Unconfirmed Minutes

IEEE 802.3 CSMA/CD PLENARY
Hilton Head Island, SC
March 12-15, 2001

MONDAY, 12 MARCH

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 and Study Group Chairs: Mr. Jonathan Thatcher (802.3ae), Mr. Steve Carlson (802.3af), and Mr. Howard Frazier (EFM).

Mr. Thompson explained attendance rules, the email reflectors maintained by the committee, and described information available on the web site. The Working Group web pages contain a wealth of information about 802.3. This includes the 802.3 Operating Rules, descriptions of how to subscribe to the various email reflectors, meeting minutes and an archive of presentations to the Working Group and its subgroups. The 802.3 home page is: http://www.ieee802.org/3. Mr. Thompson stressed the importance of keeping contact information current, especially anticipating a request this week to forward to a draft Working Group ballot this week.

The meeting agenda was distributed, and corrected. 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 presented <Voters in Peril>. He presented the potential voter list. The following indicated by • on <Potential Voters> requested to become voting members: Andresen, Jack; Ataee, Mehran; Auld, Phil; Bachand, Gerard; Baumer, Howard; Bovill, Kirk; Chang, Justin; Chow, Kuen; Eddings, Clay; Elhoj Martin; Hendell, Itzik; Jacobson, Mike; Kohl, David; Latchman, Ryan; Lum, Meilissa; Mayer, Bob; Moore, Robert; Nazari, Nersi; Rautenberg, Peter; Sanders, Anthony; Stewart Donald; Stoltz, Mario; Tajima, Akio; Vogel, David; Warland, Tim; Walcott, John.

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 July Portland 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 <Opening Agenda>.

Approved without objection.

Approval of the minutes was postponed till Thursday.

Working Group Activities Since Tampa

Between the November Tampa meeting and this meeting, 1802.3 Sponsor Ballot has closed and it is almost ready for submittal to RevCom and 802.3ag Maintenance #6 has been through WG ballot with no remaining negative ballots, the recirculation ballot closes 24 Mar. Interim meetings were held in Irvine, CA in January for 802.3ae, 802.3af and EFM. The 802.3ae draft was posted on the web for pre-view by the Working Group as well as a pre-view of the rules changes.

Standards Board Report

The consolidated 802.3 standard has been published by ISO. It is technically the same as IEEE Std. 802.3, 2000 edition. Mr. Thompson is now on the Standards Board along with Howard Frazier (chair of RevCom) and Jim Carlo. The Standards Board is meeting here Thursday through Saturday and the meeting are open to observers, and Mr. Thompson encouraged attendees to attend to better understand that part of the standards process. Mr. Thompson expressed his disagreement with a decision to place Standards Board documents behind

Schedule for the Week

There are no tutorials on Monday, and one by a representative of the FCC on the topic of Spectrum Management on Tuesday night. The social will be held as usual on Wednesday.

The network at this meeting was discussed. The cost of $15,000 is high as opposed to the benefit. We have no disk share yet at this meeting. Internet access is available, but attendees surfing the web instead of paying attention to the meeting is a concern. The security of the network is also a serious problem because peer-to-peer capabilities make the participants hard disks open to hacking.

A straw poll was taken:
Meeting network with Internet Access – Y: 34, N: 89
Meeting network with access to servers at meeting only – Y: 66, N: 48
Nothing (e.g., 5 more cookies) – Y: 73, N: 34

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. The report includes detail on the positive progress on specification of high bandwidth fiber. They are working toward publication by March 2002.

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 in our standard. The growing scope of 802.3 and other committees has stimulated a new scope of work that adds data centers and storage area network interconnects. They are also investigating

support of EFM work. High bandwidth multi mode fiber specification is progressing with the latest information being that the ballot would be approved.

The copper cable working group has initiated a work item in response to our request on cable discharge. A member company has supplied data, but it hasn't been reviewed. This data indicates there is no significant difference between UTP cable types (grades), contrary to what had been previously reported to 802.3. Some information may be available for our review in July.

External Liaison Report – SC25/WG3

Mr. Alan Flatman reviewed the work on structured cabling standards <SC25/WG3 Report>. His presentation summarizes the status of 11801 2nd edition, 15018 SOH, and 18010 Pathways and Spaces. An important decision is to limit the total length of horizontal, building backbone and campus backbone to 2km. Category mixing in a channel is now supported. He reviewed the performance improvements with classes of cable and with the 11801 2nd edition specification improvements, as well as the schedule for work.

External Liaison Report – SC6/WG3

Mr. Thompson provided an update on the status of SC6/WG3. Our relationship has changed significantly. Korea is now the chair, and US participation is winding down. This is not a significant impact because 802.3 standards are fast tracked for ISO approval. A side effect of this is that the ISO version may not be available in hard copy, though our web site includes information on the ISO status of our document.

External Liaison Report – IETF

The IETF has a proposal for giant Ethernet frames. We are requested to comment on the project. Mr. Thompson will schedule an ad hoc on the topic with recommendations to be considered at the closing 802.3 plenary.

External Liaison Report – ITU-T

Mr. Bynum reported on ITU-T project for a new PHY <Opening ITU-T SG7 Report>. This is an encapsulation by LAPS for SDH. The Ethernet frame remains intact, though byte stuffing within the frame is used for rate adaptation.

State of the Standards

Mr. David Law, Vice Chair of 802.3, presented the IEEE Project 802.3 Working Group Standards Status <Standards Status> that includes the development status of published standards and both approved and proposed 802.3 projects. The clause change matrix <Clause Matrix> shows how proposed and approved supplements affect the base document. No supplements have been approved since publication of IEEE 802.3, 2000 Edition.

Operating Rules of 802.3

Mr. Law discussed the four rules change requests received in November <Opening Rules Report>. These changes include clarification on payment of meeting fees, rules for

Task Force membership voting, clarification on members and observers and changes to the typical meeting week. The last item stimulated a discussion on the Executive Committee's decision to move their closing EC meeting from Thursday evening to Friday morning. Participants indicated support for this, and support for delaying the start of the closing 802.3 plenary starting in July. This will be discussed on Thursday.

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.

CONFORMANCE (1802.3rev)

Mr. Law reviewed the status of 1802.3rev <Opening 1802.3Rev Report>. The Sponsor ballot is closed with 17 total comments. Draft 3.1 is being generated for IEEE style review prior to the "final" recirculation.

INTERPRETATIONS

Mr. Law summarized the outstanding interpretation requests received since November <Opening Interpretations Report>. The first is on clause 28 specifications regarding auto-negotiation and handling of registers. The second is on clause 36 carrier extend with a question related to the generation in PCS of carrier extend for the purpose of idle ordered set alignment. He invited all to attend the meeting.

MAINTENANCE (802.3ag)

Mr. Law reported maintenance <Opening 802.3ag Report>. There are revision requests, some of which are included in Maintenance #6, and many that will be handled as errata. Maintenance #6 is in recirculation ballot, and the sponsor ballot group formation ends 13 March.

CABLE DISCHARGE AD HOC

Mr. Thompson reviewed the work on the problem of cable discharge. An Ad Hoc was held in January with some progress, TIA has initiated a work item as earlier reported, and an Ad Hoc meeting will be held this week to discuss the topic further.

10 GIGABIT ETHERNET (802.3ae)

Mr. Jonathan Thatcher presented the status of the Task Force <Opening 802.3ae Report>. Draft 2.0 was circulated for a formal Task Force review prior to an interim meeting in Irvine in January. 1420 comments from 48 people were addressed in Draft 2.1, which was recirculated to the Task Force prior to this meeting. The Equalization Ad

Hoc will make a recommendation to the Task Force this week. The jitter and PMD_Serial groups have basically merged. A number of meetings were held Sunday night and Monday morning to work on D2.1 comments. The recirculation generated 733 comments. The vast majority of the of the document is in good shape. The editors created a Draft 2.2 for pre-view by 802.3 in anticipation of requesting a Working Group Ballot at the closing 802.3 plenary.

The goals for the week including closing on issues in the area of jitter, and MDC/MDIO cross clause correlation. These along with other technical issues are expected to be closed this week, enabling a Working Group ballot following this meeting. Mr. Thompson requested Working Group members to block out the time necessary for meaningful review of the 500+ pages of the draft.

The Task Force will meet 23-25 May in St. Louis, with other 802.3 subgroups meeting during the same week.

DTE POWER VIA THE MDI (802.3af)

Mr. Steve Carlson presented the status of the Task Force <Opening 802.3af Report>. The group met in Irvine in January. Much of the work was presentation and review of reports. Management objects have been defined and liaison is underway with IETF for incorporation as an SNMP MIB.

The Task Force plans to prepare for Working Group ballot following the July meeting. This week's work will include reports, with a formal Task Force review occurring prior to the July 802.3 meeting.

ETHERNET IN THE LAST MILE STUDY GROUP (EFM)

Mr. Howard Frazier reviewed the progress of the Study Group in its January meeting in Irvine, CA <Opening EFM SG Report>. The number of presentations (25 posted on the web site) precluded review of a draft PAR and Five Criteria. Development of these documents will be a high priority task for this week. Work has progressed on objectives, with some proposed items not receiving 50% support, others having more than 50% support and others having strong technical support (>75%). Further work on objectives will be done this week. A heavy schedule will limit the time to less than requested for the 25 presentations scheduled.

Other Business

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

THURSDAY, 13 MARCH

ADMINISTRATIVE MATTERS

Mr. Geoff Thompson, Chair 802.3, opened the Working Group closing plenary at 0800 and welcomed those attending the meeting. The attendance lists were circulated.

MOTION:

Approve the agenda. <Closing Agenda>

M: Quackenbush
S: Dineen
Approved without objection.

MOTION:

Approve the November Tampa 802.3 minutes.

M: Dineen
S: Quackenbush

Approved without objection.

Mr. Thompson presented the potential voter list, and the following requested to become voters (indicated by * on <Potential Voters>: Brierley-Green, Andrew; Coleman, Doug; Darshan, Yair; Heldman, Ronen; Jang, Eric; Kesling, Dawson; Lee, Wesley; Murphy, Denis; Reintjes, Maurice, Schultz, Klaus; and Schwartz, Peter.

Mr. Thompson reminded participants that only the 802.3 member (voter) list that was posted outside the meeting rooms all week plus the potential voters who requested to become voting members are allowed to vote at this meeting.

Working Group Positions on Executive Matters

Two 802 rules changes are proposed and have been balloted electronically by the Executive Committee. Mr. Thompson plans to support both the change as modified this week. They are to enable use of LMSC funds for making standards freely available, and changes to fix usage of "member", "observer", "participant" and "voter".

The networking services were reviewed. Members pointed out problems with modem compatibility, and inability to regularly connect. One participant supported the concept of a terminal room (similar to IETF) where one could connect to the network during the day.

We have a deal with IEEE for making 802 standards freely available. This three year pilot program goes into effect 15 May 2001, with general concepts outlined in <IEEE 802 Standards Deal>.

Future meetings were reviewed as listed at the end of these minutes.

PARS For Approval This Week

The 802.16 Working Group has a batch of PARs. They are only for renumbering and reorganization of their projects. No one expressed a desire to discuss them.

Cable Discharge Ad Hoc/Liaison Matters

The Ad Hoc on Category 6 cable discharge was held. The TIA has responded to our request <TR-42 Letter> for characterization of building cables, and will issue a working group report from TR-42.7.2. The letter emphasizes that the dielectric material does not correlate to the discharge problem.

MAINTENANCE (802.3ag)

Mr. Law reported on Maintenance <Closing 802.3ag Report>. There is one unapproved and erroneous request that was implemented in the IEEE Std. 802.3, 2000 Edition. Details of the 72 active and recently implemented maintenance requests is included in the report. Some requests are yet to be classified, but none require another ballot.

The Working Group ballot on 802.3ag is targeted to close 24 March, with the Sponsor Ballot group formation closing 13 March. There will be a May interim meeting.

TECHNICAL MOTION:

IEEE 802.3 requests that the P802 LMSC Executive Committee forwards IEEE P802.3ag for LMSC Sponsor Ballot conditional upon successful completion of Working Group recirculation Ballot with no new negatives.

