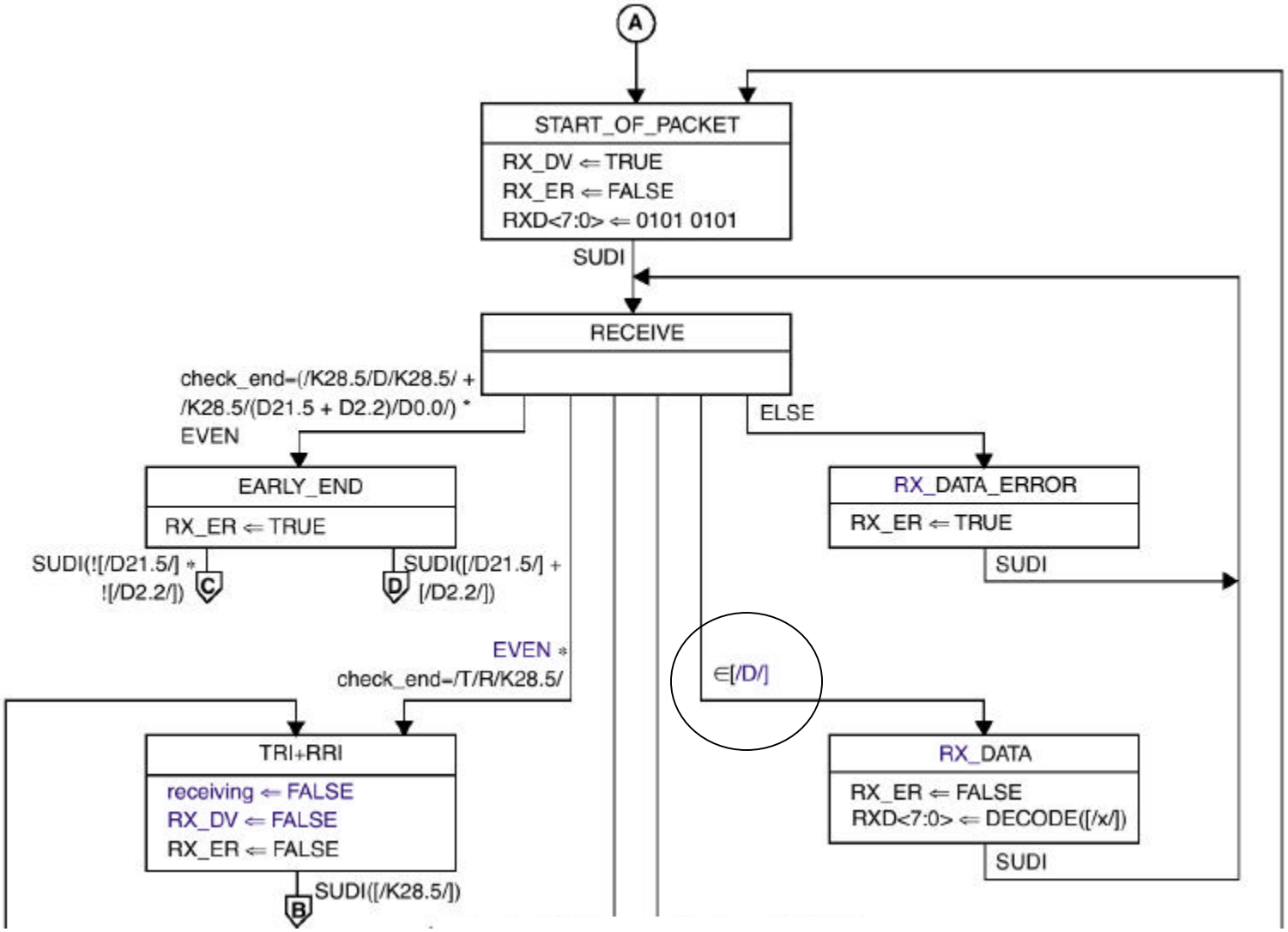


Figure 36-7b

IEEE P802.3 Interpretation 2-11/01

Interpretation Number: 2-11/01

Topic: PCS receive state diagram,part b

Relevant Clause: 36.2.4.2.2 Figure 36-7b

Classification: Defect

The analysis of this state machine transition provided in the request is correct however this has illustrated a lack of clarity of the conditions for this transition. A change request has been generated to correct this which is available at the URL http://www.ieee802.org/maint/requests/all.html and this request will be included in the next maintenance ballot.

IEEE 802.3 Motion

IEEE 802.3 approves the proposed Interpretation response to the Interpretation request 2-11/01 as presented without the need for a 30 day letter ballot.

M: David Law S: Steve Carlson Tech 75%/~~Proc 50%~~

PASSED/~~FAILED~~ Date: 15th Nov 2001

Y: 78 N: 0 A: 3 Time: 14:25

IEEE P802.3 Interpretation 1-03/01 Working Group ballot

IEEE P802.3 Interpretation 1-03/01 Working Group ballot

317	Voters
162	Ballots returned
51.1%	**Return rate (> 50% required)**
96	Approval
3	Approve with comments
0	Disapprove
63	Abstain
100.0%	**Approval rate (> 75% required)**
38.9%	**Abstain rate (< 30% required)**

IEEE P802.3 Interp1-03/01 Comments

Comments

Editorial	: 3
Technical	: 1
Withdrawn	: 2
Total	: 6

In this sentence, the "Auto-Negotiation link partner ability register" contradicts "(Register 6)".

Interpretation for IEEE std 802.3-2000

~~We suspect that this is an error and in order to confirm this a change request~~ will ~~be generated and this will be included in the next maintenance ballot.~~

The correct register for Auto-Negotiation Link Partner Ability would be Register 5. There is a further conflict when receiving next pages as Clauses 32 and 40 define Register 8 for next pages while Clause 28 stores them in Register 5.

A change request will be generated to resolve the conflicts and placed in the next maintenance ballot.

IEEE 802.3 Motion

IEEE 802.3 authorises a Working Group recirculation ballot of Interpretation 1-03/01 on that basis of a suspension of the Working Group rule that the abstention ratio must be less than 30%.

M: David Law S:Bob Grow Tech 75%/~~Proc 50%~~

PASSED~~/FAILED~~ Date: 15th Nov 2001

Y: 89 N: 0 A: 5 Time:

ISO/IEC SC25/WG3 Meeting

Munich: 27-30 Aug 2001

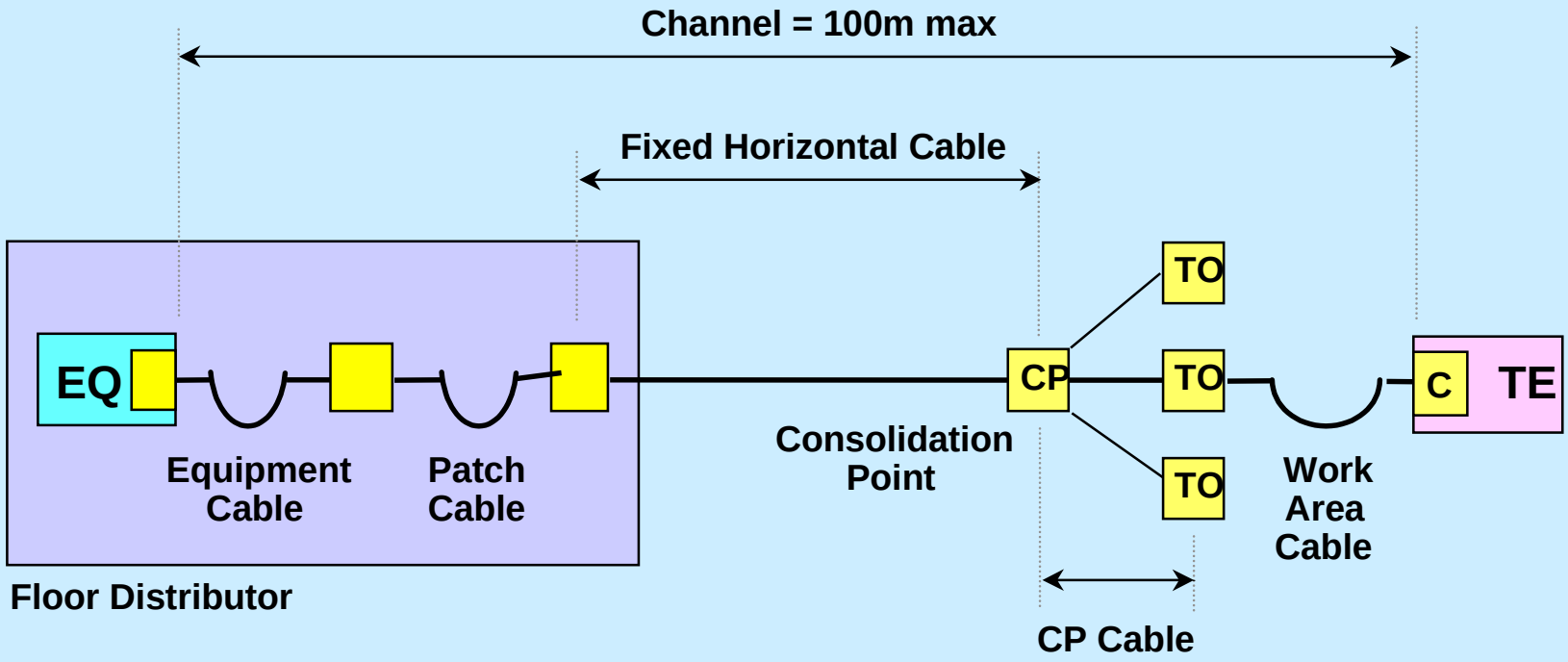
- Customer Premises Cabling -

50 Experts 19 Nations

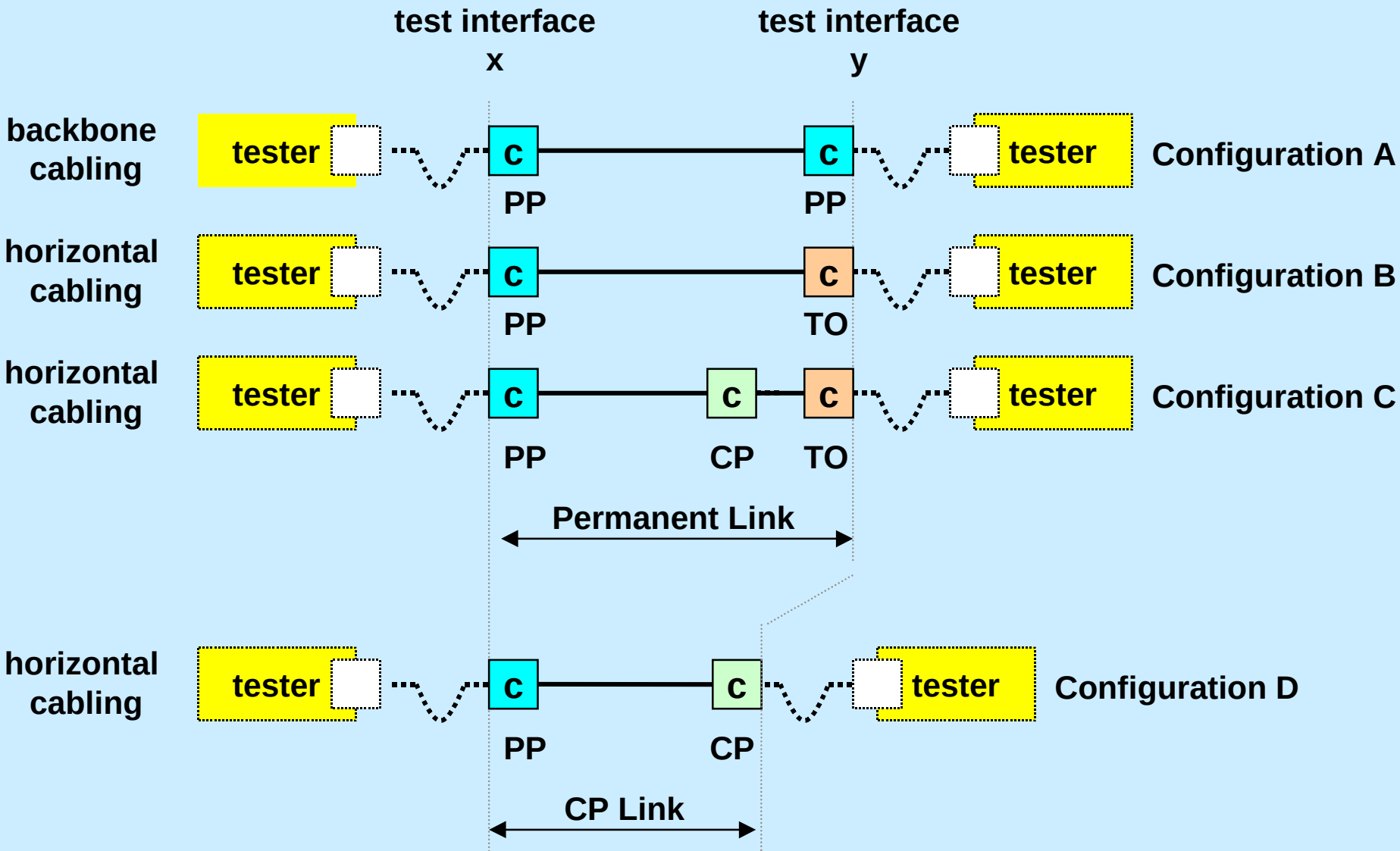
Highlights

- 11801 2nd Ed CD2 vote positive
  - » 16 nations Yes, 4 nations No
- approx 1200 comments received
- 11801 FCD forwarding approved
- productive meeting with further harmonisation with other stds
- convenor re-elected unopposed

ISO/IEC 11801 2nd Edition
Horizontal Cabling Model



ISO/IEC 11801 2nd Edition
Test Interfaces



ISO/IEC 11801 2nd Edition
Document Structure

Clauses

1. Scope
2. Normative References
3. Definitions & Abbreviations
4. Conformance
5. Structure
6. Copper Channel Performance
7. Copper Ref Implementations
8. Optical Cabling Performance
9. Cable Performance
10. Connecting HW Performance
11. Screening Practices
12. Administration
13. Balanced Cords

Annexes

A. Test Procedures
B. Connector H/W Testing
C. Acronyms for Balanced Cables
D. Performance of Links
E. Supported Applications
F. Models for Balanced Cabling
G. Changes from Earlier Editions
H. Performance of Horiz CP Links
I. Electromagnetic Performance
J. Bibliographical References

ISO/IEC 11801 2nd Edition
Connector Decisions

Copper

- Cat 6 connector has RJ-45 interface (IEC 60603-7)
- Cat 7 connector has RJ-45 or non RJ-45 interface
- Cat 7 RJ-45 plug screen contact dimensions needed
  - » may short additional pins in Cat 7 jack

Optical

- duplex SC recommended, SFF allowed for patching
- IEC SC86B standardised SFF connector interfaces:
  - » SG (Volition), LC (Lucent), MT-RJ (consortium)
  - » all other SFF candidates have been rejected
  - » optical performance specification to follow

IEEE 802.3 Matters

- **thanks to 802.3af for PD load characterisation**
  - » **forwarded to connector experts for evaluation**
- **802.3af draft 1.2 reviewed for cabling content**
  - » **compatible with ISO/IEC 11801 2nd Edition CD**
- **1000BASE-SX support for 300m 62MMF dropped**
  - » **generic fibre scheme has 300/500/2000m lengths**
  - » **802.3z guarantees 275m with 200/500 62MMF**

ISO/IEC 11801 2nd Edition
Development Plan

Sep 2001 - forward 11801 FCD for review

Feb 2002 - resolve 11801 FCD comments

Mar 2002 - prepare 11801 FDIS for review

Sep 2002 - prepare 11801 for publication

Other Projects

- **ISO/IEC 15018 SOHO Cabling**
  - » 4th CD vote positive (11 nations yes, 5 nations no)
  - » 800 comments received & processed
  - » substantial work remains to be done
  - » 5th CD to be forwarded for review
- **ISO/IEC 18010 Pathways & Spaces**
  - » FCD vote positive
  - » FDIS to be forwarded for vote
  - » proposal to include multi-tenant buildings

Future Meetings

SC25 WG3	25 Feb - 01 Mar 2002	Kyoto
SC25 WG3	23 Sep - 26 Sep 2002	Washington
SC25	27 Sep 2002	Washington

TIA-TR42 Liaison

Engineering Committee on User Premises Telecommunications Cabling Infrastructure

November 2001,
Austin, TX

Chris Di Minico
CDT Corporation

CDT
CABLE DESIGN TECHNOLOGIES

TR-42 Scope:

TR-42 - User Premises Telecommunications Infrastructure

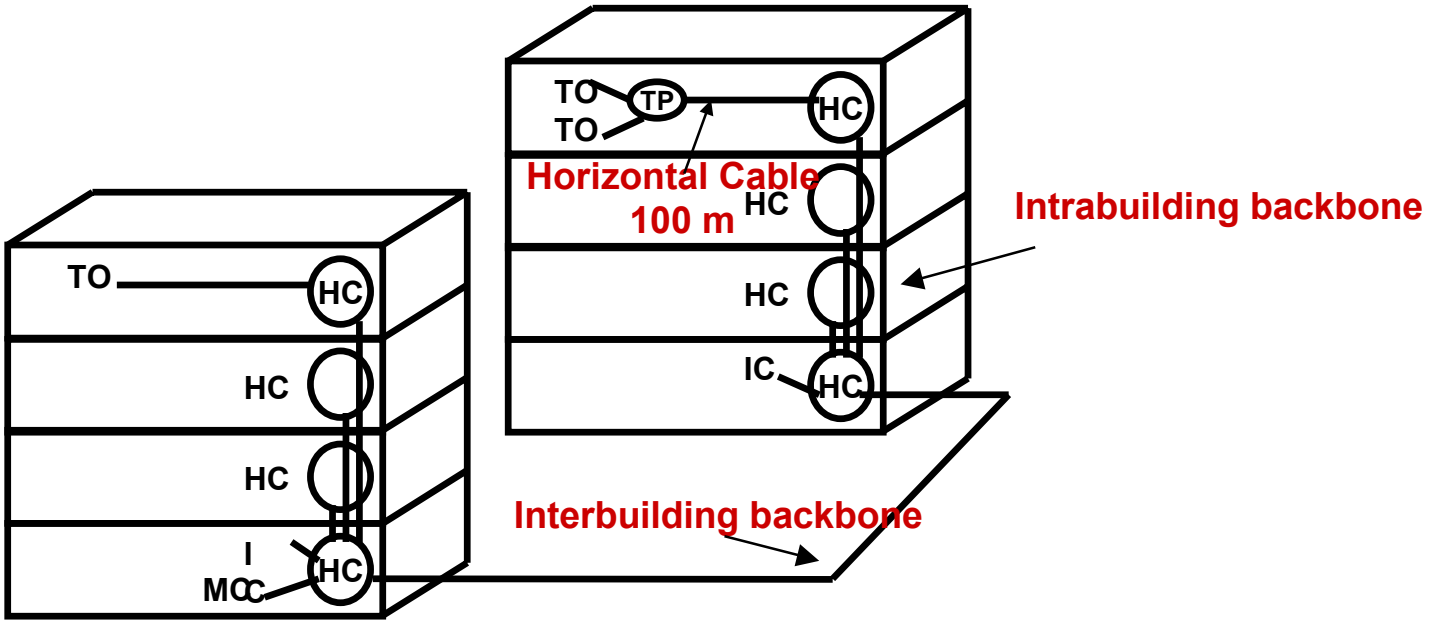
• Commercial, industrial and residential cabling standards including telecommunications infrastructure administration, pathways and spaces, and copper and optical fiber systems requirements.

