Unconfirmed Minutes

IEEE 802.3 CSMA/CD PLENARY

Tampa, FL

November 6-9, 2000

MONDAY, 6 NOVEMBER

ADMINISTRATIVE MATTERS

Mr. Geoff Thompson, Chair 802.3 CSMA/CD, opened the Working Group plenary at 1300, 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), and Mr. Steve Carlson (802.3af).

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.

The meeting agenda was distributed, and the meeting attendees introduced themselves. 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 not ready but may be presented later in the week. He presented the potential voter list. The following indicated by • on <Potential Voters> requested to become voting members: Andersen, Ole; Anderson Eric; Baldman, Andy; Brikovskis, Rhett; Burgess, James; Chang, Xaiopeng; Congdon, Herb; Cruikshank, Brian; Cullin, Chris; Dance, Rupert; Dedrik,Joel; Diab, Wael; Dudek, Mike; George, John; Hamidy, Farid; Hatley, Tom; Hesson, James; Jackson, Steve; Jang, Woo-Hyuk; Jewell, Jack; Kamat, Puru; Kim, Yongbum; Kooistra, David; Krohlner, Lars; Lane, William; Love, Bob; Loveless, Rick; Lynskey, Eric; McCoy, Gary; Mottar, Reza; Mohamadi, Fred; Nishida, Glenn; Oh, Stephen; Ohlen, Peter; Porter, Jeff; Quirk, John; Ravinovich, Rick; Rao, Sailesh; Romer, Tume; Savara, Raj; Schramm, Thomas; Schultz, Benjamin; Suzuki, Hiroshi; Svensson, Daniel; Tate, Mike; Torgerson, Paul; Vaden, Sterling; vanOosten, Eric; Wagner, Martin; Whitlow, Tony.

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 Hilton Head meeting. A list of future meetings and registration instructions are available through the IEEE 802 web site home page, http://www.ieee802.org.

Agenda (Monday-Tuesday)

MOTION:

Approve the agenda <Monday Agenda>.

M: T. Dineen, S: S. Carlson.
Approved by voice without objection.

MOTION:

Defer approval of minutes to Thursday.

M: W. Quackenbush, S: T. Dineen.
Approved by voice without objection.

Working Group Activities Since LaJolla

Between the July LaJolla meeting and this meeting, 1802.3 was sent to Sponsor ballot and 802.3ag Maintenance #6 to Working Group ballot (its PAR having been approved). 802.3ad was printed, but it is now technically obsolete, having been merged into the newly available IEEE Std. 802.3, 2000 edition. There will be no free distribution of the printed edition of IEEE Std. 802.3, 2000 edition to Working Group members since it is included in the Y2K+1 CD ROM.

Executive Committee Items

There is rules change activity. The most substantive change is for coordination of positions to government and regulatory bodies. The free electronic distribution of 802 standards is still a work item, since the current plan will require revision. There is a wireless network available at this meeting and planned for future meetings. 802.3 will attempt to establish a server on that network. This week's social will be paid for by the hotel, and savings from that will be used for the purchase of three new projectors. The next plenary meeting will be held in Hilton Head, SC. It is possible that the Hilton Head hotel will change management from Hyatt to Marriott before the meeting. Registration directly with the hotel is strongly encouraged (not through the national Hyatt registration). Plenary meetings further out were also announced.

The two wireless tutorials to be held Monday night were announced. Tuesday, one of the tutorial slots will be used for an 802.3 Call for Interest on Ethernet in the Last Mile.

External Liaison Report – FO2.2

A detailed report will be given in 802.3ae during the week. Those interested should consult the 802.3ae minutes for this meeting week.

External Liaison Report – TIA TR-42

Mr. Chris Diminico reported on TR-42 <TR-42 Report>. The committee supports our work by producing building cabling standards that we reference. Category 6 is now targeted for completion in January 2001. Cabling issues for data centers is an area of discussion and may become a project.

External Liaison Report – SC25/WG3

Mr. Alan Flatman reviewed the work on structured cabling standards. The last major meeting was in June, which was reported to 802.3 in July. The second edition standard is now in the approval process. The current drafts of building cabling standards

are very close to TIA standards. Mr. Flatman referred participants to his July presentation for details.

External Liaison Report – SC6/WG3

Mr. Thompson provided an update on the status of SC6/WG3. The secretariat has moved from the US to Korea. The relevance of the committee to our work is decreasing because of the tendency to use fast track approval of 802.3 standards. Everything in the 2000 edition has been balloted, but not yet approved at ISO. They hope to republish 802.3, 2000 edition as an ISO standard shortly.

PAR Approvals For This Week

There are a number of PARs for approval this week. Mr. Thompson indicated his intention to abstain on the wireless PARS. The proposed PAR from the RPR Study group details the formation of a new Working Group 802.17 <RPR PAR><RPR 5 Criteria>. RPR is more closely related to our work and therefore was discussed by the group.

Mr. Thompson reviewed the key portions of the proposed PAR. Most discussion focused on the scope and purpose. Participants questioned the focus on rings instead of a mesh since a ring is the degenerate case of a mesh. Multi-access capability was assumed to be one of the major reasons. Others questioned the viability of the project. It was suggested that the questions being raised deserve expert responses from the RPR study group. Support for letting the PAR go forward was also expressed. Mr. Thompson requested that an invitation be extended to the study group to have a representative join us for discussion at their convenience, and that 802.3 consideration be deferred till then.

Call for Patents

Mr. Thompson reviewed the IEEE patent policy. The IEEE requests release letters from holders of patents that may apply to standards in development. These letters state the patent holder's willingness to comply with the IEEE patent policy. 802.3 also solicits information 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 <Patent Policy>. The current patent policy as well as an example response letter can be found in the IEEE Standards Companion, or on the web at http://www.ieee802.org/3/patent.html. No patent letters were presented, nor was there any expression from those attending of intent to submit a letter, in response to his request.

The question was asked, when letters must be submitted. Mr. Thompson replied that he only calls for patents, and cannot make the legal judgement of the requirement on the holder of any patents.

State of Standards

Mr. David Law, Vice Chair of 802.3, presented the IEEE Project 802.3 Working Group Standards Status <Standards Status> and the matrix <Clause Matrix> showing which base document clauses are changed by subsequent supplements. Both reflect the

recent publication of IEEE 802.3, 2000 Edition. The status also includes the development status of approved and proposed 802.3 projects.

Operating Rules of 802.3

Mr. Law indicated that four rules revision requests have been received <Monday Rules Report>. The requests include clarification on "registration", Task Force participation rules and updates for changes to the plenary meeting week. Attendees were invited to participate in the rules meeting this week.

CONFORMANCE (1802.3rev)

Mr. Law reviewed the status of 1802.3rev <Monday 1802.3 Report>. The Sponsor ballot is currently open. Some comments have been received with the ballot response to date being 32.5% with all voting approve. There will be a meeting this week to address the comments received.

INTERPRETATIONS

Mr. Law reported on an interpretation request that has been received <Monday Interpretations Report>. The request is on 1000BASE-T (clause 40). The request notes two equations with one a subset of the other are listed, and asks why both are necessary. The reason is because each refers to a different transition in a state machine. A formal review and response will be scheduled this week.

MAINTENANCE

Mr. Law reported on the meetings on maintenance <Monday Maintenance Report>. There are 67 requests at this time, 21 of which are in the Maintenance #6 ballot. New requests since July total 14. The PAR for Maintenance (802.3ag) was approved and a Working Group ballot is now open. The abstention rate is near maximum at present. This week, we will need to review the new requests and classify them as well as review the comments received on the ballot.

ITU Liaison Ad Hoc

Mr. Bynum indicated that only a few people had shown interest in the issues raised by the ITU Ethernet over LAPS project. The People's Republic of China is driving the proposal. With the limited interest, should we continue to attempt to generate a response? Ms. Thaler indicated that other projects are also specifying how to encapsulate Ethernet frames, and that we would be unlikely to be able to control all of them. Further discussion was suspended to resume the discussion of the 802.17 PAR.

PAR Approvals For This Week (continued)

The question was restated about rings and meshes. The response is that the ring is used to statistically multiplex different customers. Some customers will hook rings together, while others will treat a ring as a feeder to a point-to-point link.

A question was asked how the proposed project is distinguished from a MAN configuration of Ethernet switches (e.g., GbE applications), or other standards projects.

The project is justified partially by the common occurrence of physical rings in the metropolitan physical plant. RPR doesn't require two MACs as in a bridge, only one. ANSI T1X1 has SONET data packet projects, but RPR won't limit itself to exact SONET, (e.g., they could reference 802.3 physical layers), and T1X1 isn't doing multi-access.

The assertion was made that the PAR scope statement doesn't describe much of what was just said by the RPR proponents. They responded the information was in the five criteria, as well as better definition of enterprise versus service provider emphasis. Discussion then moved to the five criteria.

The growth in RPR participants is evidence of the industry support. Physical rings are widely deployed, and RPR is more efficient than a switched Ethernet ring.

The RPR Study Group is focusing on easy mapping of 802.3/Ethernet frames with transparent bridging.

The Study Group does want to support large frames as indicated in criteria three. 802.3 members warned them about problems in doing this. QOS characteristics will also be included in the project. 802.3 participants asked why the specific characteristics of RPR couldn't be accomplished at a higher layer, since the features proposed aren't all that unique. One participant countered that RPR had met the traditional standards for uniqueness.

It was determined that further question discussion should be deferred to an Ad Hoc. About a dozen people expressed interest in participating in that Ad Hoc.

10 GIGABIT ETHERNET (802.3ae)

Mr. Jonathan Thatcher presented the status of the Task Force <Monday 802.3ae Report>. The group met in New Orleans in September. There was discussion in September about changing the objectives. The Task Force agreed to an objective change, and that was critical to subsequent significant progress on PMDs. The Working Group will be requested to affirm the change as agreed to by the Task Force.

In New Orleans, the Task Force split into two tracks, logic and PMD. The logic track recommended a change to the XGMII electrical specifications, and the PMD group adopted a link model.

The equalization group has a dedicated reflector, and met early this week.

A jitter meeting was held in Austin in conjunction with an editor's meeting. Mr. Thatcher thanked the 10 GEA for hosting that meeting. The PMD people split into serial PMD and continuation of the jitter discussions. The logic editors also split into working sessions to address all of the issues on their particular clauses.

With the good progress in these meetings, Mr. Thatcher believes the Task Force is on schedule. This week, the Task Force will focus on final preparations for a Task Force ballot. A January interim would focus on comment resolution with recirculation prior to the March plenary. There is a list of "big ticket" items that will be the focus for the technical work of this week.

TECHNICAL MOTION:

802.3 Working Group affirms the following change to the P802.3ae objectives:

Modify the distance objectives for MMF PMDs to:

- At least 300 meters over installed* MMF
- At least 65 meters over MMF**

*Installed = all MMF specified in 802.3z (62.5 micron 160/500 MHz*km, FDDI grade is the worst case).

**Implies that the solution is cost optimized for this distance.

M: Mr. J. Thatcher, S: none required

By acclamation.

There was no objection to voting the motion by voice for acclamation. 802.3 voters responded in favor with no opposition.

Mr. Thatcher reported on the strong interest in 10 GbE at trade shows, from the press and through other correspondence. This reinforces the importance of the Task Force's work.

He also outlined the plan for 802.3ae Task Force meetings this week, with three working sessions in parallel for about half the time allocated to the Task Force.

Mr. Thompson requested the entire group consider the interim meeting dates since the hotel contract needs to be signed. After discussion, it was agreed that meeting January 10-12 would be acceptable. Other 802.3 activities would be on January 8-9.

DTE POWER VIA THE MDI (802.3af)

Mr. Steve Carlson presented the status of the Task Force <Monday 802.3af Report>. The group met in New Orleans in September. Laboratory work has reinforced the viability of decisions of the group.

He also outlined the work plan for 802.3af for this week. They plan to decide the discovery method, define a management strawman and a strawman power supply. He indicated that the entertainment industry is moving toward DTE powered Ethernet illustrating this with a couple of products (one a high functionality light, and the other a gateway from existing control technology to Ethernet), both incorporating proprietary DTE Power (with intent to comply to 802.3af).

ETHERNET IN THE LAST MILE CALL FOR INTEREST

Mr. Howard Frazier briefly overviewed the agenda for the Call for Interest to be held Tuesday evening. He invited all to attend and most in the room indicated they would attend.

Other Business

Room assignments were made for the Task Forces, and Ad Hoc meetings. The opening 802.3 plenary was adjourned at 1732.

THURSDAY, 9 NOVEMBER

ADMINISTRATIVE MATTERS

Mr. Geoff Thompson, Chair 802.3, opened the Working Group closing plenary at 0830 and welcomed those attending the meeting. The attendance lists were circulated.

MOTION:

Approve the agenda. <Thursday Agenda>

The agenda was approved without objection.

MOTION:

Approve the July LaJolla 802.3 minutes.

Approved without objection.

Mr. Thompson reminded participants that the Friday closing 802 plenary has been eliminated.

He presented the potential voter list, and the following requested to become voters (indicated by * on <Potential Voters>: Amundsen, Keith; Cross, Richard; Dobson, Hamis; Firoozmand, Farzin; Gaither, Justin; Gilliland, Pat; Hinzel, David; Levy, Avinoam; Oughton, George; Patel, Kipak; Rizk, Ramex and Twu, Bor-long.

Mr. Thompson also presented the 802.3 member (voter) list indicating that these individuals plus those potential voters that requested voter status are the only people authorized to vote at the meeting on motions.

Working Group Positions on Executive Matters

An 802 rules meeting developed refinements to the relationships with other standards bodies and government regulatory bodies. The requirements include who needs to be copied on correspondence, and that correspondence clearly indicate if it is from the Working Group or a position of all of 802 (LMSC Executive Committee). Task Forces are not to have liaison relationships. Mr. Quackenbush will also be proposing text to clarify the definition of participation, membership, etc.

802.3 Rules

Mr. Law presented on 802.3 rules changes <Thursday Rules Report>. Four change requests have been received. He reviewed the change procedure (described in the rules). The first request was to clarify that paying the meeting fee was necessary to accrue attendance toward membership. The second clarifies participation privileges in meetings. The third covers openness and attendance accrual at TF meetings. The fourth is editorial corrections for the elimination of the closing 802 plenary.

PARS Before the Executive Committee

The PARs on the Exec agenda include some wireless PARs and the RPR PAR which will be covered later with RPR study group members in attendance. There was no discussion of the wireless PARs beyond Mr. Thompson's brief review.

Cable Discharge Ad Hoc

The planned Ad Hoc on Category 6 cable discharge didn't happen because key people were not able to attend the Tampa meetings.

Mr. Cobb showed draft text to be the basis of a liaison letter, which with discussion was edited to read.

> "IEEE is establishing an Ad-Hoc group to study static discharge between DTE equipment and cabling. To further this work IEEE is requesting technical data regarding this phenomenon. In particular there is interest in understanding the range of any potential energy and voltage that can be found on the cabling, the circumstances under which this could occur, and a model that would be useful to develop testing.
>
> "We believe this is in the best interest of both groups and will be looking forward to a cooperative effort in this study."

Discussion requested that not only voltage discharge but the capacitive effects of the stored energy should be included. It was also suggested that a model would be required. Concern was expressed that this might be used to market against old cable plant, but it was clarified that the problems are more prevalent with new cables (e.g., Cat 5e and Cat 6). Teflon dielectrics appear to have something to do with the condition.

IEEE Ballot Service

IEEE balloting service requested comments on their plans and support of electronic balloting. Mr. Thompson told them to make their service more like ours. Mostly the speed of doing the ballot is important.

Other Liaison Matters

There was a solicitation on Monday for anyone that wants to be the liaison to 802.1. Mr. Thompson renewed the request. At least one person is interested, but was not in the room.

STD. P1802.3 CONFORMANCE TEST REVISION

Mr. Law reported status on the P1802.3Rev project <Thursday 1802.3 Report>. The document is at Sponsor ballot, with some early responses. Mr. Law proposed an 1802.3 meeting in Irvine to resolve any Sponsor ballot comments. He aims for Standards Board approval in March.

TECHNICAL MOTION:

IEEE 802.3 authorizes the IEEE P1802.3Rev Task Force to conduct meetings and recirculation ballots as necessary to resolve comments received during the Sponsor ballot.

IEEE 802.3 requests that the P802 LMSC Executive Committee forward P1802.3Rev to RevCom (by end 01/01) based on successful Sponsor ballot.

Affirmation of the pre-submittal will take place at IEEE 803.3 March 2001 closing plenary.

M: Mr. Law
S: Mr. Mathey

Y: 93, N: 0, A: 3, Passed

INTERPRETATION REQUEST

One request was received on clause 40 as reported on Monday. The Ad Hoc met to discuss the request <Thursday Interpretation Report>. The request must be categorized per established rules. Mr. Law provided a detailed explanation of why the standard is unambiguous. Essentially, the questioned text is not combinatorial logic, but two separate states in the state machine that result in the transmission of ESD_Extr_Err.

TECHNICAL MOTION:

IEEE 802.3 approves the proposed interpretation response to the Interpretation Request 1-11/00 as presented without the need for a 30 day letter ballot.

M: Mr. Law
S: Mr. Quackenbush

Y: 86, N: 0, A: 13, Passed

RPR PAR Review

Mr. Law indicated there were three big issues from 802.3 for the RPR group to consider <802.3 RPR Concerns>. The first is that uniqueness isn't adequately justified (e.g., compared to 10 GbE). Proponents answered that there isn't a standard existing now, and the market is different that that addressed by 802.3ae. Another major concern is on the accuracy of statements in the five criteria. This has been changed to emphasize how the project will leverage the installed metro fiber plant, not requiring new installation.

Mike Takefman's list of features was also displayed that contrast what can be accomplished with bridged Ethernet and RPR <RPR SG Response>. Functional requirements from the market were also stressed. Questions were raised on whether the market needs could be satisfied by using existing or enhanced 802.1 protocols with Ethernet. Detailed arguments were presented to reinforce why RPR was much more than a bridge. The clarification was made that a bridge in this argument was a device with two MACs that passed information between the two MACs.

Multiple comments expressed the opinion that a layer above the MAC could be used to accomplish the same function. This was disputed. A statement from an RPR representative that he had worked on a similar task to use bridges in this environment leading him to conclude that just because something can be done doesn't mean it is a good idea. A working group member indicated he remained unconvinced that this was necessary, and that the project would confuse the market as to what is Ethernet. Others

expressed support because specific protocols were justified or because the environment requires a ring MAC. Another indicated that the market would be and even already is confused about the difference between RPR and 10 GbE, but that the project should be supported. Another supported allowing the project should go ahead because customers want interoperability, but cautioned that it addresses an immature market and that the group should have a growth path planned. The need for interoperable products as justification for support of the project was reinforced. One questioned if the project should be done in 802.3 because of the Ethernet-like characteristics of the proposal since he didn't find distinct identity. The response was that RPR frame formats were very different and not Ethernet.