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. Thaler

Y: 93, N: 0, A: 4, Passed

CONFORMANCE (1802.3rev)

Mr. Law reported status on the P1802.3Rev project <Closing 1802.3Rev Report>. He reviewed the scope and purpose of the project and progress through Working Group and Sponsor Ballots. Sponsor Ballot comments were reviewed at the January interim meeting and generation of D3.1 is taking place. There will be a Sponsor Ballot recirculation and a meeting at the May interim to resolve any recirculation comments.

TECHNICAL MOTION:

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

IEEE 802.3 requests that the P802 LMSC Executive Committee forward P1802.3Rev/D3.1 to RevCom (by 05/01) based on successful Sponsor ballot with no new technical disapprove votes.

M: Mr. Law
S: Mr. Dineen

Y: 96, N: 0, A: 2, Passed

INTERPRETATION REQUEST

The Ad Hoc met to discuss outstanding interpretation requests <Closing Interpretations Report>. Two new interpretations were received prior to this meeting. Interpretation 1-03/01 is on the use of registers in auto-negotation. The proposed interpretation in four parts is recorded in the report. Interpretation 1-03/01- Item2 deals with storage of next pages. Mr. Bob Noseworthy supplied detail on this request item <Closing Interpretation 1-03/01 Item2>. The interpretation request highlights a deficiency in the standard that should be corrected. (This must be done through a maintenance request.)

TECHNICAL MOTION:

IEEE 802.3 submits the proposed Interpretation response to the Interpretation request 1-03/01 for a 30 day Working Group letter ballot.

M: Mr. Law
S: Mr. Thaler

Y: 95, N: 0, A: 3, Passed

The second request, Interpretation 2-03/01 is on the use of Carrier_Extend in clause 36. The response is that the standard is unambiguous.

TECHNICAL MOTION:

IEEE 802.3 submits the proposed Interpretation response to the Interpretation request 2-03/01 as presented without the need for a 30 day Working Group letter ballot.

M: Mr. Law
S: Mr. Dineen

Y: 86, N: 0, A: 2, Passed

ADMINISTRATIVE MATTERS (continued)

802.3 Rules

Mr. Law presented on 802.3 rules changes <Closing Rules Report>. The four proposed changes were pre-circulated and two comments were received, and reviewed for the Working Group.

TECHNICAL MOTION:

IEEE 802.3 approves the proposed IEEE P802.3 Rules revision 1-11/00, 2-11/00 (as modified), 3-11/00 (as modified) and 4-11/00 without a 30 day WG letter ballot..

M: Mr. Law
S: Mr. Quackenbush

Y: 88, N: 2, A: 4, Passed

DTE POWER VIA THE MDI (802.3af)

Mr. Steve Carlson reviewed the progress of the Task Force <Closing 802.3af Report>. The goals for the week were to work on discovery, the high-level state machine,

power management and management. He reviewed the presentations to the Task Force, the motions approved by the Task Force,

TECHNICAL MOTION:
Move that IEEE 802.3 affirm all motions presented on behalf of the 802.3af Task Force. D2.0 available by April 15, 2001.

M: Mr. Carlson
S: Mr. Parsons

MOTION:
Move to divide and separately vote on 802.3af TF motion 2.

M: Mr. Cobb
S: Mr. George

Y: 34, N: 25, A: 38, Passed

MOTION:
Move to divide and separately vote on 802.3af TF motion 1.

M: Mr. Cobb
S: failed for lack of a second

TECHNICAL MOTION:
Move that IEEE 802.3 affirm all motions except #2 presented on behalf of the 802.3af Task Force. D2.0 available by April 15, 2001.

M: Mr. Carlson
S: Mr. Parsons

Y: 72, N: 1, A: 21, Passed

TECHNICAL MOTION:
Move that IEEE 802.3 affirm TF motion #2.

M: Mr. Carlson
S: Mr. Parsons

Y: 64, N: 3, A: 31, Passed

Discussion followed on concerns about interoperability of 1000BASE-T devices because though it will work with power, but it will not work with conventional midspan power injection. It was countered that implementers have the flexability within the auto-negotiation protocol to build an implementation that would be able to negotiate down to 100 Mb/s. It was also pointed out that these kind of issues were best addressed in Task Force ballot.

TIA-TR42 will be given access to Draft 2.0 for review.

10 GIGABIT ETHERNET (802.3ae)

Mr. Jonathan Thatcher introduced the review of the progress of the Task Force <Closing 802.3ae Report>. He informed the Working Group that there would be a

request to forward the draft to Working Group ballot. All comments from the formal Task Force review are resolved and incorporated into the draft.

Mr. Bill Reysen presented on the resolution of jitter issues. While we are merging LAN and WAN applications into 10 GbE, the technical experts from LAN and WAN deal with jitter differently. Much of what was done in GbE was to support component testing. In 10 GbE, the focus is on system level testing, enabled with internal jitter pattern generation. The jitter methodology and draft text have been approved and an ad hoc will be evaluating potential simplifications to jitter pattern generation.

Mr. Thatcher reported that the equalization ad hoc has delivered a report on their work, and will be doing a Call for Interest in July. Until then, the group will continue to work as part of the 802.3ae Task Force.

Mr. Brad Booth reported on the progress in comment resolution and integration into the draft. All of the 733 comments received coming into the meeting were resolved. He reviewed the individual clauses and the scope of changes. The most significant change is the deletion of clause 53 and references to it. A number of the editorial staff that participated in previous projects spoke on the status of the document and unamiously recommended that the Task Force is ready to move the draft to Working Group ballot. This was unanimously approved by the Task Force.

TECHNICAL MOTION:

Move that IEEE 802.3 WG affirm the resolution of all comments on IEEE P802.3ae/D2.1 as approved during the individual tracks.

M: Mr. Thatcher on behalf of the Task Force

Y: 112, N: 0, A: 2, Passed

Mr. Brad Booth presented D2.3 to the committee for a line-by-line review of changes. D2.3 is posted to the secure area of the web site. The draft includes change marks from D2.2. Many clauses had no changes. The committee was given the opportunity to ask questions on any of the marked changes as they scrolled by. Few questions were asked and none produced any controversy.

TECHNICAL MOTION:

Move:

That IEEE 802.3 affirm direction of P802.3ae editors to create D3.0 in anticipation of a Working Group Ballot;

That 802.3 approve Working Group Ballot to close prior to the May interim meeting;

That the WG request the creation of a Sponsor Ballot pool;

That the WG authorizes meetings and recirculation ballots as necessary to resolve comments received during the Working Group ballot.

M: Mr. Thatcher on behalf of the Task Force

Y: 99, N: 0, A: 0, Passed

Mr. Thatcher reviewed the plans for the May interim meeting in St. Louis.

ETHERNET IN THE FIRST MILE

Mr. Frazier reported on the activities of the Study Group <Closing EFM SG Report>. There were 25 presentations that took a day and a quarter. The group then went on to review of the PAR, Five Criteria and Objectives. They have picked a document name, approved a scope and purpose, for the draft PAR. The focus of the PAR and Criteria is to enable the roll out of Ethernet into business and residence subscriber networks. While Ethernet is currently deployed in these environments, previous generations were not specified for those applications. Mr. Frazier spoke in detail on all of these items.

TECHNICAL MOTION:

Authorize the EFM Study Group to presubmit their draft PAR and 5 Criteria to the 802 SEC for consideration at the July meeting.

Renew the charter of the EFM Study Group for another meeting cycle.

M: Mr. Frazier on behalf of the Study Group

Y: 84, N: 0, A: 4, Passed

Mr. Frazier presented the objectives adopted by the Study Group to date. Discussion followed with concern expressed from participants about the broad range of technologies in the objectives. Mr. Frazier indicated that as with other projects, if it becomes clear that some needed options are significantly different in schedule, the option exists to split the PAR.

ADMINSTRATIVE MATTERS (continued)

ITU-T

Mr. Roy Bynum presented on the 802 <Closing ITU-T SG7 Report>. The ad hoc assigned to this project recommends a liaison response.

TECHNICAL MOTION:

Move that the following text be sent to ITU-T SG7 in the form of a liaison letter from IEEE 802.

"Thank you for informing us of the approval of your specification X.86 which seems to conform to our interface specification of the MII/GMII in ISO/IECC 8802-3.

"You describe this as a new PHY for Ethernet. Because X.86 makes changes to the Ethernet frame transfer rate, and uses a store and forward functionality in LAPS, we believe that it is more appropriate to describe the device as a simple 2 port bridge to connect an MII/GMII to a SHD transmission payload.

"In addition, in order to provide full functionality for rate adaptation to lower as well as higher payload rates from Ethernet frame transfer rates, we advise that you should consider the addition of 802.3x flow control capability to your Ethernet side interface."

M: Mr. Bynum
S: Mr. Martin

Approved by voice without opposition

Extended Frame Ethernet Ad Hoc

Mr. Law reported the recommendation of an ad hoc on a proposed response on the plan for IETF to publish an RFC on giant Ethernet frames <Response to IETF on Giant Frames>.

TECHNICAL MOTION:

That IEEE P802.3 adopt the response as presented while granting the WG Chair editorial freedom to refine and strengthen the response.

M: Mr. Frazier
S: Mr. Quackenbush

Y: 41, N: 0, A: 4, Passed

Significant discussion followed covering both what would be the best tone for the response, the technical problems created by giant frames, and the market desire for them. Some argued for a much stronger response while others found the tone of the attached committee response as flipant.

Frazier, Haddock, Muller, and Thatcher volunteered to assist the chair in refining the liaison letter via email. This will be done quickly to allow its consideration at IETF meeting the week of 19 March.

802.3 Meeting Time

TECHNICAL MOTION:

Start the 802.3 WG closing plenary at 1:00pm on Thursday, for the July, 2001 meeting.

M: Mr. Frazier
S: Mr. Grow (and 9 others)

Y: 43, N: 1, A: 0, Passed

Discussion altered the motion to that above, so that a permanent 802.3 change could follow a permanent change in the Executive Committee meeting to Friday.

Mr. Thompson thanked all for their participation and with no further business to conduct, a motion to adjourn was entertained and passed without objection.

Future Meetings

Interim meetings will be held in St. Louis in May. Detailed meeting information is posted on the 802.3 web site. 802.3ae ad hoc meetings will also be announced via the task force reflector.

10 Gigabit Ethernet (802.3ae)	St. Louis, MO	23-25 May 2001
DTE Power via the MDI (802.3af)	St. Louis, MO	23(pm)-25 May 2001
Ethernet in the Last Mile SG	St. Louis, MO	21-23(am) May 2001

Future Interim meetings	Copenhagen, Denmark	Week of 13 Sep
802.3 Working Group Plenary	Portland, OR	9-12 July 2001
	Austin, TX	12-15 Nov 2001
	St. Louis, MO	11-15 Mar 2002
	Vancouver, BC	7-12 July 2002
	Kauai, HI	11-15 Nov 2002

Respectfully submitted 15 March 2000

Robert Grow

IEEE 802.3 Secretary

bob.grow@intel.com

ATTACHMENTS:

ADMINSTRATIVE
- Opening 802.3 Agenda
- 802.3 Voting Member List
- 802.3 Potential Voter List
- 802.3 Voters in Peril
- 802.3 Standards Status
- 802.3 Clause Change Matrix
- Patent Policy
- Opening Operating Rules Report (Law)
- Opening Interpretations Requests (Law)
- Closing 802.3 Agenda
- IEEE 802 Standards Deal
- Closing 802.3 Rules Report (Law)
- Closing Interpretations Report (Law)
- Closing Interpretation 1-03/01 Item 2 (Noseworthy)

LIAISON
- TR-42 Report (DiMinico)
- SC25/WG3 Report (Flatman)
- Opening ITU-T SG7 Report (Bynam)
- Closing ITU-T SG7 Report (Bynam)
- Response to IETF on Giant Frames

PROJECT AUTHORIZATION REQUESTS

1802.3 REVISION
- Opening 1802.3Rev Report (Law)
- Closing 1802.3Rev Report (Law)

10 GIGABIT ETHERNET
- Opening 802.3ae Report (Thatcher)
- Closing 802.3ae Report (Thatcher)
- Closing 802.3ae Jitter Report (Reysen)
- Closing 802.3ae Editor Report (Booth)