TR-42 - Commercial Building Telecommunications Standards

TR-42.1 - TIA/EIA-568-A ------> TIA/EIA-568-B - Cabling Standard

Performance and technical criteria for a telecommunication cabling system

- Topology, and Components



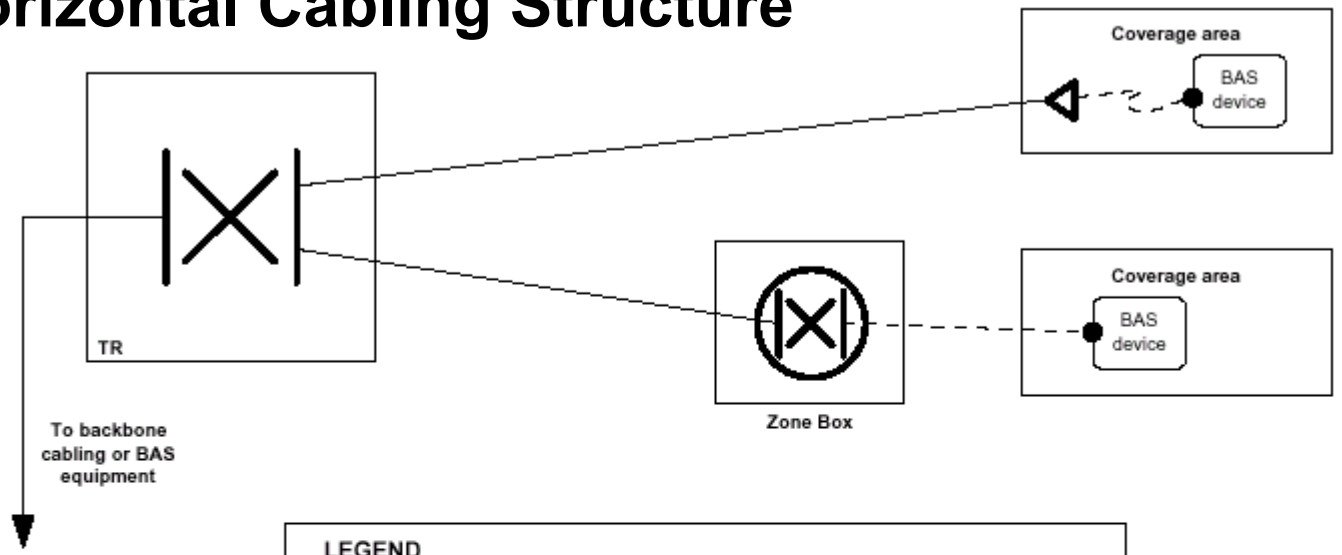
TR-42.3 - Commercial Building Telecommunications Pathways and Spaces

- TIA/EIA -569 - Pathways and Spaces

CDT
CABLE DESIGN TECHNOLOGIES

SP-3-4655-A (TIA/EIA-862) Building Automation Cabling Standard for Commercial Buildings - Draft 7.0

BAS Horizontal Cabling Structure



LEGEND

BAS.....Building automation system

TR.....Telecommunications room

.....Horizontal Cross-Connect

.....Horizontal connection point

.....BAS outlet

.....BAS device termination

.....Coverage area cable

CDT
CABLE DESIGN TECHNOLOGIES

TR-42- Copper and Fiber Cabling Work Groups

- TR-42.7 - Telecommunications Copper Cabling Systems
  - TR-42.7.1 - Copper Connecting Hardware
  - TR-42.7.2 - Copper Cable
    - working group initiated activity to evaluate ESD for IEEE
    - Addendum: 802.3af DTE Power - additional parameters
- TR-42.8 - Telecommunications Optical Fiber Cabling Systems
  - PN-3894-AD1, Additional Transmission Performance Specifications for 50/125 μm Optical Fiber Cables
    Status: recirculation ballot - based on inclusion of reference to detailed fiber specification (Addition to -ANSI/EIA/TIA-492)

TR-42- Work Groups

- TR-42.2 - **Residential** Telecommunications Infrastructure
- TR-42.9 - **Industrial** Telecommunications Infrastructure
- TR-42.4 - Customer-owned Outside Plant Telecommunications Infrastructure
- TR-42.5 - Telecommunications Infrastructure Terms and Symbols
- TR-42.6 - Telecommunications Infrastructure and Equipment Administration
  - Labeling and record keeping

CDT
CABLE DESIGN TECHNOLOGIES

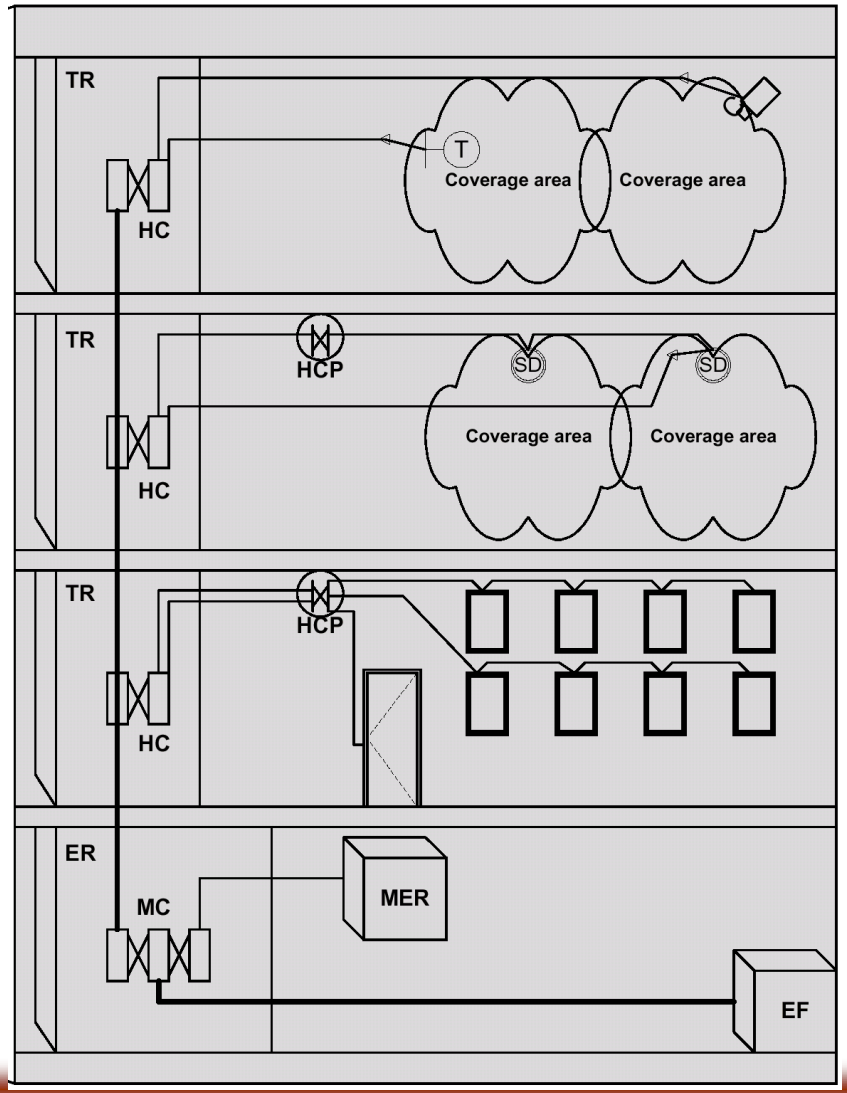
TR42.1 Study Group: Telecommunications Cabling Infrastructure for Network Distribution Nodes

Scope: Develop cabling topology, recognized media types, cabling requirements, and requirements for pathways & spaces for data centers

- Facility Design
- Cabling Design
- Network Design

CDT
CABLE DESIGN TECHNOLOGIES

SP-3-4655-A (TIA/EIA-862) Building Automation Cabling Standard for Commercial Buildings - Draft 7.0



Legend	
EF	Entrance facility
ER	Equipment room
HC	Horizontal cross-connect
HCP	Horizontal connection point
TR	Telecommunications room
MER	Mechanical equipment room
MC	Main cross-connect
SD	BAS device (smoke detector)
T	BAS device (Thermostat)
◁	BAS outlet
C◁	Camera

BAS Cabling Structure

CDT
CABLE DESIGN TECHNOLOGIES

TIA FO-2.2.1
Multimode Launch Conditions
November 12, 2001
Liaison to IEEE 802.3

Steve Swanson
swansonse@corning.com

Summary of 2.2.1 Activity

- No face-to-face meetings since July IEEE Plenary

- TIA FO-2.2.1 recommendation complete
  - Includes fiber DMD and transceiver encircled flux requirement
  - Achieves optimum balance between fiber and transceiver properties
  - Final modeling demonstrated low risk

CORNING

Document Status

- FOTP 203 – Encircled Flux
  - Published
- FOTP 204 – Measurement of Multimode Fiber Bandwidth
  - Published
- TSB 20 TIA/EIA 62-20
  - Published
- FOTP 220 - Fiber DMD measurement (PN-3008)
  - Letter ballot approved, awaiting publication
- TIA 492AAAC - Fiber Specification (PN-3-0035)
  - Letter ballot closed 10/29, comments resolved

CORNING

LS38-15

QUESTIONS: All/15
SOURCE: ITU-T SG 15
TITLE Optical Transport Networks & Technologies Standardization Work Plan, Issue 1

LIAISON & COMMUNICATION STATEMENT

TO: ITU-T SG4, SG9, SG11, SG13, Committee T1 (T1X1), IEC (TC86), IETF (Sub-IP and Transport Areas), IEEE (802), ATM Forum, OIF
APPROVAL: Agreed to at SG15 meeting (Geneva, 15-26 October 2001)
FOR: Information and action
DEADLINE:

CONTACT: Mark Jones, Q.19/15 Rapporteur
Sprint
Mailstop: KSOPKB0803
9300 Metcalf Avenue
Overland Park, KS 66212
U.S.A.

Tel: +1 913 534 5247
Fax: +1 913 534 3485
Email: mark.jones@mail.sprint.com

Study Group 15 entrusted WP 5/15, under Question 19/15, with the task to carry out the Lead Study Group responsibilities on Optical Technologies. The outcome of the activities consists of the Optical Transport Networks & Technologies Standardization Work Plan (OTNT SWP). It contains a list of standardization bodies and contacts relevant to optical standardization, a list of known holes/overlaps/conflicts in current work, lists of Standards and Recommendations from ITU and other organizations, a list of documents being actively worked, and a terminology mapping across multiple bodies working in this area.

The document can be found at
http://www.itu.int/itudoc/itu-t/com15/otn/index.html
(to be confirmed by TSB before posting)
Q19 kindly requests your cooperation in developing and maintaining this document as a useful tool for coordinating the standardization of optical transport networks & technologies. After each revision, Q19 will draw your attention to the new document issue and would appreciate any suggestion or comment. A more helpful web version of this material is currently being developed

---

Reply-To: "j.carlo" <j.carlo@ieee.org>
From: Jim Carlo <jtcarlo@worldnet.att.net>
To: "Thompson, Geoff [SC5:321:EXCH]" <gthompso@americasm06.nt.com>,
Howard Frazier <millardo@dominetsystems.com>,
Mike Takefman <tak@cisco.com>, Paul Nikolich
<P.Nikolich@ieee.org>,
Jonathan Thatcher <jonathan.thatcher@worldwidepackets.com>
Cc: Dick Holleman <r.j.Holleman@att.net>
Subject: Communication Statement from ITU-T SG 15
Date: Fri, 2 Nov 2001 13:31:50 -0600
X-Mailer: Microsoft Outlook IMO, Build 9.0.2416 (9.0.2911.0)
Importance: Normal
X-MimeOLE: Produced By Microsoft MimeOLE V5.50.4133.2400
X-SMTP-HELO: mtiwmhc23.worldnet.att.net
X-SMTP-MAIL-FROM: jtcarlo@worldnet.att.net
X-SMTP-RCPT-TO: gthompso@nortelnetworks.com
X-SMTP-PEER-INFO: [204.127.131.48]
X-Orig: <jtcarlo@worldnet.att.net>

Note the following two files from the ITU-T, dealing with (their) coordination of Optical Transport Networks (See Page 16 in the Zip file for
IEEE802 coordination). Note that the pointer in the word document doesn't
work. The zip file contains some interesting contact information on Optical
Transport Networks.

Dick Holleman will be attending an ITU-T structure meeting in December
hosted by Houlin Zhao. Let me know if there are any particular issues with
IEEE802 and ITU-T that Dick should be aware of.

Jim Carlo (j.carlo@ieee.org) Phone:1-214-693-1776 Fax:1-214-853-5274
J.Carlo Consulting LLC (Focus on Telecom Strategy/Standards/Patents)
Vice Chair, IEEE-SA Standards Board
Chair, IEEE802 LAN/MAN Standards Committee

-----Original Message-----
From: Garde, Isabelle [mailto:Isabelle.Garde@itu.int]
Sent: Friday, November 02, 2001 1:26 AM
To: 'steve.joiner@ignisoptics.com'; 'sob@harvard.edu';
'bwijnen@lucent.com'; 'mankin@isi.edu'; 'rltownsend@lucent.com';
'j.carlo@ieee.org'; 'msorbara@globespan.net'
Cc: Wery, Peter (TIES)
Subject: Communication Statement from ITU-T SG 15

Dear Sirs,

On behalf of the Chairman of ITU-T Study Group 15, Peter Wery, I am pleased
to send you the attached Communication Statement, agreed to at SG 15 meeting, Geneva, 15-26 October 2001.

Regards,

Paolo Rosa,
TSB Counsellor
SGs 6 and 15

<<ls38-15.doc>> <<pl-082.zip>>


ls38-15.doc


pl-082.zip

ITU - Telecommunication Standardization Sector **Temporary Document 082(PLEN)**

STUDY GROUP **15**

Geneva, 15-26 October 2001

Question(s): 1-19/15

SOURCE*: Q.19/15 Rapporteur

TITLE: Optical Transport Networks & Technologies Standardization Work Plan, Issue 1

This OTNT Standardization Work Plan, Issue 1 is the first version intended for distribution outside of ITU-T SG15.

* **Contact:** Mark Loyd Jones
Tel: +1 913 534 5247
Fax: +1 913 534 3485
E-mail: mark.jones@mail.sprint.com

Optical Transport Networks & Technologies Standardization Work Plan

Issue 1, 24 October 2001

Table of Contents

List of Tables

Optical Transport Networks & Technologies Standardization Work Plan

1. General

Optical Transport Networks & Technologies Standardization Work Plan is a living document. It may be updated even between meetings. The latest version can be found at the following URL.

http://www.itu.int/itudoc/itu-t/com15/otn/index.html

Proposed modifications and comments should be sent to:

Mark Jones
mark.jones@mail.sprint.com
Tel. +1 913 534 5247
Fax. +1 913 534 3485

2. Introduction

Today's global communications world has many different definitions for optical transport networks and many different technologies that support them. This has resulted in a number of different Study Groups within the ITU-T, e.g. SG 4, 11, 13, 15 developing Recommendations related to optical transport. Moreover, other standards bodies, fora and consortia are also active in this area.

Recognising that without a strong coordination effort there is the danger of duplication of work as well as the development of incompatible and non-interoperable standards, the WTSA 2000 designated Study Group 15 as Lead Study Group on Optical Technology, with the mandate to:

- study the appropriate core Questions (Question 9, 11, 12, 14, and 16/15),
- define and maintain overall (standards) framework, in collaboration with other SGs and standards bodies),
- coordinate, assign and prioritise the studies done by the Study Groups (recognising their mandates) to ensure the development of consistent, complete and timely Recommendations,

Study Group 15 entrusted WP 5/15, under Question 19/15, with the task to manage and carry out the Lead Study Group activities on Optical Technology. To maintain differentiation from the standardized Optical Transport Network (OTN) based on Recommendation G.872, this Lead Study Group Activity is titled Optical Transport Networks & Technologies (OTNT).

3. Scope

As the mandate of this Lead Study Group role implies, the standards area covered relates to optical transport networks and technologies. The optical transport functions include:

- multiplexing function
- cross connect function, including grooming and configuration
- management functions
- physical media functions.

The outcome of the Lead Study Group activities is twofold, consisting of a:

- standardization plan
- work plan,

written as a single document until such time as the distinct pieces warrant splitting it into two.

Apart from taking the Lead Study Group role within the ITU-T, Study Group 15 will also endeavour to cooperate with other relevant organizations, such as ETSI, Committee T1, ISO/IEC etc.

4. Abbreviations

ASON	Automatically Switched Optical Network
ASTN	Automatically Switched Transport Network
ETSI	European Telecommunications Standards Institute
IEC	International Electrotechnical Commission

ISO	International Organization for Standardization
OTN	Optical Transport Network
OTNT	Optical Transport Networks & Technologies
SDH	Synchronous Digital Hierarchy
SONET	Synchronous Optical NETwork
WTSA	World Telecommunications Standardization Assembly

5. Definitions

One of the most complicated factors of coordinating work of multiple organizations in the area of OTNT are the differences in terminology. Often multiple different groups are utilising the same terms with different definitions. This section includes definitions relevant to this document. See Annex A for more information on how common terms are used in different organizations.

5.1 Optical Transport Networks & Technologies (OTNT)

The transmission of information over optical media in a systematic manner is an optical transport network. The optical transport network consists of the networking capabilities and the technology required to support them. For the purposes of this standardization and work plan, all new optical transport networking functionality and the related technologies will be considered as part of the OTNT Standardization Work Plan. The focus will be the transport and networking of digital payloads over fiber optic cables. Though established optical transport mechanisms such Synchronous Digital Hierarchy (SDH) may fall within this broad definition, only standardization efforts relating to new networking functionality of SDH will be actively considered as part of this Lead Study Group activity.

5.2 Optical Transport Network (OTN)

An Optical Transport Network (OTN) is composed of a set of Optical Network Elements connected by optical fibre links, able to provide functionality of transport, multiplexing, routing, management, supervision and survivability of optical channels carrying client signals, according to the requirements given in Recommendation G.872.

A distinguishing characteristic of the OTN is its provision of transport for any digital signal independent of client-specific aspects, i.e. client independence. As such, according to the general functional modeling described in Recommendation G.805, the OTN boundary is placed across the Optical Channel/Client adaptation, in a way to include the server specific processes and leaving out the client specific processes, as shown in Figure 1.

NOTE - The client specific processes related to Optical Channel/Client adaptation are described within Recommendation G.709.

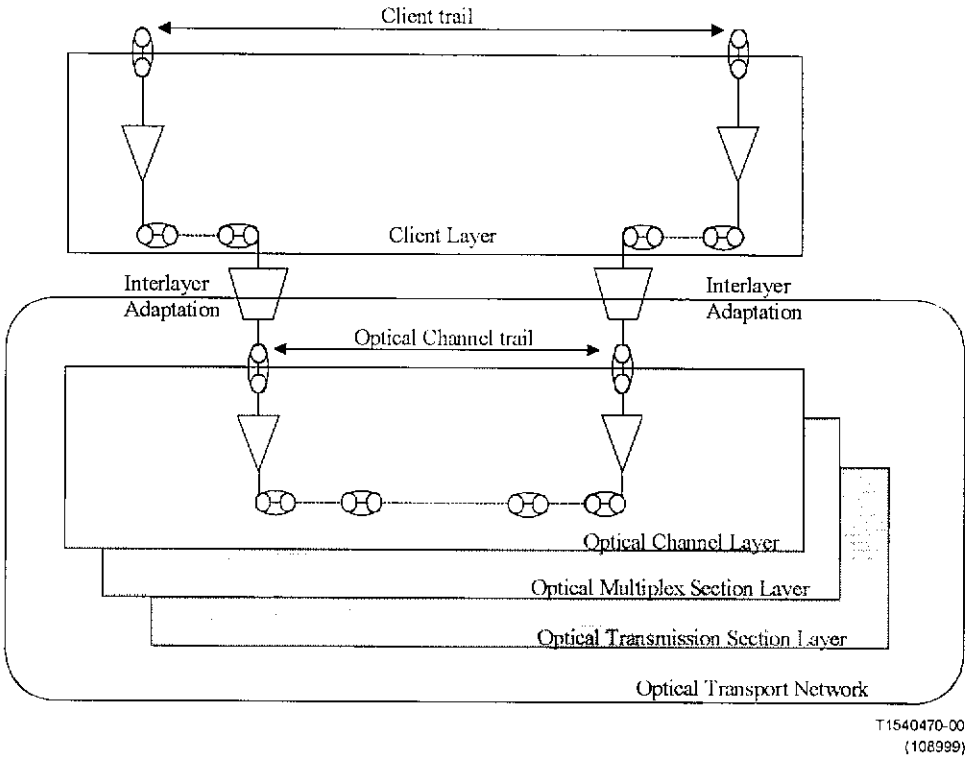


FIGURE 5-1/OTNT: Boundary Of An Optical Transport Network And Client-Server Relationship

{Editor's note: A definition for Metropolitan Optical Networks is under study for inclusion here.}

6. OTNT Correspondence and Liaison Tracking

6.1 OTNT Contacts

The International Telecommunication Union - Telecommunications Sector (ITU-T) maintains a strong focus on global OTNT standardization. It is supported by other organizations that contribute to specific areas of the work at both the regional and global levels. Below is a list of the most notable organizations recognised by the ITU-T and the contact points for more information about their activity. Organizations not recognised by the ITU-T are included in informative Annex B.

TABLE 6-1/OTNT: **Contacts for OTNT Related Standards Organizations and Fora**

Organization	Web Homepage	Contact	Status/Notes
ITU-T SG4 Telecommunication management, including TMN	http://www.itu.int/ITU-T/studygroups/com04/index.html	Mr. David J. Sidor Nortel Networks (USA) 4008 East Chapel Hill-Nelson Highway MS D15000B6 Research Triangle Park North Carolina 27709 USA Tel: +1 919 997 3628 Fax: +1 919 991 7085 Email: djsidor@nortelnetworks.com	
ITU-T Working Party 1/4 Designations, Performance and Test equipment)		Mr. Frank Coenning Acterna Postfach 1262 D-72795 Eningen Germany Tel.: +49 7121 86 1313 Fax: +49 7121 86 2029 Email: frank.coenning@acterna.com	
ITU-T Q.3/4(WP1) Transport network and service operations procedures for performance and fault management		Peter Huckett Acterna UK Ltd, Portland House, Aldermaston Park, ALDERMASTON, Berkshire, RG7 4HR United Kingdom Tel. +44 1245 401 329 Fax. +44 1245 401 334 E-mail : peter.huckett@acterna.com	
ITU-T Q.4/4(WP1) Test and measurement techniques and instrumentation for use on telecommunications systems and their constituent parts		Wolfgang Miller Acterna Eningen GmbH Mühleweg 5, D-72800 Eningen Germany Tel. +49 7121 861328 Fax. +49 7121 862054 E-mail : wolfgang.miller@acterna.com	

Organization	Web Homepage	Contact	Status/Notes
ITU-T SG13 Multi-protocol and IP-based networks and their internetworking	http://www.itu.int/ITU-T/com13/index.html	Chairman: Mr. B.W. Moore Lucent Technologies 6 Scott Drive Colchester Essex C03 4JD United Kingdom Tel.: +44 1206 76 23 35 Fax: +44 1206 76 23 36 E-mail: moore@bwmc.demon.co.uk	
ITU-T Working Party 2/13 Architectures and Internetworking Principles		Chairman: Mr. C.-S. Lee Korea Telecom Geneva Liaison Officer 64 Chemin Auguste Vilbert, 1218 Grand-Saconnex, Geneva Switzerland Tel: +41 22 788 44 60 Mobile: +41 79 248 2207 Fax: +41 22 788 44 61 E-mail: chae-sub.lee@ties.itu.int	
ITU-T Q.10/13(WP2) Core Network Architecture and Interworking Principles		Rapporteur: Mr. N. MORITA NTT 3-9-11, Midori-Cho, Musashino-Shi Tokyo 180-8585 Japan Tel.: +81 422 59 7464 Fax: +81 422 59 4646 Email: morita.naotaka@lab.ntt.co.jp	
ITU-T Working Party 4/13 Network Performance and Resource Management		Chairman: Mr. N. Seitz US Dept. of Commerce NTIA/ITS.N 325 Broadway Boulder, Co. 80303-3328 United States Tel.: +1 303 497 3106 Fax: +1 303 497 5969 E-mail: neal@ntia.its.bldrdoc.gov	