An show of hands was requested to see if there is support. It appeared that more people supported than opposed the project. A motion was made to establish an 802.3 Chair directed position for Executive Committee vote on the PAR.

TECHNICAL MOTION:

The chair of 802.3 is to support the RPR PAR and 5 Criteria.

M: Mr. Dineen
S: Mr. Quackenbush

Y: 71, N: 18, A: 42, Passed

MAINTENANCE

Mr. Law reported on Maintenance <Thursday Maintenance Report>. There are both new maintenance requests as well as those included in the current Working Group ballot on Maintenance #6, 802.3ag. There are 67 current maintenance requests 21 of which are part of the ballot. Technical experts need to review 11 of these for categorization. We need 1000BASE-T experts to volunteer to review some of these. Larry Rennie and Terry Cobb volunteered.

Subject to confirmation, the ballot passed, with 59.3% response and at least 99% approval on each revision. There are non-voter technical required comments that will have to be handled. Forwarding will not be delayed because of this, but if unresolved they will be included in the recirculation package. Comments and responses will be available in the public section of the web site.

Comments #9, and #19 requests deprecation of clauses 8, 11, 12, and 16. It was pointed out that 10BASE-5 cable was still being installed. The response was to add a note to the clauses indicating they were not recommended for new designs.

The plan for completion is for another evening meeting at the January interim to review and resolve WG recirculation ballot comments.

TECHNICAL MOTION:

IEEE 802.3 Working Group accepts the resolution to all comments received in the Working Group ballot of P802.3ag Draft .1.0, and authorises the editor to submit requests requiring recirculation as the P802.3ag Working Group recirculation ballot package.

IEEE 802.3 authorises the IEEE P802.3ag Task Force to conduct meetings and recirculation ballots as necessary to resolve comments received during the Working Group recirculation ballot(s).

IEEE 802.3 requests that the P802 LMSC Executive Committee requests formation of a LMSC Sponsor ballot pool for IEEE P802.3ag and forwards IEEE P802.3ag for LMSC Sponsor ballot conditional upon successful completion of Working Group Ballot.

IEEE 802.3 authorises the IEEE P802.3ag Task Force to conduct meetings and recirculation ballots as necessary to resolve comments received during the Sponsor ballot

M: Mr. Law
S: Mr. Muller

Y: 104, N: 0, A: 1, Passed

10 GIGABIT ETHERNET (802.3ae)

Mr. Jonathan Thatcher introduced the review of the progress of the Task Force (Attachment E2). He expressed his satisfaction with the progress and how impressed he was with the quality and quantity of work as well as a positive change in the dynamics of the operation of the group. There are a number of significant issues still open; but none should hold up draft 2.0 nor a formal Task Force review.

He listed the goals for the week, and went into detail on two issues. The absence of an optical connector in the draft is an issue that has been carried on the "hot items" list for six months. Because no proposals were made, Mr. Thatcher will drop it from the list.

In New Orleans 802.3ae took a number of actions by motion.

TECHNICAL MOTION:
P802.3ae requests IEEE 802.3 affirm the selection of the following PMDs to meet the requirements of the refined objectives and the PMD optical link model.

- 850nm serial over MMF (in draft 1.1 clause 52)
- 1310 WWDM over MMF and SMF (in draft 1.1 clause 64)

M: Mr. Thatcher on behalf of the Task Force

Passed by voice without objection.

The Equalization Ad Hoc met in New Orleans as well as this week. They are holding regular teleconferences and meetings not in conflict with other P802.3ae meetings.

The Jitter Ad Hoc met in Austin in October as well as holding a two day meeting this week. While progress is being made, there is still significant work to do.

Mr. Thirion presented on the PMD sub-task force <Thurs 802.3ae PMD Report>. There were 14 presentations. The good news is that there are few "big ticket" items with most of the discussion on detailed parameters. More time was spent on the serial PMDs with motions adopted on both. Details of these motions and changes to the clauses are in the presentation. Jitter is one of the "big ticket" issues, with test points, compliance and

patterns to be specified. Polarization mode delay still has a number of issues. Contradictory data has been gathered on how much of the installed base is a problem (negligible to as much as 12%). Most feel this is a non-issue since the very long links only are engineered links, with no known problems for the link lengths we are specifying. There are also questions on compliance testing of WWDM.

Mr. Thirion reviewed all of the motions including the one that failed.

TECHNICAL MOTION:
Move to affirm the motions passed in the P802.3ae PMD sub-task force that have already been affirmed by P802.3ae.

M: Mr. Thirion on behalf of the Task Force

Passed by voice without objection.

Mr. Ben Brown reviewed the progress of the logic track of 802.3ae, with a review of the presentations and motions of the group <Thurs 802.3ae Logic Report>. MDI will work in an Ad Hoc on its electrical specifications. The XGMII electricals were changed from New Orleans to be 1.5V HSTL with sourced centered clocks in both directions. Fault signaling has been added (affects multiple clauses). There are many detailed changes outlined in his presentation.

TECHNICAL MOTION:
Move that IEEE 802.3 affirm all motions approved by P802.3ae Task Force Logic Track.

M: Mr. Brown on behalf of the Task Force

Passed by voice without objection.

Discussion prior to the vote clarified that these track motions do not include motions taken in the Wednesday Task Force meeting.

TECHNICAL MOTION:
Move that IEEE 802.3 affirm all motions approved by P802.3ae Task Force General Session regarding clauses 33, 46 & 51.

M: Mr. Brown
S: Mr. Booth

Passed by voice without objection.

TECHNICAL MOTION:
Move that IEEE 802.3 affirm the motion approved by P802.3ae Task Force regarding parallel Clause 53 replacement.

M: Mr. Brown
S: Mr. Booth

Y: 56, N: 36, A: 45, failed

The Task Force motion ("Move that the P802.3ae Task Fore authorize an ad hoc to develop a parallel draft targeted to replace SUPI/SS with an 8b/10b based signaling method as proposed in taborek_3_1100.pdf. Final decision to be made at the March

Plenary"), was displayed for discussion. An objection was raised that there was no notice of this coming up at the meeting, and that it hadn't received sufficient consideration. Mr. Thatcher expressed the opinion that the presentation had been made in conformance with his rules and that others could have created alternate proposals had they thought of it. Concern was expressed about the process planned in support of this motion, specifically distributing the proposed changes with the draft. The specification of a date for final decision was also questioned.

A motion to call the question was made, passing 66 to 37. The motion was then voted, failing as recorded above.

Mr. Brad Booth thanked those contributing to the draft and the work on it this meeting <Thurs 802.3ae Editor Report>. He listed the "big ticket" items with an indication of status. The clause editors have a November 22 deadline with Task Force ballot scheduled to open December 1, closing January 3. The Working Group was asked to vote early as the close is mostly over the year-end holiday period. The close is targeted to provide the clause teams with time to generate draft responses to the comments prior to the interim meeting. Working Group ballot is still targeted to after the March plenary meeting.

MOTION:

The P802.3ae Task Force requests that the Editors of P802.3ae create Draft P802.3ae/D2.0 and that draft be distributed for review and comment. Comment handling and resolution will be done on a basis that is similar to that used by the Working Group.

M: Mr. Booth on behalf of the Task Force

Passed by voice without objection.

ADMINISTRATIVE MATTERS

Mr. Thompson indicated that the size of 802.3 and its Task Forces requires advanced interim meeting planning. A host has offered to accommodate a meeting during the week of September 17. It was pointed out that week is Rosh Ha'shana. Also noted was the IEEE standards board meeting the preceding week. Moving the meeting significantly from the proposed week could compromise the schedule for 802.3ae Sponsor ballot.

MOTION:

Move that 802.3 affirm the decision of 802.3ae to set the venue of the September Interim to Copenhagen, Denmark; during the week of September 17, with an invitation to other 802.3 Task Forces and 802.1 to meet during the same week and location.

M: Mr. Lysdal
S: Mr. Mathey

Y: 91, N: 12, A: 11, Passed

There is a proposal before the 802 Executive Committee to have centrally planned and administered 802 interim meeting for all groups (see Executive Committee minutes for details). Mr. Thompson presented a survey for feedback to the Exec.

MOTION:

The chair will convey that the sense of the group is that they would use the service in May, they are not interested in September and that we are not interested in co-location with other groups.

Passed by voice without objection.

DTE POWER VIA THE MDI (802.3af)

Mr. Steve Carlson reviewed the progress of the Task Force <Thursday 802.3af Report>. There were a number of presentations, representing solid work with "amazing" amounts of data for consideration on some topics. The presentations ranged from details of powering to results of interoperability tests.

A list of motions was presented for affirmation. The first was on technical and economic feasibility from New Orleans. This meeting included selection of the "resistor" discovery method (the last big ticket item), details on common node noise, PSE output voltage, and an interim meeting. The editor was chartered to produce a new draft.

MOTION:

Move that IEEE 802.3 affirm all motions presented on behalf of the 802.3af Task Force.

M: Mr. Carlson

Passed by voice without objection

As an item of interest, Mr. Carlson reported that ETSI TC AT-WG Digital in October raised the issue of powering IP terminals. He suggested we should invite them to join us. Mr. Thompson clarified that this would be appropriate if they were only doing this over Ethernet. Comments indicated that even if not Ethernet, there is a great deal of commonality. The major concern is that what they do not compromise our discovery method.

Mr. Thompson indicated that he would present a liaison letter reflecting this consensus to the Executive Committee for approval Thursday night.

ETHERNET IN THE LAST MILE (renamed to)
ETHERNET IN THE FIRST MILE

Mr. Frazier described the call for interest presented Tuesday evening (Attachment H2). There were eleven speakers with differing viewpoints on the way to accomplish the basic function. The attendance was 300 people, there was no opposition to forming a study group, and at the end of the evening (after many had left the meeting) 87 individuals from 63 companies indicated the intent to participate. These numbers will be verified at future 802.3 meetings. Assuming we form a study group, the Exec will be informed, with the next meeting planned for Irvine January 8-9.

MOTION:

Form a study group to develop a project proposal (PAR, 5 Criteria, and Objectives) for Ethernet in the Last Mile.

M: Mr. Tolley
S: Mr. Furlong

Y: 100, N: 0, A: 0, Passed

TECHNICAL MOTION:
Move that the Chair of 802.3 appoint Mr. Howard Frazier as the chair of the ELM study group.

M: Mr. Thatcher
S: Mr. Thirion

Passed by show of hands.

TECHNICAL MOTION:
Assuming that consensus within the ELM SG has been achieved, authorize the ELM SG to pre-submit a PAR and 5 Criteria to the 802 SEC and to pre-submit the PAR to IEEE-SA NesCom for consideration at the March, 2001 meeting, with the understanding that these must be reviewed and affirmed by 802.3 at the March Plenary meeting in order to stay on the agendas.

M: Mr. Tolley
S: Mr. Carlson

Y: 36, N: 13, A: 26, Failed

Concern was expressed that this was too much of a blank check for the purpose of greasing the skids. Mr. Frazier responded that it enabled progressing as fast as possible, but was not an attempt to "pull a fast one" on the Working Group, but only to recognize the phasing of schedules between IEEE 802 and the Standards Board. Comments agreeing with both the above concern and response were made.

A motion to divide was made by Ms. Thaler to separately vote on pre-submission to IEEE-SA NesCom. This failed for the lack of a second. A motion to call the question was made, passing 23 to 14 as a procedural motion. The motion failed as recorded above.

TECHNICAL MOTION:
Assuming that consensus within the ELM SG has been achieved, authorize the ELM SG to pre-submit a PAR and 5 Criteria to the 802 SEC for consideration at the March, 2001 meeting, with the understanding that these must be distributed to, reviewed and affirmed by 802.3 at the March Plenary meeting in order to stay on the agenda.

M: Mr. Dineen
S: Ms. Thaler

Y: 64, N: 2, A: 16, Passes

Mr. Thompson expressed his concern that this pre-submission would have to be presented to 802 before review by 802.3. Mr. Dineen indicated that the phasing of committee schedules should not unduly delay a project. Mr. Pannell indicated that this approach would not allow adequate time for the industry to become aware of the project and the danger of an approved PAR being used to eliminate proposals. Mr. Frazier

expressed his commitment that the output of the Study Group would be quality and not just rushed to meet a schedule.

Without objection, the question was called, and the motion passed as recorded above.

TECHNICAL MOTION:

Approve the press release announcing the formation of the ELM SG and forward to the SEC for further approval and processing, with a global replace of “first” for “last” and “EFM” for “ELM”, with appropriate editorial changes including explanation of why EFM vs. ELM.

M: Mr. Frazier
S: Mr. Dineen

Passed by voice without objection.

The discussion on the motion was that a name change was required because of negative connotations in the market place on last mile, and that calling the group Ethernet in the First Mile places the customer first. A change to the motion was edited as reflected above. Minor edits were incorporated as shown in the attachment.

The question was called without objection. The motion passed by voice without objection as recorded above.

By consensus of the group appropriate changes will be made to call the study group the Ethernet in the First Mile study group. All motions above are applicable to the renamed group.

With no further business, and without objection, the meeting was adjourned at 1432.

Future Meetings

Interim meetings will be held in Irvine in January. Detailed meeting information will be posted on the 802.3 web site. A 802.3ae jitter ad hoc meeting will also be announced via the task force reflector.

10 Gigabit Ethernet (802.3ae)	Irvine, CA	10-12 Jan 2001
DTE Power via the MDI (802.3af)	Irvine, CA	8-9 Jan 2001
Ethernet in the Last Mile SG	Irvine, CA	8-9 Jan 2001
Future Interim meetings	TBD Copenhagen, Denmark	TBD May 2001 Week of 13 Sep
802.3 Working Group Plenary	Hilton Head, SC Portland, OR Austin, TX	12-15 Mar 2001 9-12 July 2001 12-15 Nov 2001

Respectfully submitted 9 November 2000

Robert Grow

IEEE 802.3 Secretary

bob.grow@intel.com

ATTACHMENTS:

ADMINSTRATIVE
- Monday 802.3 Agenda
- 802.3 Voting Member List
- 802.3 Potential Voter List
- 802.3 Standards Status
- 8802.3 Clause Change Matrix
- Call for patents and example response letter
- Monday Operating Rules Report (Law)
- Monday Interpretations Requests (Law)
- Thursday 802.3 Agenda
- Thursday 802.3 Rules Report (Law)
- Thursday Interpretations Report (Law)

LIAISON
- TR-42 Liaison Report (DiMinico)
- Liaison letter on DTE Power

PROJECT AUTHORIZATION REQUESTS
- RPR PAR
- RPR 5 Criteria
- 802.3 Concerns on RPR
- RPR Study Group Response

1802.3 REVISION
- Monday 1802.3Rev Report (Law)
- Thursday 1802.3Rev Report (Law)

10 GIGABIT ETHERNET
- Monday 802.3ae Report (Thatcher)
- Thursday 802.3ae Report (Thatcher)
- Thursday 802.3ae Logic Track Report (Brown)
- Thursday 802.3ae PMD Report (Thirion)
- Thursday 802.3ae Editor Report (Booth)

DTE POWER VIA THE MDI
- Monday DET Power Report (Carlson)
- Thursday 802.3af Report (Carlson)

MAINTENANCE #6
- Monday 802.3ag Report (Law)
- Thursday 802.3ag Report (Law)

ETHERNET IN THE FIRST MILE

Thursday EFM Ad Hoc Report (Frazier)

Draft EFM Press Release

IEEE 802.3 CSMA/CD WORKING GROUP Draft AGENDA

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

November 6-9, 2000, Tampa, Florida

Start at 1:00 PM

MONDAY, 6 November

1300-~1450 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: 7/00 Defer til Thursday or ??
- Announce WG activities since La Jolla
- Standards Board Report
- Executive Committee Report & Action Items
- External Liaison Reports: FO2.2, TR-42, TR-41.3.4, SC6/WG3, SC25/WG3
- PARs for approval this week (from other groups. Comments by 5PM Tuesday)
  - RPRSG Has PAR & 5 Criteria for new Working Group
  - 802.11h Enhance management & do transmit power control of 802.11a ("Spectrum Management")
  - 802.15 Low Rate PAR for WPAN
- Call for Patents
- Schedule for the Week
- Any Other business

- State of the Standard and the Operating Rules of 802.3 ..... David Law
- Maintenance/Reaffirmations ..... David Law
  - Update/Status of P1802.3Rev Sponsor Ballot
  - Update/Status of maintenance requests
  - Update/Status of P802.3ag Maintenance #6 Working Group Ballot
- Interpretation requests ..... David Law
  - Update/Status

Task Force and Study Group Reports

1450-1510 P802.3ae, Task Force (10 Gig Ethernet) ..... Jonathan Thatcher

- Update/Status of the project
- Plans for this week

1510-1530 BREAK

1530-1550 P802.3af, DTE Power via MDI ..... Steve Carlson

- Update/Status of the project
- Plans for this week

1550-1610 Call for Interest: Ethernet in the Last Mile ..... Howard Frazier

- General description of topic
- Plans for this week, meeting time

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

IEEE 802.3 VOTERS

(236) as of 11/5/2000

Agazzi, Oscar
Alderrou, Don
Alexander, Thomas
Amer, Khaled
Anderson , Arlan J.
Andersson, Ralph
Azadet, Kameran
Babanezhad, Joseph N
Badoni, Vipul D.
Beaudoin, Denis
Bennett, Mike
Berglund, Sidney
Bestel, John L.
Bhatt, Vipul
Bohbot, Michel
Booth, Brad
Bottorff, Paul
Bourque, Gary
Brown, Benjamin
Brown, Dave
Brown, Kevin
Buck, Steve F.
Buckman, Lisa
Burton, Scott
Busse, Robert
Bynum, Roy
Cam, Richard
Campbell, Bob
Carlson, Steve
Chang, Edward G.
Chang, Edward S.
Chen, Zinan
Chin, Hon Wah
Claseman, George
Cobb, Terry
Colla, Régis
Cornejo, Edward
Cunningham, David
Dahlgren, Robert
Daines, Kevin
Dallesasse, John
Dartnell, Peter
Dawe, Piers
de la Garrigue, Michael
Debiec, Tom
Di Minico, Chris
Dickens, Erik
Dineen, Thomas
Dixon, Allen
Dolfi, David W.
Donhowe, Mark
Dove, Dan
Draper, Daniel S
Dreyer, Steve
Dugan, Richard
Dupuis, Marc R
Eisler, George
Ewen , John F.
Feuerstraeter, Mark
Fiedler, Jens
Figueira, Norival
Flatman, Alan
Frazier, Howard
Freitag, Ladd
Fritz. Scott
Frojdh, Krister
Furlong, Darrell
Ganley, Tim
Giaretta, Giorgio
Goergen, Joel
Goldis, Moty
Graham, Rich
Grann, Eric B.
Gray, C. Thomas
Greenlaw, Jonathan E.
Grow, Robert M.
Hackert, Michael
Haddock, Stephen
Haile-Mariam, Atikem
Hakimi, Sharam
Hansen, Johannes
Hanson, Del
Harshbarger, Doug
Hassoun, Marwan
Hawkins, John F
Healey, Adam
Hecht, Gaby
Herrity , Ken
Hinrichs, Henry
Hoge, Jay
Hyer, David W.
Ichino, Haruhiko
Ishida, Osamu
Jensen, Ernie
Jiang, Wenbin
Joh, Clarence
Jørgensen, Thomas K.
Jover, Juan
Kabal, David
Kaku, Shinkyo
Kalkunte, Mohan
Kalla, Amrit
Kaplan, Hadriel
Karam, Roger
Kardontchik, Jaime
Karst, Dennis L.
Kato, Toyoyuki
Kayser, Kevin
Kelly, N. Patrick
Kim, Dae Young
King, Neal
Kolesar, Paul
Kumar, Pankaj
Lackner, Hans
Langston, Daun
Law, David
Lee, Changoo
Lee, Hyeong Ho
Lehr, Amir
Lemoff , Brian E.