DTE POWER VIA THE MDI
- Opening DET Power Report (Carlson)
- Closing 802.3af Report (Carlson)

MAINTENANCE #6
- Opening 802.3ag Report (Law)
- Closing 802.3ag Report (Law)

ETHERNET IN THE FIRST MILE
- Opening EFM SG Report (Frazier)
- Closing EFM SG Report (Frazier)

IEEE 802.3 CSMA/CD WORKING GROUP Draft AGENDA

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

March 12, 2001, Hilton Head Island, South Carolina

Start at 1:00 PM

MONDAY, 12 March

1300- Administrative Matters ..... Geoff Thompson

- Welcome, Introductions and General Announcements
- Introduce Secretary for the meeting: Bob Grow
- Attendance, address list/e-mail list maintenance
- Review of Voting Membership
  - Additions to voting membership list
- Agenda, review and revise as needed
- Approval of Minutes: 11/00 Defer til Thursday or ??
- Announce WG activities since Tampa
- 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)
- 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 Ballot

- Interpretation requests ..... David Law
  - Update/Status

Task Force and Study Group Reports

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

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

1500-1520 BREAK

P802.3af, DTE Power via MDI ..... Steve Carlson

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

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

Agazzi, Oscar
Alderrou, Don
Alexander, Thomas
Amer, Khaled
Amundsen, Keith
Andersen, Ole
Anderson , Arlan J.
Anderson, Eric
Andersson, Ralph
Azadet, Kameran
Babanezhad, Joseph N
Badoni, Vipul D.
Baldman, Andy
Beaudoin, Denis
Bennett, Mike
Berglund, Sidney
Bestel, John L.
Bhatt, Vipul
Bohbot, Michel
Booth, Brad
Bottorff, Paul
Bourque, Gary
Brikovskis, Rhett
Brown, Benjamin
Brown, Dave
Brown, Kevin
Buck, Steve F.
Buckman, Lisa
Burgess, James
Burton, Scott
Busse, Robert
Bynum, Roy
Cam, Richard
Campbell, Bob
Carlson, Steve
Chang, Edward G.
Chang, Edward S.
Chen, Xiaopeng
Chen, Zinan
Chin, Hon Wah
Claseman, George
Cobb, Terry
Colla, Régis
Congdon, Herb
Cornejo, Edward
Cross, Richard
Cruikshank, Brian
Cullin, Chris
Cunningham, David
Dahlgren, Robert
Daines, Kevin
Dallesasse, John
Dance, Rupert S
Dartnell, Peter
Dawe, Piers
de la Garrigue, Michael
Debiec, Tom
Dedrick, Joel
Di Minico, Chris
Diab, Wael
Dineen, Thomas
Dobson, Hamish
Dolfi, David W.
Donhowe, Mark
Dove, Dan
Draper, Daniel S
Dreyer, Steve
Dudek, Mike
Dugan, Richard
Dupuis, Marc R
Eisler, George
Ewen , John F.
Feuerstraeter, Mark
Fiedler, Jens
Figueira, Norival
Firoozmand, Farzin
Flatman, Alan
Frazier, Howard
Freitag, Ladd
Fritz, Scott
Frojdh, Krister
Furlong, Darrell
Gaither, Justin
Ganley, Tim
George, John
Giaretta, Giorgio
Gilliland, Pat
Goergen, Joel
Goldis, Moty
Graham, Rich
Grann, Eric B.
Gray, C. Thomas
Greenlaw, Jonathan E.
Grow, Robert M.
Hackert, Michael
Haddock, Stephen
Hakimi, Sharam
Hamidy, Farid
Hansen, Johannes
Hanson, Del
Hassoun, Marwan
Hatley, Tom
Hawkins, John F
Healey, Adam
Herrity , Ken
Hesson, James H
Hinrichs, Henry
Hinzel, David
Hoge, Jay
Hyer, David W.
Ichino, Haruhiko
Ishida, Osamu
Jackson, Steve
Jang, Woo-Hyuk
Jensen, Ernie
Jewell, Jack L
Jiang, Wenbin
Joh, Clarence
Jørgensen, Thomas K.
Jover, Juan
Kabal, David
Kaku, Shinkyo
Kalkunte, Mohan
Kalla, Amrit
Kamat, Puru
Kaplan, Hadriel
Karam, Roger
Kardontchik, Jaime
Karst, Dennis L.
Kato, Toyoyuki
Kayser, Kevin
Kelly, N. Patrick
Kim, Dae Young
Kim, Yongbum
King, Neal
Kolesar, Paul
Kooistra, David
Krolner, Lars Paul
Kumar, Pankaj
Lackner, Hans
Lane, William
Langston, Daun
Larson, Donald C.
Law, David
Lee, Changoo
Lee, Hyeong Ho
Lehr, Amir
Lemoff , Brian E.
Leo, Lisa
Leonowich, Robert H.
Lerer, Michael
Levy, Avinoam
Lewing, Van
Love, Bob
Loveless, Rick
Lowrey, Scott
Lucas, Fred A.
Lynch, Jeffrey
Lynskey, Eric R.
Lysdal, Henning

MacLeod, Brian
Martin, David W.
Mathey, Thomas
McCarron, Philip L
McCormack, Michael S
McCoy, Gary
Micallef, Joseph
Mick, Colin
Milbury, Martin R
Miller, Larry D.
Moattar, Reza
Mohamadi, Fred
Mohl, Dirk S.
Montstream, Cindy
Moore, Paul B.
Muir, Robert
Muller, Shimon
Musk, Robert
Nadeau, Gerard
Naganuma, Ken
Naidu, Hari
Nakamura, Karl
Nelson, Kristian
Nikolich, Paul
Nishida, Glenn
Nootbaar, Michael
Noseworthy, Bob
Nowell, Mark
O'Toole, Michael
Obara, Satoshi
Oh, Stephen
Ohlén, Peter
Oughton, George
Pace, Robert R.
Palkert, Tom
Pannell, Don
Parhi, Keshab K.
Parsons, Elwood T
Paslaski, Joel
Patel, Bhavesh
Patel, Dipak M.
Pavlovsky, Alex
Payne, John
Pepeljugoski, Petar
Phanse, Abhijit
Plunkett, Timothy R.
Pondillo, Peter
Porter, Jeff
Prediger, Bernd
Quackenbush, William
Quirk, John
Rabinovich, Rick
Ramelson, Brian
Rao, Sailesh K.
Rasimas, Jennifer G.
Rausch, Dan
Rennie, Lawrence
Richkas, Dave
Rizk, Ramez
Robinson, Gary
Robinson, Stuart
Rogers, Shawn
Römer, Tume
Ross, Floyd
Rubin, Larry
Salzman, Michael M.
Savara, Raj
Schramm, Thomas
Schultz, Benjamin
Sendelbach, Lee
Seto, Koichiro
Shain, Vadim
Simmons, Tim
Sorensen, David
Stapleton, Nick
Stetter, Claus
Suzaki, Tetsuyuki
Suzuki, Hiroshi
Svensson, Daniel
Swanson, Steve
Szostak, Tad
Taborek, Rich
Tailor, Bharat
Tate, Mike
Tavacoli, James M.
Thaler, Pat
Thatcher, R. Jonathan
Thirion, Walter
Thompson, Geoffrey
Thomson, Douglas
Tolley, Bruce
Torgerson, Paul
Torres, Luis
Truman, Thomas E
Turner, Edward
Twu, Bor-long
Vaden, Sterling A.
van Doorn, Schelto
van Oosten, Erik
Vergnaud, Gérard
Verigin, Iain
Vijeh, Nader
Vilozny, Ron
Wagner, Martin
Walker, Rick
Wang, Peter
Warren, Jeff
Washburn, Ted
Watanabe, Yuji
Weniger, Fred
Wery, Willem
Whitlow, Tony
Wiedemann, Bill
Williamson, Robert S
Witkowski, Mike
Won, Jonghwa
Won, King
Wong, Edward
Wong, Leo
Wurster, Stefan M.
Yorks, Jason
Yoshikawa, Dr. Takashi
Young, Leonard
Yousefi, Nariman
Yu, Mark (Meng-Lin)
Zannini, Hank

802.3 POTENTIAL VOTERS MAR. 2001 109 Qualify

3/7/2001

If you wish to become a voter you must say so during THAT agenda item in the 802.3 Plenary Meeting.
This will be done early in the meeting Monday PM and Thursday AM. You must be an 802 Voter to get a CD-ROM.

Andresen, Jack
Ataee, Mehran
Atias, Ilan
Augusta, Steve
Auld, Phil
Bachand, Gerard E
Baumer, Howard
Belhora, Abdelkrim
Bennett, John
Bernier, Eric
Bhoja, Sudeep
Bobin, Vijay
Bovill, Kirk
Bradshaw, Scott
Bremner, Duncan
Brierley-Green, Andrew
Caldwell, Donald
Carrigan, James
Chang, Justin
Chow, Kuen
Coenen, Robert B.
Coleman, Doug
Collins, Doug
Cooke, Janeen A
Copeland, Greg
D'Ambrosia, John
Darshan, Yair
Drever, Brian
Eddings, Clay
Egerton, Clive
Elhøj, Martin
Forsythe, Larry
Ghiasi, Ali
Grolnic, Joseph
Heldman, Ronen
Hendel, Itzik
Hilfer, Godehard
Hughes, Bob
Jacobs, Gordon
Jacobson, Mike
Jaeger, Remy
Jang, Eric
Jones, Nevin
Kang, Taekyu
Keeley, Jim
Kesling, Dawson
Khanna , Amarpal
Kim, Sam
Knutzen, Henriette Molberg
Kohl, David E
Koon, David
Kota, Kishore
Kubicky, Jay
Kumar, Y. N.
Kuyt, Gerard
Kwan, William
Landon, Peter
Latchman, Ryan
Laudon, Michael
Lee, Wesley
Leighton, Sean D
Lin, Louis
Lo, John
Longo, Lorenzo
Lum, Meilissa R.
Mayer, Bob
Moore, Robert
Murphy, Denis
Nazari, Nersi
Olsson, Fredrik
Peters, Brian C.
Picken, William G
Pilens, Guy
Pitzer, Armin
Polk, James M
Pullela, Soma
Quilici, Jim
Rautenberg, Peter
Reintjes, Maurice
Romascanu, Dan
Sanders, Anthony
Saunders, Jeffrey H.
Schaefer, John
Schulz, Klaus
Schwartz, Peter
Shahar, Boaz
Shen, Steven
Sherry, William M
Simmons, Dave
Skirmont, David
Sørensen, Søren Friis
Speers, Ted
Stack, Jared
Staszak, Marty
Stewart, Donald S
Stoddart, Dean M
Stoltz, Mario
Tajima, Akio
Tang, Thomas
Thakkar, Hemant
Vepa, Ramakrishna
Vogel, David
Wachsman, John
Warland, Tim
Wolcott, John
Worsham, A Hodge
Yasuda, Susumu
Yokouchi, Jim (Jungo)
Zona, Bob

IEEE 802.3 VOTERS IN PERIL March, 2001 (21) 3/7/2001

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

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

Badoni, Vipul D.

Dreyer, Steve

Ganley, Tim

Giaretta, Giorgio

Hawkins, John F

Jover, Juan

Kalla, Amrit

Kaplan, Hadriel

Karst, Dennis L.

King, Neal

Lowrey, Scott

MacLeod, Brian

Mick, Colin

Musk, Robert

Nowell, Mark

Oh, Stephen

Ramelson, Brian

Robinson, Gary

Salzman, Michael M.