Organization	Web Homepage	Contact	Status/Notes
ITU-T Q.8/13(WP4) Transmission Error and Availability Performance		Rapporteur: Mr. G. GARNER Lucent Technologies 101 Crawfords Corner Rd Room 3C-511 Homdel, NJ 07733 USA Tel: +1 732 949 0374 Fax: +1 732 949 3210 Email: gmgarner@lucent.com	
ITU-T SG15 Optical and other transport networks	http://www.itu.int/ITU-T/com15/index.html	Chairman: Mr. Peter H. K. Wery Nortel Networks P.O. Box 3511, Station C Ottawa Ontario K1Y 4H7 Canada Tel: +1 613 763-7603 Fax: +1 613 763-2697 Email: wery@nortelnetworks.com	
ITU-T Working Party 1/15 Network Access		Chairman: Mr. Andrew Nunn BT 1, Andrew Close Leiston Suffolk, IPI6 4LE United Kingdom Tel: +44 1728 83 04 62 Fax: +44 1728 83 04 62 Email: andrew.nunn@btinternet.com	
ITU-T Q.2/15 Optical systems for access networks (WP1)		Rapporteur: Mr. Dave Faulkner BtexaCT Adastral Park Martlesham Heath Ipswich IP5 3RE United Kingdom Tel: +44 1473 64 2085 Fax: +44 1473 64 6445 Email: dave.faulkner@bt.com	

Organization	Web Homepage	Contact	Status/Notes
ITU-T Working Party 3/15 OTN Structure		Chairman: Mr. Stephen J. Trowbridge Lucent Technologies 11900 N. Pecos St. Room 31G56 Denver, Co. 80234 USA Tel: +1 303 920 6545 Fax: +1 303 920 6553 Email: sjtrowbridge@lucent.com	
ITU-T Q.9/15 Transport equipment and network protection/restoration (WP3)		Rapporteur: Mr. Ghani Abbas Marconi Communications Ltd. Technology Drive Beeston, Nottingham United Kingdom Tel:+44 115 906 4036 Cellular: +44 410 370 367 Fax:+44 115 906 4346 E-mail: ghani.abbas@marconi.com	
ITU-T Q.11/15 Signal structures, interfaces and interworking for transport networks (WP3)		Rapporteur: Mr. Gilles Joncour France Telecom R&D RTA/D2M Technopole Anticipa av. Pierre Marzin 22307 Lannion Cédex France Tel: +33 2 96 05 24 69 Fax: +33 2 96 05 12 52 Email:gilles.joncour@francetelecom.com	
ITU-T Q.12/15 Technology Specific Transport Network Architectures (WP3)		Rapporteur: Mr. Antonio Manzalini CSELT via Guglielmo Reiss Romoli, 274 10148 Torino Italy Tel: +39 011 228 5817 Fax: +39 011 228 5840 email: antonio.manzalini@cselt.it	

Organization	Web Homepage	Contact	Status/Notes
ITU-T Q.13/15 Network Synchronization and Time Distribution Performance (WP3)		Rapporteur: Jean Loup Ferrant Alcatel Centre de Villarceaux 91625 Nozay France Tel: +33 1 6449 2307 Fax: +33 1 6449 2956 Email: jean-loup.ferrant@alcatel.fr	
ITU-T Q.14/15 Network management for transport systems and equipment (WP3)		Rapporteur: Mr. Hing Kam Lam Lucent Technologies 101 Crawford Corner Road, Room 4C-616A Holmdel, NJ 07733 USA Tel: +1 732 949-8338 Fax: +1 732 949-5055 Email: hklam@lucent.com	
ITU-T Working Party 4/15 OTN Technology		Chairman: Mr. Gastone Bonaventura Telecom Italia Viale Europa 190 00144 Roma Italy Cell: +39 335 382905 Tel: +39 06 3687 5740 Fax: +39 06 3687 5115 Email: gastone.bonaventura@telecomitalia.it	
ITU-T Q.15/15 Characteristics and test methods of optical fibres and cables (WP4)		Rapporteur: Mr. William B. Gardner Lucent Technologies 2000 NE Expressway, 1H31 Norcross, GA, 30071 USA Tel: +1 770 798 2674 Fax: +1 770 798 4654 Email: wbgardner@lucent.com	

Organization	Web Homepage	Contact	Status/Notes
ITU-T Q.16/15 Characteristics of optical systems for terrestrial transport networks (WP4)		Rapporteur: Mr. John Eaves TyCom Labs Rm. 1C-240 250 Industrial Way West Eatontown NJ 07724 USA Tel: +1 732 578 7471 Fax: +1 732 578 7502 Email: jeaves@tycomltd.com	
ITU-T Q.17/15 Characteristics of optical components and subsystems (WP4)		Rapporteur: Mr. James Matthews III Corning Inc. 8 E. Denison Pkwy Corning, NY M831 USA Tel: +1 607 974 7608 Fax: +1 607 974 4941 Email: matthewsje@corning.com	
ITU-T Q.18/15 Characteristics of optical fibre submarine cable systems (WP4)		Rapporteur: Mr. Masaharu Ohashi NTT Access Network Service Systems Labs 1-7-1, Hanabatake, Tsukuba, Ibaraki, 306-0805 Japan Tel:+81 29 287 7263 Fax:+81 29 287 7389 E-mail: ohashi@ansl.ntt.co.jp	
ITU-T Working Party 5/15 Projects and Promotion		Chairman: Mr. Haruo Okamura Corning International K.K. 1-14-14, Akasaka, Minato-ku Tokyo 107-0052 Japan Tel: +81 3 3586 1398 Fax: +81 3 3587 0906 E-mail: okamurah@corning.com	

Organization	Web Homepage	Contact	Status/Notes
ITU-T Q.19/15 General characteristics of optical transport networks (WP5)		Rapporteur: Mr. Mark Loyd Jones Sprint 9300 Metcalf Avenue Mailstop: KSOPKB0803 Overland Park, KS 66212-1463 USA Tel: +1 913 534 5247 Fax: +1 913 534 3485 E-mail: mark.jones@mail.sprint.com	
Committee T1	http://www.t1.org	Chair: Mr. E.R. Hapeman (Ray) Telcordia Technologies 331 Newman Springs Rd Room 2C-405 Red Bank, NJ 07701-5699 E-mail: rhapeman@telcordia.com Tel: (732) 758-2239 FAX: (732) 758-4545	
T1X1 Digital Hierarchy and Synchronization	http://www.t1.org/t1x1/t1x1.htm	Chair: Mr. Al White Sprint M/S: KSOPHK0202-2C653 6100 Sprint Pkwy Overland Park, KS 66251 Tel: (913) 315-3931 FAX: (913) 315-3934 al.white@mail.sprint.com	
T1X1.3 Synchronization and Tributary Analysis Interfaces	http://www.t1.org/t1x1/_x13-hm.htm	Chair: Mr. Adam Wertheimer Telcordia Technologies 445 South Street MCC 1A-140G Morristown, NJ 07960-6438 Tel: (973) 829-2635 Fax: (973) 829-5866 E-mail: adam.wertheimer@telcordia.com	

Organization	Web Homepage	Contact	Status/Notes
T1X1.5 Optical Hierarchical Interfaces	http://www.t1.org/t1x1/_x15-hm.htm	Chair: Ms. Deborah A. Brungard AT&T Labs Room C1-2A06 200 Laurel Ave S Middletown, NJ 07748 Phone: (732) 420-1573 Fax: (732) 834-0047 dbrungard@att.com	
TIA - Telecommunications Industry Association	http://www.tiaonline.org	Chairman of the Board of Directors: Ed Kientz Benner-Nawman, Inc. 3450 Sabin Brown Rd. Wickenburg, AZ 85390 Tel: (800) 528-5502 Fax: (520) 684-7041	
TIA FO-2 Optical Communications	http://www.tiaonline.org/standards/sfg/committee.cfm?comm=fo%2D2&name=Optical%20Communications	Chair: Mr. Felix Kapron, Corning Incorporated Tel. +1 607-974-7156 E-mail: KapronFP@corning.com	
TIA FO-2.1 Single Mode Systems		Chair: Mr. Allen H. Cherin, Lucent Technologies Tel. +1 770-798-2619 Fax +1 770-798-4654 E-mail: cherin@lucent.com	
TIA FO-2.7 Optically Amplified Devices, Subsystems and Systems		Chair: Mr. James Matthews III Corning Inc. 8 E. Denison Pkwy Corning, NY M831 USA Tel: +1 607 974 7608 Fax: +1 607 974 4941 Email: matthewsje@corning.com	

Organization	Web Homepage	Contact	Status/Notes
IEC - International Electrotechnical Commission	http://www.iec.ch/		
Subcommittee 86A: Fibres And Cables	http://www.iec.ch/cgi-bin/procgi.pl/www/iecwww.p?wwwlang=E&wwwprog=dirdet.p&committee=SC&number=86A	Chairman: Dr. Günter H. ZEIDLER Erikastrasse 3A DE - 82110 GERMERING GERMANY Tel: +49 89 841 24 68 Fax: +49 89 840 06 301 ou/or Tel.: +49 89 840 06 301 E-mail: gunter.zeidler@t-online.de	
SC 86A/WG 1: Fibres and associated measuring methods	http://www.iec.ch/cgi-bin/procgi.pl/www/iecwww.p?wwwlang=E&wwwprog=dirwg.p&ctnum=1418	Convenor: Dr. Allen CHERIN Lucent Technologies 2000 Northeast Expressway US - NORCROSS, GA 30071 UNITED STATES OF AMERICA Tel: +1 770 798 2613 Fax: +1 770 798 4654 E-mail: acherin@lucent.com	
SC 86A/WG 3: Cables	http://www.iec.ch/cgi-bin/procgi.pl/www/iecwww.p?wwwlang=E&wwwprog=dirwg.p&ctnum=1419	Convenor: Mr. A.J. WILLIS B.I.C.C. Helsby GB - WARRINGTON WA6 0DJ UNITED KINGDOM Tel: +44 1928 728 231 Fax: +44 1928 728 301 E-mail: awillis@brand-rex.com	
Subcommittee 86B: Fibre Optic Interconnecting Devices And Passive Components	http://www.iec.ch/cgi-bin/procgi.pl/www/iecwww.p?wwwlang=E&wwwprog=dirdet.p&committee=SC&number=86B	Chairman: Mr. B.G. LEFEVRE AT & T Network Cable Systems Room 2B33 2000 NE Expressway US - NORCROSS, GA 30071 UNITED STATES OF AMERICA Tel: +1 770 798 2837 Fax: +1 770 798 2690 E-mail: blefevre@lucent.com	

Organization	Web Homepage	Contact	Status/Notes
SC 86B/WG 4: Standard tests and measurement methods for fibre optic interconnecting devices and passive components	http://www.iec.ch/cgi-bin/procgi.pl/www/iecwww.p?wwwlang=E&wwwprog=dirwg.p&ctnum=1106	Convenor: Mr. Tom BOLHAAR AMP Holland B.V. Dept. Fiber Optic Connections Rietveldenweg 32 P.O. Box 288 NL - 5201 AG'S - HERTOGENBOSCH THE NETHERLANDS Tel: +31 73 624 6453 Fax: +31 73 624 6917 E-mail: t.bolhaar@tycoelectronics.com	
SC 86B/WG 5: Reliability of fibre optic interconnecting devices and passive components	http://www.iec.ch/cgi-bin/procgi.pl/www/iecwww.p?wwwlang=E&wwwprog=dirwg.p&ctnum=1107	Convenor: Dr. Felix P. KAPRON Corning Inc Opto - Electronics MP - QX - 02 8, East Dennison Parkway US - CORNING, NEW YORK 14831 UNITED STATES OF AMERICA Tel: +1 607 974 7156 E-mail: kapronfp@corning.com	
SC 86B/WG 6: Standards and specifications for fibre optic interconnecting devices and related components	http://www.iec.ch/cgi-bin/procgi.pl/www/iecwww.p?wwwlang=E&wwwprog=dirwg.p&ctnum=1108	Convenor: Mr. Philip LONGHURST Corp. Fibre Optics Research Manager LEMO Fibre Optics Unit of Research Unit 6 Riverside Business Centre Shoreham by Sea GB - WEST SUSSEX BN43 6RE UNITED KINGDOM Tel: +44 1273 466 920 Fax: +44 1273 466 921 E-mail: plonghurst@lemo.ch Co-convenor: Mr. Des POOLE 3M United Kingdom Customer Technical Centre Easthampstead Road Bracknell GB - BERKSHIRE RG12 1JE UNITED KINGDOM Tel: +44 1 344 866 300 Fax: +44 1 344 866 309 E-mail: dpoole@mmm.com	

Organization	Web Homepage	Contact	Status/Notes
SC 86B/WG 7: Standards and specifications for fibre optic passive components	http://www.iec.ch/cgi-bin/procgi.pl/www/iecwww.p?wwwlang=E&wwwprog=dirwg.p&ctnum=1658	Convenor: Mr. Brian KAWASAKI JDS FITEL Inc. 570 West Hunt Club Road CA - NEPEAN, ONTARIO K2G 5W8 CANADA Tel: +1 613 727 1304 Fax: +1 613 727 8284 Tel: +1 613 727 1304 ext 211 E-mail: brian_kawasaki@jdsuniphase.com	
Subcommittee 86C: Fibre Optic Systems And Active Devices	http://www.iec.ch/cgi-bin/procgi.pl/www/iecwww.p?wwwlang=E&wwwprog=dirdet.p&committee=SC&number=86C	Chairman: Dr. Pietro M. DI VITA Telecom Italia Lab Via G. Reiss Romoli 274 IT - 10148 TORINO ITALY Tel: +39 011 228 5278 Fax: +39 011 228 5840 E-mail: Pietro.DiVita@tilab.com	
SC 86C/WG 1: Fibre optic communications systems and sub-systems	http://www.iec.ch/cgi-bin/procgi.pl/www/iecwww.p?wwwlang=E&wwwprog=dirwg.p&ctnum=914	Convenor: Dr. Allen CHERIN Lucent Technologies 2000 Northeast Expressway US - NORCROSS, GA 30071 UNITED STATES OF AMERICA Tel: +1 770 798 2613 Fax: +1 770 798 4654 E-mail: acherin@lucent.com	
SC 86C/WG 3: Optical amplifiers	http://www.iec.ch/cgi-bin/procgi.pl/www/iecwww.p?wwwlang=E&wwwprog=dirwg.p&ctnum=1580	Convenor: Mr. Haruo OKAMURA Corning International K.K 1-14-14, Akasaka, Minato-ku Tokyo 107-0052 JAPAN Tel: +81 3 3586 1398 Fax: +81 3 3587 0906 E-mail: okamurah@corning.com	

Organization	Web Homepage	Contact	Status/Notes
SC 86C/WG 4: Discrete/Integrated optoelectronic semiconductor devices for fibre optic communication, including hybrid devices	http://www.iec.ch/cgi-bin/procgi.pl/www/iecwww.p?wwwlang=E&wwwprog=dirwg.p&ctnum=1653	Convenor: Dr. Tetsuhiko IKEGAMI NTT Advanced Technology Corporation 1-1-3, Crystal Park Bld. Gotenyama, Musashino-shi JP - TOKYO 180 JAPAN Tel: +81 422 48 5511 Fax: +81 422 48 7000 E-mail: ikegami@crystal.ntt-at.co.jp	
IETF - Internet Engineering Task Force			
IETF Sub-IP Area	http://www.ietf.org/html.charters/wg-dir.html#Sub-IP_Area	Area Director(s): Mr. Scott Bradner <sob@harvard.edu> Mr. Bert Wijnen <bwijnen@lucent.com>	
IETF Common Control and Measurement Plane (ccamp) Working Group (Sub-IP Area)	http://www.ietf.org/html.charters/ccamp-charter.html	Chair(s): Kireeti Kompella <kireeti@juniper.net> Mr. Vijay Gill <vijay@umbc.edu>	
IETF IP over Optical (ipo) Working Group (Sub-IP Area)	http://www.ietf.org/html.charters/ipo-charter.html	Chair(s): Mr. James Luciani <james_luciani@mindspring.com> Mr. Daniel Awduche <awduche@movaz.com>	
IEEE - Institute of Electrical & Electronics Engineers		President: Joel B. Snyder Email: president@ieee.org	
IEEE 802 LAN/MAN Standards Committee	http://grouper.ieee.org/groups/802/index.html	Chair: Mr. Jim Carlo E-mail: j.carlo@ieee.org	
IEEE 802.3 CSMA/CD (ETHERNET) Working Group	http://grouper.ieee.org/groups/802/3/	Chair: Mr. Geoff Thompson E-mail: gthompso@nortelnetworks.com	
IEEE 802.3ae 10Gb/s Ethernet Task Force	http://grouper.ieee.org/groups/802/3/ae/index.html	Chair: Jonathan Thatcher E-mail: jonathan@worldwidepackets.com	
IEEE 802.17 Resilient Packet Ring Working Group	http://grouper.ieee.org/groups/802/17/	Chair: Mr. Mike Takefman E-mail: tak@cisco.com	

Organization	Web Homepage	Contact	Status/Notes
Optical Internetworking Forum (OIF) Technical Committee	http://www.oiforum.com/	Steve Joiner Ignis Optics Phone: (408) 869-8442 Fax: E-mail: steve.joiner@ignisoptics.com	
OIF Architecture Working Group		Chair: Jim Jones Alcatel USA 3400 W. Plano Pkwy. M/S - PB6- OLXDV Plano, TX 75075 Tel. 972-519-2744 Jim.D.Jones1@usa.alcatel.com	
OIF Carrier Working Group		Chair: John Strand AT&T Optical Networks Research Dept. Temporary Address: 267 Cory Hall U. of California Berkeley, Ca. 94720 Tel. +1 510 642-9719 jls@photonics.eecs.berkeley.edu	
OIF OAM&P Working Group		Chair: Dr. Douglas N. Zuckerman Senior Research Scientist Telcordia Technologies, Inc. 331 Newman Springs Road Red Bank, NJ 07701 Tel: +1 732 758 5108 Fax: +1 732 758 4372 Email: w2xd@research.telcordia.com	
OIF Physical & Link Layer (PLL) Working Group		Chair: Russ Tuck tuck@pluris.com Tel. +1 408-861-3360	
OIF Signaling Working Group		Chair: Krishna Bala Tellium Tel: (732) 92341034? Fax:(732) 9234204? E-mail: kbala@tellium.com	

Organization	Web Homepage	Contact	Status/Notes
ATM Forum	http://www.atmforum.com/	President: Marlis Humphrey Harris Corporation 1025 W. NASA Blvd. Melbourne Beach, FL 32951 USA Phone:+1.321.727.9374 FAX: +1.321.727.9644 Email:mhumph03@harris.com	

7. Overview of existing holes/overlaps/conflicts

Considering the number and diversity of different organizations working on standardising aspects of OTNT, it is inevitable that some areas will be missed. For the same reasons, some aspects will be addressed in multiple groups, resulting in possible conflicts based on different applications, priorities, or technical expertise. These items need to be identified and addressed as appropriate. The following table lists those that have been identified, the recommended action, and the status of that action.

TABLE 7-1/OTNT: Known OTNT Standardization Holes/Overlaps/Conflicts

No.	Issue	Action	Status
1.	NNI requirements documents being developed in the IETF ccamp and ipo working groups in parallel with the ITU-T work on G.807/Y.1302, G.ason, and many other drafts.	Formal communications, Cross-pollination by company representatives	
2.	Parallel work by ITU-T on permanent virtual circuit based on NNI with work at IETF work on both switch service based on optical UNI and permanent virtual connections based on optical NNI		
3.	10GbE WAN PHY may not interoperate with interfaces developed using STM-64 specifications		Liaisons from T1X1 and Q.16/15, IEEE considering options
4.	IEEE 802.3 Ethernet in the First Mile Study Group addressing work that should utilise Q.2/15 work on physical layer portions of Passive Optical Networks		Communication Statement sent to IEEE 802.3, Q.2/15 selected liaison to help coordinate work
5	Metropolitan optical networks being developed independent of established standard interfaces, assuming they are stand-alone networks	Metro optical networks definition under consideration	Metro applications being added to Q.15&16/15 text
6	IaDI standardization has different concepts among the different questions. What is necessary? Is the difference in opinion simply based on different interpretations of the IaDI definition?		
7	OTN Routing and how to deal with physical impairments on logical routing decisions		
8	OSC standardization has different interpretations among the different questions. What is necessary?		
9	Ethernet (GbE, 10GbE) is supported as a client of the OTN, but is additional standardization required specific to Ethernet?		Q.11/15 provisionally agreed to IEEE supported mapping of 64B/66B coded 10G Ethernet into SDH VC-4-64c, planned for G.707

No.	Issue	Action	Status
10	OTN and ASON Framework Recommendations have been proposed in discussions. G.871 is valid (but out of date) as a framework for OTN. The new Optical Transport Networks & Technology Standardization/Work Plan will provide frequently updated information. Are framework recommendations necessary?		
11	Optical transport network terminology is inconsistent across the industry and in some cases even across the ITU-T. What about using G.871 as the holder for normative definitions for OTN?		
12	Characterisation of optical performance parameters, which would be required for all-optical networking, remain undefined. Which parameters should be used at an all-optical measurement point, how should they be measured, and how should they be used?		Q.16/15 and Q.3/4 both studying the subject
13	Multiple ITU-T SG15 questions have discussed the standardization of OTN GCC contents. Is coordination between the questions required?	NO, each group standardise the application within its scope	CLOSED

8. Overview of existing standards and activity

With the rapid progress on standards and implementation agreements on OTNT, it is often difficult to find a complete list of the relevant new and revised documents. It is also sometimes difficult to find a concise representation of related documents across the different organizations that produce them. This section attempts to satisfy both of those objectives by providing concise tables of the relevant documents.

NOTE: Tables in this section include four digit ITU-T Recommendation numbers in the G. series. These new numbers are directly derived from the three digit versions with a "0" added after the three digit Recommendation number. The four digit numbers are created only in series where space is needed for new documents. The explanation for the current number extensions is captured in Annex C.

8.1 New or Revised OTNT Standards or Implementation Agreements

Many documents, at different stages of completion, address the different aspect of the OTNT space. The table below lists the known drafts and completed documents under revision that fit into this area. The table does not list all established documents which might be under review for slight changes or addition of features.

Three major families of documents (and more) are represented by fields in the following table, SDH/SONET, OTN Transport Plane, and ASON Control Plane. All of the recommendations and standards of these three different families are included in tables in later sections of this document.