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 AM. You must be an 802 Voter to get a CD-ROM

Abbott, John
Adams, Steve
Amundsen, Keith
Andersen, Ole Christiar
Anderson, Eric
Andresen, Jack
Augusta, Steve
Baldman, Andy
Bandali, Bruce
Barry, Charles
Belhora, Abdelkrim
Bergstrom, April
Bernier, Eric
Bobin, Vijay
Bovill, Kirk
Brikovskis, Rhett
Burgess, James
Chang, Justin
Chen, Xiaopeng
Coenen, Robert B.
Collins, Doug
Congdon, Herb
Copeland, Greg
Cross, Richard
Cruikshank, Brian
Cullin, Chris
Dance, Rupert S
Dedrick, Joel
Diab, Wael
Dobson, Hamish
Dudek, Mike
Firoozmand, Farzin
Fisk, Michael M.
Gaither, Justin
George, John
Gilliland, Pat
Grolnic, Joseph
Hamidy, Farid
Hatley, Tom
Heaton, Jeffrey
Hesson, James H
Hilfer, Godehard
Hinzel, David
Jackson, Steve
Jaeger, Remy
Jang, Woo-Hyuk
Jewell, Jack L
Jones, Nevin
Kamat, Puru
Keeley, Jim
Kerestes, Mark
Khanna , Amarpal
Kim, Sam
Kim, Yongbum
Knight, Tom
Kooistra, David
Kriese, Richard
Krolner, Lars Paul
Landon, Peter
Lane, William
Larson, Donald C.
Laudon, Michael
Leighton, Sean D
Leo, Lisa
Levy, Avinoam
Lo, John
Longo, Lorenzo
Love, Bob
Loveless, Rick
Lynskey, Eric R.
Mayer, Bob
McCoy, Gary
Moattar, Reza
Mohamadi, Fred
Morrison, Mike
Nazari, Nersi
Nicholl, Gary
Nishida, Glenn
Oh, Stephen
Ohlén, Peter
Oughton, George
Patel, Dipak M.
Peters, Brian C.
Pilens, Guy
Polk, James M
Porter, Jeff
Quirk, John
Rabinovich, Rick
Rao, Sailesh K.
Rizk, Ramez
Rømer, Tume
Saha, Pronay
Sambandan, Sachi
Saunders, Jeffrey H.
Savara, Raj
Schramm, Thomas
Schultz, Benjamin
Shahar, Boaz
Sherry, William M
Shirani, Ramin
Shupenis, Jim
Simmons, Dave
Stack, Jared
Suzuki, Hiroshi
Svensson, Daniel
Tang, Thomas
Tate, Mike
Thakkar, Hemant
Torgerson, Paul
Trépanier, Daniel
Twu, Bor-long
Vaden, Sterling A.
van Oosten, Erik
van Scherrenburg, Mil
Wagner, Martin
Weiss, Richard J.
Whitlow, Tony
Woodruff, Bill
Yiu, Lee Chung
Yu, Hong

IEEE Project 802.3 Working Group Standards Status November 06, 2000

ISO/IEC approved

ANSI/IEEE approved

ANSI/IEEE Std. 802.3-2000

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

Clauses 1-32, 34-43 — Published 10/00

1802.3 Document Set

IEEE Std. 1802.3-1991
Conformance Test
***AUI Cable**
Section 1 through 4
Up for re-affirmation

IEEE Std. 1802.3d-1993
Conformance Test
***10BASE-T**
Section 6

Network Systems Tutorial
published
June 95

.3
Policy and Procedures
Approved
11/97

1802.3Rev
Conformance Test Revision
(D. Law)
Sponsor Ballot closes
22-Nov-00

802.3 WG in process

.3ae
10Gb/s Ethernet Task Force
(J. Thatcher)
PAR approved
01/00

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

3ag
Maintenance #6
(D. Law)
Working Group
Ballot closes
08-Nov-00

Liaison
802.1

802.3 WG new work items

Last Mile Ethernet

Call for Interest
(H. Frazier)

IEEE802.3 Clause by Document

Clause	Description	IEEE Std 802.3-2000
Clause 1	Introduction	B
Clause 2	Media Access Control (MAC) service specification	B
Clause 3	MAC frame structure	B
Clause 4	Media Access Control	B
Clause 5	Layer Management	B
Clause 6	Physical Signalling (PLS) service specifications	B
Clause 7	Physical Signalling (PLS) and Attachment Unit Interface (AUI)	B
Clause 8	10BASE5	B
Clause 9	Repeater unit for 10 Mb/s baseband networks	B
Clause 10	10BASE2	B
Clause 11	10BROAD36	B
Clause 12	1BASE5	B
Clause 13	System considerations for multi-segment 10Mb/s networks	B
Clause 14	10BASE-T	B
Clause 15	Common elements of MAUs and star, Type 10BASE-F	B
Clause 16	10BASE-FP	B
Clause 17	10BASE-FB	B
Clause 18	10BASE-FL	B
Clause 19	Layer Management for 10 Mb/s baseband repeaters	D
Clause 20	Layer Management for 10 Mb/s baseband MAUs	D
Clause 21	Introduction to 100BASE-T	B
Clause 22	Reconciliation sublayer and Media Independent Interface	B
Clause 23	100BASE-T4	B
Clause 24	100BASE-X PCS and PMA	B
Clause 25	100BASE-TX	B
Clause 26	100BASE-FX	B
Clause 27	Repeater for 100Mb/s baseband networks	B
Clause 28	10Mb/s and 100Mb/s Auto-Negotiation on twisted pair	B
Clause 29	Systems considerations for 100BASE-T networks	B
Clause 30	10Mb/s, 100Mb/s and 100Mb/s management	B
Clause 31	MAC Control	B
Clause 32	100BASE-T2	B
Clause 33	Not used	
Clause 34	Introduction to 1000 Mb/s baseband networks	B
Clause 35	Reconciliation Sublayer and Gigabit Media Independent Interface (GMII)	B
Clause 36	1000BASE-X PCS and PMA	B
Clause 37	Auto-Negotiation for 1000BASE-X	B
Clause 38	1000BASE-SX and 1000BASE-LX	B
Clause 39	1000BASE-CX	B
Clause 40	1000BASE-T	B
Clause 41	Repeater for 1000 Mb/s baseband networks	B
Clause 42	System considerations for 1000 Mb/s networks	B
Clause 43	Link Aggregation	B

Key:

B: The base version of the clause is provided in this publication
D: The clause is now deprecated
U: The clause is updated by this document

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.

Patent response letter

(on company letterhead)

(date)

Company Officer or Designee
Company Address

Dear Gary R. Chair:

This letter is written in response to your letter of (date), which requested that (company) confirm to the IEEE that we will provide licenses under our (country) Patent # with respect to the proposed IEEE Pnnn standard. In that regard:

> In the event the proposed standard is adopted and the standard cannot be practiced without the use of the cited patent, (company) agrees upon written request to grant a nonexclusive license under such patent on a nondiscriminatory basis and on reasonable terms and conditions.

This letter does not grant any right to the IEEE with respect to (company) copyrights or other intellectual property rights that relate to the proposed standard. Any party interested in the license described above may write to (name of contact person) at the address on the letterhead.

Sincerely,

Jane Q. Company
(company)

IEEE 802.3
Rules Report

November 6th, 2000
Tampa, FL

David Law

State of IEEE 802.3 Operating Rules

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

4 Rules Revision request have been received

Proposed Rules Revision 1-11/00

Rational for Proposed Rules Revision

The statement in section 2.7 that the WG plenary is open to all registered P802 attendees should be made more explicit as to what "registered" means. Specifically that the attendee must have paid the registration fee for that P802 Plenary week.

Proposed revision

2.7 Working Group Plenary

The 802.3 WG plenary is open to all registered P802 attendees. To be registered, the attendee must pay the registration fee for that P802 Plenary week. As is the case with all 802 Working Group meetings only voting members have the right to ...

Proposed Rules Revision 2-11/00

Rational for Proposed Rules Revision

Section 3.3 states that if TF membership and voting rules are instituted, they shall be the same as the 802.3 membership and voting rules.

Section 3.3 also states that at the formation of a Task Force (TF) from a Study Group (SG), all SG attendees are granted membership in the TF.

Taken together, the preceding two statement imply to me that the membership granted all SG attendees at the formation of a TF is empty and that the statement granting such membership should be deleted. There are no rights associated with such membership. There are only two classes of TF rights, those granted in section 3.3.2 which grants rights to TF "participants" (an undefined term which should be defined), not TF "members" and, if TF membership requirements are instituted, the right of 802.3 voting members to make motions, vote and participate in TF discussions.

Proposed Rules Revision 2-11/00 (Cont)

Proposed revision

3.3 Membership

Members and observers in WG 802.3 make up the TF participants ~~membership~~. The TF Chair may choose to establish membership rules for voting if the TF Chair believes it is necessary to ensure that the business of the TF moves forward in an orderly basis. In this case the TF shall follow the same membership requirements and the same voting rules as 802.3 WG. ~~At the formation of a TF from a SG all SG participants are automatically granted membership of the TF~~.

Proposed Rules Revision 3-11/00

Rational for Proposed Rules Revision

Section 3.3.2 states that "All TF meetings are open to members and observers". Members and observers of what, 802.3? This needs to be stated explicitly.

Proposed revision

3.3.2 Meetings and Participation

All TF meetings are open to 802.3 members and observers. Attention is however drawn to the registration requirements for all 802.3 members and observers attending the 802 Plenary where TF meetings also occur.

Proposed Rules Revision 4-11/00

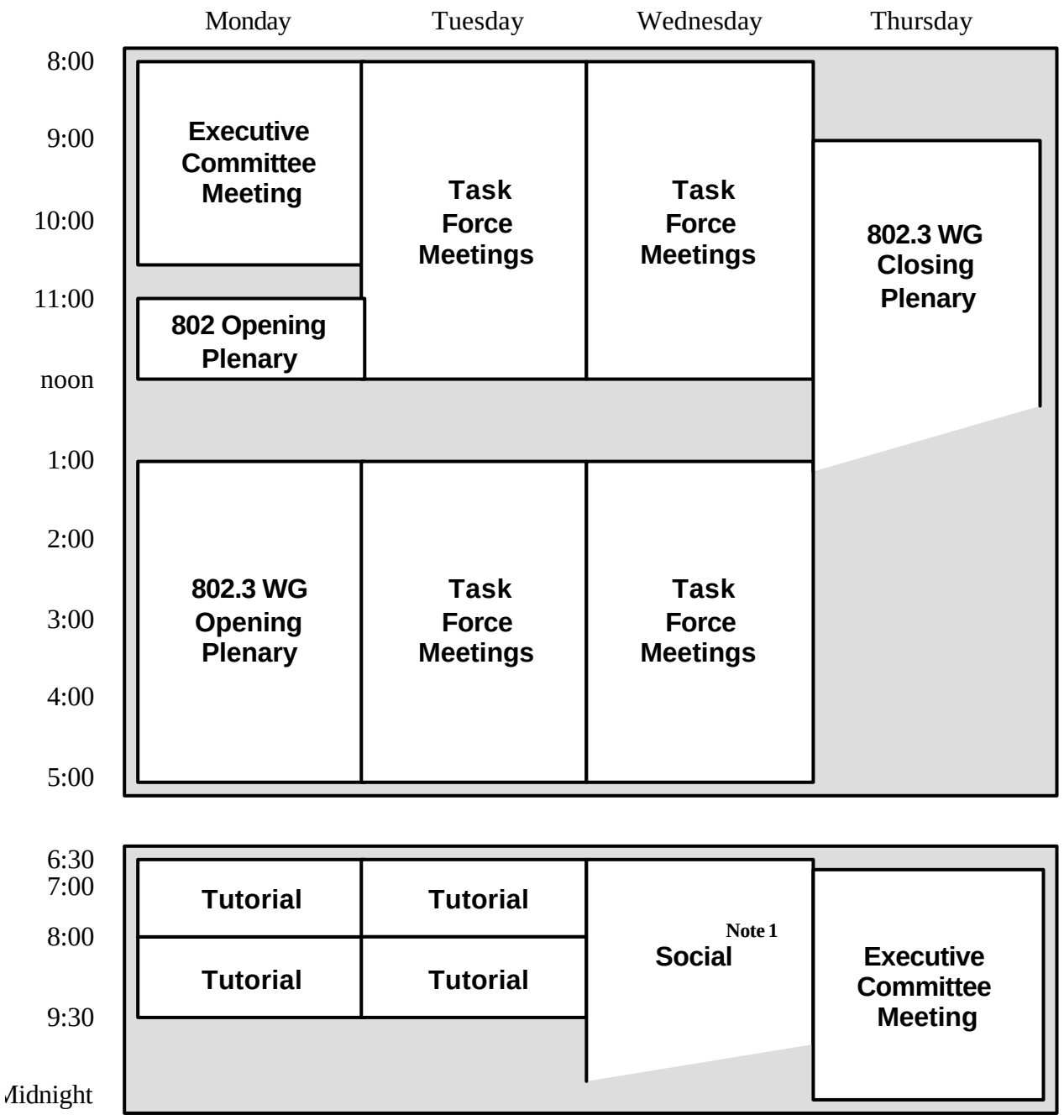
Rational for Proposed Rules Revision

There is no longer a Closing 802 plenary meeting.

Proposed revision

2.7 Working Group Plenary

Typically the 802.3 WG Opening/~~Closing plenary meetings are nested between the opening and closing meetings of each P802 LMSC plenary~~ plenary meeting follows the 802 Opening Plenary meeting, the 802.3 WG Closing plenary meeting follows the 802.3 TF meetings (see figure 3).


Monday
Tuesday
Wednesday
Thursday
8:00
9:00
10:00
11:00
noon
1:00
2:00
3:00
4:00
5:00
6:30
7:00
8:00
9:30
Midnight
Executive Committee Meeting
802 Opening Plenary
802.3 WG Opening Plenary
Task Force Meetings
Task Force Meetings
Task Force Meetings
Task Force Meetings
802.3 WG Closing Plenary
Tutorial
Tutorial
Tutorial
Tutorial
Social
Note 1
Executive Committee Meeting

Plans for the week

- Meet this week
  - Review request
- Present review to Closing 802.3 Plenary

IEEE 802.3
Interpretations Report

November 6th, 2000
Tampa, FL

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 rep-resent 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.

Interpretation 1-11/00

In looking at the description of "Encoding of End-of-Stream delimiter" in section 40.3.1.3.5, the second paragraph, beginning "If carrier extend error is indicated during ESD, . . ., two conditions upon which this may occur are . . .

The two conditions given are redundant. To see this, note that the second condition contains all of the terms of the first, but with one additional condition, (tx_error<n-3>). Any time the second condition holds, the first necessarily does as well!

Logically, it is sufficient to test for only the first condition. However, I suspect that something else was intended. Is there some error in one of the stated conditions?

Plans for the week

- 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 9, 2000, Tampa, Florida

THURSDAY, 9 November Start at 8:30

0830-0930 Administrative Matters ..... Geoff Thompson

- General Announcements
- Agenda, review and revise as needed
- Additions to Voter List
- Report on Rules Changes ..... David Law
- Executive Committee Action Items/Announcements
  - No Friday Plenary
  - Other 802 PARs for approval
- Report on EOLAPS Ad Hoc ..... Roy Bynum
- Report on Cable Discharge Ad Hoc ..... Geoff Thompson/Terry Cobb
- Other Liaison matters
- Any other business

0930-1000 RPR PAR Review ..... Mike Takefman

1000-1015 BREAK

1015-1030 Std. 1802.3/Revisions ..... David Law

- Review of Working Group Ballot results.
- Plans for progress and next maintenance meeting.
- Proposal for Sponsor Ballot recirculation and further action.

1030-1100 Maintenance ..... David Law

- Plans for progress and next maintenance meeting.
- Report on newly received Maintenance Requests
- Report on newly received Interpretation Requests
- Motion for Working Group Ballot recirculation of P802.3ag
- Motion for formation of Sponsor Ballot Pool of P802.3ag
- Motion for conditional approval for fwd to Sponsor Ballot of P802.3ag

1100-1200 P802.3ae 10 Gbit Ethernet Task Force ..... Jonathan Thatcher

- Update/Status of the project
- Plans for progress and interim meeting.

1200-1210 Interim Meeting Plans ..... TF Chairs

1210-1225 P802.3af, DTE Power via MDI TF ..... Steve Carlson

- Update/Status of the project
- Progress and interim meeting plans.

1225-0110 Call For Interest: Ethernet in the Last Mile (ELM) ..... Howard Frazier

- Report from CFI
- Plans for interim meeting and progress.