Verigin, Iain

Yu, Mark (Meng-Lin)

IEEE Project 802.3 Working Group Standards Status March 12, 2001

ISO/IEC approved

ISO/IEC 8802-3:2000
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

ANSI/IEEE approved

.3
Policy and Procedures
Approved
11/97

1802.3Rev
Conformance Test Revision
(D. Law)
Sponsor Ballot closed
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
Recirc Ballot closes
24-Mar-01

Liaison
802.1

802.3 WG new work items

Ethernet in the First Mile Study Group
(H. Frazier)

Clause	Description	IEEE Std 802.3-2000	These drafts are currently under development within 802.3, contents are subject to change	
			IEEE P802.3ae 10Gb/sEthernet	IEEE P802.3af DTE Power via MDI
Clause 1	Introduction	B	U	U
Clause 2	Media Access Control (MAC) service specification	B	U	
Clause 3	MAC frame structure	B		
Clause 4	Media Access Control	B	U	
Clause 5	Layer Management	B		
Clause 6	Physical Signalling (PLS) service specifications	B	U	
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	U	
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	U	U
Clause 31	MAC Control	B	U	
Clause 32	100BASE-T2	B		
Clause 33	Not used			B
Clause 34	Introduction to 1000 Mb/s baseband networks	B		
Clause 35	Reconciliation Sublayer and Gigabit Media Independent Interface (GMII)	B	U	
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		
Clause 44	Introduction to 10Gb/s baseband network		B	
Clause 45	Management Data Input/Output (MDIO) Interface		B	
Clause 46	Reconciliation Sublayer (RS) and 10 Gigabit Media Independent Interface (XGMII)		B	
Clause 47	XGMII Extender Sublayer (XGXS) and 10 Gigabit Attachment Unit Interface (XAUI)		B	
Clause 48	Physical Coding Sublayer (PCS) and Physical Medium Attachment (PMA) sublayer, type 10GBASE-X		B	
Clause 49	Physical Coding Sublayer (PCS) sublayer for 64B/66B, type 10GBASE-R		B	
Clause 50	WAN Interface Sublayer (WIS), type 10GBASE-W		B	
Clause 51	Physical Medium Attachment (PMA) sublayer, type Serial		B	
Clause 52	Physical Medium Dependent (PMD) sublayer and baseband medium, type 10GBASE-S (Short Wavelength Serial), 10GBASE-L (Long Wavelength Serial), and 10GBASE-E (Extra Long Wavelength Serial)		B	
Clause 53	Physical Medium Attachment (PMA) sublayer, type 10GBASE-LW4		B	
Clause 54	Physical Medium Dependent (PMD) sublayer and baseband medium for WWDM PHY, type 10GBASE-LX4 and 10GBASE-LW4		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.

Additional Patent information:

- The IEEE Patent Policy set forth in Clause 6 of the IEEE Standards Board Bylaws.
- Procedures relating to the Patent Policy in Clause 6.3 of the IEEE Standards Operations Manual.
- Sample Patent Request letter located in Annex A of the Standards Companion.
- Sample Patent Response letter located in Annex A of the Standards Companion.

Return to IEEE 802.3 Home Page
Last Update: 31 Mar 98

IEEE 802.3
Rules Report

March 12th, 2001
Hilton Head, SC

David Law

Rules change procedure

- 4 Rules Changes received November
- Change procedure in subclause 2.9 of rules
  - Meeting held to discuss change in November
  - Changes pre-circulated prior this plenary
    - Meeting this week to discuss comments
  - Vote held at the 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

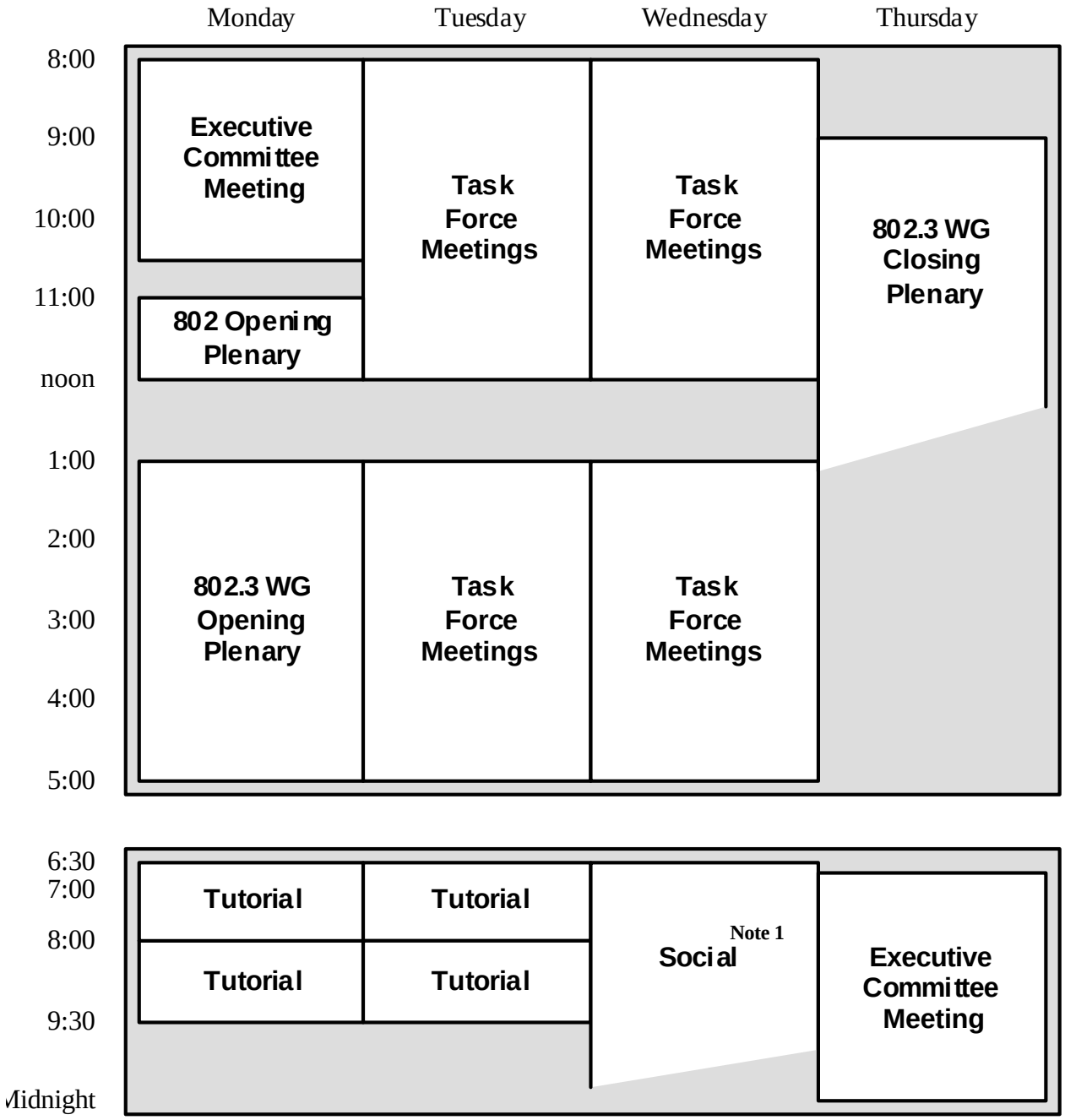
Rational for Proposed Rules Revision

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
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

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

March 12th, 2001
Hilton Head, SC

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 1-03/01

The following is a request for interpretation for the IEEE Std 802.3, 1998 Edition. There are two separate items listed below which are each requested to be clarified.

Item 1) Section 28.2.1.2.4 of the IEEE Std 802.3, 1998 Edition

Request for clarification of penultimate sentence of this section. The sentence is shown below:

"In order to save the current received Link Code Word, this must be read from the Auto-Negotiation link partner ability register (Register 6) before the Next Page of transmit information is loaded into the Auto-Negotiation Next Page register."

In this sentence, the word "this" refers to what?
In this sentence, the "Auto-Negotiation link partner ability register" contradicts "(Register 6)".

In this sentence, why does the saving or reading of the Auto-Negotiation link partner ability register relate to the loading of data into the Auto-Negotiation Next Page register? Why must the Auto-Negotiation link partner ability register be read before loading of the Auto-Negotiation Next Page register? How does

Interpretation 1-03/01 (con’t)

the acknowledge bit discussed in this section (28.2.1.2.4) relate to the reading and loading of these registers?

Item 2) Section 28.2.4.1.4 of the IEEE Std 802.3, 1998 Edition

Request for clarification of last sentence in second paragraph of section 28.2.4.1.4 of IEEE Std 802.3, 1998 Edition.

The sentence is shown below:

"If the Next Page function is supported, the Auto-Negotiation link partner ability register may be used to store Link Partner Next Pages"

In this sentence, the use of the non-normative term "may" seems to contradict section 28.2.4.1.5, which refers to the relationship between the Page Received bit (6.1) and the Auto-Negotiation link partner ability register in the following sentence:

"The Page Received bit (6.1) shall be set to logic one to indicate that a new Link Code Word has been received and stored in the Auto-Negotiation link partner ability register."

Interpretation 1-03/01 (con’t)

The sentence relating the Page Received bit to the Auto-Negotiation link partner ability register suggests that the Auto-Negotiation link partner ability register SHALL be used to store Link Partner Next Pages, yet the standard uses the term "may" in section 28.2.4.1.4.

-If we are not implementing 100BASE-T2, are we precluded from using the "Auto-Negotiation Link Partner Received Next Page" register 8 or does 28.2.4.1.4 allow operation with non T2 devices?

-How is register 8 used if one is compliant with the wording regarding the Page Received bit 6.1 in 28.2.4.1.5. ("The Page Received bit (6.1) shall be set to logic one to indicate that a new Link Code Word has been received and stored in the Auto-Negotiation link partner ability register.")? Do both register 5 and 8 contain the same information?

-If a device uses the Received Next Page register 8, is it expected to follow 32.5.4.2?

Interpretation 2-03/01

It appears that the text in IEEE 802.3-2000 Section 36.2.4.15 d) (Carrier_Extend) contradicts Figure 36-7b (PCS receive state diagram, part b). Subclause 36.2.4.15 reads as follows:

“36.2.4.15 Carrier_Extend (/R/)

d) EPD3: The second /R/ following the /T/ in the End_of_Packet delimiter /T/R/R/I/. This /R/ is used, if necessary, to pad the only or last packet of a burst of packets so that the subsequent /I/ is aligned on an even-numbered code-group boundary. **When used for this purpose, Carrier_Extend is emitted from, and interpreted by, the PCS. An EPD of /T/R/R/ results in one /R/ being delivered to the PCS client (see 36.2.4.14.1)**.”