TABLE 8-1/OTNT: OTNT Related Standards and Industry Agreements

Organisation (Subgroup responsible)	Number	Title	Public. Date
ITU-T (Q.3/4)	M.24otn	Error Performance Objectives and Procedures for Bringing-Into-Service and Maintenance of Optical Transport Networks	
ITU-T (Q.8/13)	G.optperf	Error and availability performance parameters and objectives for international paths within the Optical Transport Network (OTN)	
ITU-T (Q.10/13)	G.8070/Y.1302	Requirements for Automatic Switched Transport Networks (ASTN)	07/2001

Organisation (Subgroup responsible)	Number	Title	Public Date
ITU-T (Q.2/15)	G.983.1	Broadband optical access systems based on Passive Optical Networks (PON)	10/1998
ITU-T (Q.2/15)	G.983.1 (Corrig. 1)	Broadband optical access systems based on Passive Optical Networks (PON)	07/1999
ITU-T (Q.2/15)	G.983.1 (Amend.1)	High speed optical access systems based on Passive Optical Network (PON) techniques	
ITU-T (Q.2/15)	G.983.2	ONT management and control interface specification for ATM PON	04/2000
ITU-T (Q.2/15)	G.983.2 (Corrig.1)	ONT Management and Control Interface Specification for ATM PON (Editorial changes and defect corrections)	
ITU-T (Q.2/15)	G.983.2 (Amend.1)	ONT Management and Control Interface Specification for ATM PON (Modifications)	
ITU-T (Q.2/15)	G.983.3	A broadband optical access system with increased service capability by wavelength allocation	03/2001 pre-published
ITU-T (Q.2/15)	G.983.4 (ex G.983.dba)	A Broadband Optical Access System with increased service capability using Dynamic Bandwidth Assignment	
ITU-T (Q.2/15)	G.983.5 (ex G.983.sur)	A Broadband Optical Access System with enhanced survivability	
ITU-T (Q.2/15)	G.983.omci.dba	Enhanced Optical Network Terminal (ONT)Management and Control Interface Specification for dba B-PON system	
ITU-T (Q.9/15)	G.798	Characteristics of Optical Transport Network Hierarchy Equipment Functional Blocks	
ITU-T (Q.9/15)	G.841	Types and characteristics of SDH network protection architectures	10/1998
ITU-T (Q.9/15)	G.842	Interworking of SDH network protection architectures	4/1997
ITU-T (Q.11/15)	G.7090/Y.1331	Interfaces for the optical transport network (OTN)	2/2001
ITU-T (Q.11/15)	G.7041/Y.1301 (G.gfp)	[generic framing protocol]	
ITU-T (Q.12/15)	G.872	Architecture of optical transport networks	2/1999
ITU-T (Q.12/15)	G.8080/Y.1304 (G.ason)	Architecture for the Automatic Switched Optical Network	
ITU-T (Q.13/15)	G.8251 (G.otnjit)	The Control of Jitter and Wander within the Optical Transport Network (OTN)	
ITU-T (Q.14/15)	G.874	Management aspects of the optical transport network element	
ITU-T (Q.14/15)	G.874.1	Optical Transport Network (OTN) Protocol-Neutral Management Information Model For The Network Element View	
ITU-T (Q.14/15)	G.875	Optical transport network (OTN) management information model for the network element view	
ITU-T (Q.14/15)	G.7717/Y.1708 (G.cac)	[common access control]	
ITU-T (Q.14/15)	G.7710/Y.1701 (G.cemr)	Common Equipment Management Requirements (CEMR)	
ITU-T (Q.14/15)	G.7713/Y.1704 (G.dcm)	Distributed Connection Management (DCM)	

Organisation (Subgroup responsible)	Number	Title	Public Date
ITU-T (Q.14/15)	G.7712/Y.1703 (G.dcn)	Architecture and Specification of Data Communications Network (DCN)	
ITU-T (Q.14/15)	G.7714/Y.1705 (G.disc)	Generalized Automatic Discovery (DISC)	
ITU-T (Q.14/15)	G.lm	[link management]	
ITU-T (Q.14/15)	G.7715/Y.1706 (G.rtg)	[routing]	
ITU-T (Q.15/15)	G.650	Definition and test methods for the relevant parameters of single-mode fibres	10/2000
ITU-T (Q.15/15)	G.652	Characteristics of a single-mode optical fibre cable	10/2000
ITU-T (Q.15/15)	G.653	Characteristics of a dispersion-shifted single-mode optical fibre cable	10/2000
ITU-T (Q.15/15)	G.654	Characteristics of a cut-off shifted single-mode optical fibre cable	10/2000
ITU-T (Q.15/15)	G.655	Characteristics of a non-zero dispersion shifted single-mode optical fibre cable	10/2000
ITU-T (Q.16/15)	G.691	Optical interfaces for single channel STM-64, STM-256 systems and other SDH systems with optical amplifiers	10/2000
ITU-T (Q.16/15)	G.692	Optical interfaces for multichannel systems with optical amplifiers	10/1998
ITU-T (Q.16/15)	G.959.1	Optical transport network physical layer interfaces	2/2001
ITU-T (Q.16/15)	G.dsn	Optical system design and engineering considerations	
ITU-T (Q.16/15)	G.693 (G.vsr)	Optical interfaces for intra-office systems	
ITU-T (Q.17/15)	G.671	Transmission characteristics of optical components and subsystems	02/2001
IETF (ccamp)	draft-ietf-ccamp-gmpls-sonet-sdh-01.txt	GMPLS Extensions for SONET and SDH Control	
IETF (ccamp)	draft-ietf-ccamp-gmpls-architecture-00.txt	Generalized Multi-Protocol Label Switching (GMPLS) Architecture	
IETF (ipo)	draft-ietf-ipo-impairments-00.txt	Impairments And Other Constraints On Optical Layer Routing	
IETF (ipo)	draft-ietf-ipo-framework-00.txt	IP over Optical Networks: A Framework	
IETF (ipo)	draft-ietf-ipo-carrier-requirements-00.txt	Carrier Optical Services Requirements	
IETF (ipo)	draft-ietf-ipo-ason-00.txt	Automatic Switched Optical Network (ASON) Architecture and Its Related Protocols	
IEEE (802.3)		[1Gb LAN PHY]	
IEEE (802.3)		[10Gb LAN PHY]	
IEEE (802.3)		[10Gb WAN PHY]	
IEEE (802.17)		[Resilient Packet Ring]	
OIF	OIF2000-125.7	User Network Interface (UNI) 1.0 Signaling Specification	

8.2 SDH & SONET Related Recommendations and Standards

The following table lists all the known documents specifically related to SDH and SONET

TABLE 8-2/OTNT: SDH & SONET Recommendations & Industry Standards

	ITU-T Published or Draft (Revised) Recommendation	Published or Draft (Revised) ETS or EN	Published or Draft (Revised) ATIS/ANSI T1
Physical Interfaces	G.703 (10/98) G.957 (06/99) G.692 (10/98) K.41 (05/98) G.691 (04/00)	ETS 300 166 ETS 300 232, ETS 300 232(A1) ETS 300 166 (09/99)	T1.102-1993 (R1999) T1.105.06-1996 T1.416-1999 T1.416.01-1999 T1.416.02-1999 T1.416.03-1999
Network Architecture	G.805 (11/95), (03/00) G.803 (06/97), (03/00) I.322 (02/99)	ETR 114	T1.105.04-1995
Structures & Mappings	G.704 (10/98) G.707 (10/00) corr. G.708 (10/98) G.832 (10/98)	ETS 300 167 (08/93), (09/99) ETS 300 147 Ed.3 ETS 300 337 Ed.2	T1.105-1995 T1.105-2001 (draft) T1.105.02-1995
Equipment Functional Characteristics	G.664 (06/99) G.781 (06/99) G.783 (10/00) corr. G.958 (01/94) G.705 (04/00) G.806 (04/0)	EN 300 417-x-y (x=1-7,9 y=1-2) ETS 300 635 ETS 300 785 RE/TM-1042-x-1 (x=1-5) MI/TM-4048 (9712)	
Laser Safety	G.664 (06/99)	-	-
Transmission Protection	G.841 (10/98) G.842 (04/97) M.2102 (03/00)	ETS 300 746 ETS 300 417-1-1 ETS 300 417-3-1 ETS 300 417-4-1 TS 101 009 TS 101 010 RE/TM-1042 TR/TM-03070	T1.105.01-1998
Equipment Protection	M.3100 Amendment	-	-
Restoration	-	DTR/TM-3076	-
Equipment Management	G.784 (06/99)	EN 301 167 EN 300 417-7-1 DE/TM-2210-3	
Management Communications Interfaces	-		T1.105.04-1995
Information Model	G.773 (03/93) G.774 (09/92), Corr.1(11/96), (04/00) G.774.01 (11/94), Corr1(11/96), (04/00) G.774.02 (11/94), Corr1(11/96), (04/00) G.774.03 (11/94), Corr1(11/96), (04/00) G.774.04 (07/95), Corr1(11/96), (04/00) G.774.05 (07/95), Corr1(11/96), (04/00) G.774.06 (04/00)	ETS 300 304 Ed.2 ETS 300 484 ETS 300 413 ETS 300 411 ETS 300 493 prEN 301 155	T1.119-1994 T1.119.01-1995 T1.119.02-1998 T1.245-1997

	ITU-T Published or Draft (Revised) Recommendation	Published or Draft (Revised) ETS or EN	Published or Draft (Revised) ATIS/ANSI T1
	G.774.07 (11/96), (04/00) G.774.08 (04/00) G.774.09 (04/00) G.774.10 (04/00)		
Network Management	G.831 (08/96), (03/97) T.50 (09/92) G.85x.y (11/96)	ETS 300 810	T1.204-1997
Error Performance [network level view]	G.826 (02/99) G.827 (02/00) G.827.1 (11/00) G.828 (02/00) G.829 (02/00) M.2101 (02/00) M.2101.1 (04/97) M.2102 (02/00) M.2110 (04/97) M.2120 (04/97), (02/00) M.2130 (02/00) M.2140 (02/00)	EN 301 167	T1.105.05-1994 T1.514-1995
Error Performance [equipment level view]	G.783 (10/00) corr. G.784 (06/99)	EN 300 417-x-1 RE/TM-1042	
Jitter & Wander Performance	G.813 (08/96) G.822 (1988) G.823 (03/93), (03/00) G.824 (03/93), (03/00) G.825 (03/93), (02/99) G.783 (10/00), corr. O.171 (04/97) O.172 (03/99), (06/98)	EN 300 462-5-1 EN 302 084 (01/99) DEN/TM-1079 (05/98)	T1.105.03-1994 T1.105.03a-1995 T1.105.03b-1997
Components & Subsystems	-	-	-
Leased Lines	M.13sdh (02/00)	EN 301 164 EN 301 165	-
Synchronisation [Clocks & Network Architecture]	G.803 (06/97), (02/99) G.810 (08/96) G.811 (09/97) G.812 (06/98) G.813 (08/96)	EN 300 462-1 EN 300 462-2 EN 300 462-3 EN 300 462-4 EN 300 462-5 EN 300 462-6 EN 300 417-6-1 DEG/TM-01080 (03/99)	T1.101-1999 T1.105.09-1996
Test signals	O.150 O.181	-	-
Environment		ETS 300 019-1-0 ETS 300 019-1-1 ETS 300 019-1-2 ETS 300 019-1-3 ETS 300 019-1-3 A1 ETS 300 019-2-0 ETS 300 019-2-1 ETS 300 019-2-2 ETS 300 019-2-3 ETS 300 019-2-3 A1	
Digital Video	-	ETS 300 814	-

	ITU-T Published or Draft (Revised) Recommendation	Published or Draft (Revised) ETS or EN	Published or Draft (Revised) ATIS/ANSI T1
		TR 101 200	
Power & Grounding		ETS 300 132-2 ETS 300 132-2 C1 ETS 300 253	-
Physical Design	-	ETS 300 119-1 ETS 300 119-3 ETS 300 119-4	-
EMC		ETS 300 386-1 EN 300 386-2 ETS 300 753	

8.3 ITU-T Recommendations on the OTN Transport Plane

The following table lists all of the known ITU-T Recommendations specifically related to the OTN Transport Plane.

TABLE 8-3/OTNT: ITU-T Recommendations on the OTN Transport Plane

Topic	Title	Res. 1
Framework for Recommendations	**G.871/Y.1301** Framework for Optical Transport Network Recommendations (Pre-Published, 10/00)	
Architectural Aspect	**G.872** Architecture of Optical Transport Networks (Published, 02/99)	
	G.872 Architecture of Optical Transport Networks (Draft Revised, 11/00)	2001
	G.872 Living List version 06/01)	
	G.873 Optical Transport Network Requirements (under reconsideration)	
	G.873 Living List version 10/99	
Control Plane	ASTN/ASON recommendations are moved to specific ASTN/ASON standards page.	
Structures & Mapping	**G.7090/Y.1331** Network node interface for the optical transport network (OTN) (Approved, 02/01)	
	G.709 Living List version 12/00	
	G.975 Forward Error Correction (Pre-Published, 10/00)	
Functional Characteristics	**G.681** Functional characteristics of interoffice long-haul line systems using optical amplifiers, including optical multiplexing (Published, 10/96)	
	G.798 Characteristics of optical transport network (OTN) equipment functional blocks (Draft v0.8.1, 06/01)	11/01
	G.798 Living List version 02/01	
	G.806 Characteristics of transport equipment - Description Methodology and Generic Functionality (Pre-Published, 10/00)	
	G.7710/Y.1701 Common Equipment Management Requirements (draft, 06/01)	2002
Protection Switching	**G.841.x** Protection Switching in the OTN	2002
	G.gps Generic Protection Switching	2002
Management Aspects	**G.874** Management aspects of the optical transport network element (Draft, 04/00)	11/01
	G.875 Optical Transport Network (OTN) management information model for the network element view (Draft, 04/00)	11/01
Data Communication Network (DCN)	**G.7712/Y.1703** Data Communication Network (Draft, 06/01)	10/01
	G.dcn living list version 02/01	
Error Performance	**G.optperf** Optical Transport Network Performance Monitoring (draft, 05/01)	2002
	G.optperf living list version 05/01	
	M.24otn Bringing into Service and Maintenance for the OTN (not yet available)	2002 ?
Jitter & Wander Performance	**G.8251(G.otnjit)** The control of jitter and wander within the optical transport network (OTN) (draft, version 03.1)	....

Topic	Title	Res. 1
Physical-Layer Aspects	**G.691** Optical Interfaces for single-channel SDH systems with Optical Amplifiers, and STM-64 and STM-256 systems (Pre-Published, 10/00)	
	G.692 Optical Interfaces for Multichannel Systems with Optical Amplifiers (Published, 10/98)	
	G.664 General Automatic Power Shut-Down Procedures for Optical Transport Systems (Published, 06/99)	
	G.959.1 Optical Transport Networking Physical Layer Interfaces (Pre-Published, 02/01)	
	G.693 Very Short Reach (??) (Draft v0.3, 05/01)	
	G.dsn Optical System Design	2003
Fibres	**G.651** Characteristics of a 50/125 um multipmode graded index optical fibre cable (Published, 02/98)	
	G.652 Characteristics of a single-mode optical fibre cable (Pre-Published, 10/00)	
	G.653 Characteristics of a dispersion-shifted single mode optical fibre cable (Pre-Published, 10/00)	
	G.654 Characteristics of a cut-off shifted single-mode fibre cable (Published, 10/00)	
	G.655 Characteristics of a non-zero dispersion shifted single-mode optical fibre cable (Published, 10/00)	
Components & Sub-systems	**G.661** Definition and test methods for the relevant generic parameters of optical amplifier devices and subsystems (Published, 10/98)	
	G.662 Generic characteristics of optical fibre amplifier devices and subsystems (Published, 10/98)	
	G.663 Application related aspects of optical fibre amplifier devices and sub-systems (Pre-Published, 04/00)	
	G.671 Transmission characteristics of passive optical components (Pre-Published, 02/01)	

8.4 ITU-T Recommendations on the ASTN/ASON Control Plane

The following table lists all of the known ITU-T Recommendations specifically related to the ASTN/ASON Control Plane.

TABLE 8-4/OTNT: ITU-T Recommendations on the ASTN/ASON Control Plane

Topic	Title	Res. 1
Requirements	**G.8070/Y.1302** Requirements for the Automatic Switched Transport Network (ASTN) (Final Draft, 05/01)	05/01
Architecture	**G.8080/Y.1304** Architecture for the Automatic Switched Optical Network (ASON) (Draft, 06/01)	10/01
	G.ason living list version 0.4.02	10/01
Protocol Neutral Specifications for key signalling elements	**G.7713/Y.1704** Generalised Distributed Connection Management (draft version 0.3, 06/01)	10/01
	G.7714/Y.1705 Generalised Automatic Discovery (draft, 06/01)	10/01
	G.7715/Y.1706 Routing	05/02
	G.7717/Y.1708 Connection Admission Control	05/02
	G.lm Link Management	05/02
Specific Protocols to realise the signalling elements	. .	
Data Communication Network (DCN)	**G. 7712/Y.1703** Data Communication Network (Draft, 06/01)	10/01
	G.dcn living list version 02/01	

Annex A - Terminology Mapping

The terminology used by different organizations working on similar or overlapping technical areas of standardization has complicated attempts to co-ordinate work between different groups. The same terms are often used, with different meanings by multiple organizations. The material in this section was submitted and is maintained by:

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A1. Introduction

This contribution provides a terminology mapping between the terms used in ITU-T set of Recommendations and IETF/OIF documents.

A2. References

G.8070/Y.1302, *Requirements For Automatic Switched Transport Networks (ASTN)*
G.8080/Y.1304, *Architecture for the Automatically Switched Optical Network (ASON)*
G.7713/Y.1704, *Distributed Connection Management (DCM)*
G.7714/Y.1705, *Automatic Neighbor and Service Discovery*
G.7712/Y.1703, *Architecture and Specification of Data Communications Network (DCN)*
draft-ietf-mpls-generalized-signaling-06.txt, *Generalized MPLS - Signaling Functional Description*
draft-ietf-mpls-generalized-cr-ldp-05.txt, *Generalized MPLS Signaling - CR-LDP Extensions*
draft-ietf-mpls-generalized-rsvp-te-05.txt, *Generalized MPLS Signaling - RSVP-TE Extensions*
draft-ietf-ccamp-gmpls-sonet-sdh-02.txt, *GMPLS Extensions for SONET and SDH Control*
draft-ietf-ccamp-gmpls-sonet-sdh-extensions-00, *GMPLS Extensions to Control Non-Standard SONET and SDH Features*
OIF2000-125.7 *User Network Interface (UNI) 1.0 Signaling Specification*
T1X1.5/2001-008, *Terminology Mapping Between ASTN and OIF UNI*, T1X1.5, January 2001.
T1X1.5/2001-156, *Terminology Mapping Between ASTN, GMPLS, and OIF*, T1X1.5, June 2001

A3. Abbreviations

AS	Autonomous System
AG	Access Group
ASON	Automatically Switched Optical Network
ASTN	Automatically Switched Transport Network
BGP	Border Gateway Protocol
CallC	Call controller
CC	Connection controller
CCAMP	Common Control and Measurement Plane
COPS	Common Open Policy Service
CP	Connection point (functional model)
CPG	Connection Point Group
CR-LDP, CRLDP	Constraint-based Routing Label Distribution Protocol
CTP	Connection Termination Point (management model)
ER	Explicit Route
GMPLS	Generalized Multi Protocol Label Switching
G-PID	Generalized Payload ID
ID	Identifier
IETF	Internet Engineering Task Force
IP	Internet Protocol
IS-IS	Intermediate System – to – Intermediate System
LMP	Link Management Protocol
LPDP	Local Policy Decision Point
LSP	Label Switched Path
LSPID	Label Switched Path Identifier
N/A	Not Applicable

MPLS	Multi Protocol Label Switching
OIF	Optical Internetworking Forum
OLI	Optical Link interface
OSPF	Open Shortest Path First
O-UNI	Optical User Network Interface
PDP	Policy Decision Point
PDR	Peak Data Rate
PEP	Policy Enforcement Point
RSVP	Reservation Protocol
RSVP-TE, RSVPTE	Reservation Protocol Traffic Engineering
SDH	Synchronous Digital Hierarchy
SN	Sub-network
SNP	Sub-network Point Identifier
SNPP	Sub-network Point Pool
SONET	Synchronous Optical NETwork
TCP	Termination Connection Point (functional model)
TE	Traffic Engineering
TLV	Type-Length-Value
TNA	Transport Network Address
TTP	Trail Termination Point (management model)
UNI-C	User Network Interface-Customer
UNI-N	User Network Interface-Network

A4. Mapping

The following table relates the various terms used in the documents. Note that for some terms, there may be a loose relation because the underlying definition of a term is different. For example, the term "sub-network" defined in ITU-T G.805 is a recursive definition that allows for multiple levels of encapsulation for each layer network. The term "area" and autonomous system" are based on administrative and functional demarcation based on the extent of the routing protocol usage.

Other examples are the terms "link" and "link connection" used in ITU-T. Within ITU-T, a link is an abstract entity that can be both recursive and partitioned. Within the link concept, a link may be considered a general term for "compound link", which may be de-composed into serial compound links (partitioning of a link) as well as de-composed into compound links (recursive aggregation). At the extreme, a compound link may be de-composed into a component link.

In IETF terminology, a link bundle or TE link embeds some information comparable to "link" in ITU.