0110-0115 Final action item recap and announcements ..... Geoff Thompson

0115?? ADJOURN

- Venue of future 802 meetings (2001)
  - March 12-16, - Hyatt Regency Hilton Head, SC
  - July 9-13, - Portland Marriott, Portland, OR
  - November 12-16 - Hyatt Regency Town Lake, Austin, TX
- Venue of future 802.3 Interim Meetings (2001)
  - Jan 8-12, - Hyatt Regency, Irvine, CA, Hosted by Broadcom
  - May??, - TBD
  - September XX - Copenhagen, Denmark, Hosted by Giga/Intel

IEEE 802.3
Rules Report

November 9th, 2000
Tampa, FL

David Law

Rules change procedure

- 4 Rules Changes received
- Change procedure in subclause 2.9 of rules
  - Meeting held to discuss change this week
  - Changes pre-circulated prior to the next plenary
  - Vote held at that closing 802.3 plenary, either:-
    - **Reject**
    - **Approve**
    - **Send out to Working Group Letter Ballot**

Proposed Rules Revision 1-11/00

Rational for Proposed Rules Revision

The statement in section 2.7 that the WG plenary is open to all registered P802 attendees should be made more explicit as to what "registered" means. Specifically that the attendee must have paid the registration fee for that P802 Plenary week.

Proposed revision

2.7 Working Group Plenary

The 802.3 WG plenary is open to all registered P802 attendees. To be registered, the attendee must pay the registration fee for that P802 Plenary week. As is the case with all 802 Working Group meetings only voting members have the right to ...

Proposed Rules Revision 2-11/00

Rational for Proposed Rules Revision

Section 3.3 states that if TF membership and voting rules are instituted, they shall be the same as the 802.3 membership and voting rules.

Section 3.3 also states that at the formation of a Task Force (TF) from a Study Group (SG), all SG attendees are granted membership in the TF.

Taken together, the preceding two statement imply to me that the membership granted all SG attendees at the formation of a TF is empty and that the statement granting such membership should be deleted. There are no rights associated with such membership. There are only two classes of TF rights, those granted in section 3.3.2 which grants rights to TF "participants" (an undefined term which should be defined), not TF "members" and, if TF membership requirements are instituted, the right of 802.3 voting members to make motions, vote and participate in TF discussions.

Proposed Rules Revision 2-11/00 (Cont)

Proposed revision

3.3 Membership

~~Members and observers in WG 802.3 make up the TF membership~~. The TF Chair may choose to establish TF membership rules ~~for voting~~ if the TF Chair believes it is necessary to ensure that the business of the TF moves forward in an orderly basis. In this case the TF shall follow the same membership requirements and the same voting rules as 802.3 WG. ~~At the formation of a TF from a SG all SG~~ participants ~~are automatically granted membership of the TF~~.

Proposed Rules Revision 3-11/00

Rational for Proposed Rules Revision

Section 3.3.2 states that "All TF meetings are open to members and observers". Members and observers of what, 802.3? This needs to be stated explicitly.

Proposed revision

3.3.2 Meetings and Participation

All TF meetings are open. ~~to members and observers~~. Attention is however drawn to the registration requirements for all 802.3 members and observers attending the 802 Plenary where TF meetings also occur.

Proposed Rules Revision 4-11/00

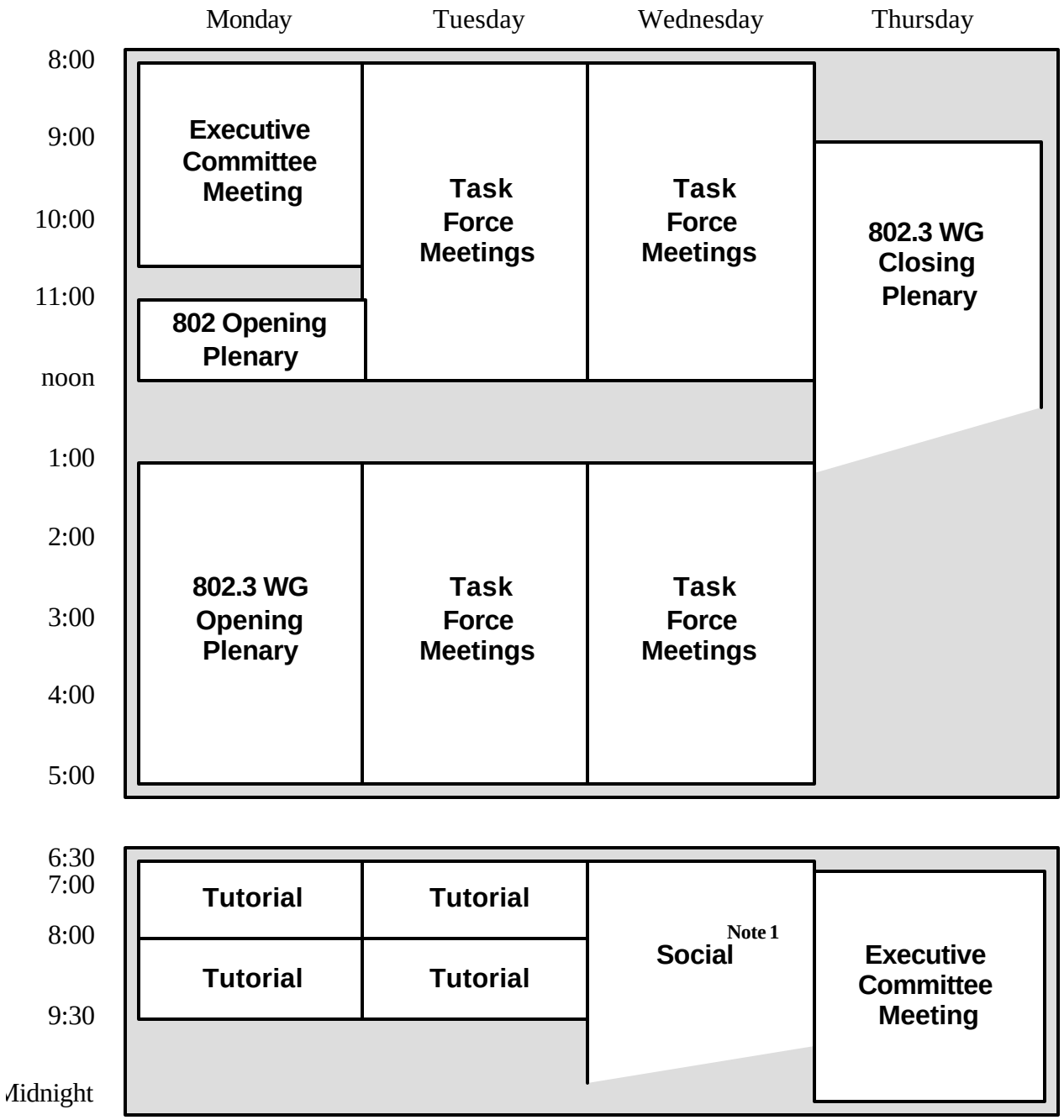
Rational for Proposed Rules Revision

There is no longer a Closing 802 plenary meeting.

Proposed revision

2.7 Working Group Plenary

Typically the 802.3 WG Opening/Closing plenary meetings are nested between the P802 LMSC opening plenary and closing 802 EC meetings ~~of each P802 LMSC plenary~~ (see figure 3).


Monday
Tuesday
Wednesday
Thursday
8:00
9:00
10:00
11:00
noon
1:00
2:00
3:00
4:00
5:00
6:30
7:00
8:00
9:30
Midnight
Executive Committee Meeting
802 Opening Plenary
Task Force Meetings
Task Force Meetings
802.3 WG Closing Plenary
802.3 WG Opening Plenary
Task Force Meetings
Task Force Meetings
Tutorial
Tutorial
Tutorial
Tutorial
Social
Note 1
Executive Committee Meeting

IEEE 802.3 Operating Rules

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 9th, 2000
Tampa, FL

David Law

Interpretation 1-11/00

In looking at the description of "Encoding of End-of-Stream delimiter" in section 40.3.1.3.5, the second paragraph, beginning "If carrier extend error is indicated during ESD, . . ., two conditions upon which this may occur are . . .

The two conditions given are redundant. To see this, note that the second condition contains all of the terms of the first, but with one additional condition, (tx_error<n-3>). Any time the second condition holds, the first necessarily does as well!

Logically, it is sufficient to test for only the first condition. However, I suspect that something else was intended. Is there some error in one of the stated conditions?

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 simul-

40.3.1.3.5 Generation of quinary symbols TA_n, TB_n, TC_n, TD_n

The nine-bit word $Sd_n[8:0]$ is mapped to a quartet of quinary symbols (TA_n, TB_n, TC_n, TD_n) according to Table 40-1 and Table 40-2 shown as $Sd_n[6:8] + Sd_n[5:0]$

row shall be used when the condition $(tx\_enable_n) * (!tx\_enable_{n-1}) = 1$. The symbols corresponding to the SSD2 row shall be used when the condition $(tx\_enable_{n-1}) * (!tx\_enable_{n-2}) = 1$.

Encoding of End-of-Stream delimiter:

The definition of an End-of-Stream delimiter (ESD) is related to the condition ESD_n, which is defined as $(!tx\_enable_{n-2}) * (tn\_enable_{n-4}) = 1$. This occurs during the third and fourth symbol periods after transmission of the last octet of a data stream.

If carrier extend error is indicated during ESD, the symbols corresponding to the ESD_Ext_Err row shall be used. The two conditions upon which this may occur are

$(tx\_error_n) * (tx\_error_{n-1}) * (tx\_error_{n-2}) * (TDX_n \neq 0x0F) = 1$, and
$(tx\_error_n) * (tx\_error_{n-1}) * (tx\_error_{n-2}) * (tx\_error_{n-3}) * (TDX_n \neq 0x0F) = 1$.

The symbols corresponding to the ESD1 row in Table 40-1 shall be used when the condition $(!tx\_enable_{n-2}) * (tx\_enable_{n-3}) = 1$, in the absence of carrier extend error indication at time n.

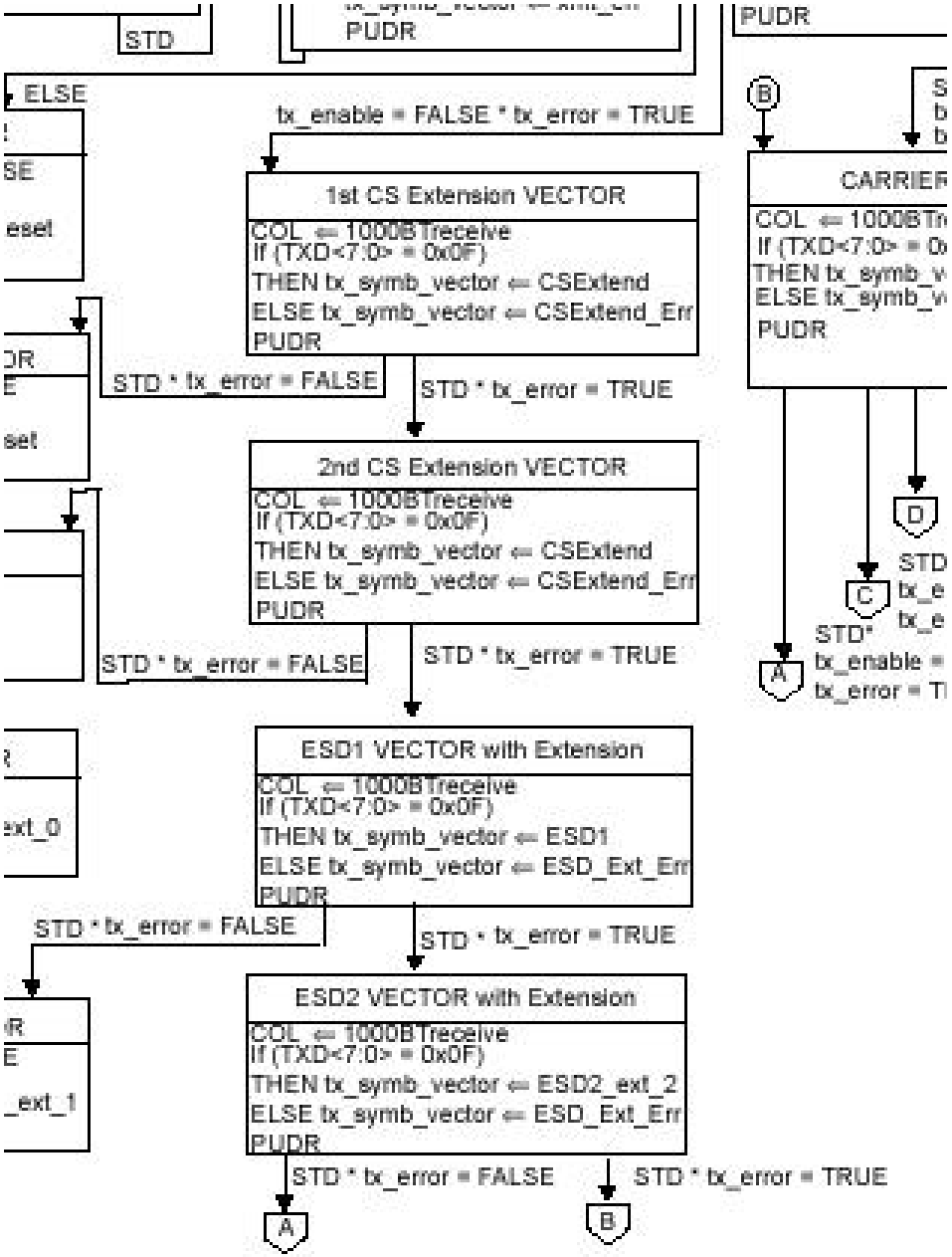


Figure 40-9—PCS Transmit state diagram

Sent by: jcreigh@broadcom.com (John Creigh)
To: gthompso@nortelnetworks.com, sailesh@level1.com
cc: davel@pdd.3com.com
Subject: RE: Redundant test in 802.3ab (from Interpretation Request)

Geoff,
I believe what he is missing is that the ESD_Ext_Err can be present at 2 separate symbol times; in one case, 3 symbols after the end of frame and in the other, 4 symbols after the end of frame.
These correspond to the states "ESD1 VECTOR with Extension" and "ESD2 VECTOR with Extension" when tx_error is asserted and TXD!=0x0F in Figure 40-9.
The text is correct.

John

Proposed Interpretation response

Interpretation Number: 1-11/00
Topic: Generation of quinary symbols TA n , TB n , TC n , TD n
Relevant Clause: 40.3.1.3.5
Classification: Unambiguous

Subclause 40.3.1.3 ‘PCS Transmit function’ clearly states that ‘The PCS Transmit function shall conform to the PCS Transmit state diagram in Figure 40-9.’, all the following subclause go on to describe the PCS transmit function in detail.

With reference to Figure 40-9 it can be seen that ESD_Ext_Err can be present at 2 separate symbol times; in one case, 3 symbols after the end of frame and in the other, 4 symbols after the end of frame. These correspond to the states "ESD1 VECTOR with Extension" and "ESD2 VECTOR with Extension" when tx_error is asserted and TXD!=0x0F in Figure 40-9.

Hence what this text is describing is not combinatorial logic but the two separate states in the state machine that result in the transmission of ESD_Ext_Err.

IEEE 802.3 Motion

IEEE 802.3 approves the proposed Interpretation response to the Interpretation request 1-11/00 as presented without the need for a 30 day letter ballot.

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

PASSED Date: 9th Nov 2000

Y: 86 N: 0 A: 13 Time: 9:30am

Interpretations Web Information

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

TIA-TR42 Liaison

Chris Di Minico
CDT Corporation

CDT
CABLE DESIGN TECHNOLOGIES

Status: Additional Transmission Performance Specifications for Optical Fiber Cabling Systems (Addendum to TIA/EIA-568-B.3)

- PN- 3894-AD1, Additional Transmission Performance Specifications for Optical Fiber Cabling Systems will be released for ballot in Nov-Dec 2000.

- PN-3894-AD1 -Multimode optical fiber specifications are targeted at supporting 10 Gb/s Ethernet for a distance up to 300 m (operating at 850 nm).

Category 6

- Draft 7 - August 23, 2000 - 30 day ballot
- Industry Ballot expected in Dec 2000
- Earliest approval June 2001

Internet Cabling Distribution Project

- The Internet Cabling Distribution environments
  - Internet data centers (topology, media, distances)
  - Central office (topology, media, distances)

IEEE 802.3

Geoff Thompson, Chair

November 9, 2000

TO: Paul Kish, Chair TIA TR-42
Subject: Study static discharge between DTE equipment and cabling

Gentlemen:

The IEEE 802.3 Working Group is establishing an Ad-Hoc group to study static discharge between DTE equipment and cabling. To further this work IEEE is requesting technical data regarding this phenomenon. In particular there is interest in understanding the range of any potential energy and voltage that can be found on the cabling, the circumstances under which this could occur, and a model that would be useful to develop testing.

We believe this is in the best interest of both groups and will be looking forward to a cooperative effort in this study.

Thank you very much.

Geoffrey O. Thompson M/S SC01-05
Chairman, IEEE 802.3 Working Group
Bay Networks, Inc
4401 Great America Parkway
Post Office Box 58185
Santa Clara, CA 95052-8185
Phone: 408-495-1339
FAX : 408-988-5525
Internet E-Mail: gthompso@nortelnetworks.com
Copy: Jim Carlo, Chair, IEEE 802 <jcarlo@ti.com>

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

1. Sponsor Date of Request [2000 Nov]

2. Assigned Project Number [P802.17]

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 -
Resilient Packet Ring Access Method & Physical Layer Specifications

Name of Working Group(WG) : [Resilient Packet Ring Working Group]

Name of Official Reporter (usually the WG Chair) who MUST be an SA member as

well as an IEEE/Affiliate Member: [Michael Takefman-41320348]
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: [613-271-3399] FAX: [613-271-3333]
EMAIL: [tak@cisco.com]

Name of WG Chair (if different than Reporter): [ ]
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: [Computer Society, LAN/MAN Standards Committee]
Name of Sponsoring Committee Chair: [Jim Carlo]
IEEE-Standards Staff has verified that the Sponsor is an IEEE and an IEEE-SA Member: [ ]
(Staff to check box}
Telephone: [214-693-1776] FAX: [214-853-5274]
EMAIL: [jcarlo@ti.com]

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:
[X] New Standard
[ ] Revision of existing standard {number and year} [ ]
[ ] 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: [Nov 2002]

8. Fill in Projected Completion Date for Submittal to RevCom
[March 2003]

9. Scope of Proposed Project
[what is being done, including technical boundaries on the work.]

Define a Resilient Packet Ring Access Protocol for use in Local, Metropolitan, and Wide Area Networks, along with appropriate Physical Layer specifications for transfer of data packets at rates scalable to multiple gigabits per second.

10. Purpose of Proposed Project:
[Why it is being done, including intended users, and benefits to users.]

The standard will define a very high-speed network protocol that is optimized for packet transmission in resilient ring topologies. Current standards are either optimized for TDM transport, or optimized for mesh topologies. There is no high-speed (greater than 1 billion bits pe second) networking standard in existence, which is optimized for packet transmission in ring topologies.