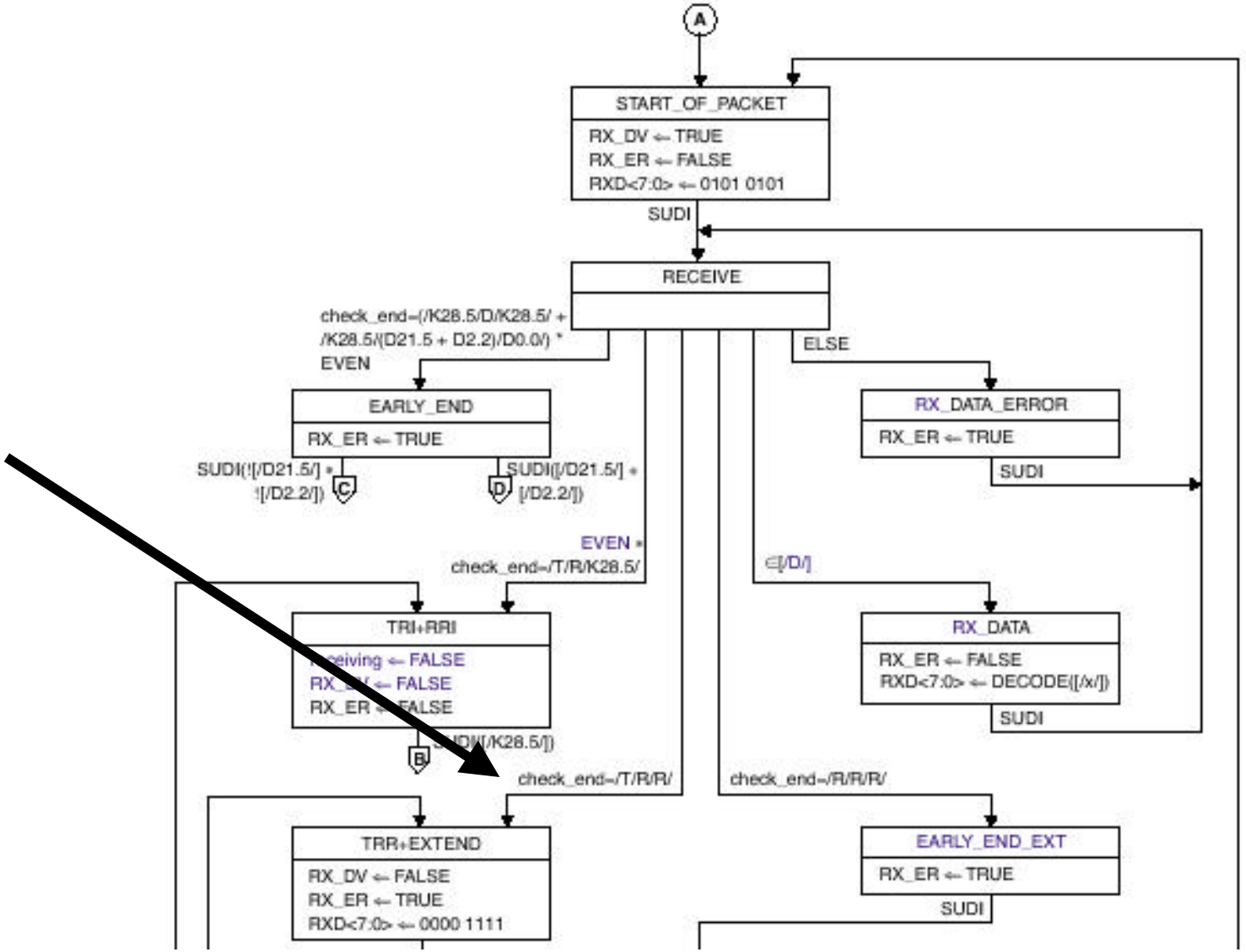
The text above seems to imply that carrier extensions for the purpose of byte alignment are not sent to the PCS client (i.e., the RS); a PCS-generated /T/R/R/ sequence used to align a succeeding /I/ on an even boundary will be converted to a /T/R/ sequence by the receiving PCS, prior to delivery to the PCS client. The obvious inference is that carrier extension due to byte alignment is transparent to the PCS client, which makes intuitive sense from a layering point of view.

Interpretation 2-03/01 (con’t)

However, Figure 36-7b clearly indicates (as marked by the superimposed arrow) that the PCS layer must assert carrier extension to the PCS client in the case of byte alignment. A transition out of the Receive state to the TRR+Extend state is made when any /T/R/R/ sequence is received by the PCS, whether this is due to normal carrier extension or due to carrier extension for the purpose of byte alignment. Within the latter state, the carrier extend indication is sent to the PCS client.

Please clarify the apparent differences between the text and the figure. Also, please provide the underlying intent of the standard with regard to reporting carrier extensions generated by the PCS to the remote MAC/RS layers. Thank you.

Interpretation 2-03/01 (con’t)



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

March 15, 2001, Hilton Head Island, South Carolina

Start at 8:00 AM

THURSDAY, 15 March

0800-0830 Administrative Matters ..... Geoff Thompson

- Welcome, Introductions and General Announcements
- Review of Voting Membership
  - Additions to voting membership list
- Agenda, review and revise as needed
- Approval of Minutes: 11/00
- Executive Committee Report & Action Items

  Rules change

  Networking 802 Meetings:

  Free Standards Program Standards Board Series co located here this week• Venue of future 802 meetings

  July 9-13 - Portland Marriott, Portland, OR

  November 12-16 - Hyatt Regency Town Lake, Austin, TX

  Mar 11-15 2002 - Hyatt Regency, St Louis, MO

  July 7-12 - Hyatt Vancouver, BC, Canada

  Nov 11-15 - Hyatt Regency, Kauai
- Liaisons to External Groups:
- Liaisons to Internal Groups:
- PARs for approval this week
- Any Other business

0830-0835 Ad Hoc on Cat 6 Cable Discharge ..... Geoff Thompson

•

0835-0900 Maintenance/Interpretations/Rules ..... David Law

- Update/Status of P1802.3Rev Sponsor Ballot
- Update/Status of P802.3ag Maintenance #6 Ballot
- Update/Status of Interpretation Requests
- Update/Status of Rules changes

Task Force and Study Group Reports

0900-0915 P802.3af, DTE Power via MDI ..... Steve Carlson

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

0915-1030 P802.3ae, Task Force (10 Gig Ethernet) ..... Jonathan Thatcher

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

1030-1045 BREAK

1045-1130 Study Group: Ethernet in the First Mile ..... Howard Frazier

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

1130-1215 Comments on Extended Frame Ethernet RFC to IETF ..... Geoff Thompson

- Review & approval of proposed comments

1215-1230 Comments on X.86 to ITU-T ..... Roy Bynum

- Review & approval of proposed comments

Wrap Up ..... Geoff Thompson

IEEE 802 Standards
We've Got a Deal !

Launch a 3-year pilot program that provides for the public availability of individual IEEE 802 Standards in PDF format via the IEEE-SA web site effective 15 May 2001.

- **IEEE 802 contribution of $75 per person per meeting since July 2000**
- **Individual IEEE 802 PDFs available 6 months after publication**
- **IEEE-SA socialize corporate solicitation**
- **Program labeled as "Underwritten by Industry"**
- **Program to be reviewed yearly for viability**

IEEE 802.3
Rules Report

March 15th, 2001
Hilton Head, SC

David Law

Rules change procedure

- 4 Rules Changes received November
- Change procedure in subclause 2.9 of rules
  - Meeting held to discuss change in November
  - Changes pre-circulated prior this plenary
- Total of two comments received

Comments received

- In proposed_change_2, the proposed text states that "In this case the TF shall follow the same membership requirements and the same voting rules as 802.3 WG." I propose that the intent of this change would be a bit more explicit if "follow" was replaced with "use". I also propose that "the" be inserted before "802.3 WG".

- In proposed_change_3, the proposed text states that "Attention is drawn to the registration requirements for all 802.3 members and observers attending the 802 Pleanry where TF meetings also occur". I proposed that this text be changed to "Attention is drawn to the 802 registration requirements for all attendees of WG and TF meetings that occur during an 802 Plenary week".

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~~ use the same membership requirements and the same voting rules as the 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 802 registration requirements for all ~~802.3 members and observers attending the 802 Plenary where TF meetings also occur~~ attendees of WG and TF meetings that occur during an 802 Plenary week.

Proposed Rules Revision 4-11/00

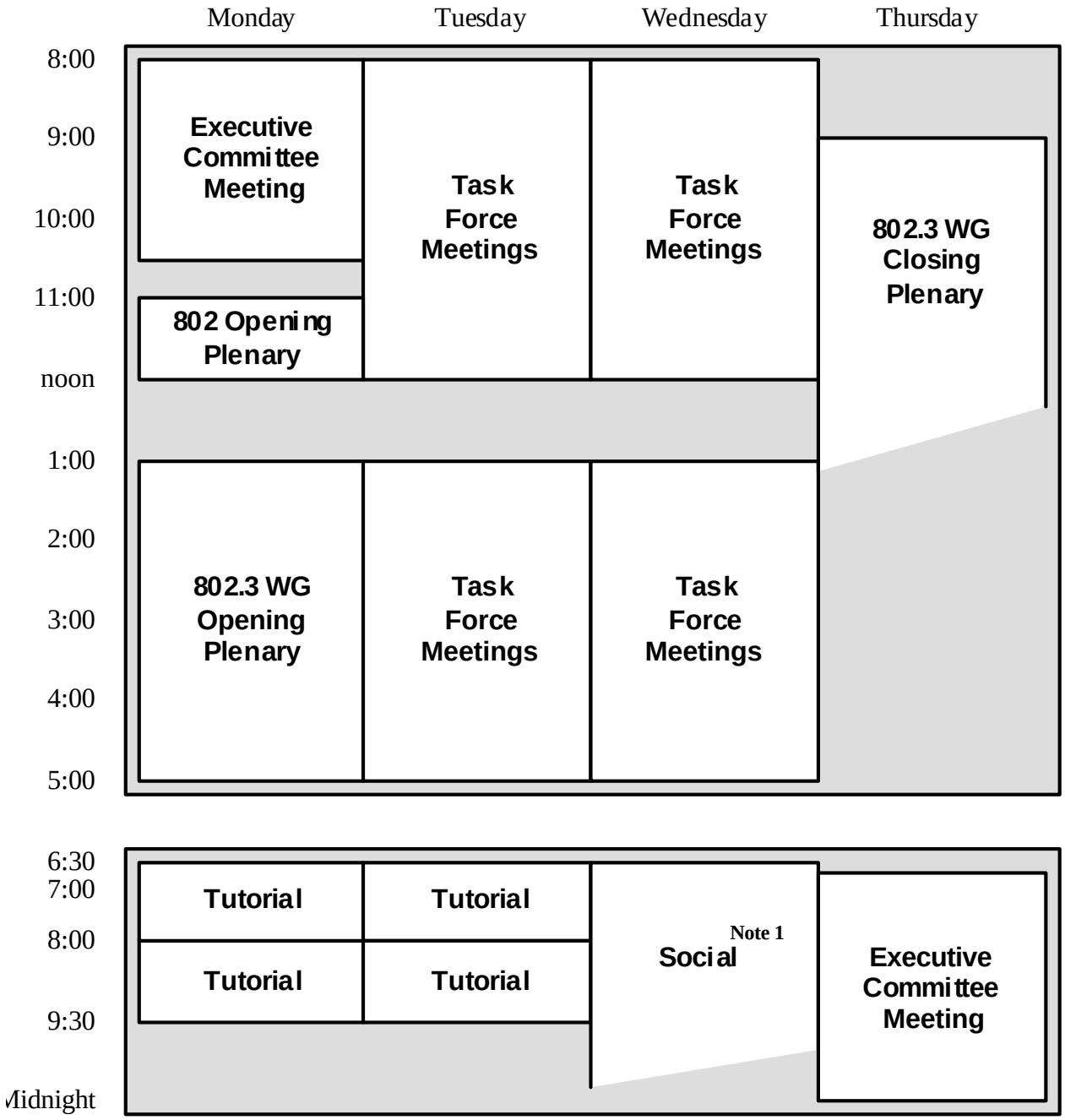
Rational for Proposed Rules Revision

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
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

IEEE 802.3 Motion

IEEE P802.3 approves the proposed IEEE P802.3 Rules revision 1-11/00, 2-11/00 (as modified), 3-11/00 (as modified) and 4-11/00 without a 30 day WG letter ballot.

M: D Law S: W. Quackenbush Tech 75%/~~Proc 50%~~

PASSED/FAILED Date: 15th March 2001

Y: 88 N: 2 A: 4 Time: 9:32

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

March 14th, 2001
Hilton Head, SC

David Law

IEEE Standards Companion Interpretations

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

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

IEEE Standards Companion Interpretations

"Interpretations are a unique form of commentary on the standard. They are not explanations of what the standard should have done or meant to say. Interpretations cannot ch
E
interpretation cannot fix that error. The interpretation can suggest that this will be brought up for consideration in a revision or supplement (or, depending on the nature of the error, an errata sheet might be issued). However, an interpretation has no authority to do any of this."

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

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

Interpretation 1-03/01

The following is a request for interpretation for the IEEE Std 802.3, 1998 Edition. There are two separate items listed below which are each requested to be clarified.

Item 1) Section 28.2.1.2.4 of the IEEE Std 802.3, 1998 Edition

Request for clarification of penultimate sentence of this section. The sentence is shown below:

"In order to save the current received Link Code Word, this must be read from the Auto-Negotiation link partner ability register (Register 6) before the Next Page of transmit information is loaded into the Auto-Negotiation Next Page register."

In this sentence, the word "this" refers to what?