ASTN Terminology	GMPLS Terminology	OIF Terminology
Concepts		
User	Client (not limited)	User/client
Provider	Provider (not limited)	Provider
Requester Agent		UNI-C
Sub-network controller Function	e.g., RSVP-TE/CR-LDP	UNI-N
Connection controller Function	e.g., RSVP-TE/CR-LDP	e.g., RSVP-TE/CR-LDP
Connection (Call) Admission Control Function	e.g., COPS, PDP/LPDP, PEP	e.g., COPS, PDP/LPDP, PEP
Link Resource Manager Function	e.g., LMP/OLI (requirement)	e.g., LMP/OLI (requirement)
Policing Agent	PEP	PEP
Route Table Function	e.g., OSPF/IS-IS/BGP	
Route Table Update Function	e.g., OSPF/IS-IS/BGP	
Protocol Controller Function	Embedded	Embedded
Connection Point Status Function	e.g., LMP/OLI (requirements)	e.g., LMP/OLI (requirements)

ASTN Terminology	GMPLS Terminology	OIF Terminology
Characteristic information	LSP encoding type (and Switching Type) Traffic Parameters for SDH/Sonet: Signal Type, Concatenation (Contiguous and Virtual), Transparency ,	LSP encoding type (and Switching Type) Traffic Parameters for SDH/Sonet: Signal Type, Concatenation (Contiguous and Virtual), Transparency
Link connection	LSP, (TE-link)	Connection (TE-Link)
Link	Link bundle, TE link	Link bundle, TE link
Connection point (connection termination point)	Port, channel, sub-channel (depending on which level) Or Label	Port, channel, sub-channel (depending on which level) Or Label (also CTP)
Termination connection point (trail termination point)	Port, channel, sub-channel (depending on which level) Or Label	Port, channel, sub-channel (depending on which level) Or Label
Connection point group	N/A	N/A
Sub-network	Area, autonomous system	Area, autonomous system
Sub-network connection	Link (for degenerate case of sub-network connection represents a fabric connection, this is not defined in GMPLS terminology)	Link (for degenerate case of sub-network connection represents a fabric connection, this is not defined in OIF terminology)
Sub-network point (an abstract entity)	(approximately maps to) Port, channel, sub-channel (depending on which level)	(approximately maps to) Port, channel, sub-channel (depending on which level)
Sub-network point pool (an abstract entity)	N/A	N/A
Attributes		
A-end user name	Generalized MPLS: Initiator CR-LDP: ??? (part of ER-hop?) RSVP-TE: not part of object; address in sender template object (ingress tunnel address)	CRLDP: Source TNA TLV (new TLV) RSVPTE: Source TNA address (in existing session with new classnum, new TNA subobjects)
Z-end user name	Generalized MPLS: Terminator CRLDP: ??? (part of ER-hop?) RSVPTE: not part of object; address in session object (egress tunnel address & extended tunnel ID)	CRLDP: Destination TNA TLV (new) RSVPTE: Destination TNA address (in existing session with new classnum, new TNA subobjects)
Initiating CallC or CC name	Source IP in IP header	UNI-C IP address
Terminating CallC or CC name	Destination IP in IP header	UNI-N IP address
Connection name	CR-LDP: LSPID RSVP-TE: tunnel/extended tunnel ID in session object	Local connection ID (same as GMPLS), connection ID (optional)
Call name	Combination of SENDER_TEMPLATE & SESSION object	Combination of LSP_TUNNEL_IPv4_SENDER_TEMPLATE & IPv4_SESSION object

ASTN Terminology	GMPLS Terminology	OIF Terminology
SNP ID	Suggested label (downstream) , upstream label (upstream) and label set (constraint for downstream), GENERALIZED_LABEL object	Port ID, multiplex channel ID Or label set, upstream label, GENERALIZED_LABEL object
SNPP ID	N/A	N/A
Directionality	Generalized: bidirectional indicated by, 'Upstream' label.	CRLDP: Directionality in Service TLV (new) due to use of LDP instead of CR-LDP RSVP-TE: directionality implied by existence of upstream label object (as per GMPLS definition)
CoS, GoS	CR-LDP: traffic parameter TLV, preemption TLV, resource class TLV RSVP-TE: session_attribute object (setup/holding priority, exclude-any, include-any, include-all)	SERVICE_LEVEL object, DIVERSITY object, POLICY object
Security	INTEGRITY object	INTEGRITY object
Recovery	PROTECTION object	DIVERSITY sub-object
Explicit resource list	CR-LDP: ER TLV RSVP-TE: ER Object	
Messages		
Call setup request	N/A	(OUNI) CRLDP: Label Request RSVPTE: Path
Call setup indicatin	N/A	(OUNI) CRLDP: Label Mapping RSVPTE: Resv (+ additionally ResvConf for enabling monitoring + dest tranmission)
Call setup confirm	N/A	(OUNI) CRLDP: Reservation confirm RSVPTE: ResvConf
Call release request	N/A	(OUNI) CRLDP: Notification message RSVP-TE. same as GMPLS
Call release indicatin	N/A	(OUNI) CRLDP: Label Release or Notification (+ notification) RSVPTE: same as GMPLS
Connection setup request	CRLDP: Label Request RSVPTE: Path	CRLDP: Label Request RSVPTE: Path
Connection setup indication	CRLDP: Label Mapping RSVPTE: Resv	CRLDP: Label Mapping RSVPTE: Resv (+ additionally ResvConf for enabling monitoring + dest tranmission)

ASTN Terminology	GMPLS Terminology	OIF Terminology
Connection setup confirm	CRLDP: RSVPTE: ResvConf	CRLDP: Reservation confirm RSVPTE: ResvConf
Connection release request	CR-LDP: Label Withdraw (terminator initiated) or Label Release (initiator initiated) RSVP-TE: ResvTear or PathTear, or (do not refresh), Path or Resv w/ Admin_Status set (D&R bit)	CRLDP: Notification message RSVP-TE: same as GMPLS
Connection release indication	CR-LDP: Label Release or (no response for Label Release) RSVP-TE: PathTear or PathErr (with Path_State_Removed flag)	CRLDP: Label Release or Notification (+ notification) RSVPTE: same as GMPLS
connection query request		none
connection query response		none
Notification	Notify request object carried in Path and Resv message	same as GMPLS
(none)	Multiplier	Multiplier
(none)	Admin Status object	Admin Status object

Annex B - Other OTNT Related Organizations

Organizations not recognized by the ITU-T are also working to develop industry agreements in the area of optical networking. The following table lists them and the relevant contact information.

Organization	Web Homepage	Contact	Status/Notes
Metro Ethernet Forum (MEF)	http://www.metroetherne tforum.org	Technical Committee co-chairs: Bob Klessig Telseon bob@telseon.com Paul Bottorff Nortel Networks pbottorf@nortelnetworks .com	
Network and Services Integration Forum (NSIF)	http://www.atis.org/atis/si f/sifhom.htm	Kenneth Stephens BellSouth USA Tel. +1 205-977-7195 kenneth.stephens2@bri dge.bellsouth.com	

Annex C - Re-numbering of ITU-T Recommendations

In order to have more room for numbering new ITU-T Recommendations, the G.700-G.709; G.770-G.779; G.800-G.809; G.820-G.829 series of Recommendations will be re-numbered by adding a fourth digit "0" to the existing number. Renumbering only applies to the Recommendation numbers within those ranges at this time.

For example:

G.821 will become G.8210
G. 774.1 will become G.7740.1

In this way it will be possible, during the transition period, for the reader to convert easily between old and new numbers.

The result is:

G.700 – G.709 will become G.7000 – G.7090
G.770 – G.779 will become G.7700 – G.7790
G.800 – G.809 will become G.8000 – G.8090
G.820 – G.829 will become G.8200 – G.8290

LS38-15

QUESTIONS: All/15
SOURCE: ITU-T SG 15
TITLE: Optical Transport Networks & Technologies Standardization Work Plan, Issue 1

LIAISON & COMMUNICATION STATEMENT

TO: ITU-T SG4, SG9, SG11, SG13, Committee T1 (T1X1), IEC (TC86), IETF (Sub-IP and Transport Areas), IEEE (802), ATM Forum, OIF
APPROVAL: Agreed to at SG15 meeting (Geneva, 15-26 October 2001)
FOR: Information and action
DEADLINE:

CONTACT: Mark Jones, Q.19/15 Rapporteur
Sprint
Mailstop: KSOPKB0803
9300 Metcalf Avenue
Overland Park, KS 66212
U.S.A.

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Email: mark.jones@mail.sprint.com

Study Group 15 entrusted WP 5/15, under Question 19/15, with the task to carry out the Lead Study Group responsibilities on Optical Technologies. The outcome of the activities consists of the Optical Transport Networks & Technologies Standardization Work Plan (OTNT SWP). It contains a list of standardization bodies and contacts relevant to optical standardization, a list of known holes/overlaps/conflicts in current work, lists of Standards and Recommendations from ITU and other organizations, a list of documents being actively worked, and a terminology mapping across multiple bodies working in this area.

The document can be found at
http://www.itu.int/itudoc/itu-t/com15/otn/index.html
(to be confirmed by TSB before posting)
Q19 kindly requests your cooperation in developing and maintaining this document as a useful tool for coordinating the standardization of optical transport networks & technologies. After each revision, Q19 will draw your attention to the new document issue and would appreciate any suggestion or comment. A more helpful web version of this material is currently being developed.

Austin, Texas, 15 November 2001

SOURCE: IEEE 802.3 Working Group
TITLE: Communication to ITU-T SG15 from IEEE P802.3ah Ethernet in the First Mile Task Force
REFERENCE: 09.11.01 LS01/15: Communication Statement to the IEEE 802.3ah Ethernet in the First Mile Task Force on new access network Recommendations

---

COMMUNICATION STATEMENT

TO: Peter Wery, ITU-T SG15 Chair
COPY: Paul Nikolich, IEEE 802 LMSC chair; p.nikolich@ieee.org
Howard Frazier, IEEE 802.3ah EFM chair; millardo@dominetsystems.com
Frank Effenberger, IEEE 802.3 ITU-T Liaison; feffenberger@quantumbridge.com
Richard Stuart, IUT-T SG15 Raporteur; rlstuart@ieee.org

APPROVAL: Agreed to at IEEE 802.3 Plenary meeting, Austin, Texas November 15, 2001
FOR: Information
DEADLINE: n/a

CONTACT: Geoff Thompson, IEEE 802.3 CSMA/CD WG Chair; thompson@ieee.org

The IEEE 802.3 CSMA/CD Working Group appreciates the communication sent from Study Group 15 concerning the following new Access Network Recommendations:

- Recommendation G.983.4 “A Broadband Optical Access System with increased service capability using Dynamic Bandwidth Assignment”
- Recommendation G.983.5 “A Broadband Optical Access System with Enhanced Survivability”
- Recommendation G.983.7 “Enhanced ONT management and control interface specification for DBA B-PON System”
- Amendment 1 to Recommendation G.983.2 (maintenance revisions to G.983.2)
- Amendment 2 to Recommendation G.983.2 (enhancements for Voice service, AAL2, MAC Bridged LAN, and WDM Services)
- Amendment 1 to Recommendation G.983.1 (addition of 622 Mbit/s symmetrical rate to G.983.1)
- Recommendation G.993.1 “Very High Speed Digital Subscriber Lines Foundation”

As well as the document:

- Com 15 – D.238 “High Level Initial Operator Requirements for Gigabit-per-second Passive Optical Networks (GPONs)”

We thank you for providing these documents to the IEEE P802.3ah EFM Task Force. These documents will be placed on the EFM Task Force web server, with password-protected access to task force participants. We will encourage the EFM Task Force participants involved in access networks to familiarize themselves with the contents of these documents.

In return, we invite and encourage ITU-T SG15 to review EFM Task Force materials. The EFM Task Force website and documents can be found at the following URLs.
EFM Task Force website: http://www.ieee802.org/3/efm/
EFM Task Force Project Authorizaton (PAR): http://www.ieee802.org/3/efm/public/nov01/par_1_0701.pdf
EFM Task Force Objectives: http://www.ieee802.org/3/efm/public/sep01/objectives_1_0901.pdf
EFM Task Force Presentation Materials: http://www.ieee802.org/3/efm/public/

We would like to inform you that our taskforce is currently in the process of inviting baseline proposals for physical layers meeting the objectives that have been approved for this project.

Concerning point-to-point copper, we understand that the scope of our project may overlap to a certain extent with projects within Q4/15, and are pleased to say that many of the presentations that we have reviewed at our current meeting, reference ITU-T recommendations (in particular G.993.1 Annex H) directly or indirectly. We are currently considering an objective to support operation over multiple copper pairs, and your technical support in this matter would be appreciated.

The IEEE 802.3 WG looks forward to a continuing dialog with the participants of the ITU-T SG15 effort, and we welcome their attendance and participation at our upcoming meetings.

Geoff Thompson
Chair, IEEE 802.3 CSMA/CD Working Group
thompson@ieee.org
+1.408.495.1339

IEEE 802.3ae Response to ITU-T SG15
Re: Question 16/15

To: Peter Wery, Chairman ITU-T Study Group 15
From: Jim Carlo, Chair IEEE 802
Copy: Paul Nikolich, Chair Elect IEEE 802
Geoffrey Thompson, Chair IEEE 802.3
Jonathan Thatcher, Chair IEEE P802.3ae

Summary

This letter is in response to Question 16/15 from the ITU-T SG15 dated July 2001. In said letter, ITU-T indicated an interest in a closer working relationship with the IEEE 802.3 Working Group. The IEEE 802.3 Working Group welcomes a long-term liaison relationship with ITU-T SG15 and anticipates a mutually beneficial coordination.

SG15 raised a number of concerns regarding the methodology and direction taken for optical specification by IEEE P802.3ae Task Force as represented in the 10 Gigabit Ethernet Draft Standard. This letter attempts to respond to these concerns and explain the position of the Task Force. Additionally, this letter describes key aspects of the process that IEEE 802.3 uses to develop a standard and how at this late stage of development members of SG15 might participate in the Sponsor Ballot review and comment process.

Process

As can be seen from the high level schedule below, last new features were accepted in November 2000. During the March 2001 meeting, the draft standard was technically complete to the point that it was ready to enter 802.3 Working Group Ballot (Draft 3.0). The last (significant) technical changes were accepted during the May 2001 meeting. In short, the opportunity to consider sweeping changes to the direction of the draft standard is past.

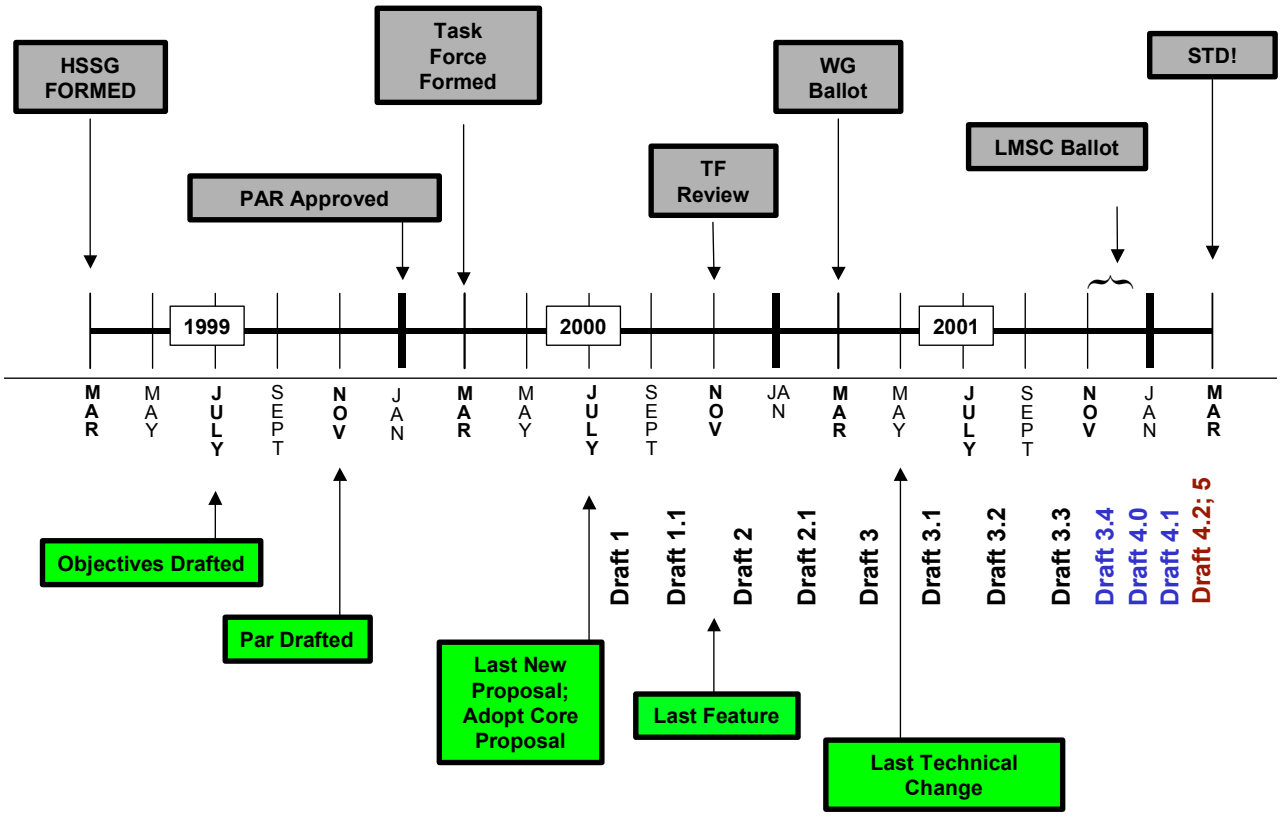
Currently, we are concluding the 802.3 Working Group Ballot phase of the P802.3ae (10 Gigabit Ethernet) standard development. During the November 2001, IEEE 802.3 Working Group closing plenary, conditional approval was granted to proceed to Sponsor Ballot. This will be based on a successful recirculation of Draft 3.4 of the standard. During recirculations, comments are to be directed at changes to the previous draft, only. During the first circulation of Sponsor Ballot (Draft 4.0), the entire draft will be reopened for comment.

Comments are written against specific text within the draft, and require a complete remedy that completely identifies the changes that need to be made to the draft. The committee responds to these comments with one of three actions: acceptance, conditional acceptance and rejection. If a comment is “accepted,” this means the committee accepts the remedy without amendment. When the committee agrees in principle with the intent of a comment, but modifies or replaces the remedy with one of committee origin, it issues a “conditional acceptance.” In either case, the editor is directed to modify the draft according to the specific remedy approved by the committee. If the committee disagrees with the comment, it issues a “reject;” and, typically, writes an explanation for its decision.

Drafts are available for purchase from the IEEE. A link to the drafts can be found on the IEEE 802.3 web site (www.ieee802.org/3/purchase/index.html). During each of the comment resolution

cycles, Jonathan Thatcher, Chair P802.3ae, has offered to sponsor comments for those who are not members of the respective ballot group. He has done this on the following conditions:

1. He does not sponsor comments that are incomplete. Every field in the comment form must be filled out properly. This includes an unambiguous remedy.
2. He does not sponsor technical required (TR) comments. A TR can only be submitted with a disapprove ballot; he will not modify his ballot based on the sponsorship of a comment in behalf of another individual.
3. The comments are due 3 days prior to the closure of the circulation or recirculation.



Technical Direction

In your letter you noted that the IEEE P802.3ae Task Force has taken a direction with respect to optical specification that departs from traditional Ethernet and ITU methodology. You are probably aware that some of this direction is consistent with methodologies successfully implemented in recent Fibre Channel specifications. In particular, optical modulation amplitude (OMA) has been adopted as the method of choice for specification and measurement of modulated optical signals.

Optical Modulation Amplitude

As noted in your communication, “the objective of this specification method is to widen the allowed range of transmitter specifications.” The intent in doing so is to reduce unnecessary restrictions in the specification of the optical transceiver and thus provide an opportunity for individual component suppliers to further optimize cost-performance.

It is the belief of the IEEE P802.3ae committee that the minimum peak-to-peak optical signal (OMA) is key to compliant operation of the receiver and that the average optical power alone under specifies the input signal. Per your letter, you articulate the fact that the OMA can be derived from an average optical power and extinction ratio measurements. But, you seem to indicate that only the optical power should be used at the receiver due to noise issues. While average optical power is an easier and more accurate measurement, it is insufficient to ensure correct operation.

It is the tradition of the IEEE 802.3 Working Group to create standards that ensure plug and play compatibility. Consistent with this tradition, the P802.3ae Task Force has created specifications that avoid the need for engineered links, except in the most extreme cases. In doing so, the burden of test is placed on the equipment manufacturers rather than on field engineers.

Traditionally, optical power field measurements are made for simple and quick validation of optical plants. This can still be done. Given a weak average optical signal, an OTDR can be used to determine specific attenuation and optical loss characteristics for the plant. Average optical power and attenuation loss measurement techniques do not ensure that the optical signal has adequate amplitude to actually function according to specification. This requires a modulated signal measurement.

It is correct that it might be necessary to switch a piece of equipment into a special test mode to accurately and precisely test compliance to the standard. Even so, a close approximation can be achieved by use of a typical data pattern; this is consistent with general practice in the industry. A comment suggesting informative text that might be included in future drafts would be welcome.

Regarding optical attenuation requirements at 7 dB as compared to 3 dB in the ITU, our current draft now references 5 dB.

Specification Flexibility

Per the recommendation of optical component manufacturers, IEEE 802.3ae has created a specification that allows for future, lowest cost implementations by providing flexibility in tradeoffs for meeting these specifications. It is well understood that this has the potential to complicate test and measurement in the design and manufacturing environment, especially in the near term.

It is presumed that future optical technologies may have behaviors that are substantially different from those implemented today. The committee does not want to limit any

innovation that has the potential to improve the cost-performance of link technology by over-specifying the optical requirements.

The committee fully recognizes that manufacturers will, when possible, attempt to meet compliance "by design" rather than through test. In this regard, some test and measurement procedures (e.g. spectral width) will tend to be used during qualification and then in conjunction with process control sampling rather than on a per part basis.

IEEE 802.3ae Link Model and Spectral Characteristics

In your memorandum, you question the spreadsheet calculations and derived specifications regarding power penalties due to dispersion. Regarding the parameter epsilon, the ITU uses a maximum value of 0.115 for a 1 dB path penalty for multi-mode lasers (MLM). In the 1 Gigabit Ethernet (1000BASE-X) standard, IEEE 802.3 used a value of 0.15 for epsilon for a maximum path penalty of 1.8 dB. This value has proven to be effective in millions of optical links and has provided adequate margin for low cost, high volume manufacture. In 10 Gigabit Ethernet the same value has been used for single longitudinal mode lasers (SLM) with negligible dispersion penalty at 1310 nm on 10 km of SMF for the fiber type specified. While the committee recognizes that there are inaccuracies in the prediction of dispersion penalty for 1310 nm lasers in some circumstances, these inaccuracies are sufficiently small that they can be ignored. Having no significant negative impact beyond the standard practice of measuring center wavelength, spectral width, and OMA (or the equivalent of OMA, the average optical power and extinction ratio), the triple trade off curve was left in for the 10GBASE-LR/LW PMDs for consistency with 10GBASE-SR/SW. Additionally, some laser experts indicate that there is a slight benefit in extending the spectral width specification in support of 1310 nm vertical cavity lasers.