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 thi project?
[Yes] {Yes, with explanation below/ No}
The Media Access Controller defined in this standard will use Organizational Unique Identifiers as administered by the IEEE Registration Authority. May also require the assignment of Ethertypes

12. Are you aware of other standards or projects with a similar scope?
[Yes] {Yes, with explanation below/ No}
[ ] {Explanation}
ANSI T1X1.5 are working on related issues to improve SONET carriage of data packets. Their current scope does not include a bandwidth allocation scheme.

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 JTC1 SC6]
If Yes: Include coordination in question 15 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:
[JTC1 SC6] by [DR] {circulation of DRafts/LIaison memb/COmmo
memb}
[ANSI T1X1.5] by [DR] {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}

RPRSG

5 Criteria

1. Broad Market Potential

- Broad sets of applicability.
- Multiple vendors and numerous users.
- Balanced costs (LAN versus attached stations).

- Presentations given to the Resilient Packet Ring Study Group has identified customer demand for resilient packet rings in the following application areas (source RHK)
  - ISP Intra-POP LANs
  - Inter-POP MANs and WANs (e.g. ISP; MSO; *LEC)
  - Enterprise Campus LAN Backbones
  - Enterprise MANs and WANs
  - Single and Multi-provider customer access MANs
- An efficient bandwidth sharing mechanism for ring topologies will provide optimum cost / performance for the identified application areas.
- At an 802 tutorial session, 33 individuals representing 14 organizations (including vendors of computer systems, networking systems, networking silicon, and Internet Service Providers) expressed interest in working on a standards project in this area. An RPRSG interim meeting was attended by 26 individuals representing 13 organizations. An RPRSG plenary meeting was attended by 29 individuals representing 19 organizations. An RPRSG interim meeting was attended by 40 individuals representing 23 organizations.
- In Metropolitan and Wide Area Networks, there is massive deployment of fiber optic rings. These rings are currently using protocols that do not scale to the demands of packet networks. These demands include: reducing equipment & operational cost; speed of deployment; bandwidth allocation and throughput; and resiliency to faults.

2. Compatibility

- 802. Overview and Architecture
- 802.1D, 802.1Q, 802.1f.
- Systems management standards.

- The Resilient Packet Ring standard will be fully compatible with the 802 Overview and Architecture document.
- The Resilient Packet Ring standard will be compatible with the relevant portions of 802.1D, 802.1Q and 802.1f.
- The Resilient Packet Ring standard will be compatible with the Simple Network Management Protocol. The MIB for RPR will be defined and submitted to the IETF.
- Selection of the frame format for the RPR is subject to investigation by the working group. The format will allow for a simple mapping of 802.3 frames into RPR frames and vise-versa.

3. Distinct Identity

- Substantially different from other IEEE 802 standards.
- One unique solution per problem (not two solutions to a problem).
- Easy for the document reader to select the relevant specification.

- There is no other IEEE 802 standard which address the unique combination of:
  - bandwidth multiplication with dynamic and fair bandwidth allocation on a ring.
  - high speed (622 Mbps and above) ring topologies optimized for packet transmission.
  - specifies a bandwidth sharing algorithm for high data rates and wide area network distances
- This standard will provide a solution which provides high speed, scalable, resilient ring based networks featuring spatial reuse and protection mechanisms (capable of sub 50 ms switching) and frame sizes in excess of 1518 bytes (size/method to be determined).
- The standard will define a single Media Access Control algorithm, along with multiple Physical Layer options, formatted in a fashion similar to other 802 standards.

4. Technical Feasibility

- Demonstrated system feasibility.
- Proven technology, reasonable testing.
- Confidence in reliability.

- Several implementations of candidate protocols exist in the industry, embodied in commercially available products comprising:
  - Systems (routers, switches, Add drop nodes for optical networks, hubs);
  - Host interfaces (NICs);
  - Chipsets;
  - Optical components;
- Implementations of candidate protocols are currently deployed in major Service Provider and enterprise environments.
- The adoption of existing physical layer medium will avoid a significant amount of technical risk .
- Presentations given to the RPRSG have demonstrated the technical feasibility of candidate protocols using system level simulation.
- Traffic models, configurations, metrics for evaluating candidate protocols and empirical results will be developed and presented as part of the working group.

5. Economic Feasibility

- Known cost factors, reliable data.
- Reasonable cost for performance.
- Consideration of installation costs.

- Several implementations of high speed resilient packet ring networks exist in the industry from different vendors. The cost factors for the various components and sub-assemblies, as well as complete systems, are well known.
- The cost of installations based on a ring topology has been given prime consideration in the development of this project proposal. Ring topologies are preferred for MAN and WAN applications because they entail a lower installation cost than a mesh topology. This standard capitalizes on and will optimize the use of installed and planned fiber cable plant.
- In high speed networks, fiber optic components dominate the cost of a station. For data rates of 1 Gbps and below, the cost associated with these components is declining rapidly as technologies such as Gigabit Ethernet and Fibre Channel increase in volume. For data rates greater than 1 Gbps, this standard, as well as 802.3ae, and other industry standards (Fibre Channel, InfiniBand, etc) will generate the volumes necessary in order to produce similar cost reductions.
- The costs associated with infrastructure based on this standard will be competitive with other technologies operating at similar data transmission rates. The goals of this project are to eliminate layers of equipment, reduce the port counts in a typical customer's network, and provide operational efficiency, thus reducing the total cost.

From: 802.3 (ad-hoc group)

To: 802RPRSG

Subject: Concerns about your PAR and 5 Criteria

IEEE 802.3 has concerns that your 5 Criteria justifying the request for an RPR PAR do not adequately and accurately address all issues. Specifically,

We believe that uniqueness has not been adequately addressed. We believe that to properly address this area, the 5 Criteria should address uniqueness in the following manner:
Uniqueness is to be shown in 2 steps. Step 1, show the full range of capabilities which is not presently supported by other standards. Step 2, show that the required capabilities specified in Step 1 cannot be adequately addressed by reasonable extensions of other standards.

Under the criteria of Economic Feasibility the following statement has been made:
The cost of installations based on a ring topology has been given prime consideration in the development of this project proposal. Ring topologies are preferred for MAN and WAN applications because they entail a lower installation cost than a mesh topology. This standard capitalizes on and will optimize the use of installed and planned fiber cable plant.

We believe a more accurate assessment of the situation is as follows:

Fiber ring topologies are a common infrastructure in today's Metropolitan Services market. RPR leverages that infrastructure deployment. RPR will not require the deployment of green field fiber mesh infrastucture to provide data services. It thus avoids the cost of additional fiber infrastructure deployment.

We look forward to your response to our concerns.

Thank you.

Response to 802.3 (ad-hoc) on RPRSG PAR / 5 Criteria

November 2000

Hyatt Regency Tampa

Key Features	RPR	Bridged Ethernet
Bounded Delay / Jitter on Ring	Y	Y
Low Latency	Y	Y
Support for BW Multiplication	Y	Y
Support for Shortest Path between any two nodes on the ring	Y	spanning tree limits
Can work with 1 fiber cut	Y	protocol requirement for duplex link
less than 50 ms restoration	Y	N
Dynamic BW Mgt (fairness / unfairness)	Y	N
Mechanism for a loss-less tx path for some data	Y	N
Avoids Downstream / Upstream unfairness per queue	Y	N
"Add Drop" MAC Layer Function	Y	N
Service Specific Protection	Y	N
End Station connected directly onto the Ring	Y	N
Different Header than Ethernet eg. TTL	Y	

The physical network topology of our target customers is primarily rings. Therefore it is important that our solution be optimized for that topology and for our particular customer requirements.

A key requirement is to maximize resiliency and network capacity by using the traffic handling capabilities in both directions. In order to minimize delay it is imperative that the shorted path can be chosen.

A ring of ethernet bridges does not close the ring due to 802.1D cutting the ring, thus violating the requirement of shortest path selection. The convergence of 802.1D violates the goal of 50 ms restoration which is in our PAR based on customer requirements.

802.1s is not scalable as a method of providing multiple spanning cuts (a method to allow each node to send in either direction by breaking the ring at the furthest point).

-Scalability. The number of spanning trees required for a dual ring is 4 per node, hence the total number of ST for a ring is 4N.

-Management of the VLANs is excessively complex. It lacks dynamic configuration which violates our goal of plug and play. A protocol that could configure these VLANs automatically would not be a simple extension to existing protocols.

-If VLANs are being used for traffic management they cannot be used for user segregation.

An Ethernet bridge operating as a ring node can be viewed as a 2+P port bridge at each hop. 2 ports are ring attachment ports, and the remaining ports are for ingress/egress. A key difference of optimizing for the ring case is that there is no bridge in the transit path on an RPR MAC.

Moreover, each Ethernet bridge in the Ethernet bridged ring implements a local congestion management mechanism, while RPR requires a distributed congestion management to provide end-to-end QoS.

Customer requirements have shown that the RPR ring is not just a collection of switching elements. It must also include content servers in order to eliminate layers of equipment; improve resiliency and reduce latency.

A host operating on a ring requires a MAC layer that understands how to pass through traffic. In the case where a ring of Ethernet bridges is used all, hosts must become bridges if they are to reside on the ring.

IEEE P1802.3Rev Conformance Test Revision Task Force

November 6th, 2000
Tampa, FL

David Law

Overview

- IEEE P1802.3Rev PAR approved by NesCom
  - 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).
  - Extensions granted by RevCom for existing 1802.3
    - 1802.3-1991 - extended to 30-Jan-2004
      - Clauses 1 to 3 - Conformance Test boilerplate
      - Clause 4 - AUI Cable Conformance Test
    - 1802.3d-1993 - extended to 30-Jan-2004
      - Clause 6 - 10BASE-T MAU Conformance Test

Status

- Currently in Sponsor Ballot
  - Ballot Opened - 19th October
  - Ballot Closes - 22nd November
  - Ballot status (as of 6th November):
    - Response Ratio (> 75%): 13/40 = 32.5 %
    - Abstention Ratio (< 30%): 0/13 = 0 %
    - Approval Ratio (> 75%): 13/13 = 100 %
    - Comments received: 2

Plans for Completion

- Tasks for the week
  - Meet this week to review comments received
    - Discuss how to move forward

IEEE P1802.3Rev Conformance Test Revision Task Force Information

- There is a reflector for this Task Force:

  stds-1802-3-ctrev@ieee.org

  To be added to the reflector, send an E- mail containing:

  subscribe stds-1802-3-ctrev <your email address>

  to:

  majordomo@ majordomo. ieee. org

- There is also a web site for our use at:

  http://www.ieee802.org/3/1802rev/index.html

- To access drafts:

  http://www.ieee802.org/3/1802rev/private/index.html

  Username: ********

  Password: ********

  Password **is** case sensitive

IEEE P1802.3Rev
Conformance Test Revision Task Force

November 9th, 2000
Tampa, FL

David Law

Overview

- IEEE P1802.3Rev PAR approved by NesCom
  - 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).
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    - 1802.3d-1993 - extended to 30-Jan-2004
      - Clause 6 - 10BASE-T MAU Conformance Test

Status

- Currently in Sponsor Ballot
  - Ballot Opened - 19th October
  - Ballot Closes - 22nd November
  - Ballot status
    - As reported by IEEE Standards Department, 6th Nov:
    - Response Ratio (> 75%): 14/40 = 35 %
    - Abstention Ratio (< 30%): 0/13 = 0 %
    - Approval Ratio (> 75%): 14/14 = 100 %
    - Comments received: 2

Plans for Completion

- Meet at January Interim meeting in Irvine
  - Review and resolve Sponsor Ballot comments
- Conduct a Sponsor Re-circulation Ballot if required due to comment resolution
- Aim for Standards Board approval in March

IEEE 802.3 Motion

IEEE 802.3 authorises the IEEE P1802.3Rev Task Force to conduct meetings and recirculation ballots as necessary to resolve comments received during the Sponsor ballot.

IEEE 802.3 requests that the P802 LMSC Executive Committee forward P1802.3Rev to RevCom (by end 01/01) based on successful Sponsor ballot.

Affirmation of the pre-submittal will take place at the IEEE P802.3 March 2001 closing plenary.

M: David Law S: Tom Mathey Tech 75%~~/Proc 50%~~

PASSED Date: 9th Nov 2000

Y: 93 N: 0 A: 3 Time: 09:18

IEEE P1802.3Rev Conformance Test Revision Task Force Information

- There is a reflector for this Task Force:

  stds-1802-3-ctrev@ieee.org

  To be added to the reflector, send an E- mail containing:

  subscribe stds-1802-3-ctrev <your email address>

  to:

  majordomo@ majordomo. ieee. org

- There is also a web site for our use at:

  http://www.ieee802.org/3/1802rev/index.html

- To access drafts:

  http://www.ieee802.org/3/1802rev/private/index.html

  Username: ********

  Password: ********

  Password **is** case sensitive

802.3ae Report

(Including New Orleans and Austin Interim Meetings)

Tampa, Florida

Jonathan Thatcher

jonathan@worldwidepackets.com

September Synopsis (1/2)

- **Strong support to modify objectives**
  - (vector to July Thatcher Presentation)
- **Appointed Jeffrey Warren as Secretary**
- **Split into two tracks to review draft**
  - Logic
    - Change XGMII 1.8 volts
  - PMD/PMA
    - Adopted link model
  - Further division recommended for future mtgs.
- **Set up special jitter / 1550 nm serial mtg**
  - Held in conjunction with editor review meeting in Austin
  - Hosted by 10GEA (thank you very much)

September Synopsis (2/2)

- **“Shut down” old, unused reflectors**
- **Created Equalization reflector / ad hoc**
  - Chair: Vipul Bhatt
  - Had meeting on 11/5/00
- **Created Serial PMD reflector / ad hoc**
  - Piers Dawe Chair
  - Regular teleconferences since
  - Met in Austin
- **Long discussion on optical connector…**
  - Motion tabled…. (see minutes)
- **Accept Orange Co venue for Jan**
- **Informed that May in UK will not work**

Austin Synopsis

Highlighted issues

Created jitter ad-hoc

Editorial corrections (no technical)

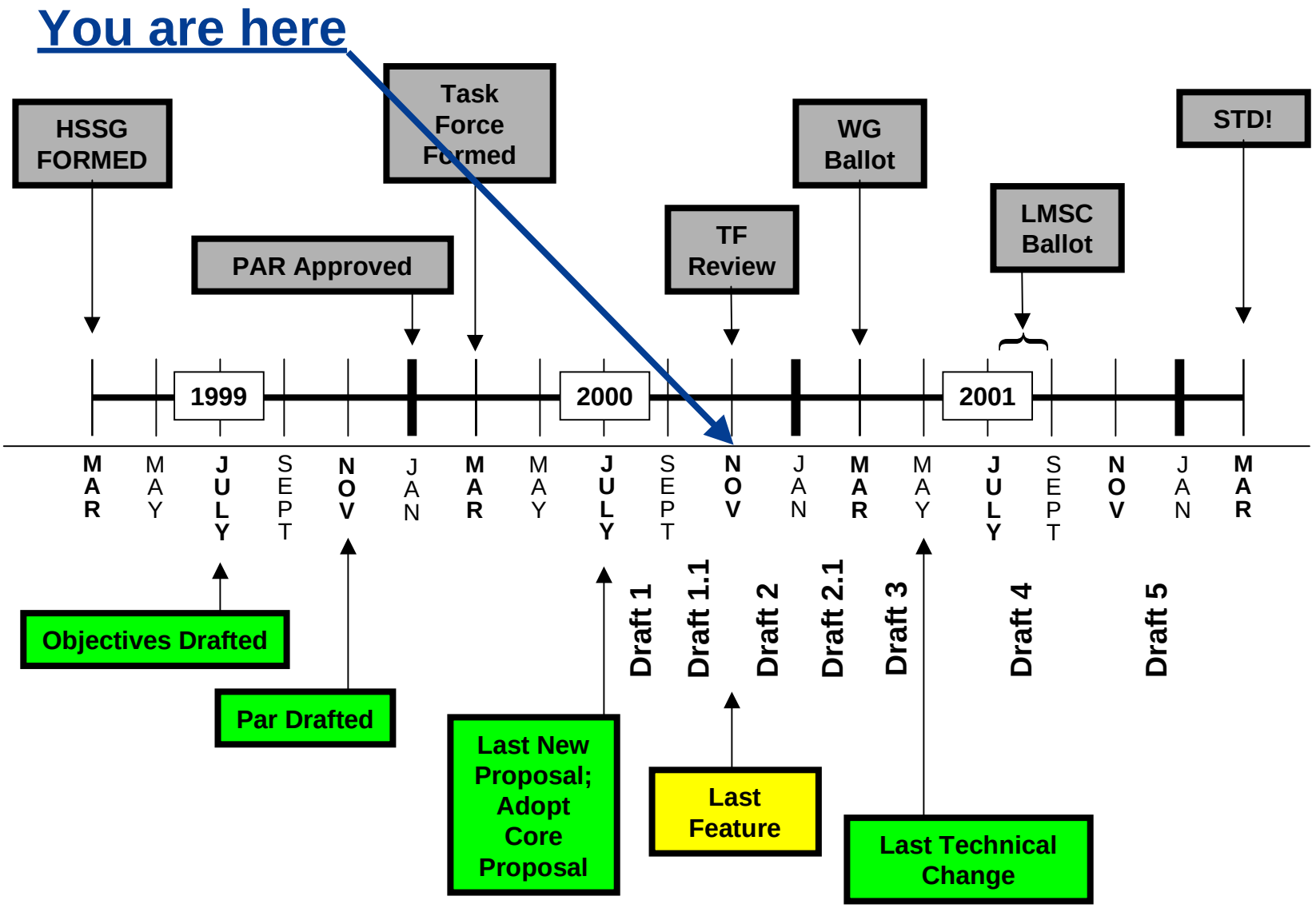
<u>Tuesday</u>

- **Morning combined jitter discussion**
- **Afternoon split:**
  - 1550 (and some 1310 nm) Serial
  - Continuation of jitter

<u>Wednesday</u>

- **Review of individual clauses**

Long Term Schedule



Goals For The Week (1 of 2)

“Draft Phase” (Nov 00 – May 01)

- **Nov**
  - Last feature
  - Final preparations for TF ballot
- **Jan:**
  - Resolve TF comments
  - Preparations for TF recirculation
- **Mar:**
  - Resolve TF recirculation comments
  - Final preparations for WG ballot
- **May:**
  - Last technical change!!!
  - Resolve WG ballot

Goals For This Week (2 of 2)

BEGIN RESOLUTION OF BIG TICKET ITEMS

- **Jitter**
- **Remote Fault & Break Link**
- **Link Status / Signal Detect**
- **Interface Electricals & Specifications**
- **Compliance & Testing**
- **Optical Connector**
- **PMD**

Prepare for Task Force Ballot

Breakout for the week

	Regency 1 (150)	Regency 2 (100)	Regency 3 (100)	Parlor # 327 (20)
TUESDAY 8:30 to 12:00	P802.3ae ALL TOGETHER (Presentations)			
1:00 to 6:00	PMA/PMD Clauses 51, 52	Logic 1 Clause 47, 48	Logic 2 Clause 50	Logic 3 Clause 4
6:30 to 9:30	Call For Interest: Ethernet in the Last Mile			
WEDNESDAY 8:30 to 12:00	PMA/PMD Clauses 53, 54	Logic 1 Clause 49	Logic 2 Clause 46	Logic 3 Clause 1,… 45
1:00 to 6:00	P802.3ae ALL TOGETHER (Motion Madness)			
6:30 to 9:00	802 Social Reception			

802.3 WG Motion

802.3 Working group affirms the following change to the P802.3ae objectives:

Modify the distance objectives for MMF PMDs to:

- At least 300 meters over installed* MMF
- At least 65 meters over MMF**

*** Installed = all MMF specified in 802.3z (62.5 micron 160/500 MHz*km FDDI-grade is the worst case).**

**** Implies that the solution is cost optimized for this distance.**

Moved: Jonathan Thatcher for P802.3ae

Technical (75% required)

For: Against: Abstain:

Comments

Seeing stronger interest regarding 10 Gig Ethernet (P802.3ae)

- **Response at NGN2000**
- **Contacts from Press**
- **Calls/Emails for clarification(s)**

General State of the Standard

- **Strong progress since clearing PMD selection**
- **Accelerating activity**

Voting Membership List

802.3ae requests a up-to-the minute copy of the 802.3 voters list in SOFT and HARD COPY by 8:30 a.m. tomorrow morning

802.3ae Report

Tampa, Florida

Jonathan Thatcher
jonathan@worldwidepackets.com

Agenda

General Report (Thatcher)

PMD/PMA Track (Thirion)

Logic Tracks (Brown)

Editor Report (Booth)

General Report

- This week was very productive.
- Strong position for task force ballot
- A number of significant issues still open. None of these is so significant that we should hold up draft 2.0 and task force ballot.