Interpretation Number: 1-03/01 - Item 1 part a
Topic: Acknowledge bit
Relevant Clause: 28.2.1.2.4
Classification: Unambiguous

The standard states "In order to save the current received Link Code Word, this must be read from the Auto-Negotiation link partner ability register ". In addition subclause '28.2.4.1.4 Auto-Negotiation link partner ability register' states 'The bit definitions shall be a direct representation of the received Link Code Word (Figure 28 –7).' hence "this" refers to the current received Link Code Word.

28.2.4.1.4 Auto-Negotiation link partner ability register (Register 5) (RO)

All of the bits in the Auto-Negotiation link partner ability register are read only. A write to the Auto-Negotiation link partner ability register shall have no effect.

This register contains the Advertised Ability of the Link Partner's PHY. (See Tables 28–3 and 28–4.) The bit definitions shall be a direct representation of the received Link Code Word (Figure 28–7). Upon successful completion of Auto-Negotiation, status register (Register 1) Auto-Negotiation Complete bit (1.5) shall be set to logic one. If the Next Page function is supported, the Auto-Negotiation link partner ability register may be used to store Link Partner Next Pages.

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

Interpretation Number: 1-03/01 - Item 1 part b
Topic: Acknowledge bit
Relevant Clause: 28.2.1.2.4
Classification: Defect

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

28.2.4.1.4 Auto-Negotiation link partner ability register (Register 5) (RO)

All of the bits in the Auto-Negotiation link partner ability register are read only. A write to the Auto-Negotiation link partner ability register shall have no effect.

This register contains the Advertised Ability of the Link Partner's PHY. (See Tables 28–3 and 28–4.) The bit definitions shall be a direct representation of the received Link Code Word (Figure 28–7). Upon successful completion of Auto-Negotiation, status register (Register 1) Auto-Negotiation Complete bit (1.5) shall be set to logic one. If the Next Page function is supported, the Auto-Negotiation link partner ability register may be used to store Link Partner Next Pages.

In this sentence, why does the saving or reading of the Auto-Negotiation link partner ability register relate to the loading of data into the Auto-Negotiation Next Page register?

Why must the Auto-Negotiation link partner ability register be read before loading of the Auto-Negotiation Next Page Register?

Interpretation Number: 1-03/01 - Item 1 part c
Topic: Auto-Negotiation Link Partner Ability and Next Page register
Relevant Clause: 28.2.1.2.4
Classification: Unambiguous

Loading the Auto-Negotiation Next Page register controls the setting of the mr_next_page_loaded variable as clearly stated in Table 28–8 ‘State diagram variable to MII register mapping.’ Once this variable is set, provided receipt of Link Code Words that cause “ability_match=true * ((toggle_rx^rx_link_code_word[12])=1”, and “acknowledge_match=true * consistency_match=true”, then the value stored in the Auto-Negotiation link partner ability register would be overwritten with the newly received Link Code Word value. Thus, if the Auto-Negotiation link partner ability register is not read prior to writing the Auto-Negotiation Next Page register, then the received Link Code Word could be lost.

How does the acknowledge bit discussed in this section (28.2.1.2.4) relate to the reading and loading of these registers?

Interpretation Number: 1-03/01 - Item 1 part d
Topic: Auto-Negotiation Link Partner Ability and Next Page register
Relevant Clause: 28.2.1.2.4
Classification: Unambiguous

The issues discussed pertain to Next Page transmission. As such, a device should be in the COMPLETE_ACKNOWEDGE state of Figure 28-16 (Arbitration state diagram) until the Auto-Negotiation Next Page register is loaded (setting mr_next_page_loaded). In this state, the device should be sending tx_link_code_word with the ACK bit set. This is clearly stated in the third to last sentence of subclause 28.2.1.2.4 “If Next Page information is to be sent, this bit shall be set to logic one after the device has successfully received at least three consecutive and matching FLP Bursts (ignoring the Acknowledge bit value), and will remain set until the Next Page information has been loaded into the Auto-Negotiation Next Page register (Register 7)”

Interpretation 1-03/01 Item 2

Item 2) Section 28.2.4.1.4 of the IEEE Std 802.3, 1998 Edition

Request for clarification of last sentence in second paragraph of section 28.2.4.1.4 of IEEE Std 802.3, 1998 Edition.

The sentence is shown below:

"If the Next Page function is supported, the Auto-Negotiation link partner ability register may be used to store Link Partner Next Pages"

In this sentence, the use of the non-normative term "may" seems to contradict section 28.2.4.1.5, which refers to the relationship between the Page Received bit (6.1) and the Auto-Negotiation link partner ability register in the following sentence:

"The Page Received bit (6.1) shall be set to logic one to indicate that a new Link Code Word has been received and stored in the Auto-Negotiation link partner ability register."

The sentence relating the Page Received bit to the Auto-Negotiation link partner ability register suggests that the Auto-Negotiation link partner ability register SHALL be used to store Link Partner Next Pages, yet the standard uses the term "may" in section 28.2.4.1.4.

Interpretation 1-03/01 Item 2 (con’t)

-If we are not implementing 100BASE-T2, are we precluded from using the "Auto-Negotiation Link Partner Received Next Page" register 8 or does 28.2.4.1.4 allow operation with non T2 devices?

-How is register 8 used if one is compliant with the wording regarding the Page Received bit 6.1 in 28.2.4.1.5. ("The Page Received bit (6.1) shall be set to logic one to indicate that a new Link Code Word has been received and stored in the Auto-Negotiation link partner ability register.")? Do both register 5 and 8 contain the same information?

-If a device uses the Received Next Page register 8, is it expected to follow 32.5.4.2?

Interpretation Number: 1-03/01 - Item2
Topic: Auto-Negotiation register 6 and 8
Relevant Clause: 28 and 32
Classification: Defect

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

IEEE 802.3 Motion

IEEE 802.3 submits the proposed Interpretation response to the Interpretation request 1-03/01 for a 30 day Working Group letter ballot.

M: David Law	S: P Thaler	Tech 75%/Proc 50%
PASSED/~~FAILED~~		Date: 15th Mar 2001
Y: 95 N: 0	A: 3	Time: 9:16

Interpretation 2-03/01

It appears that the text in IEEE 802.3-2000 Section 36.2.4.15 d) (Carrier_Extend) contradicts Figure 36-7b (PCS receive state diagram, part b). Subclause 36.2.4.15 reads as follows:

“36.2.4.15 Carrier_Extend (/R/)

d) EPD3: The second /R/ following the /T/ in the End_of_Packet delimiter /T/R/R/I/. This /R/ is used, if necessary, to pad the only or last packet of a burst of packets so that the subsequent /I/ is aligned on an even-numbered code-group boundary. **When used for this purpose, Carrier_Extend is emitted from, and interpreted by, the PCS. An EPD of /T/R/R/ results in one /R/ being delivered to the PCS client (see 36.2.4.14.1)**.”

The text above seems to imply that carrier extensions for the purpose of byte alignment are not sent to the PCS client (i.e., the RS); a PCS-generated /T/R/R/ sequence used to align a succeeding /I/ on an even boundary will be converted to a /T/R/ sequence by the receiving PCS, prior to delivery to the PCS client. The obvious inference is that carrier extension due to byte alignment is transparent to the PCS client, which makes intuitive sense from a layering point of view.

Interpretation 2-03/01 (con’t)

However, Figure 36-7b clearly indicates (as marked by the superimposed arrow) that the PCS layer must assert carrier extension to the PCS client in the case of byte alignment. A transition out of the Receive state to the TRR+Extend state is made when any /T/R/R/ sequence is received by the PCS, whether this is due to normal carrier extension or due to carrier extension for the purpose of byte alignment. Within the latter state, the carrier extend indication is sent to the PCS client.

Please clarify the apparent differences between the text and the figure. Also, please provide the underlying intent of the standard with regard to reporting carrier extensions generated by the PCS to the remote MAC/RS layers. Thank you.

Interpretation 2-03/01 (con't)

36.2.4.15 Carrier_Extend (/R/)

Carrier_Extend (/R/) is used for the following purposes:

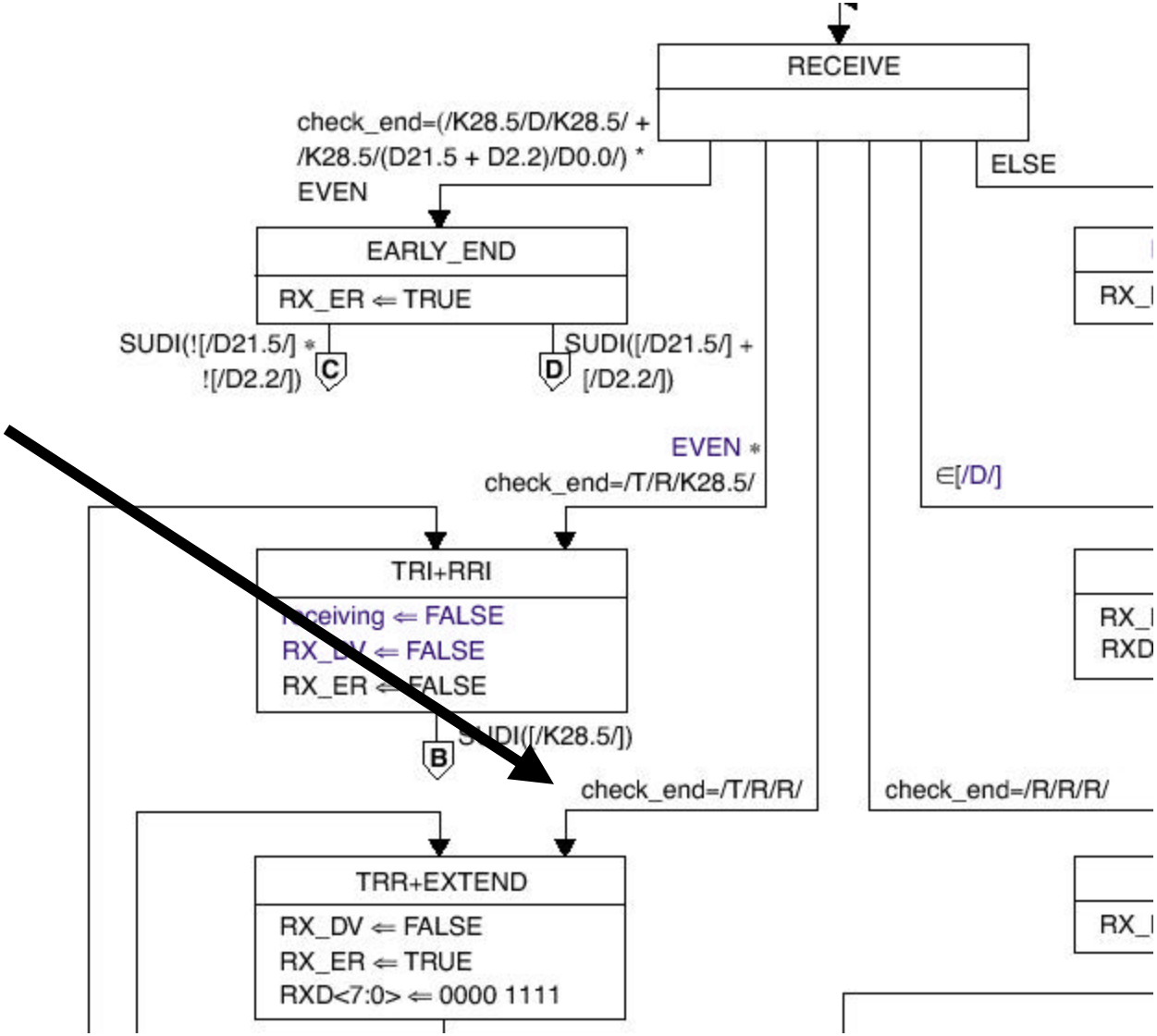
a) Carrier extension: Used by the MAC to extend the duration of the carrier event. When used for this

d) EPD3: The second /R/ following the /T/ in the End_of_Packet delimiter /T/R/R/I/. This /R/ is used, if necessary, to pad the only or last packet of a burst of packets so that the subsequent /I/ is aligned on an even-numbered code-group boundary. When used for this purpose, Carrier_Extend is emitted from, and interpreted by, the PCS. An EPD of /T/R/R/ results in one /R/ being delivered to the PCS client (see 36.2.4.14.1).