For 10GBASE-ER/EW, since the committee did not know how to practically measure chirp in a system environment, it chose instead to build the chirp penalty into the OMA measurement as seen at the end of a worst case dispersion fiber. This allows a direct measurement of all dispersion effects without individually specifying each chromatic characteristic. In order to simplify our specification and provide maximum flexibility for cost effective manufacture, the dispersion and transmitter penalties are measured together. It is true that optical power can be used to compensate for some dispersion penalty; this is bounded to a maximum of 3 dB and has little impact on the receiver design.

Conclusion

Per the information above, we welcome you to participate in the comment process for the sponsor ballot. It would be to your benefit to review the comments and resolutions of those comments during the various Working Group draft recirculations. These can be found at www.ieee802.org/3/ae/comments/index.html. General interest information, presentations and contributions are published on the IEEE 802.3ae web site.

Individuals can subscribe to the IEEE P802.3ae reflector by following the directions at http://www.ieee802.org/3/ae/reflector.html. Please contact Jonathan directly if you wish to submit a comment against Draft 4.0 at jonathan.thatcher@worldwidepackets.com.

In order to effectively work together in the future the IEEE 802.3 Working Group would welcome a long-term liaison relationship with ITU-T. This would enable timely communications between our organizations with respect to future projects proposed within the 802.3 Working Group.

802.3 request that the SEC approve the response to ITU-T SG 15 Question 16/15.

Moved: Jonathan Thatcher
Second: Tom Lindsay

For: 68
Against: 0
Abstain: 4

November 15, 2001

Mr. Ed Eckert, Chairman T1E1

VIA EMAIL: eeckert@catena.com

Reply: T1E1/2001-073 R1, “Update on VDSL Standard for Trial Use and a request for cooperative work on spectrum management relative the EFM on copper activity”

Mr. Eckert,

On November 13, 2001, the liaison letter was presented to the 802.3ah Ethernet in the First Mile Task Force. Thank you for providing this information. The Draft Trial Use VDSL standard currently in the letter ballot comment resolution period in T1E1.4, T1.417-2001 Spectrum Management standard, and work being conducted in other standards development organizations, continue to be seriously considered as 802.3ah develops standards for copper based Ethernet in the First Mile.

All of the baseline proposals given at this meeting have referenced both the T1E1.4 Draft Trial Use Standard and the T1.417 Spectrum Management Standard.

Please note that we are considering new objectives regarding the PHY for copper part of the IEEE 802.3ah Ethernet in the First Mile Task Force:

- Include an optional specification for combined operation over multiple copper pairs

- PHY for single pair non-loaded voice grade copper, distance >=4600m, 0.4mm, >=256kps

- PHY for single pair non-loaded voice grade copper, distance >= 3700m, 0.5mm, >=4Mbps

These objectives would apply in parallel with the other objectives already adopted:

- PHY for single pair non-loaded voice grade copper distance >=2500ft and speed >=10Mbps aggregate

- The point-to-point copper PHY shall recognize spectrum management restrictions imposed by operation in public access networks, including:
  - Recommendations from NRIC-V (USA)
  - ANSI T1.417-2001 (for frequencies up to 1.1MHz)
  - Frequency plans approved by ITU-T SG15/Q4, T1E1.4 and ETSI/TM6

We will welcome further liaison from committee T1 on this subject.

Best Regards,

Geoff Thompson, (thompson@ieee.org) Chairman IEEE 802.3

Cc: Howard Frazier, (millardo@dominetsystems.com) IEEE 802.3ah EFM Task Force Chair
Cc: Paul Nikolich, (nikolich@ieee.org) IEEE 802 LMSC Chair

IEEE-SA Standards Board Project Authorization Request (PAR) (2000-Rev 1)

1. Sponsor Date of Request [2001 November 15]

2. Assigned Project Number [P802.3aj]

3. PAR Approval DATE [ ] {IEEE-Standards Staff to fill in box}
{Copyright release must be received with appropriate signatures
by FAX (1-732-562-1571)}
[ ] PAR Signature Page on File {IEEE Staff to check Box}

4. Project Title and Working Group/Sponsor for this Project
Document type and title: {Place an X in only one option below}
[X] Standard for {Document stressing the verb "SHALL"}
[ ] Recommended Practice for {Document stressing the verb "SHOULD"}
[ ] Guide for {Documents in which good practices are suggested}

TITLE: [Information technology
Telecommunications and information exchange between systems
Local and metropolitan area networks
Specific requirements
Part 3: Carrier Sense Multiple Access with Collision Detection
(CSMA/CD) access method and physical layer specifications
Maintenance Revision #7]

Name of Working Group(WG) : [802.3]

Name of Official Reporter (usually the WG Chair) who MUST be an SA member as
well as an IEEE/Affiliate Member: [Geoffrey O. Thompson, Chair 802.3 WG]
IEEE-Standards Staff has verified that the Official Reporter (or Working Group Chair) is an IEEE and an IEEE-SA Member: [ ] (Staff to check box}
Telephone: [408-495-1339] FAX: [ ]
EMAIL: [thompson@ieee.org]

Name of WG Chair (if different than Reporter): [same]
IEEE-Standards Staff has verified that the Working Group Chair is an IEEE and an IEEE-SA Member: [ ] (Staff to check box}
Telephone: [ ] FAX: [ ]
EMAIL: [ ]

Name of Sponsoring Society and Committee: [CS/LMSC]
Name of Sponsoring Committee Chair: [Paul Nikolich]
IEEE-Standards Staff has verified that the Sponsor is an IEEE and an IEEE-SA Member: [ ] (Staff to check box}
Telephone: [ ] FAX: [ ]
EMAIL: [p.nikolich@ieee.org]

5. Type of Project:

5a. Is this an update to an existing PAR? {Yes/No} [NO]
If YES: Indicated PAR number/approval date [ ]
If YES: Is this project in ballot now? [ ] {Yes/No}
[Indicate changes/rationale for revised PAR in Item #16. This should be no more than 5 lines.]

5b. Choose from one of the following:
[ ] New Standard
[X] Revision of existing standard {number and year} [802.3 2000 Edition and approved supplements and amendments]
[ ] Amendment (Supplement) to existing standard {number and year} [ ]
[ ] Corrigenda to existing standard {number and year} [ ]

6. Life Cycle
[X] Full Use (5-year life cycle)
[ ] Trial Use (2-year life cycle)

7. Balloting Information
Choose one of the following:
[X] Individual Sponsor Ballot Process
[ ] Entity (not Individual) Sponsor Ballot Process
[ ] Mixed Balloting (combination of Individual and Entity Sponsor Balloting)

Expected Date of Submission for Initial Sponsor Ballot: [July 2002]

8. Fill in Projected Completion Date for Submittal to RevCom [November 2002]

9. Scope of Proposed Project
Maintenance changes.
[what is being done, including technical boundaries on the work. This should be brief (less than 5 lines recommended. For Standard revisions the scope should reflect the scope of the resultant standard, including the scope of the original standard, supplements and additions.]

10. Purpose of Proposed Project:
Add accumulated maintenance changes.

[Why it is being done, including intended users, and benefits to users. This should be brief (less than 5 lines recommended). For Standards revisions, the purpose should be the purpose of the original standard and include why the standard is being revised.]

11. Intellectual Property {Answer each of the questions below}

Are you aware of any patents relevant to this project?
[No] {Yes, with detailed explanation below/ No}
[ ] {Explanation}

Are you aware of any copyrights relevant to this project?
[No] {Yes, with detailed explanation below/ No}
[ ] {Explanation}

Are you aware of any trademarks relevant to this project?
[No] {Yes, with explanation below/ No}
[ ] {Explanation}

Are you aware of any registration of objects or numbers relevant to this project?
[Yes] {Yes, with explanation below/ No}
Only provides for correcting labels on current registration arcs. No new registration intended.

12. Are you aware of other standards or projects with a similar scope?
[No] {Yes, with explanation below/ No}
[ ] {Explanation}

13. International Harmonization
Is this standard planned for adoption by another international organization?
[Yes] {Yes/No/?? if you don't know at this time}
If Yes: Which International Organization [ISO/IEC JTC-1 SC6/WG3]
If Yes: Include coordination in question 13 below
If No: Explanation [ ]

14. Is this project intended to focus on health, safety or environmental issues?
[No] {Yes/No/?? if you don't know at this time}
If Yes: Explanation? [ ]

15. Proposed Coordination/Recommended Method of Coordination

Mandatory Coordination
SCC 10 (IEEE Dictionary) by DR
IEEE Staff Editorial Review by DR
SCC 14 (Quantities, Units and Letter symbols) by DR

Coordination requested by Sponsor and Method:
[US TAG for SC6/WG3] by [DR]
[ ] by [ ] {circulation of DRafts/LIaison memb/COmmon memb}
[ ] by [ ] {circulation of DRafts/LIaison memb/COmmon memb}
[ ] by [ ] {circulation of DRafts/LIaison memb/COmmon memb}
{Choose DR or LI or CO for each coordination request}

Coordination Requested by Others:
[ ] {added by staff}

16. Additional Explanation Notes: {Item Number and Explanation}
[ ]{If necessary, these can be continued on additional pages}

1. Broad Market Potential

Broad set(s) of applications
Multiple vendors, multiple users
Balanced cost, LAN vs. attached stations

- **IEEE 802.3 will retain its Broad Market Potential after this project is complete**

2. Compatibility with IEEE Standard 802.3

Conformance with CSMA/ CD MAC, PLS
Conformance with 802.2
Conformance with 802 FR

- **The revision will ensure that 802.3 remains compatible with 802.2**

3. Distinct Identity

Substantially different from other 802.3 specs/ solutions
Unique solution for problem (not two alternatives/ problem)
Easy for document reader to select relevant spec

- **802.3 will remain the only CSMA/CD standard**

4. Technical Feasibility

Demonstrated feasibility; reports - - working models
Proven technology, reasonable testing
Confidence in reliability

- **Technical feasibility has been demonstrated in the field**

5. Economic Feasibility

Cost factors known, reliable data
Reasonable cost for performance expected
Total Installation costs considered

- **The revisions will not change the economic feasibility of the existing standard**

IEEE P1802.3Rev Conformance Test Revision Task Force

November 12th, 2001
Austin, TX

David Law

Overview

- IEEE P1802.3Rev PAR
  - Approved 30th January 2000
    - **Scope:** Editorial merge of existing material
    - **Purpose:** To editorially merge the front matter from 1802.3 with the technical matter from 1802.3d (10BASE-T Conformance Test) whilst removing obsolete material (AUI Conformance Test).

IEEE P1802.3Rev

Sponsor Re-circulation Ballot closed 5th August

1. The ballot has met the 75% returned ballot requirement.

```
   40 eligible people in this ballot group.
        31 affirmative votes
         0 negative votes
         0 abstention votes
      =====
        31 votes received =  77% returned
                              0% abstention
```

2. The 75% affirmation requirement is being met.

```
        31 affirmative votes
         0 negative votes
      =====
        31 votes = 100% affirmative
```

Status

- Forwarded to September Standards board meeting as per conditional approval provided at July meeting
  - Approved
- Published 19th October 2001

802.3ae Report

Austin, Tx

Jonathan Thatcher

Jonathan.thatcher@worldwidepackets.com

Jan Meeting Announcement

Date: Jan 14 -- 18

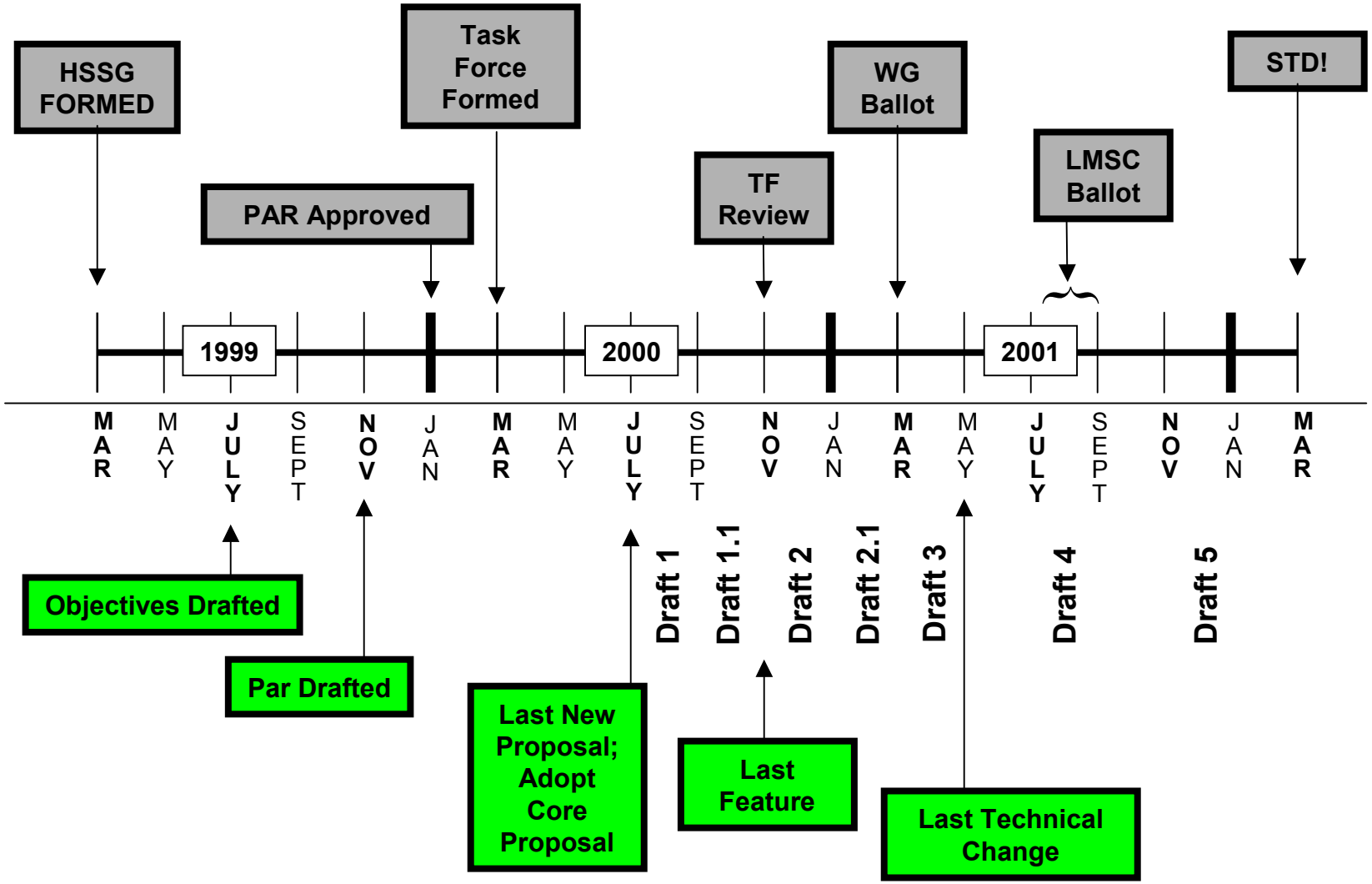
Location: Raleigh, NC

http://www.ieee802.org/3/interims/raleigh.html

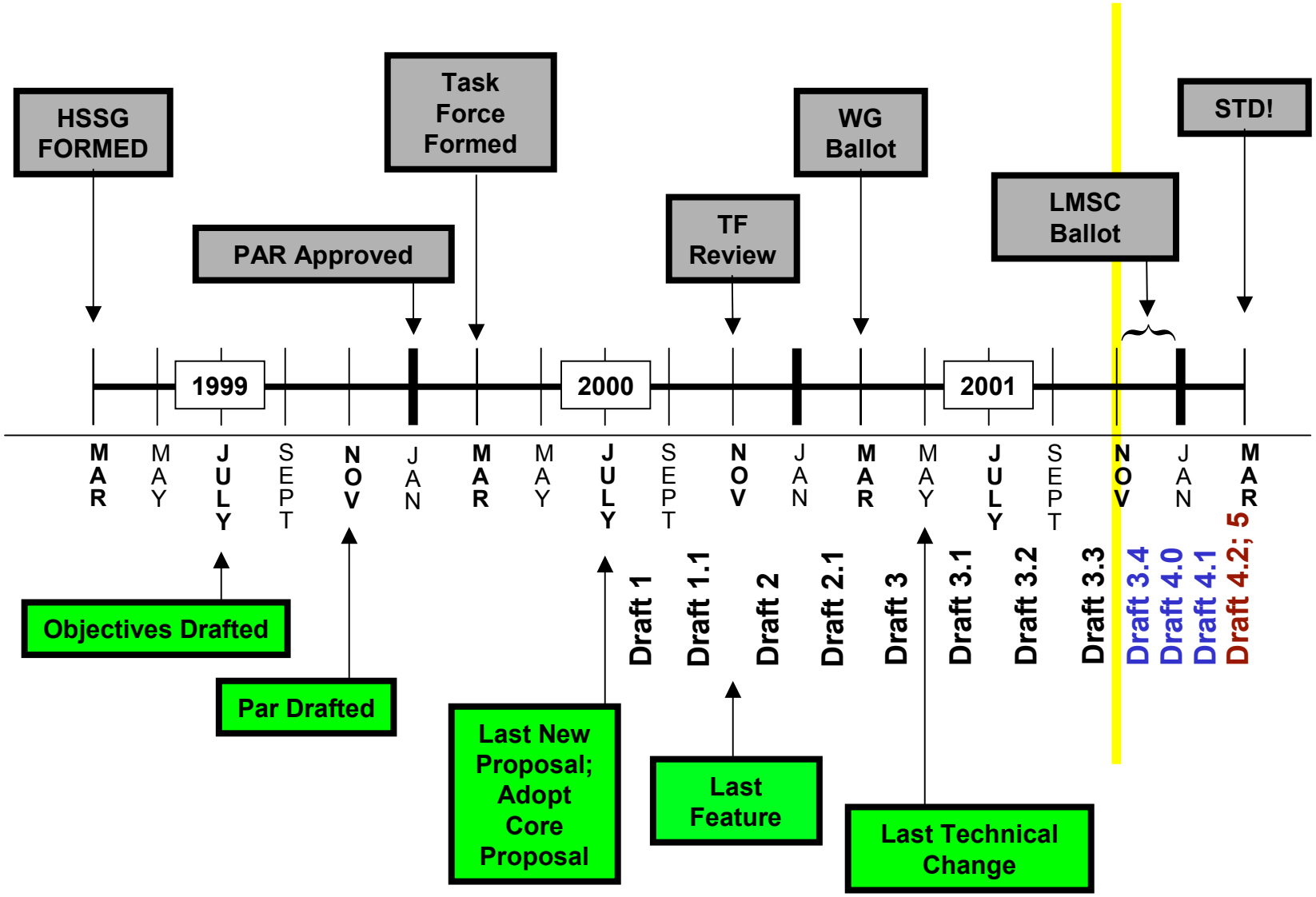
Meeting Days:

- **EFM: Jan 14 – 16**
- **10GbE: Jan 16 -- 18**
- **DTE: Jan 15 -- 17?**
- **802.1: ?**

Long Term Schedule *(was)*



Long Term Schedule *(new)*



Plan

Nov. 13-15	Resolve Draft 3.3 Comments; Prepare D3.4
Nov. 15-16	Conditional approval for sponsor ballot
Nov. 16 (19)	Distribute D3.4; announce WG recirc
Dec. 1 (Dec. 4)	D3.4 WG recirculation closes
Dec. 1-5 (4-5)	Validate contingency satisfied
Dec. 5	D4.0 to IEEE Ballot Services
Dec. 7	Distribution of D4.0; Sponsor ballot
Jan. 11	Sponsor Ballot closes
Jan. 16-18	802.3ae interim meeting
Jan. 24 (28)	Distribute D4.1; announce SB recirc
Feb. 8 (Feb. 12)	D4.1 SB recirculation closes
Feb. 12-13(14-15)	Interim 802.3ae meeting
Feb. 19	Distribute D4.2; announce SB recirc.
~~Feb. 20-Mar. 4~~	~~Exec elect. ballot; presubmit to RevCom~~
~~Mar. 6~~	~~D4.2 SB recirculation closes~~
~~Mar. 8~~	~~Stds board submission deadline (D5.0)~~
~~Mar. 11-16~~	~~802.3 & 802 approval~~
~~Mar. 19~~	~~Standards Board approval (Std!)~~

Agenda for the week

Monday pm

- Editors Meeting (Time?; Lakeview@Rad)

Tuesday

- General Session: (8:30a-noon; Travis @Rad)
- Breakouts (1pm till…): Details at Gen. Session

Wednesday

- Breakouts (8:30a – 1a; Details at Gen. Session)

Thursday

- Closing Session (8:30a –noon; Ballroom C@ACC)

Friday

- Publish Draft 3.4

Ballot Pool & Process

HELP!