Chair is very pleased “team” mindset

Goals For This Week

BEGIN RESOLUTION OF BIG TICKET ITEMS

- Jitter
- Remote Fault & Break Link
- Link Status / Signal Detect
- Interface Electricals & Specifications
- Compliance & Testing
- Optical Connector
- PMD

Prepare for Task Force Ballot

Optical Connector

- Currently draft shows SC duplex
- Carried “connector” as hot ticket item for 6 months
- No presentations / proposals have been brought forward
- This week closes new features
- Therefore: will drop SC off list as hot ticket item.

New Orleans Motions (cont)

Affirmed change in objectives earlier in week in 802.3

Three things not affirmed:

- **Change of XGMII to 1.8 volts**
  - Will take no action
- **Addition of two PMDs**
  - 850 nm Serial over MMF

  1310 nm WWDM over MMF and SMF
- **Adoption of link model**

Motion

P802.3ae requests IEEE 802.3 affirm the selection of the following PMDs to meet the requirements of the refined objectives and the PMD optical link model:

- 850 nm Serial over MMF (in draft 1.1 clause 52)
- 1310 nm WWDM over MMF and SMF (in draft 1.1 clause 54)

- **Moved: Thatcher in behalf of the T.F.**
- **Technical (75%)**
- **For: Against: Abstain:**

Other

- **Created "Equalization Ad Hoc" in New Orleans and set up reflector**
  - Chair: Vipal Bhatt
  - Meetings: regular teleconferences and meetings not in conflict with other P802.3ae meetings
- **Created "Jitter Ad Hoc" at Austin meeting**
  - Chair: Bill Reisen
  - Meetings: Austin meeting and 1 teleconference
  - 2 day jitter meeting to be (hosted by 10GEA) to be scheduled in early December
    - Will evaluate co-location with Fibre Channel

P802.3ae PMD Track Report

Walter Thirion
wthirion@jatotech.com

Tampa
Nov 6-9, 2000

14 Presentations

- XSBI Issues—Stuart Robinson
- VCSEL-Friendly 1310nm Serial PMD Specifications—Jack Jewell
- Table 52-17 Fiber Specs—Paul Kolesar
- Revised Tables for 1550: power levels and channel insertion loss—Peter Öhlen
- Golden test for dispersion penalty - 1550 Serial—Peter Öhlen
- Attenuation Management—Scott Bradshaw
- Comparing OMA and E/R Measurements—Ken Herrity

14 Presentations (cont.)

- OMA Proposal—Mike Dudek
- OMA Specifications—Peter Öhlen
- Better way to spec spectral Width and Center Wavelength—Mike Dudek
- Reference Filter for testing (Serial) –Piers Dawe
- 1310/1550nm Back Reflection—Raj Savara
- WWDM Measurement Methodology—Dave Dolfi
- PMD Management Register Proposal—Jonathan Thatcher

Major Actions

- Added column to Table 52-8 to add spectral width and wavelength range to be more VCSEL friendly
- Adopted 0.4 dB/km (vs 0.5) fiber attenuation for 1310nm
- Adopted 13 dB link loss instead of specifying fiber attenuation on a “per km” basis
- Adopted, in principle, Golden Fiber test for dispersion measurement and created ad hoc to bring details to January Interim
- Adopted proposal to insert additional attenuators in 1550nm links to keep receivers operating in optimal region
- Adopted OMA as specification methodology

Major Actions (cont.)

- Adopted ITU-T STM-64 reference receiver for G.691 7.5GHz reference receiver with a 4th order Bessel-Thompson filter to impose uniform test condition on all transmitters
- Increased receiver return loss specification for 1550nm links from 12 dB to 26 dB—rejected change for 1310nm links
- Adopted triple trade off curves as the method of specification for 850 nm and 1300 nm serial PMDs.--The exact curves will be presented next meeting.
- Added *Signal Detect* indication for both serial and WWDM PMDs
  - 1 global signal for all wavelengths in WWDM
  - If MDIO present, indications are through management registers

Other Clause 51 Changes

- Remove 3xx mode for PMA
- Loopback
  - Optional
  - Send out static signal when in loopback
- Change Table 51-6
  - TD test conditions from < 1KHz to <10KHz
  - CJ test conditions from > 1KHz to >10KHz
- Added PCS framer specs
- Changed LVDS spec reference to TIA/EIA-644
- Added optional *Loss of Lock* indication
- Change definition PMA_RX_CLK
  - in absence of valid serial data input a “valid” clock must be provided to clock the PCS

Other Clause 54 Changes

- Kept Test Points 1, 2, 3 and 4
  - 2 & 3 are normative
  - 1 & 4 are informative
- Adopted WWDM test measurement methodology based on Tx wavelength and linewidth specifications
- Adopted Management Register model basis

Big Ticket Items

- Jitter specifications and methodology
  - Test points
  - Compliance
  - patterns
- Polarization Mode Delay
  - Conflicting data indicates either PMD is not an issue or it may be as much as 12% of installed fibers
  - General feeling is it's a non-issue
  - No known problems for the lengths we're dealing with
- Still reviewing specs, esp. in light of OMA change
- Questions on compliance testing in WWDM where other ? may interfere

PMD Track Motion #1

Add a new column to Table 52-8 for the 1310nm serial PMD for a spectral width of 0.20nm RMS and the wavelength range 1265-1355 nm and change the wavelength range in Table 52-9 to 1265-1355 nm

Moved: Jack Jewell *Technical (>75%)*

Second: Mike Dudek

Y: 53 N: 8 A: 33 *Passes*

PMD Track Motion #2

Move that the IEEE P802.3ae PMD sub task force ask IEEE 802.3 to adopt the proposed clause 52.12.1 content of *kolesar_1_1100* as amended during meeting as a replacement for the existing content of clause 52.12.1 found in Draft 1.1

Moved: Paul Kolesar — *Technical (>75%)*

Second: Steve Swanson

Y: 61 N: 0 A: 19 — *Passes*

PMD Track Motion #3

Motion to make changes to clause 52 as specified by ohlen_1_1100 and keep the 40 km distance objective and make the maximum channel insertion loss be 13 dB

	new value	old value	relevant table
Tx max. power	+4 dBm	+2 dBm	52-12
Tx min. power	0 dBm	-2 dBm	52-12
Rx max. power (for damage)	+4 dBm	--	52-13
Rx max. power (for BER overload)	-3 dBm	-8 dBm	52-13
Rx sensitivity	-18 dBm	-20 dBm	52-13
Stressed Rx sensitivity	-13.41 dBm	-15.41 dBm	52-13

Moved: Peter Ohlen *Technical (>75%)*

Second: Scott Bradshaw

Y: 41 N: 13 A: 24 *Passes*

PMD Track Motion #5

Move that:

- We adopt the methodology of ohlen_3_1100 in principle
- Direct editor to make necessary changes to draft 1.1
- Create ad-hoc to bring to the January 2001 meeting complete and specific proposals for specification and measurement methodology

Moved: Jonathan Thatcher *Technical (>75%)*

Second: Peter Ohlen

Y: 52 N: 3 A: 20 *Passes*

PMD Track Motion #6

Move to incorporate table and figure as shown in bradshaw_1_1100 for attenuation management at 1550 nm

Moved: Scott Bradshaw *Technical (>75%)*

Second: Piers Dawe

Y: 54 N: 0 A: 9 *Passes*

PMD Track Motion #7

Move that OMA is accepted as a method of specification and that the numbers should be as presented in dudek_2_1100. Also, these numbers should be in both mW and dBm with modifications as appropriate for motions passed at this meeting.

Moved: Mike Dudek — Technical (>75%)

Second: Ken Herrity

Y: 61 N: 0 A: 5 *Passes*

PMD Track Motion #8

Move to accept the ITU-T STM-64 reference receiver (specified in G.691). This represents a 7.5 GHz reference receiver with a fourth order Bessel-Thompson filter.

Moved: Piers Dawe — Technical (>75%)

Second: Scott Bradshaw

Y: 49 N: 0 A: 19 — *Passes*

PMD Track Motion #9

Move that triple trade off curves as described by dudek_1_1100 are adopted as the method of specification for 850 nm and 1300 nm serial PMDs. The exact curves will be presented next meeting.

Moved: Mike Dudek *Technical (>75%)*
Second: Vipul Bhatt
Y: 44 N: 2 A: 30 *Passes*

PMD Track Motion #10

Move to adopt savara_1_1100 in order to change clause 52 as follows for 1550 nm:

- Change Table 52-13 “Return Loss” specification to 26 dB (min)
- Add to Table 52-14 “Return Loss for any device in the optical link” to 26 dB (min)
- Ensure that the RIN measurement is made with a return loss at 12 dB

Moved: Raj Savara *Technical (>75%)*

Second: Scott Bradshaw

Y: 38 N: 5 A: 41 *Passes*

PMD Track Motion #11

Move to adopt savara_1_1100 in order to change clause 52 as follows for 1310 nm:

- Change Table 52-9 “Return Loss” specification to 26 dB (min)
- Add to Table 52-10 “Return Loss of any device in the optical link” to 26 dB (min)
- Ensure that the RIN measurement is made with a return loss at 12 dB

Moved: Raj Savara *Technical (75%)*

Second: Scott Bradshaw

Y: 17 N: 19 A: 50 *Fails*

PMD Track Motion #12

Move to adopt changes 1, 2, 3, 5, 7 proposed in Justin Chang's clause editor update at Tampa, FL:

- Remove 3XX mode as option for PMA
- Loopback
  - Remove "shall"… loopback is optional
  - Send out static signal
- Table 51-6 change
  - TD test condition <1kHz to <10kHz
  - CJ test condition > 1kHz to >10 kHz
- Add PCS framer specs for completeness (OIF99.102.x)
- LVDS specs:
  - Reference to TIA/EIA 644Mb/s instead IEEE1596.3 with appropriate modifications

Moved: Justin Chang *Technical (>75%)*

Second: Henning Lysdal

Y: 42 N: 0 A: 38 *Passes*

PMD Track Motion #13

Move to add optional RX indicator in Clause 51: Loss-of-lock

Moved: Justin Chang *Technical (>75%)*

Second: Henning Lysdal

Y: 52 N: 0 A: 29 *Passes*

PMD Track Motion #14

Move to change definition PMA_RX_CLK: in absence of valid serial data input a “valid” clock must be provided to clock the PCS

Moved: Justin Chang *Technical (>75%)*

Second: Raj Savara

Y: 33 N: 2 A: 41 *Passes*

PMD Track Motion #15

Move that we adopt Signal_Detect for clause 52 and clause 54 per the recommendations of the Signal_Detect ad hoc as the basis for the draft for TF ballot.

- Signal_Detect will be normative
  - Signal_Detect to be a global indication (That is only one Signal_Detect for WWDM PMD, not a per lane Signal_Detect)
- If MDIO is implemented
    - Report global Signal_Detect through MDIO
    - Optionally, report Signal_Detect through MDIO on a per lane basis

Moved: David Cunningham *Technical (>75%)*

Second: Jonathan Thatcher

Y: 65 N: 0 A: 23 *Passes*

PMD Track Motion #16

Adopt test points shown in Figure 54-3 as basis for TF ballot draft: TP2 and TP3 are normative, TP1 and TP4 are informative.

Moved: David Cunningham — *Technical (>75%)*

Second: Bill Lane

Y: 62 N: 0 A: 20 — *Passes*

PMD Track Motion #17

Move that we adopt the methodology proposed in dolfi_1_1100 in principle with respect to WWDM Tx, Rx measurements and wavelength and linewidth specifications, as the basis for the next Draft of Clause 54.

Moved: David Dolfi — *Technical (>75%)*

Second: Bill Weidemann

Y: N: A: — *Passes by acclamation*

PMD Track Motion #18

Adopt MDIO features in thatcher_1_1100 in principle

- Have clause 52 and 54 editors write into draft 2.0.
- Authorize David Law to define the bit allocations.

Moved: Jonathan Thatcher — *Technical (>75%)*

Second: Jack Jewell

Y: N: A: — *Passes by acclamation*

P802.3ae Motion #?

Move to affirm the definition of PMA_RX_CLK as written in D1.1.

Moved: Walter Thirion *Technical (>75%)*
Second: Justin Chang
Y: N: A:

802.3 WG Motion #?

Move to affirm the motions passed in the P802.3ae PMD sub-task force that have already been affirmed by P802.3ae.

Moved: Jonathan Thatcher on behalf of P802.3ae

Technical (>75%)

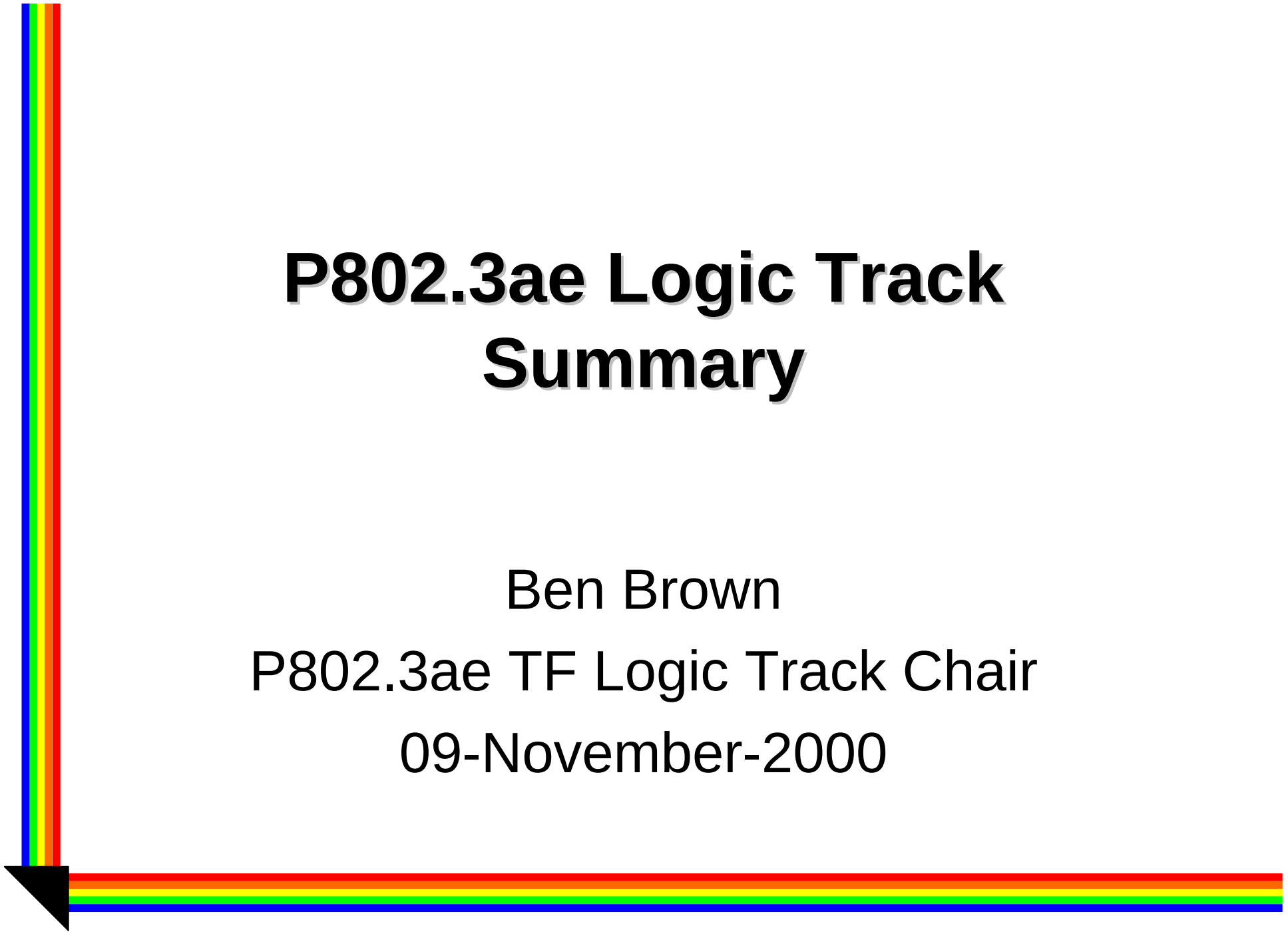
Y: N: A:

P802.3ae Logic Track Summary

Ben Brown

P802.3ae TF Logic Track Chair

09-November-2000



Major Motions

- MDIO to create an ad hoc for determining the electrical characteristics
- XGMII is using HSTL, 1.5v Class1
- XGMII timing is source centered
- PCS needs delimiter robustness

XAUI Electrical Results

- Receive eye
  - M1. Approved complete eye definition (Unanimous)
- Compliance channel
  - M2. Agreed on a specification method (Unanimous)
  - Formed the *XAUI Channel Team* to fill out proposal by January
- Transmit amplitude
  - M3. Agreed to use transmit eye as alternate compliance test. (Unanimous)
  - M4. Increased max signal amplitude from 1.0 to 1.6 V_{ppd} (36-1-7).