Table 35–2—Permissible encoding of RXD<7:0>, RX_ER, and RX_DV

RX_DV	RX_ER	RXD<7:0>	Description	PLS_DATA.indicate parameter
0	0	00 through FF	Normal inter-frame	No applicable parameter
0	1	00	Normal inter-frame	No applicable parameter
0	1	01 through 0D	Reserved	—
0	1	0E	False Carrier indication	No applicable parameter
0	1	0F	Carrier Extend	EXTEND (eight bits)

Interpretation 2-03/01 (con’t)



Proposed Interpretation response

PCS generated Carrier_Extend

Interpretation Number: 2-03/01
Topic: PCS generated Carrier_Extend
Relevant Clause: 36.2.4.15
Classification: Unambiguous

The 4th sentence of subclause 36.2.4.15 ‘Carrier_Extend (/R/)’ Item d), clearly states that ‘An EPD of /T/R/R/ results in one /R/ being delivered to the PCS client’.

The inference therefore ‘that carrier extensions for the purpose of byte alignment are not sent to the PCS client‘ is incorrect.

Further, the standard clearly shows in Table 35-2 ‘Permissible encoding of RXD<7:0>,RX_ER, and RX_DV’ that Carrier_Extend /R/ is encoded as RX_DV = 0, RX_ER = 1 and RXD<7:0> = 0x0F on the GMII. The transition marked in Figure 36-7b of the interpretation request, which results from receiving a /T/R/R/, will result in the encoding RX_DV = False, RX_ER = True and RXD<7:0> = 00001111 on the GMII.

Proposed Interpretation response
PCS generated Carrier_Extend (Con't)

Since the text requires an EPD of /T/R/R/ to results in one /R/ being delivered to the PCS client and the Figure 36-7b shows a /R/ being delivered to the PCS Client, encoded as required by Table 35-2, there appears to be no differences between the text and the figure. Attention is also drawn to subclause 1.2.1 'State diagram conventions' which states 'The state diagrams contain the authoritative statement of the functions they depict; when apparent conflicts between descriptive text and state diagrams arise, the state diagrams are to take precedence.'

Carrier Extend has to be asserted in this case as the Receive PCS has no knowledge of the duplex mode the MAC is operating in, nor has it knowledge if the /T/R/R/ it has received is the start of Carrier Extension or simply present for code-group alignment.

IEEE 802.3 Motion

IEEE 802.3 approves the proposed Interpretation response to the Interpretation request 2-03/01 as presented without the need for a 30 day letter ballot.

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

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

Y: 86 N: 0 A: 2 Time: 9:24

Interpretations Web Information

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

Issues raised in Interpretation request #1 item 2

Background

- Clause 28 defined Register 5 (AN link partner ability register) to store the received Link Code Word following each page exchange (Base Page and Next Pages)
- Clause 32 and 40 later defined Register 8 (AN link partner next page ability register) to store only those Link Code Words from Next Pages.

The Problem

- Received Link Code Words may be stored in two locations.
- 1st word received (base page) is stored in Register 5 (AN link partner ability)
- Subsequent words (next pages) may be stored in Register 5, or in Register 8 (AN link partner next page ability) or possibly both.

Problem continued…

- When mr_page_rx is indicated during reception of next pages, which register is to be checked by management?
- External MII transceiver problem
  - Typically users of an implementation would have a priori knowledge of how the implementation works, but this cannot be the case for external MII transceivers

The Standards Problem

- 28.3: “In the case of any ambiguity between stated requirements and the state diagrams,the state diagrams shall take precedence.”
- Register 8 (AN link partner next page ability) is never used by the state diagrams:
  - The mr_page_rx variable defines that the received Link Code Word is written to mr_lp_adv_ability[16:1]
  - Table 28-8 “State diagram variable to MII register mapping” states that mr_lp_adv_ability[16:1] maps to MII Register 5 (Auto-Negotiation link partner ability register)

The Standards Problem cont…

- Textual definition of Register 8 (28.2.4.1.7)
  - "Support for 100BASE-T2 and 1000BASE-T requires support for Next Page and the provision of an Auto-Negotiation Link Partner Next Page Ability register (register 8) to store Link Partner Next Pages"
- Is the intent of this text to use register 8 only for next pages used for 100-T2 or 1000-T PHYs, or for the receipt of all next pages in all PHYs?

A Proposed Remedy

- Mandate that all received Next Pages are stored in Register 8
- No need to define an additional bit in MII
- Possibly creates a substantial impact on existing devices (ie: pre-100T2 1000T devices)

Proposed Revisions

- Allow all received Next Pages to be stored in either Register 5 or Register 8
- Define new MII register bit 6.5 in Register 6 (AN expansion register) to indicate which register is used to store received next pages.

Proposed revision cont…

- Modify mapping of mr_lp_adv_ability in Table 28-8 *State Diagram variable to MII register mapping* to:

  For received Base Page:

  5.15:0 Auto Negotiation link partner ability register

  For received Next Pages

  If 6.5=1 then

  8.15:0 Auto Negotiation link partner next page ability register

  else 5.15:0 Auto Negotiation link partner ability register

Contact info

- Bob Noseworthy

  UNH IOL

  ren@iol.unh.edu

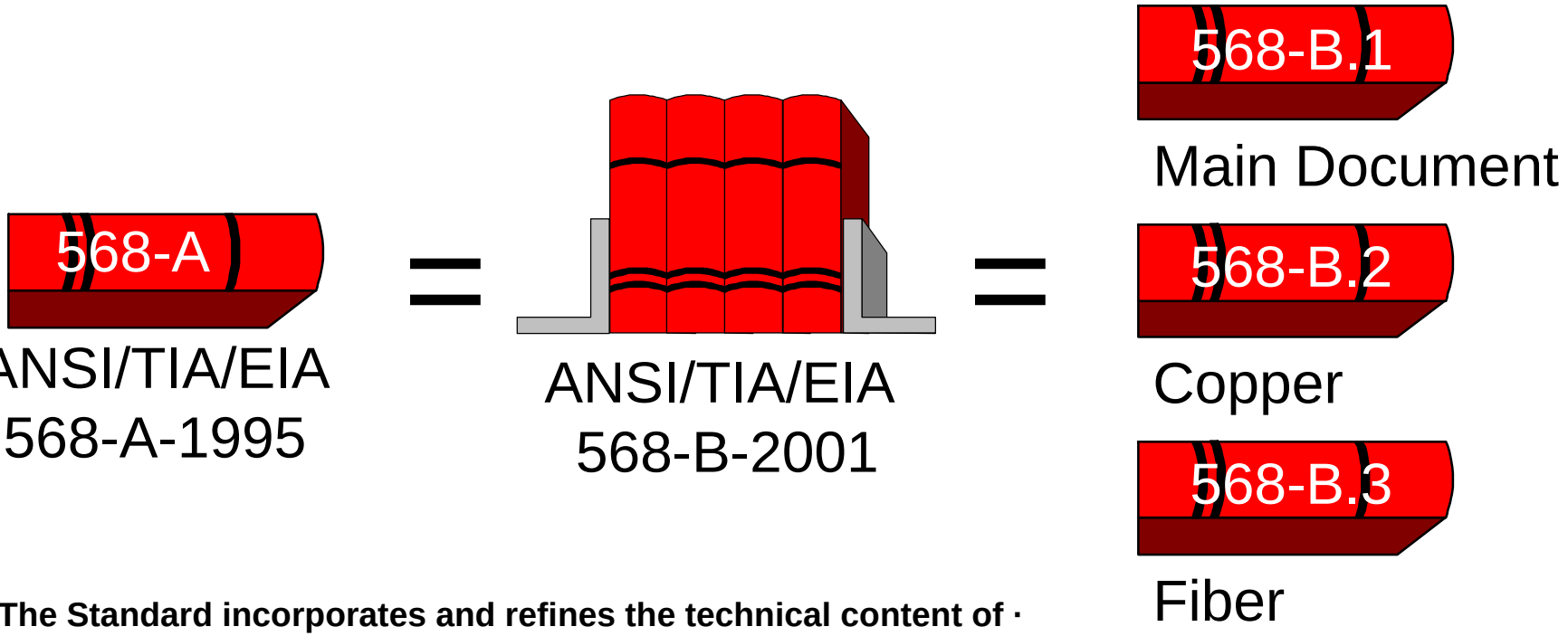
TIA-TR42 Liaison

Engineering Committee on User Premises Telecommunications Cabling Infrastructure

Chris Di Minico
CDT Corporation

CDT
CABLE DESIGN TECHNOLOGIES

ANSI/TIA/EIA-568-A-1995 Revisions



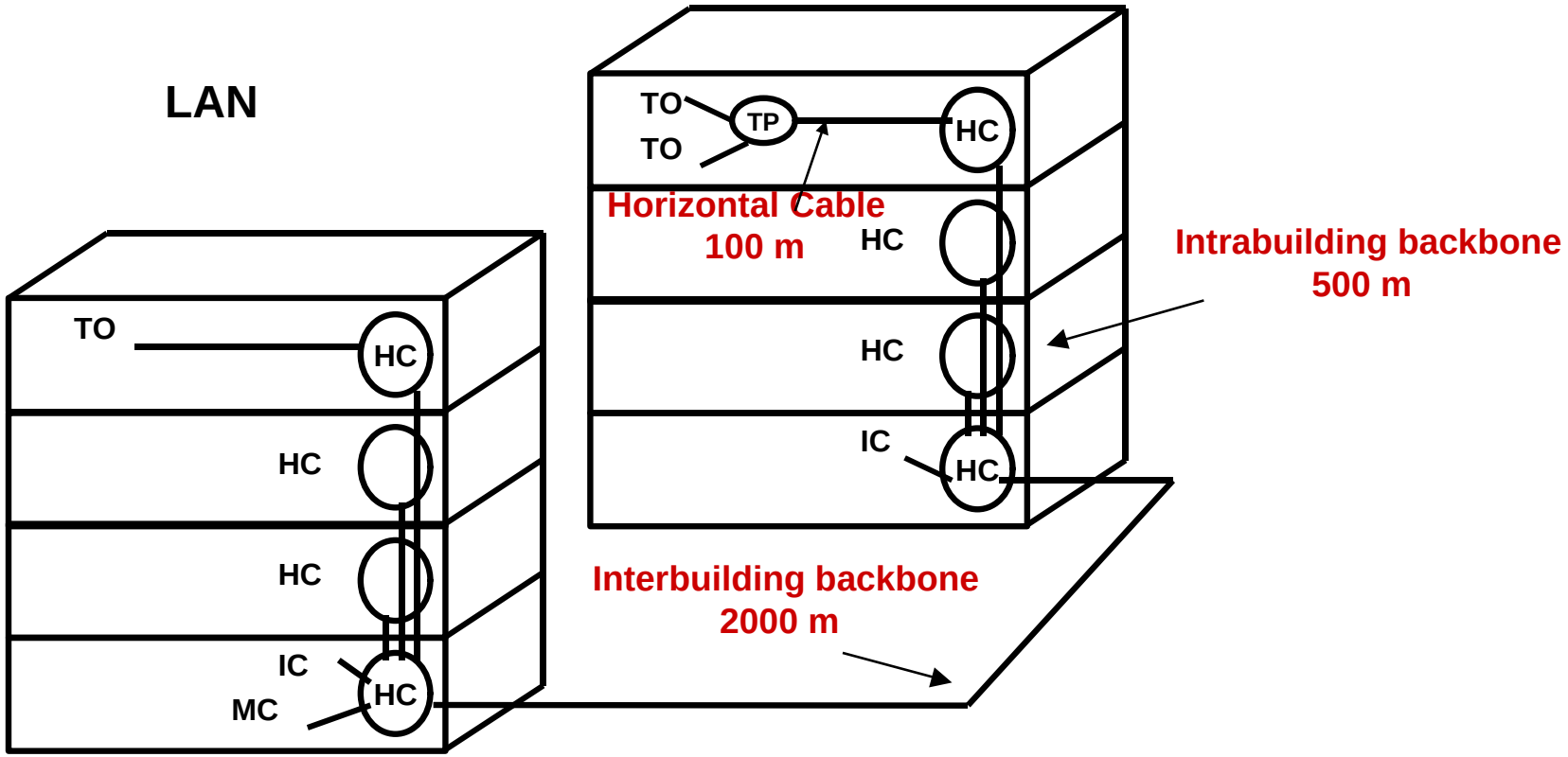
The Standard incorporates and refines the technical content of ·