Draft 3.2 Coments / Ballot

657 Comments resolved

- 27 Technical Required
- 168 Technical
- 471 Editorial
- 9 Technical Required unresolved from D3.1

Ballot

- Total Voters in Pool: 293
- Voters that submitted a ballot: 232 (+1)
- Voter Approvals: 165 (-4)
- Voter Disapprovals: 22 (+3)
- Voter Abstains: 45 (+2)
- Return Rate: 79.2%
- Approval Rate: 88.2%
- Abstain Rate: 19.4%

Draft 3.3 Comments / Ballot

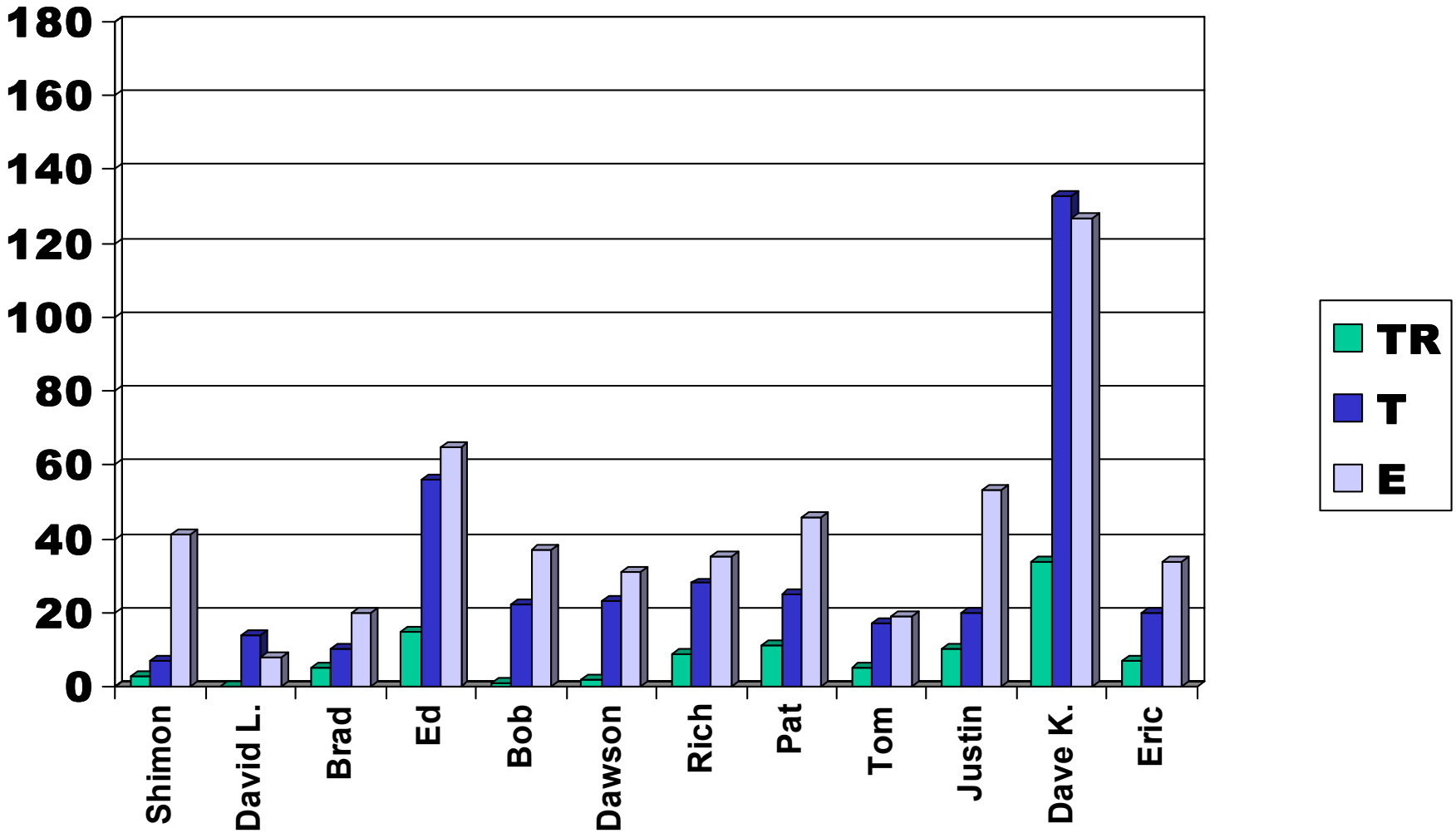
151 Comments to be resolved

- 3 Technical Required
- 44 Technical
- 104 Editorial
- 8 Technical Required unresolved from D3.2

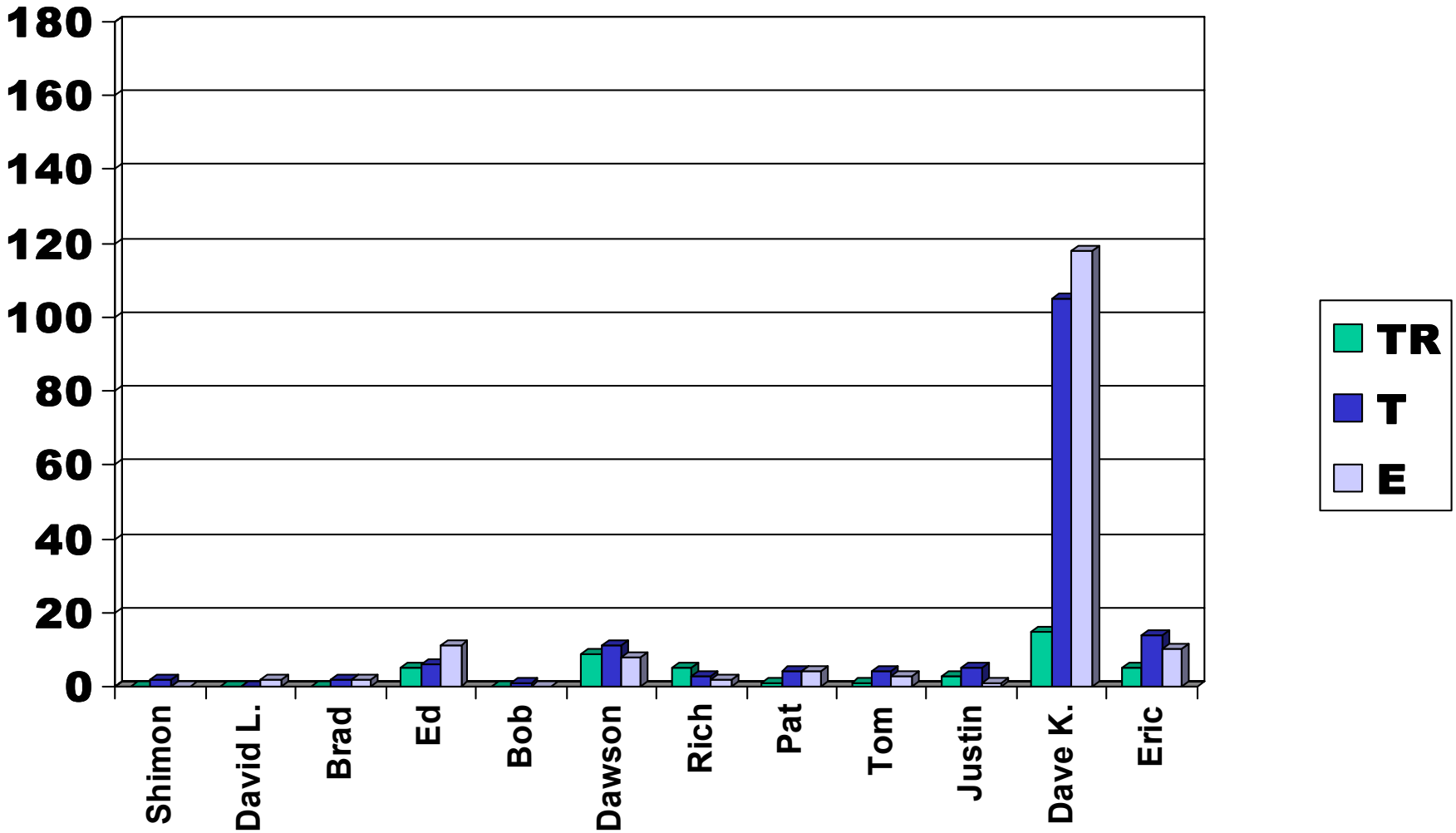
Ballot

- Total Voters in Pool: 293
- Voters that submitted a ballot: 235 (+3)
- Voter Approvals: 173 (+8)
- Voter Disapprovals: 14 (-8)
- Voter Abstains: 48 (+3)
- Return Rate: 80.2%
- Approval Rate: 92.5%
- Abstain Rate: 20.4%

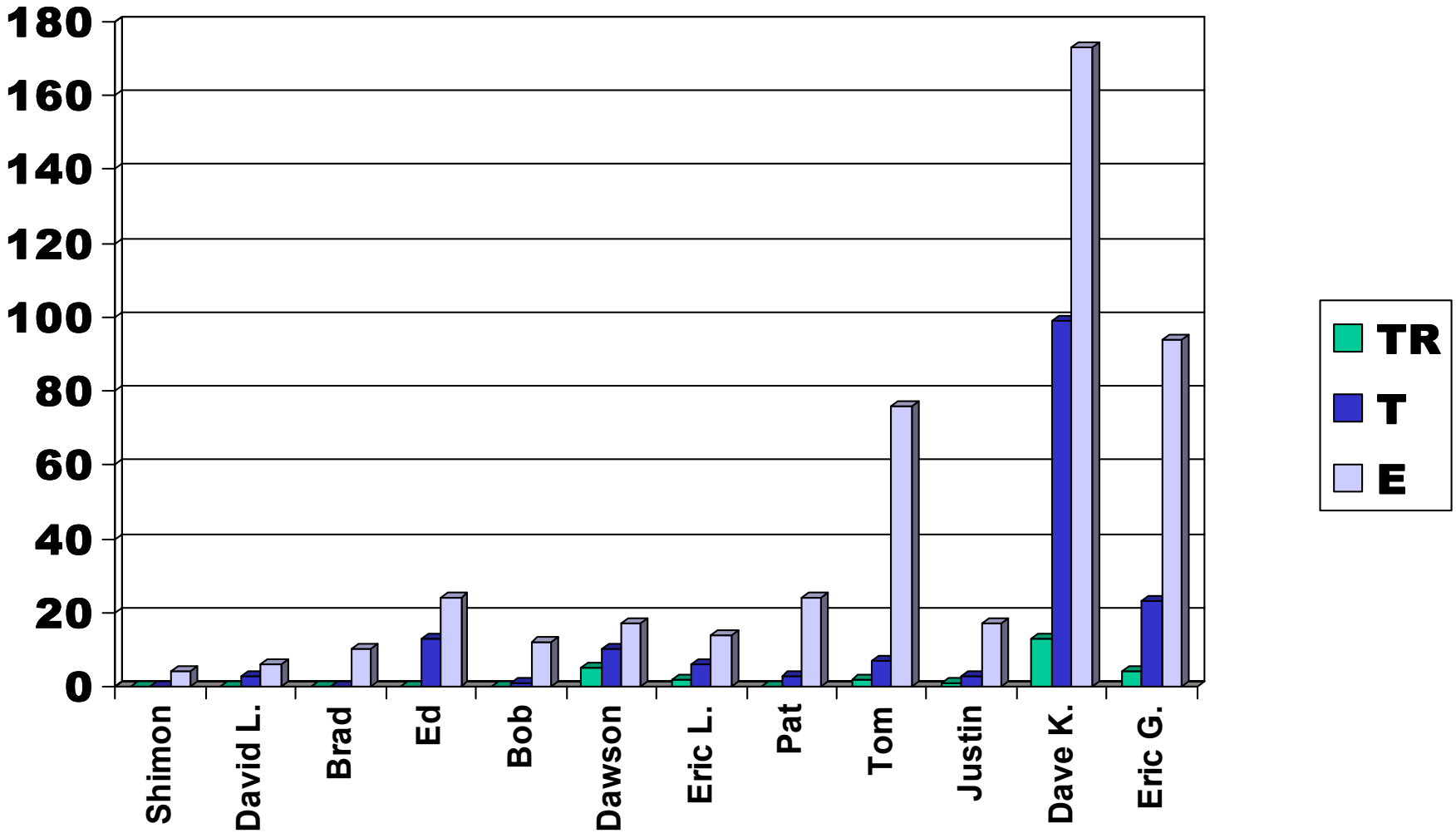
D3.0 Comment Distribution



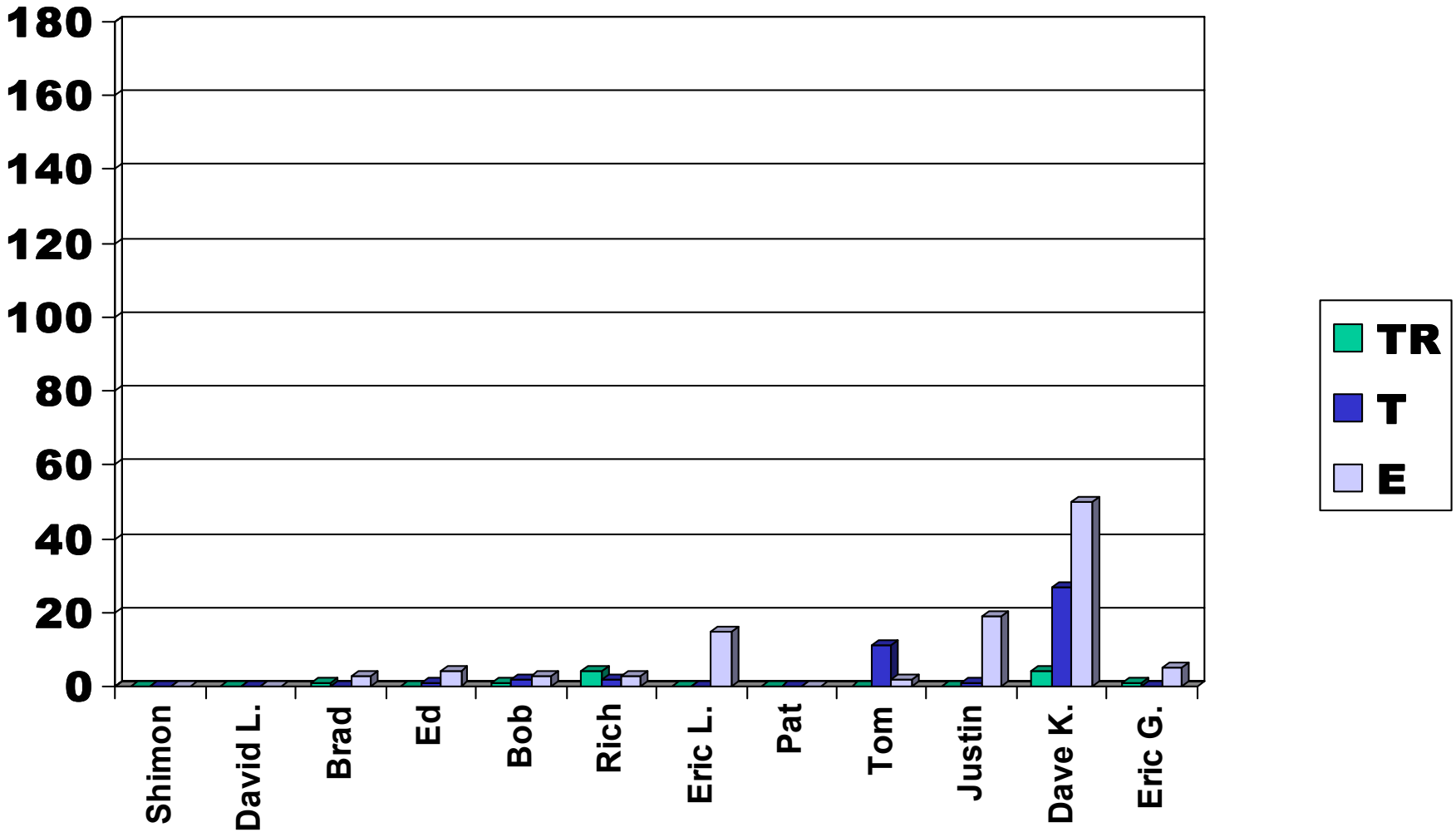
D3.1 Comment Distribution



D3.2 Comment Distribution



D3.3 Comment Distribution



Draft 3.2 Hot Ticket Items

Clauses 50, 52 & 53

- Volume of comments

Technical feasibility

PICS

- Lot of editorial comments against PICS
- Thanks to UNH--IOL staff!

Sponsor ballot preparation

XSBI Serdes Tech Feasibility Motion (passed in Oct '01)

The 802.3ae Task Force agrees that the Clause 51 (PMA) high speed functions are technically feasible. We have used the following criteria in this determination:

– Demonstrated interoperability between multiple vendors with BER < 10 -12 including PMD devices and links.

Moved: Bob Grow

Y: 42, N: 0, A: 5

October '01 Technical Feasibility Presentations

10GBASE-LR/LW

- Straw Poll: Strong conditional support

10GBASE-LX4

- Straw Poll: Split between support and conditional support

10GBASE-ER/EW

- Straw Poll: Strong support

10GBASE-SR/SW

- 1st Straw Poll: Significant conditional support; some non-support
- 2nd Straw Poll: Significant support; strong conditional support; no non-support

8 Unresolved TR's forwarded

Jonathan Thatcher (99001, 99002, 99010, 99011)

- Serial PMDs; LX4 "demonstration"
- Jitter measurement

Howard Baumer (99007-9)

- XAUI random jitter & return loss

Bob Grow (99004)

- Serial PMD "demonstration"
- Withdrawn during balloting

3 New TR's received

Justin Gaither (3, 5, 6)

- Support for 99007 (XAUI return loss)
- Loopback support
- XGMII setup/hold times

Hot Ticket Items

Technical feasibility

- 2 outstanding TRs

PMD jitter measurement

- 2 outstanding TRs

XAUI return loss

- Outstanding TR & 1 new agreement TR

XAUI random jitter

- 2 outstanding TRs

Loopback

- 1 new TR

XGMII setup and hold

- 1 new TR

‘Tween Meeting “Meetings”

- **PMD_Serial Ad Hoc regular teleconferences**
  - Picked up a number of issues to resolve from D3.2; D3.3
  - Fed into comments against D3.2 and D3.3
  - Chair: Piers Dawe (PMD Serial)
  - Will continue with D3.4 & 4.x
- **Plan Interim Meeting for February**

ACCESS TO 802.3ae DRAFTS

See:

www.ieee802.org/3/ae/private

UserID: 802.3ae

Password: ********

Case matters

Goals For This Week (1/2)

BIG TICKET ITEMS

- Resolve 151 comments
- Close technical feasibility
- Write and publish D3.4

Lil' TICKET ITEMS

- Complete response to ITU Letter

Goals For The Week (2 of 2)

Prepare For

And Request

Sponsor Ballot

(contingent upon successful completion of recirculation)

IEEE P802.3ae/D3.3 Comment Resolution

Summary

Brad Booth

IEEE P802.3ae

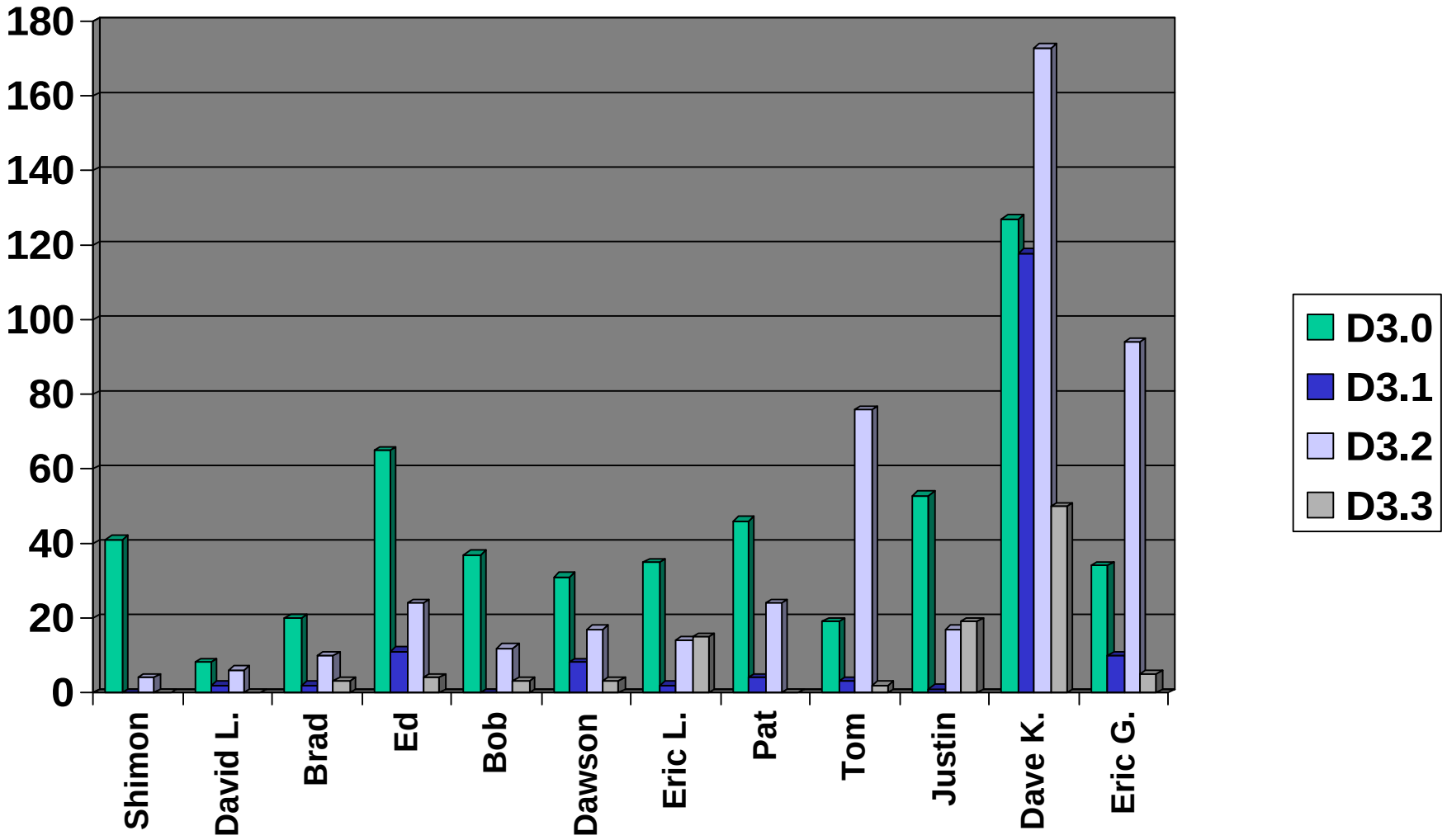
Voter Summary

- Total Voters in Pool: 293
- **Monday afternoon**
  - Voters that submitted a ballot: 235
  - Voter Approvals: 173
  - Voter Disapprovals: 14
  - Voter Abstains: 48
- **Thursday morning**
  - Voters that submitted a ballot: 235
  - Voter Approvals: 186
  - Voter Disapprovals: 1
  - Voter Abstains: 48