XAUI Electrical Results

- Jitter specification
  - Formed the *XAUI Jitter Team* to work with the 802.3ae Jitter Ad Hoc and develop a full proposal by January
- Common mode specifications
  - M5. Agreed on DC limits for Driver output: -0.3 to +2.3 (20:2:18)
  - M6. Agreed to spec CM return loss at driver and receiver (14:0:15)
- Inter-clause issues still outstanding
  - XGXS Signal Detect
  - Clause 48 squelch

Clause 49 Work for 2.0

- Add fault signaling (see slide)
- Add PCS to PMA bit order diagram to 49.1.4
  - with and without WIS
- Add PICS

Clause 50 Issues and Resolution

- MDIO register bits, functions, descriptions
  - Editor will update register descriptions in Clause 50 D2.0 in consultation with Clause 33(45)
- Signal detect handling, fault reporting
  - Already implemented in Clause 50 D1.1 as per Tuesday's fault reporting presentation, minor clarifications and modifications required to conform completely
- Loopback
  - Editor will clarify text in D1.1 to indicate that the WIS will send either all-zeros or all-ones to the PMA, and ignore received data from the PMA; must consult with PMD group on eye-safety issues

Clause 50 Issues and Resolution

- Clarification of bit ordering between WIS, PCS, PMA
  - Informative bit mapping figure will be supplied to Clause 49 editor
- Test patterns for WIS (jitter, etc.)
  - Deferred until they become available (contributions solicited)
- Final resolution on overhead bytes (+ related MIB items)
  - 2 presentations; motions to accept both (passed by breakout group)
- Informative figures for Section/Line overhead
  - Motion to include these (passed by breakout group)

Motion

Move that IEEE 802.3 affirm all motions approved by P802.3ae Task Force Logic Track

Moved : Ben Brown Seconded : Brad Booth

Y : N : A :

Passed by acclamation

Motion

Move that IEEE 802.3 affirm all motions approved by P802.3ae Task Force General Session regarding clauses 33, 46 & 51

Moved : Ben Brown Seconded : Brad Booth

Y : N : A :

Passed by acclamation

Motion

Move that IEEE 802.3 affirm the motion approved by P802.3ae Task Force regarding parallel Clause 53 replacement

Moved : Ben Brown Seconded : Brad Booth

Y : N : A :

Failed - I didn’t get the numbers!

P802.3ae Draft Summary

Brad Booth

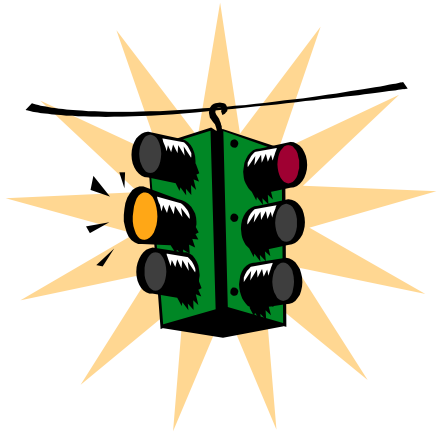
Editor-in-Chief, P802.3ae

November 2000 Plenary

Thank You!

- Clause Editors: Shimon Muller, David Law, Ed Turner, Bob Grow, Dawson Kesling, Rich Taborek, Pat Thaler, Tom Alexander, Justin Chang, David Kabal, Paul Bottorff, David Cunningham
- GOE: Jonathan Thatcher, Steve Haddock, Ben Brown, Walt Thirion, Geoff Thompson, Bill Lane, Rhett Brikovskis, Juan Pineda, Gordon Jacobs, Ali Ghiasi, Richard Dugan, Jeff Porter, Shawn Rogers, Tord Navlin, Martin Elhøj, Mike Dudek, Dave Dolfi, Piers Dawe, Jack Jewell, Scott Bradshaw, Norival Figueira, all the Ad Hocs, etc.
- Participants of P802.3ae!!

Big Ticket Items



- × Jitter
- ✓ Remote Fault & Break Link
- ✓ Link Status/Signal Detect
- ~ Interface Electricals & Specifications
- × Compliance & Testing
- ✓ Loopback
- × Optical Connector
- ~ Polarization Mode Delay
- ✓ Management
- ✓ Minor Issues

Timeline

- Clause Editor Deadline: Nov. 22
- Draft 2.0 Deadline: Nov. 29
- Task Force Ballot Opens: Dec. 1
- Task Force Ballot Closes: Jan. 3
- Comment Resolution: Jan. 10-12
- Revision (D2.1) to be re-circulated after January Interim prior to March Plenary
- Goal: Come out of March Plenary with authorization to go to WG ballot

THE Motion

Move that:

"The P802.3ae Task Force requests that the Editors of P802.3ae create *Draft* P802.3ae/D2.0 and that draft be distributed for review and comment. Comment handling and resolution will be done on a basis that is similar to that used by the Working Group."

M: B. Booth

S: S. Haddock

Y: 125 N: 0 A: 0 ***Procedural:*** PASSES

Affirming vote (802.3 WG): Approved by acclamation

DTE Power via MDI

802.3af Task Force
Opening Plenary Meeting Report
November 6, 2000
Tampa, FL

Steve Carlson, Task Force Chair

September Interim Meeting

- Interim meeting in New Orleans, LA
- 57 people from 31 companies
  - 30% new people
- Proposals
  - 7 on discovery
  - 4 on mid-span
  - 2 on power supply
  - 1 on EMC
  - 1 follow-up on signal pair powering

September Interim Meeting

- Results
  - Power over the signal pairs technical/economic feasibility demonstrated by other laboratory work
  - Mid-span technical/economic feasibility demonstrated by laboratory work
  - Creation of spreadsheet indicating remaining work to be done to settle on discovery technique
  - Additional hazard matrix testing results presented; plans for additional testing made
  - Creation of spreadsheet indicating additional work areas:
    - High-level state machine; management; link profile;systems considerations

Plans for the Week

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

Goals for the week:

- Presentations
  - -Determine discovery method
  - -Strawman management
  - -Strawman power supply
- Review 1st draft of standard
- Charter editor to produce new draft
- Create work plan for moving forwards to make up lost time
- Affirm votes from September and November at 802.3 WG closing Plenary

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 previous meetings is available. Information on subscribing to the e-mail reflector, proper usage thereof, and presentation guidelines are here.

Lighting Dimensions International 2000

Pathway Connectivity

DMX over Ethernet for half the cost.

Pathport

The Open System DMX Gateway

Pathport is a dual outlet smart data port with permits legacy DMX equipment to utilize Ethernet data transport methods. Best of all it's ACN ready.

Merging & Patching

Pathport enables post-processing of DMX 512 data to allow unprecedented merging and patching functionality. One Pathport unit can process data from a number of consoles.

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Pathway Connectivity
Phone 403.243.8110
email info@pathwayconnect.com

www.pathwayconnect.com

we bring

Enter the Ethernet Era!

Build Your Infrastructure for the Future

Facility designers now have an affordable bridge between the DMX past and the Ethernet future.

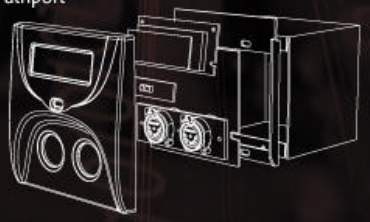
Pathport is a revolutionary, low cost approach to distribute DMX over Ethernet. It introduces new functionality for existing DMX equipment and flexibility to meet evolving industry standard network protocols without changing hardware.

Flexible Operation

Pathport creates a new era of operational efficiency. Pathport units sharing the same network can all be remotely configured from a PC linked to the system. Device configuration and signal routing has never been so fast and easy.

Easy Installation

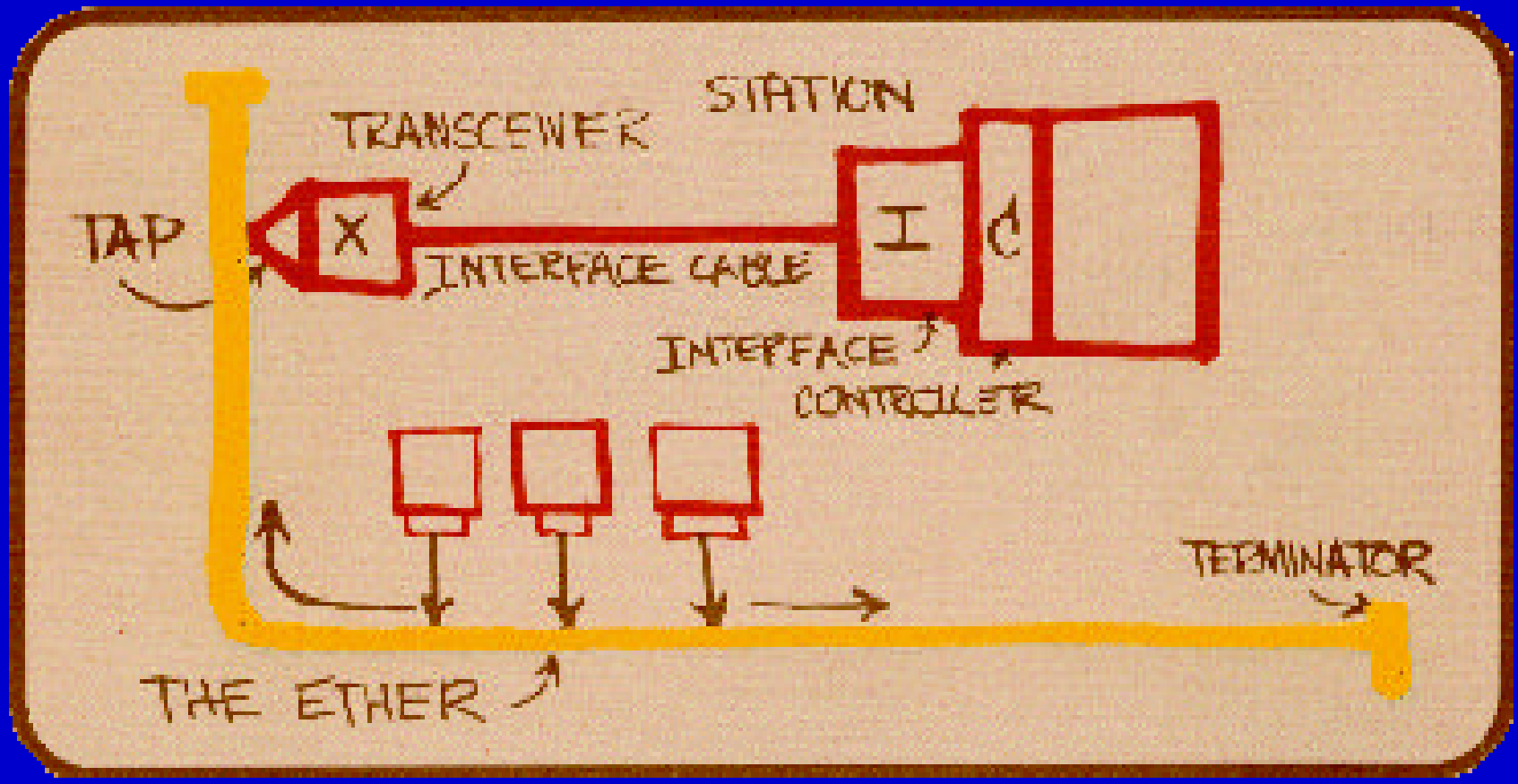
Pathport is easy to install. Its compact design fits a standard double-gang electrical box.
It uses the Ethernet cable to carry both data and the power supply. With Pathport there's no extra wire to pull or contractor hassles to sort out.



communication to light


LIGHTING DIMENSIONS
INTERNATIONAL
Product of the Year
Lighting Tools and Software
2000

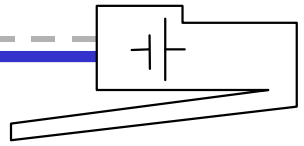
It’s come a long way...



DTE Power via MDI

802.3af Task Force
Closing Plenary Meeting Report
November 9, 2000
Tampa, FL

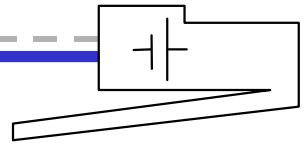
Steve Carlson, TF Chair



General Report

Goals for the week:

- Presentations (14)
  - -Determine discovery method
  - -Strawman management specification
  - -Strawman power supply specification
- Review 1st draft of standard (Clause 33)
- Charter for new draft
- Create work plan for moving forwards to make up lost time
  - Assign ownership of draft sections
  - Editor's weekly conference call
- Create new timeline
  - New draft by second week in December
- Affirm votes at 802.3 WG closing Plenary



Presentations

“UTP Cable Modes,” Rick Brooks, Nortel Networks

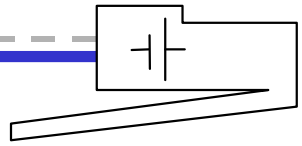
“How Much Noise is too Much ?,” Rick Brooks, Nortel Networks

“Detection Methods - Reliability Analysis,” Yair Darshan, PowerDsine
-Background information to aid in technical evaluation

“Resistive Signature and Detection Summary and Feasibility,”
Robert Leonowich, Lucent Technologies, Don Stewart, AVAYA
-Lots of data and updated design

“Resistor Signature Analysis,” Dieter Knollman, AVAYA
-Even more data

“Coupled Diode Discovery, It Works,” Rick Brooks, Nortel Networks
-Amazing amount of data



Presentations

"PHY Support for Diode Discovery Cost Analysis," Kevin Brown, Broadcom

"Power Level Detection," Robert Muir, Intel

"DTE Power differential noise and common-mode voltage requirements," Terry Cobb, Lucent/AVAYA

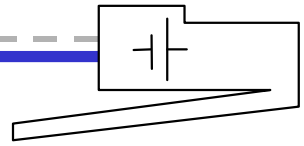
-Input to draft

"DC Requirements for Wire and Cable from Industry Standards," Sterling Vaden, Superior Modular Products

-Input to draft

"DTE power via MDI management strawman proposal," Nick Stapleton, 3Com

-Input to draft



Presentations

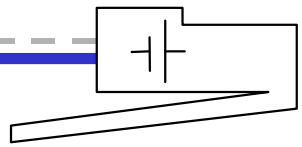
"A Solution to Environment B Power," Paul Moore, Mike Edwards, Nortel Networks

"Draft Power Supply Specification Submission," Arlan Anderson, Nortel Networks

-Input to draft

"Hazard Matrix Test Results," Mike McCormack, 3Com

-Additional hazard testing of 150 pieces of equipment against Lucent and Nortel prototypes

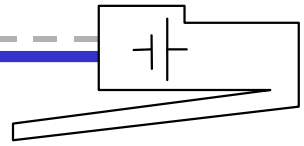


Motions to Affirm

Motion 1 (September Interim)

The 802.3af task force affirms that the technical and economic feasibility of delivering power over the wire pair sets 1-2, 3-6 has been established, and that the technical and economic feasibility of delivering power over the wire pair sets 4-5, 7-8 has also been established.

Moved by: Robert Muir
Seconded by: Amir Lehr
Technical Motion 75% required
802.3 voters: Yes 21 No 1 Abstain 1 Motion passes
All present: Yes 50 No 1 Abstain 2

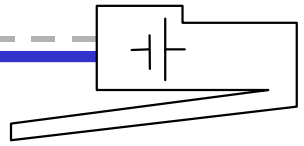


Motions to Affirm

Motion 2 (September Interim)

The 802.3af task force affirms that the technical and economic feasibility of delivering power from the mid-span has been established.

Moved by: Amir Lehr
Seconded by: Mike McCormack
Technical 75% required
802.3 voters: Yes 18 No 0 Abstain 1 Motion Passes
All: Yes 48 No 0 Abstain 2



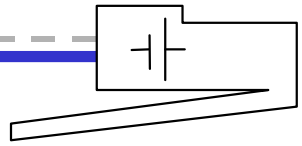
Motions to Affirm

Motion 3 (November Plenary)

Move that 802.3af select the “resistor” discovery technique.

Moved: Bill Quackenbush
Second: Robert Muir
Technical 75% Y: 29 N: 0 A: 6 .3 voters

Motion Passes



Motions to Affirm

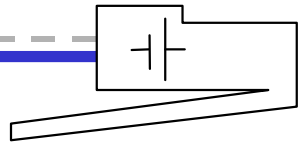
Motion 4 (November Plenary)

Move to accept the two requirements as stated (slide 5, cobb_1_1100 presentation with figure on slide 4) into the draft.

Moved: Terry Cobb
Second: Sterling Vaden

Technical 75%	Y:43	N:3	A:5	all
	Y:27	N:2	A:4	.3

Motion passes



Motions to Affirm

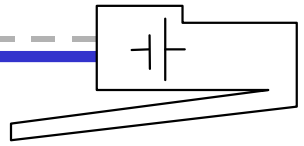
Motion 5 (November Plenary)

Move that the PSE output voltage shall be within the range 44VDC to 57VDC.

Moved: Arlan Anderson
Second: Karl Nakamura

Technical 75%	Y:32	N:3	A:13	All
	Y:23	N:2	A:7	.3

Motion passes



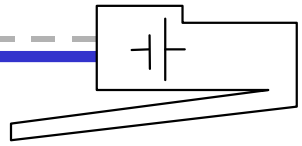
Motions to Affirm

Motion 6 (November Plenary)

Move the Task Force schedule be adjusted to Task Force review at the January 2001 802.3 interim and Working Group ballot at the March 2001 802 Plenary.

Moved: Karl Nakamura
Second: Paul Moore
Procedural 50% Y: 42 N: 0 A: 5 All

Motion passes



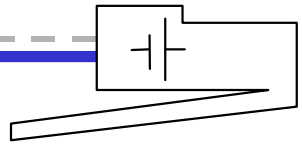
Motions to Affirm

Motion 7 (November Plenary)

Move to charter the 802.3af editor to produce a new draft incorporating the work and motions of the committee as Draft 1.1.