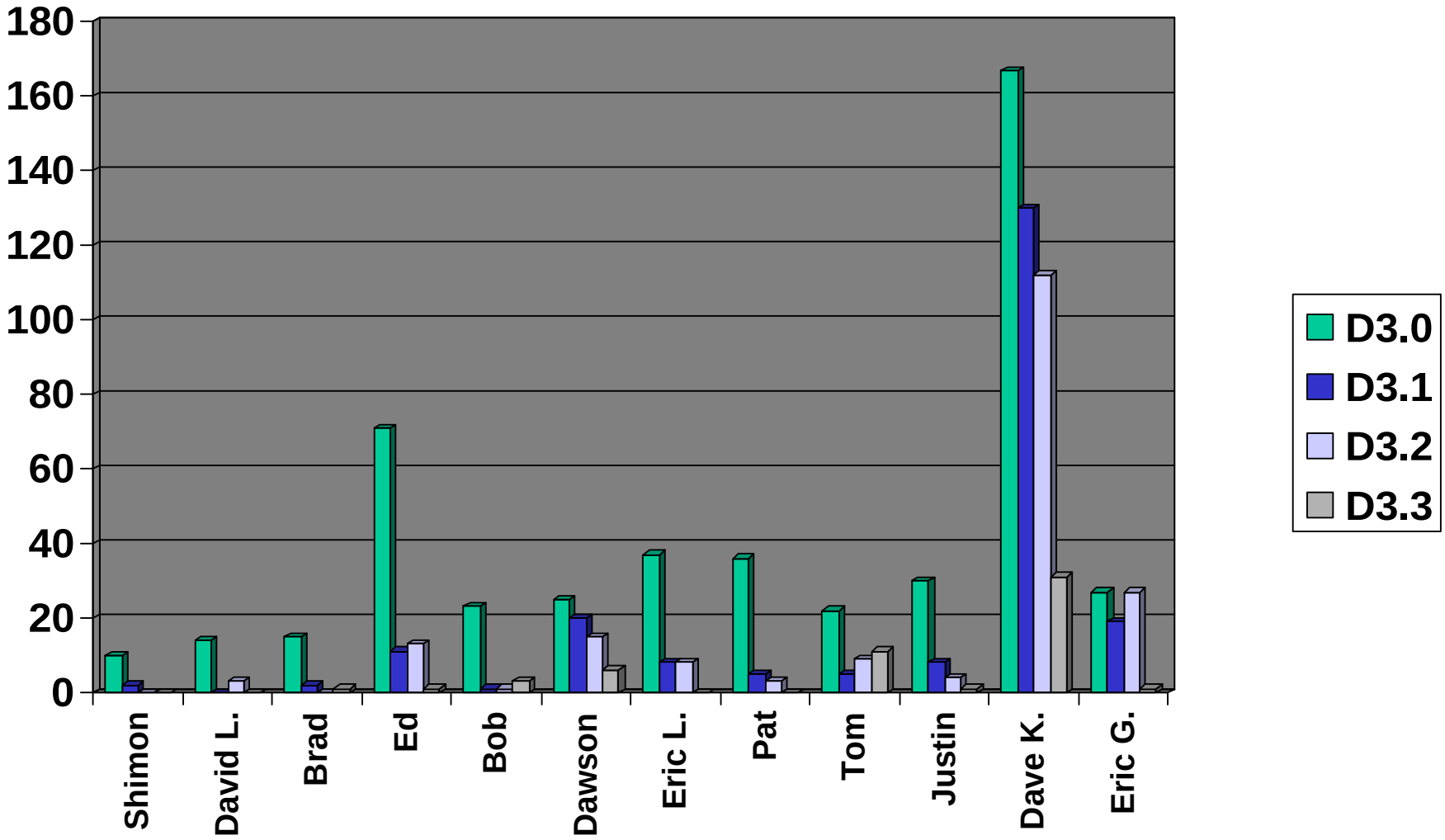
Ballot Summary

- Return Rate:
  - ?50% required
  - **80.2% achieved**
- Approval Rate:
  - ?75% required
  - **99.5% achieved**
- Abstain Rate:
  - ?30% required
  - **20.4% achieved**

Editorial Comments



Technical Comments (T &TR)



Hot Ticket Items

- **PMD jitter measurement**
  - 2 TRs, resolved during meeting
- **XAUI return loss**
  - 2 TRs, resolved during meeting
- **XAUI random jitter**
  - 2 TRs, remain unresolved (Howard Baumer)
- **Loopback**
  - 1 TR, withdrawn
- **XGMII setup and hold**
  - 1 TR, resolved during meeting
- **Technical feasibility**
  - 2 TRs, resolved on Tuesday morning

Technical Feasibility Motion #1

Affirm that the serial PMDs (Clause 52) have met the objective for technical feasibility, as defined by the P802.3ae task force.

Move: David Kabal
Second: Tom Lindsay
Technical: 61:0:10
PASS

Technical Feasibility Motion #2

Affirm that the 10GBASE-LX4 PMD (Clause 53) has met the objective for technical feasibility, as defined by the P802.3ae task force.

Move: Eric Grann
Second: John Dallesasse
Technical: 64:0:11
PASS

Unresolved TR #99008

- **Comment**

  The current transmit jitter specification allows for the near en d random jitter to be has high as 8ps rms and the far end random jitter to be has high as 12.6ps rms. (Si nce the specification allows Dj=0 and Rj=Tj-Dj(actual) Rj can then equal Tj. For near end Rj=0.35UI=112ps pk-pk which is 8ps rms {112/14}. For the far end Rj=0.55UI=176ps pk-pk which is 12.6ps rms.) This puts an undue burdon on the Receiver to be able to handle this large pure random jitter. A maximum random jitter should be specified.

- **Suggested Remedy**

  Add a maximum random jitter specification that is not based on t he determinstic jitter and add the constraint that the sum of the Rj & Dj has to be less than the Tj.Second to last sentence (lines 38-39) modified to read: "The maximum peak to peak random jitter, defined as 14 * rms random jitter, shall be less than 0.22UI. The sum of the measu red deterministic and measured peak to peak random jitter shall be l ess than the total jitter".Table 47-1 in subclause 47.3.3 on page 334 will need to be updated with the maximum random jitter.

- **Response**

  REJECT. The working group desires further investigation of an ap propriate RJ limit. The editor asks that the commentor determine an RJ limit acceptable to the working group and then resubmitted this comment.

  As of November 15, 2001, the commenter has provided no new infor mation during the last 5 months justifying a need for a change, and the committee is sa tisfied with the current specifications.

Unresolved TR #99009

- **Comment**

  There is no specific random jitter specified for the receiver ji tter tolerance. This results in the same problem illustrated in my comment #99008.

- **Suggested Remedy**

  Add the following sentance to subclause 47.3.4.5 between the sentence on specifying Dj and the sentence specifyint Tj: "The maximum peak to peak random jitter, defined as 14 * rms random jitter, shall be less than 0.22UI."

- **Response**

  REJECT. See response to #99008.

Plan (optimistic)

Nov. 13-14	Resolve Draft 3.3 Comments; Prepare D3.4
Nov. 15	Conditional approval for Sponsor Ballot and for submission to RevCom
Nov. 16	Distribute D3.4; announce WG recirculation
Dec. 3	D3.4 WG recirculation closes
Dec. 4	Validate SB contingency satisfied
Dec. 5	D4.0 to IEEE Ballot Services
Dec. 7	Distribution of D4.0; Sponsor Ballot opens
Jan. 11	Sponsor Ballot closes
Jan. 16-18	802.3ae Interim meeting
Jan. 24	Distribute D4.1; announce SB recirculation
Feb. 7	Pre-submit D4.1 to RevCom
Feb. 8	D4.1 SB recirculation closes
Feb. 15	Validate RevCom contingency satisfied
Mar. 19	Standards Board approval!

Plan (realistic)

Nov. 13-14	Resolve Draft 3.3 Comments; Prepare D3.4
Nov. 15	Conditional approval for Sponsor Ballot and for submission to RevCom
Nov. 16	Distribute D3.4; announce WG recirculation
Dec. 3	D3.4 WG recirculation closes
Dec. 4	Validate contingency satisfied
Dec. 5	D4.0 to IEEE Ballot Services
Dec. 7	Distribution of D4.0; Sponsor ballot
Jan. 11	Sponsor Ballot closes
Jan. 16-18	802.3ae interim meeting
Jan. 24	Distribute D4.1; announce SB recirculation
Feb. 8	D4.1 SB recirculation closes
Feb. 12-13	Interim 802.3ae meeting
Feb. 19	Distribute D4.2; announce SB recirculation
Mar. 6	D4.2 SB recirculation closes
Mar. 11-16	802.3 & 802 approval
Mar. 16	Submit D4.2 to RevCom
Jun. 11	Standards Board approval!

Motion

IEEE 802.3 requests that the Sponsor Executive Committee forward IEEE P802.3ae/D4.0 for Sponsor ballot and recirculations conditional upon successful completion of Working Group ballot as per LMSC Operating Rules Procedure 10.

Furthermore, IEEE 802.3 requests that the Sponsor Executive Committee grant conditional approval to forward IEEE P802.3ae/D4.1 to RevCom based on successful Sponsor ballot satisfying the conditions of LMSC Operating Rules Procedure 10.

Moved: Brad Booth

Second: Bob Grow

802.3ae	Y: 45	N: 0	A: 2	Technical (>75%) PASS
802.3	Y: 87	N: 0	A: 2	Technical (>75%) PASS

802 Affirms Yes

Thanks & Congratulations!!

Motion

P802.3ae delegates the review and approval of the response to the ITU-T SG15 Question 16/15 to a subcommittee of interested parties for report to and approval by 802.3 on November 15.

Moved: Tom Dineen

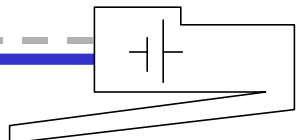
Second: Tom Lindsay

Approved by acclamation

DTE Power via MDI

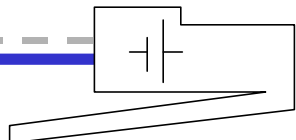
802.3af Task Force
Opening Plenary Meeting Report
November 12, 2001
Austin, TX

Steve Carlson, TF Chair
scarlson@esta.org



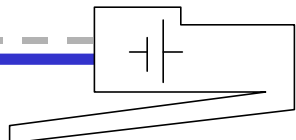
November Plenary Meeting

- Interim meeting in Portsmouth, NH
- Hosted by UNH Ethernet Interoperability Lab
- 26 people from 14 companies
- Draft Input from:
  - Discovery ad-hoc (updated tables and text)
  - Power supply ad hoc (updated tables and text)
  - Cable Plant (simplify)



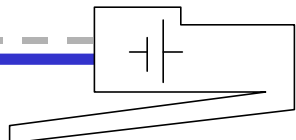
November Plenary Meeting

- Results from Portsmouth Interim
  - Resolution of ~ 400 comments
  - About 325 editorial, 75 technical
    - Most technical comments are fine-tuning table data
    - No unresolved comments
  - Cleaned up and tightened
- Chartered Editor to produce D2.0 for pre-submission to WG
- Did not make deadline of November 5, 2001



November Plenary Meeting

- Presentation of P802.3af tutorial to ESTA Control Protocol Working Group
  - November 1, 2001 - Orlando, FL
  - 78 individuals from 66 companies
- Networking presentation to LDI
  - Attendees from entertainment industry
    - Chris DiMinico, CDT
- Rugged Ethernet connector
  - CFI?

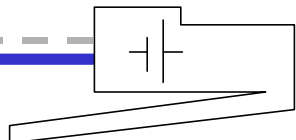


Plans for the Week

The DTE Power via MDI TF will meet on Tuesday and Wednesday from 8:30AM to 5:30PM, and Thursday 8:30AM to noon.

Goals for the week:

- Presentations/Comment Resolution Clause 33
  - Place D2.0 on 802.3 local server http://10.1.1.1/af/index.htm
  - Comment resolution to D2.0
  - Refine PICs
  - Produce D2.1 to put forth to WG Ballot



Plans for the Week

Future Meetings:

January Interim
Raleigh/Durham, NC
January 14 -16, 2002 (TBD)

March Plenary - Hyatt
St. Louis, MO
March 11 - 15, 2002

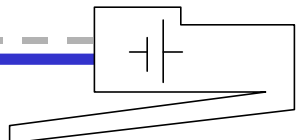
Task Force Info

The DTE Power via MDI Task Force maintains up-to-date information at:

http://www.ieee802.org/3/af/index.html

All archive information from earlier minutes is available. Information on subscribing to the e-mail reflector, proper usage thereof, and presentation guidelines are here. Drafts may be found in the private area.

login: 802.3af password: ******



The Ethernet Shaver

- Photograph courtesy of PowerDsine

IEEE P802.3
Maintenance

November 12th, 2001
Austin, TX

David Law

Maintenance Requests Status

- 82 Maintenance requests

In IEEE P802.3ag ballot	21
Ready for ballot	2
Awaiting clarification	4
Errata	26
To be categorised	2
Review by Technical experts	4
Withdrawn	3
Published	20

Plans for the week

- Maintenance committee meeting this week
  - Review status of existing revision requests
  - Classify new revision requests
  - Review need for Maintenance #7 ballot
    - Draft PAR if required
- Request approval for PAR at Thursday at 802.3 Closing plenary if necessary

IEEE P802.3ag Maintenance #6

Sponsor Ballot closed 11th August

1. The ballot has met the 75% returned ballot requirement.

```
   25 eligible people in this ballot group.
        20 affirmative votes
         0 negative votes
         0 abstention votes
      =====
        20 votes received =  80% returned
                              0% abstention
```

2. The 75% affirmation requirement is being met.

```
        20 affirmative votes
         0 negative votes
      =====
        20 votes = 100% affirmative
```

3. Total 6 comments received

IEEE P802.3ag Maintenance #6

- Comment resolution at October Interim
  - Two editorial changes to draft
  - Technical comment withdrawn
    - Will be submitted as a new Maintenance request
  - No re-circulation required
- Submitted for approval at December Standards Board meeting under Conditional Approval given in July
- No plan to meet this week

Maintenance Web Information

- The Maintenance web site is at:

  http://www.ieee802.org/3/maint/index.html

- The IEEE P802.3ag web site is at:

  http://www.ieee802.org/3/ag/index.html

- The Maintenance request form is available at:

  http://www.ieee802.org/3 /private/maint/revision_request.html

  Username: *****

  Password: *****

  Password **is** case sensitive

IEEE 802.3ah
Ethernet in the First Mile
Task Force

Interim meeting report

Radisson Hotel, Austin TX

12-November-2001

Reflector and web

- To subscribe to our reflector(s), send email to:

  majordomo@ieee.org

  and include one or more of the following
  in the ***body of the message:***

  subscribe stds-802-3-efm <*your email address*>
  subscribe stds-802-3-efm-copper <your email address>
  subscribe stds-802-3-efm-p2mp <your email address>
  subscribe stds-802-3-efm-p2p <your email address>
  subscribe stds-802-3-efm-oam <your email address>

- Our web site is located at:

  http://www.ieee802.org/3/efm

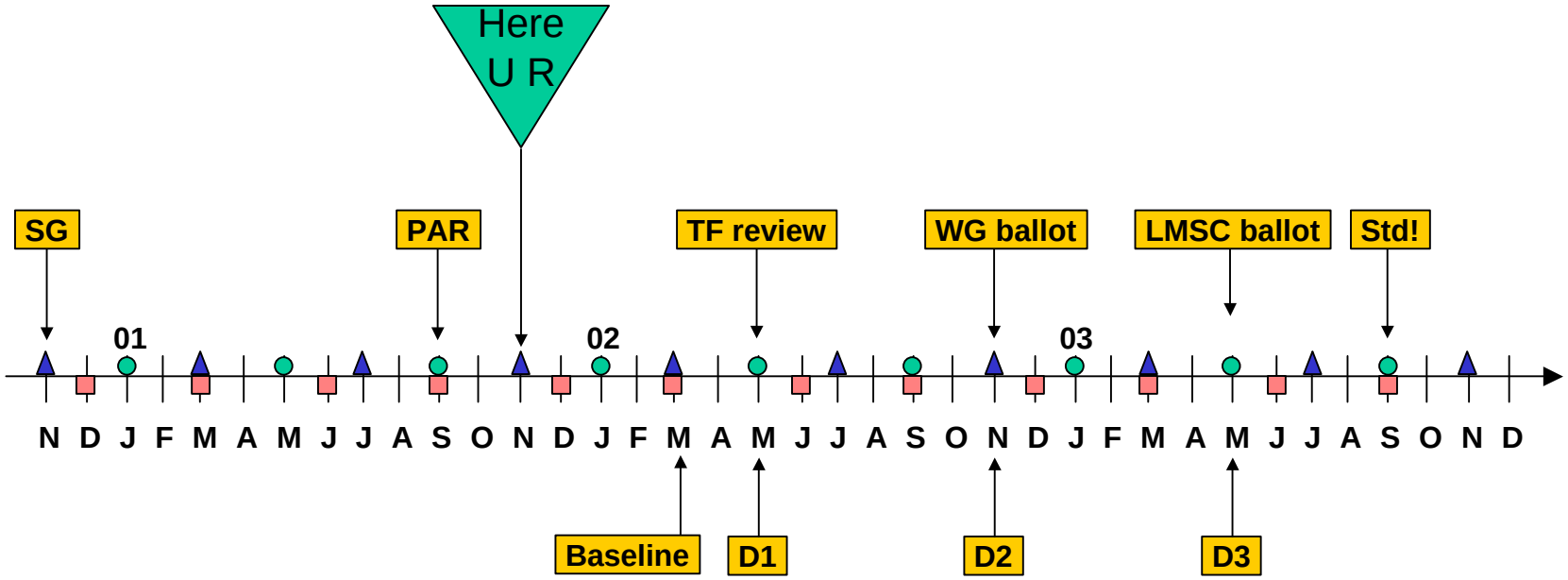
Interim Meeting

- 3 day meeting - Oct 17-19, 2001
- Radisson LAX
  - Hosted by 10 GEA
- ~170
- 60 technical presentations covering
  - OAM, P2P Fibre, EPON, P2P Copper

Elected Officers

- Howard Frazier - Task Force Chair
- Gerry Pesavento - P2MP Chair
- Hugh Barrass - Copper Chair
- Vipul Bhatt - Optical PMD Chair
- Behrooz Rezvani - Copper Editor
- Wael Diab - Optical PMD Editor

Adopted Timeline



802 Plenary
802.3 Interim
IEEE-SA Standards Board

Objectives for this meeting

- **Finish Task Force organization**
- **Continue review of proposals:**

  Another 60 presentations!
- **Refine project objectives**

Plan for the week

	MON	TUE			WED				THU
8:30	**SEC**	**802.3ah EFM Task Force Opening Plenary** Austin Ballroom Radisson			**802.1 & 802.3ah EPON & OAM Joint Session Ballroom C** Austin Convention Center	**802.3ah Optics Room #5 A&B** Austin Convention Center	**802.3ah Copper Ballroom B** Austin Convention Center		**802.3ah EFM Task Force Closing Plenary Ballroom C** Austin CC
9:00									
9:30									
10:00									
10:30									
11:00	**802 Plenary**								
11:30									
12:00	Lunch	Lunch			Lunch				Lunch
12:30									
1:00	**802.3 Opening Plenary Townlake** Radisson	**802.3ah EPON Sub Task Force Austin Ballroom** Radisson	**802.3ah Optics Sub Task Force Skyline** Radisson	**802.3ah Copper Sub Task Force Travis #3** Radisson	**802.3ah EPON Ballroom C** Austin Convention Center	**802.3ah OAM Room #5 C** Austin Convention Center	**802.3ah Optics Room #5 A&B** Austin Convention Center	**802.3ah Copper Ballroom B** Austin Convention Center	**802.3 Closing Plenary Ballroom B&C** Austin CC
1:30									
2:00									
2:30									
3:00									
3:30									
4:00									
4:30									
5:00	Dinner	Dinner							
5:30									
6:00		**Call for Interest PHYs for 10 GigE Long Links Travis #1** Radisson							
6:30	**802.16 Tutorial Texas 4-7**				Social				
7:00									
7:30									
8:00									
8:30									
9:00									

Ethernet in the First Mile
IEEE 802.3ah Task Force

IEEE 802.3ah
Ethernet in the First Mile
Task Force

Meeting Report

Austin Convention Center, Austin TX

15-November-2001

Elected Officers

- Ariel Maislos - Editor P2MP sub task force
- Matt Squire - Chair OAM sub task force

- Affirm selection of officers
- M: Gerry Pesavento
- S: Hugh Barrass
- Y:79 N: 0

Liaison Representatives

- Invite Michael Beck as liaison with committee T1E1.4
- Invite Barry O'Mahany as liaison with ITU-T SG15/Q4
- Affirm invitation to liaison representatives
- M: Hugh Barrass
- S: Behrooz Rezvani
- Y: 80 N: 0

PON Objective

PHY for PON, >= 10km, 1000Mbps, single SM fiber, >= 1:16

M: Vipul Bhatt

S: Gerry Pesavento

Y: 58 N: 0 A: 3 Tech >= 75% Pass

BER Objective

To add an objective for the optical EFM PHYs to have a BER better than or equal to 10^-12 at the PHY service interface

M: Wael Diab

S: Vipul Bhatt

Y: 78 N: 6 A: 23 Tech >= 75% Pass

Copper Objectives

Include an optional specification for combined operation on multiple copper pairs

M: Copper Sub Task Force

Y: 86 N: 1 A: 24 Tech >= 75% Pass

Copper Objectives

PHY for single pair non-loaded voice grade copper, distance >=4600 m, 0.4mm, >=256kbps

M: Copper Sub Task Force

Y: 62 N: 18 A: 17 Tech >= 75% Pass

Copper Objectives

PHY for single pair non-loaded voice grade copper, distance >=3700 m, 0.5mm, >=4Mbps

M: Copper Sub Task Force

Y: 68 N: 4 A: 20 Tech >= 75% Pass

Liaison Letters

Approved liaison letter response to T1E1.4

Passed by acclamation

Approved liaison letter response to ITU-T SG15

Passed by acclamation

Attachment is not yet available for web posting.