Moved: Arlan Anderson
Second: Jennifer Rasimas
Technical 75% Y: 45 N: 0 A: 3 All

Motion passes



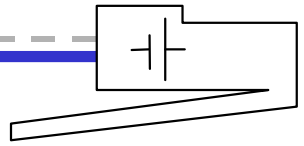
Motions to Affirm

Motion 8 (November Plenary)

Move that the chair ask 802.3 to approve an Interim meeting in Irvine, CA in January 2001.

Moved: Arlan Anderson
Second: Hank Hinrichs
Procedural 50%

Passed by acclimation



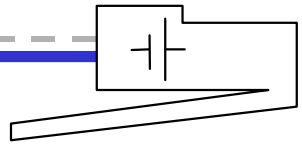
IEEE 802.3 Motion

Move that IEEE 802.3 affirm all motions presented on behalf of the 802.3af Task Force.

Moved: Steve Carlson on behalf of 802.3af TF

Technical 75%
Date: 9 November 2000

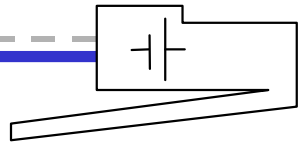
Y: N: A:



Other News

At the European Telecommunications Standards Institute (ETSI) TC AT -WG Digital meeting held in Sofia-Antipolis on 16 & 20 October, the subject of creating a European Standard fore line powering of IP terminals was raised. During their debate, the existence of the IEEE 802.3af standard was raised and it was suggested that the two committees should cooperate whenever possible.

It is the intention of 802.3af to invite interested members of the ETSI to join the 802.3af effort to avoid duplication of effort and possible market confusion.



IEEE P802.3
Maintenance

November 6th, 2000
Tampa, FL

David Law

Maintenance Requests Status

- 67 Maintenance requests
- 14 new Maintenance requests since July
- Current status:

In Ballot (IEEE P802.3ag)	21
Awaiting clarification	5
Errata	21
To be categorised	14
Review by Technical expert	4
Withdrawn	2

IEEE P802.3ag Maintenance #6

- IEEE P802.3ag PAR approved by NesCom
  - Approved 21st September 2000
- Now in Working Group Ballot
  - Ballot Opened 9th October
  - Ballot Closes 8th November
    - Please submit your ballot if you have not already done so. Remember that voting as well as attendance is a requirement to maintain your 802.3 voter status

IEEE P802.3ag Maintenance #6 Working Group Ballot Status

- Ballot status as of 6th November:
  - Response Ratio (> 50%): 75/241 = 31.1%
  - Abstention Ratio (< 30%): 22/75 = 29.3%
  - Approval Ratio (> 75%): See next page
- Comments received: 7
  - 1 Technical
  - 6 Technical Required
- 1 Non voter ballot
  - Disapprove on 3 change requests

Ballot Status as of 6th November

Revision Request number	Voters	Ballots returned	Approve	Approve with comments	Disapprove	Abstain	Return rate	Approval rate
1000	241	75	52	1	0	22	31.1%	100.0%
1002	241	75	53	0	0	22	31.1%	100.0%
1005	241	75	52	0	1	22	31.1%	98.1%
1021	241	75	53	0	0	22	31.1%	100.0%
1030	241	75	53	0	0	22	31.1%	100.0%
1036	241	75	51	1	1	22	31.1%	98.1%
1037	241	75	53	0	0	22	31.1%	100.0%
1038	241	75	53	0	0	22	31.1%	100.0%
1039	241	75	53	0	0	22	31.1%	100.0%
1040	241	75	53	0	0	22	31.1%	100.0%
1041	241	75	53	0	0	22	31.1%	100.0%
1042	241	75	53	0	0	22	31.1%	100.0%
1043	241	75	53	0	0	22	31.1%	100.0%
1044	241	75	53	0	0	22	31.1%	100.0%
1045	241	75	52	0	1	22	31.1%	98.1%
1046	241	75	52	0	1	22	31.1%	98.1%
1047	241	75	53	0	0	22	31.1%	100.0%
1048	241	75	53	0	0	22	31.1%	100.0%
1049	241	75	52	0	1	22	31.1%	98.1%
1051	241	75	53	0	0	22	31.1%	100.0%
1052	241	75	53	0	0	22	31.1%	100.0%

Plans for the week

- Close the ballot !!
  - Please submit your ballot
- Meet this week
  - Maintenance Requests
    - Review status of existing revision requests
    - Classify new revision requests
  - IEEE P802.3ag Maintenance #6
    - Review IEEE P802.3ag WG Ballot comments
      - Charter editor to produce new draft
    - Prepare for Sponsor Ballot (dependent on ballot)

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 P802.3 Maintenance

November 9th, 2000
Tampa, FL

David Law

Maintenance Status

- Maintenance Requests
  - Review and categorised all received request
- IEEE P802.3ag Working Group Ballot
  - Ballot closed successfully November 8th
  - Reviewed and responded to comments
    - This process continued most of week
    - Thanks to those who helped

Maintenance Requests Status

- 67 Maintenance requests
- Current status:

In Ballot (IEEE P802.3ag)	21
Awaiting clarification	5
Errata	28
To be categorised	0
Review by Technical expert	11
Withdrawn	2

- 1000BASE-T Technical Experts
  - Volunteers ?

IEEE P802.3ag Rev Maintenance Revision #6

- Scope

  Maintenance changes and current 802.3 Standard

- Purpose

  Add accumulated maintenance changes and provide general review of entire 802.3 standard

- Timeline

Working Group Ballot	July 2000 ✓
Sponsor Ballot	November 2000
Standards board approval	March 2001

IEEE P802.3ag Maintenance #6 Working Group Ballot Status

- Ballot status (subject to confirmation):
  - Response Ratio (> 50%): 143/241 = 59.3%
  - Abstention Ratio (< 30%): 41/75 = 28.7%
  - Approval Ratio (> 75%): See next page
- Comments received: 21
  - 3 Technical Required
  - 10 Technical
  - 8 Editorial
- 1 Non voter ballot
  - 3 Technical Required, 1 Technical

Ballot results

Revision Request number	Voters	Ballots returned	Approve	Approve with comments	Disapprove	Abstain	Return rate	Approval rate	Abstain rate	Re-circulation
1000	241	143	100	2	0	41	59.3%	100.0%	28.7%	No
1002	241	143	101	1	0	41	59.3%	100.0%	28.7%	Yes
1005	241	143	100	0	2	41	59.3%	98.0%	28.7%	Yes
1021	241	143	101	1	0	41	59.3%	100.0%	28.7%	Yes
1030	241	143	102	0	0	41	59.3%	100.0%	28.7%	No
1036	241	143	98	3	1	41	59.3%	99.0%	28.7%	Yes
1037	241	143	102	0	0	41	59.3%	100.0%	28.7%	No
1038	241	143	102	0	0	41	59.3%	100.0%	28.7%	No
1039	241	143	101	1	0	41	59.3%	100.0%	28.7%	No
1040	241	143	101	1	0	41	59.3%	100.0%	28.7%	No
1041	241	143	100	1	1	41	59.3%	99.0%	28.7%	Yes
1042	241	143	101	1	0	41	59.3%	100.0%	28.7%	No
1043	241	143	102	0	0	41	59.3%	100.0%	28.7%	No
1044	241	143	102	0	0	41	59.3%	100.0%	28.7%	No
1045	241	143	102	0	0	41	59.3%	100.0%	28.7%	No
1046	241	143	102	0	0	41	59.3%	100.0%	28.7%	No
1047	241	143	101	0	1	41	59.3%	99.0%	28.7%	Yes
1048	241	143	101	1	0	41	59.3%	100.0%	28.7%	No
1049	241	143	99	3	0	41	59.3%	100.0%	28.7%	Yes
1051	241	143	102	0	0	41	59.3%	100.0%	28.7%	No
1052	241	143	102	0	0	41	59.3%	100.0%	28.7%	No

Comment Resolution Status

- Resolved all voter Technical Required
- Still have non-voter Technical Requires
  - Will try to resolve these, if we cannot we will include no vote in re-circulation ballot
    - This is courtesy as this is not required for non-voters

Proposed Comment #19 Response

CommenterName: Rich Seifert

Comment #: 19 (Observer comment)

Change #: 1005

Clause: 8

Subclause: 8.2.3

CommentType: (E, T, ER, or TR) T

Comment:

10BASE5 networks are of historical interest only. We should consider deprecating the entire clause, rather than looking for inconsistencies in some abstract architectural description of an obsolete transceiver.

Suggested Remedy:

Forego the revision request, and consider deprecating Clauses 8 (10BASE5), 11 (10BROAD36), 12 (1BASE5), and 16 (10BASE-FP).

Response:

Accept in Principle: While we will continue progressing this Revision Request, in addition we will amend it to place the text ‘This clause is not recommended for new designs’ in Clauses 8 (10BASE5), 11 (10BROAD36), 12 (1BASE5), 16 (10BASE-FP), 23 (100BASE-T4) and 32 (100BASE-T2).

Request requiring recirculation

Revision Request number	Voters	Ballots returned	Approve	Approve with comments	Disapprove	Abstain	Return rate	Approval rate	Abstain rate	Re-circulation
1000	241	143	100	2	0	41	59.3%	100.0%	28.7%	No
1002	241	143	101	1	0	41	59.3%	100.0%	28.7%	Yes
1005	241	143	100	0	2	41	59.3%	98.0%	28.7%	Yes
1021	241	143	101	1	0	41	59.3%	100.0%	28.7%	Yes
1030	241	143	102	0	0	41	59.3%	100.0%	28.7%	No
1036	241	143	98	3	1	41	59.3%	99.0%	28.7%	Yes
1037	241	143	102	0	0	41	59.3%	100.0%	28.7%	No
1038	241	143	102	0	0	41	59.3%	100.0%	28.7%	No
1039	241	143	101	1	0	41	59.3%	100.0%	28.7%	No
1040	241	143	101	1	0	41	59.3%	100.0%	28.7%	No
1041	241	143	100	1	1	41	59.3%	99.0%	28.7%	Yes
1042	241	143	101	1	0	41	59.3%	100.0%	28.7%	No
1043	241	143	102	0	0	41	59.3%	100.0%	28.7%	No
1044	241	143	102	0	0	41	59.3%	100.0%	28.7%	No
1045	241	143	102	0	0	41	59.3%	100.0%	28.7%	No
1046	241	143	102	0	0	41	59.3%	100.0%	28.7%	No
1047	241	143	101	0	1	41	59.3%	99.0%	28.7%	Yes
1048	241	143	101	1	0	41	59.3%	100.0%	28.7%	No
1049	241	143	99	3	0	41	59.3%	100.0%	28.7%	Yes
1051	241	143	102	0	0	41	59.3%	100.0%	28.7%	No
1052	241	143	102	0	0	41	59.3%	100.0%	28.7%	No

Plans for Completion

- Meet at January Interim meeting in Irvine
  - Review and resolve WG Recirculation Ballot comments if any.
  - Move to Sponsor Ballot conditional upon successful completion of WG Ballot.

IEEE 802.3 Motion

IEEE 802.3 Working Group accepts the resolution to all comments received in the Working Group ballot of P802.3ag Draft 1.0, and authorises the editor to submit requests requiring recirculation as the P802.3ag Working Group recirculation ballot package.

IEEE 802.3 authorises the IEEE P802.3ag Task Force to conduct meetings and recirculation ballots as necessary to resolve comments received during the Working Group recirculation ballot(s).

IEEE 802.3 requests that the P802 LMSC Executive Committee requests formation of a LMSC Sponsor Ballot pool for IEEE P802.3ag and forwards IEEE P802.3ag for LMSC Sponsor Ballot conditional upon successful completion of Working Group Ballot.

IEEE 802.3 authorises the IEEE P802.3ag Task Force to conduct meetings and recirculation ballots as necessary to resolve comments received during the Sponsor Ballot.

M: D Law		S: S. Muller	Tech 75%~~/Proc 50%~~
PASSED/FAILED			Date: 9th Nov 2000
Y: 104	N: 0	A: 1	Time: 11:11

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

Ethernet in the Last Mile

Call for Interest

Report to 802.3

IEEE P802.3 CSMA/CD Working Group

Hyatt Regency Tampa, FL

9-November-2000

Agenda

- Welcome and Introductions
- Objectives for this meeting
- Reflector and Web
- Ground Rules
- Presentations
- Discussion
- Call for Interest
- Future work and next meeting
- Wrap up

Objectives for the meeting

- Stimulate interest and discussion
- Identify a subject for study
- Gauge the level of interest in the subject
- If sufficient interest, ask for a study group

Reflector and web

- No email reflector yet
- If an 802.3 study group is formed, we'll create a

  stds-802-3-elm@ieee.org

  email reflector by 11/17/00

- No web page yet
- If an 802.3 study group is formed, we'll create a

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

  web page by 11/17/00
- Will send an announcement to stds-802-3@ieee.org

Presentations

1.	Why Here, Why Now?	Howard Frazier	DomiNet Systems
2.	Interest in ELM	Bruce Tolley	Cisco
3.	Physical Layer Options	Sailesh Rao	Intel
4.	ELM CFI	Marty Staszak	3Com
5.	Options and Opinions	John Wolcott	World Wide Packets
6.	ELM	Darrell Furlong	Aura Networks
7.	Ethernet PON	Gerry Pesavento	Alloptic
8.	Topology Considerations	Chris Diminico	CDT Mohawk
9.	ELM	Steve Carlson	HSP Design
10.	Ethernet to the Home	Roy Bynum	Worldcom
11.	The need for ELM	Mike Bennett	Yipes

Call for Interest

- Should IEEE 802.3 form a study group to develop a project proposal for "Ethernet in the Last Mile"?

Y __159_____ N __0_____ A ___10_____

Call for Interest

- I would participate in the
  "Ethernet in the Last Mile" Study Group in IEEE 802.3

  tally____87____

- My company would support participation in the
  "Ethernet in the Last Mile" Study Group in IEEE 802.3

  tally____63___

Future work & next meeting

- Ask 802.3 to form an ELM SG on Thursday
- 802 SEC informed of ELM SG on Thursday
- First SG meeting planned for:
  - Mon 8-Jan and Tues 9-Jan-2001
  - Irvine, CA
  - Co-located with 802.3ae and 802.3af
  - Hosted by BroadCom
- Target date for PAR approval: Mar-2001

ELM Motion #1

- **Form a study group to develop a project proposal (PAR, 5 Criteria, and Objectives) for Ethernet in the Last Mile**

- **M: Bruce Tolley**
- **S: Darrell Furlong**

  Y 100 N 0 A 0 PASS

ELM Motion #2a

- **Assuming that consensus within the ELM SG has been achieved, authorize the ELM SG to pre-submit a PAR and 5 Criteria to the 802 SEC for consideration at the March, 2001 meeting, with the understanding that these must be distributed to, reviewed and affirmed by 802.3 at the March Plenary meeting in order to stay on the agenda.**

- **M: Tom Dineen S: Pat Thaler**

  Y__64__ N__2__ A__16__ PASS

ELM Motion #3

- **Approve the press release announcing the formation of the ELM SG and forward to the SEC for further approval and processing, with a global replace of “first” for “last” and “EFM” for “ELM”, with appropriate editorial changes including explanation of why EFM vs ELM.**

- **M: Howard Frazier S: Tom Dineen**

Passed by acclamation

Draft 5

FOR IMMEDIATE RELEASE

Contact:
Howard Frazier
IEEE 802.3 ELM SG Chair
408 437 9552
millardo@dominetsystems.com

Markus Plessel
Standards Mktg. Admin
732 562 3989
m.plessel@ieee.org

IEEE 802.3 Working Group Approves New Study Group for Ethernet in the Last Mile

PISCATAWAY, NJ – November 13, 2000 – The Institute of Electrical and Electronics Engineers, Inc.(IEEE) 802 LAN/MAN Standards Committee (LMSC) today announced it has approved a new study group to investigate the subject of "Ethernet in the Last Mile." The new study group has been chartered to develop a project proposal for a standard that will apply the proven and widely used Ethernet networking protocol to the task of multi tenant unit, small business, and residential subscriber access, collectively referred to as the "last mile."

The ELM study group was formed within the IEEE 802.3 CSMA/CD Working Group on November 9th, following a "Call for Interest" meeting held on November 7th that was attended by over 300 individuals. At the meeting, over 87 individuals representing 69 different companies said that they plan to participate in an ELM study group within IEEE 802.3.

Mike Bennett, from Yipes Communications, a Metropolitan Area service provider, proclaimed his support at the Call for Interest meeting, saying "The time is right – Let's put Ethernet in the Last Mile and put an end to all those unnecessary protocol translations!"

During the Call for Interest meeting, speakers presented their views on the need for a new standard that will address the demands of the broadband access market. This market is currently served by a variety of technologies and protocols, all of which are found to be lacking due to bandwidth constraints, availability, ease of use, or high cost.

Steve Carlson, representing the Entertainment Services and Technology Association, also participated in the Call for Interest meeting, and offered a user's perspective on the need for a standard in this area, stating, "Almost all of our applications are in the 'Last Mile'."

Representatives from 3Com (COMS), Alloptic, Aura Networks, CDT/Mohawk (CDT), Cisco Systems (CSCO), DomiNet Systems, Intel (INTC), WorldCom (WCOM), and World Wide Packets all voiced support for the formation of the study in presentations given at the call for interest meeting.

The first meeting of the Ethernet in the Last Mile Study Group will be held during the week of January 8th, 2001 in Irvine, CA. The meeting announcement, including schedule and venue information, will be available at http://www.ieee802.org/3/interims. The Study Group will begin work on a project authorization request (PAR) and supporting documentation. The ELM Study Group will also create a set of specific objectives for the project that will be used to guide the standards development work.

Howard Frazier, the chairman of the ELM Study Group, said that he expects the group to present a PAR to the IEEE 802.3 Working Group, the IEEE 802 LMSC Executive Committee, and the IEEE-SA Standards Board in the first half of 2001

The IEEE 802.3 Working Group is responsible for the development of Ethernet standards, such as 10BASE-T, Fast Ethernet, Gigabit Ethernet, and 10 Gigabit Ethernet. The IEEE 802 LMSC is sponsored by the IEEE Computer Society and develops IEEE Networking Standards that are recognized worldwide. For more information on the IEEE 802.3 Working Group, visit: http://www.ieee802.org/3/index.html.

The IEEE Standards Association (IEEE-SA) is an international membership organization serving today's industries with a complete portfolio of standards programs. The IEEE-SA is a major contributor to the IEEE, which is the world's largest technical professional society. IEEE-SA membership, through its IEEE association, promotes the engineering process by creating, developing, integrating, sharing and applying knowledge about electro- and information technologies and sciences for the benefit of humanity and the profession. More information is found at http://standards.ieee.org/sa-mem/index.html.

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