· TIA/EIA TSB72, Centralized Optical Fiber Cabling

· TIA/EIA TSB75, Additional Horizontal Cabling Practices for Open Offices

CDT
CABLE DESIGN TECHNOLOGIES

Telecommunications Cabling Infrastructure-TIA/EIA-568-A



CDT
CABLE DESIGN TECHNOLOGIES

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

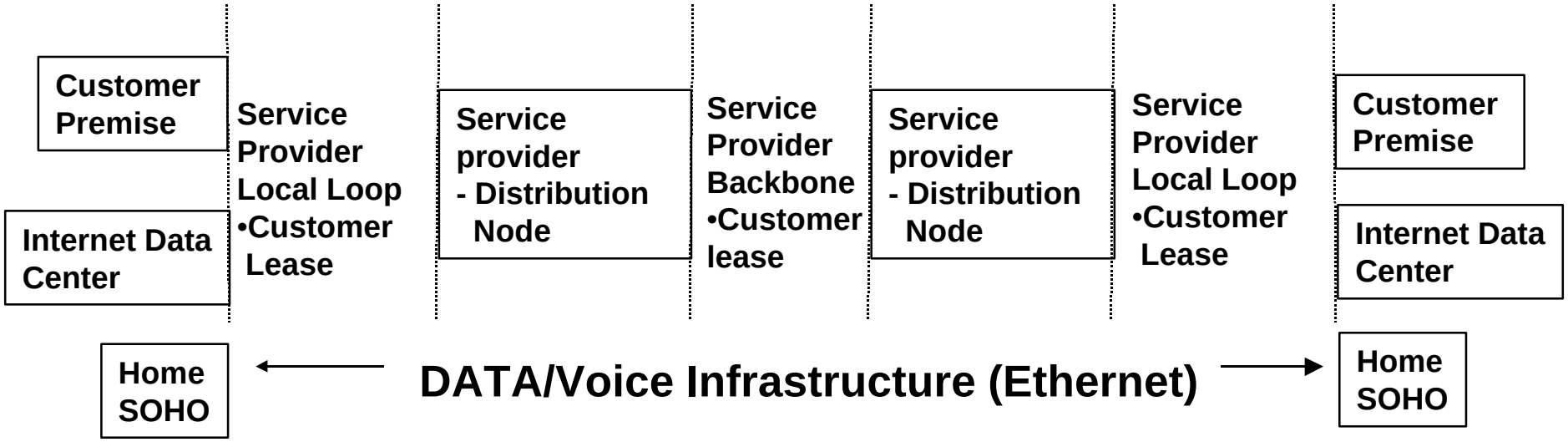
- PN- 3894-AD1, Additional Transmission Performance Specifications for 50/125mm Optical Fiber Cables
  - Status: Industry ballot

- PN-3894-AD1 -The addendum is intended to provide additional specifications for multimode optical fiber cabling optimized for laser operation at 850 nm in support of serial transmission at 10 Gb/s data rates for distances up to 300 m.

Target Application Spaces

- Internet Data Centers
- Service Distribution nodes
- Storage Area Networks
- Scope:
  - Develop cabling topology, recognized media types, cabling requirements, and requirements for pathways & spaces for the above application spaces and inter/intra-node connections.

IEEE 802.3 Infrastructure



IEEE Liaison letter sent to TIA in regards to ESD

- IEEE - ESD ADHOC Group established
- IEEE Liaison letter sent to TIA in regards to ESD
- In response, TR-42.7.2 copper cable working group initiated work item.

ISO/IEC SC25/WG3 Meeting

Nice: 12-16 Feb 2001

- Customer Premises Cabling -

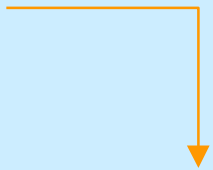
52 Experts 17 Nations

Highlights

- 11801 2nd Ed CD vote negative
  - » 11 nations Yes, 10 nations No
- approx 1,000 comments received
- positive meeting with excellent harmonisation with other stds
- 2nd CD forwarded for comment
- 15018 SOHO cabling same status
- 18010 Pathways + Spaces to FCD

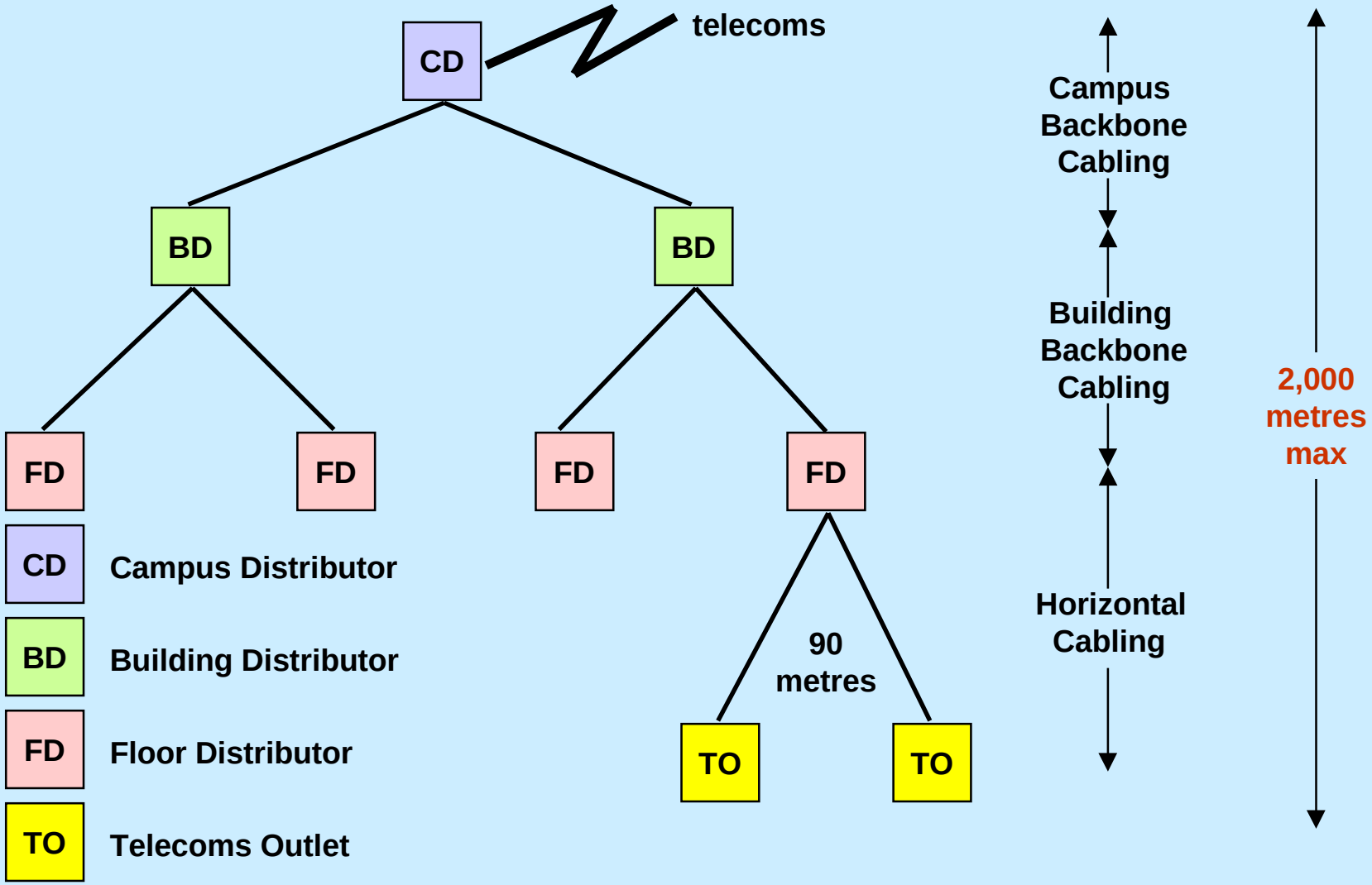
ISO/IEC 11801 2nd Edition: Content

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



Informative Annex

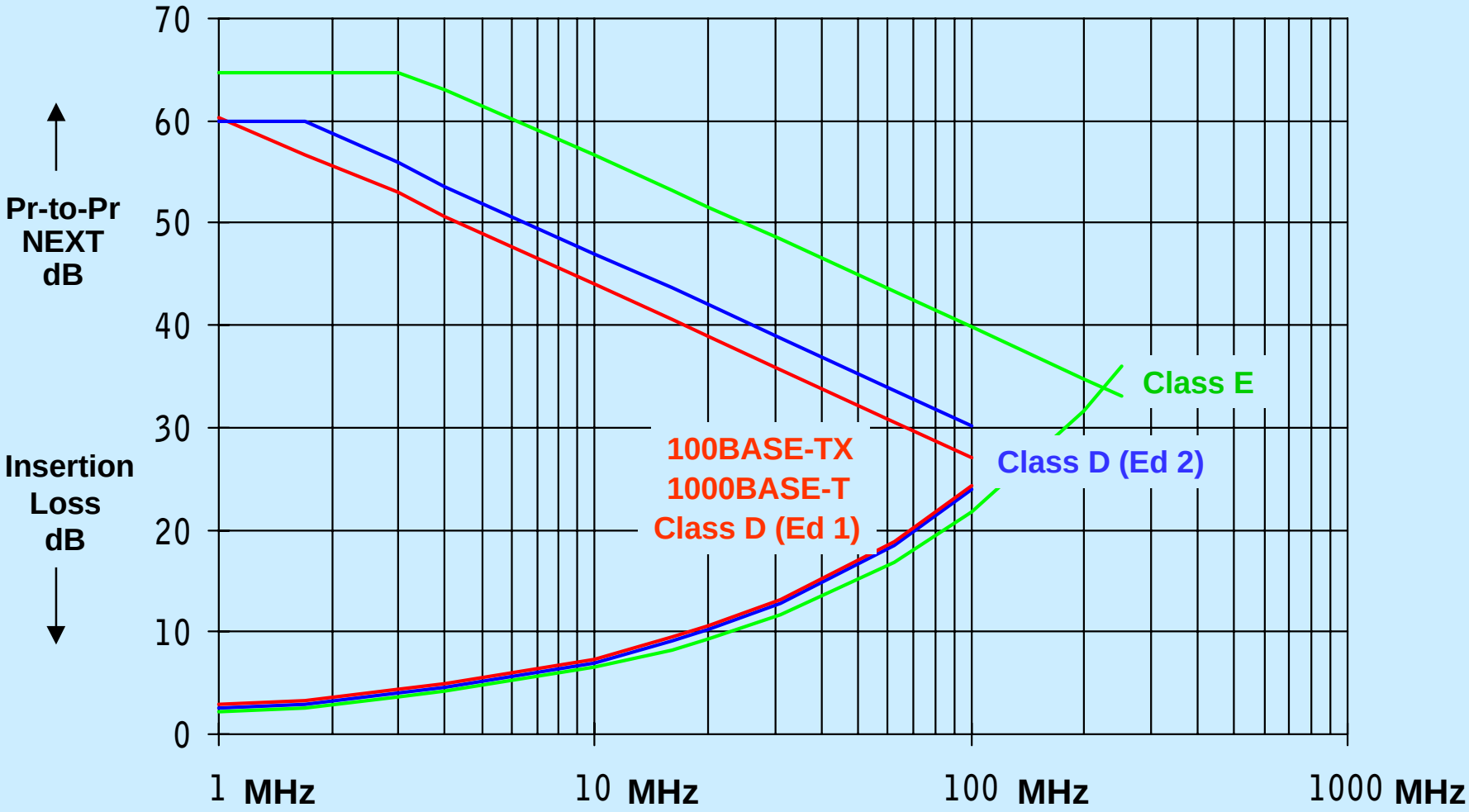
ISO/IEC 11801 2nd Edition: Cabling Architecture



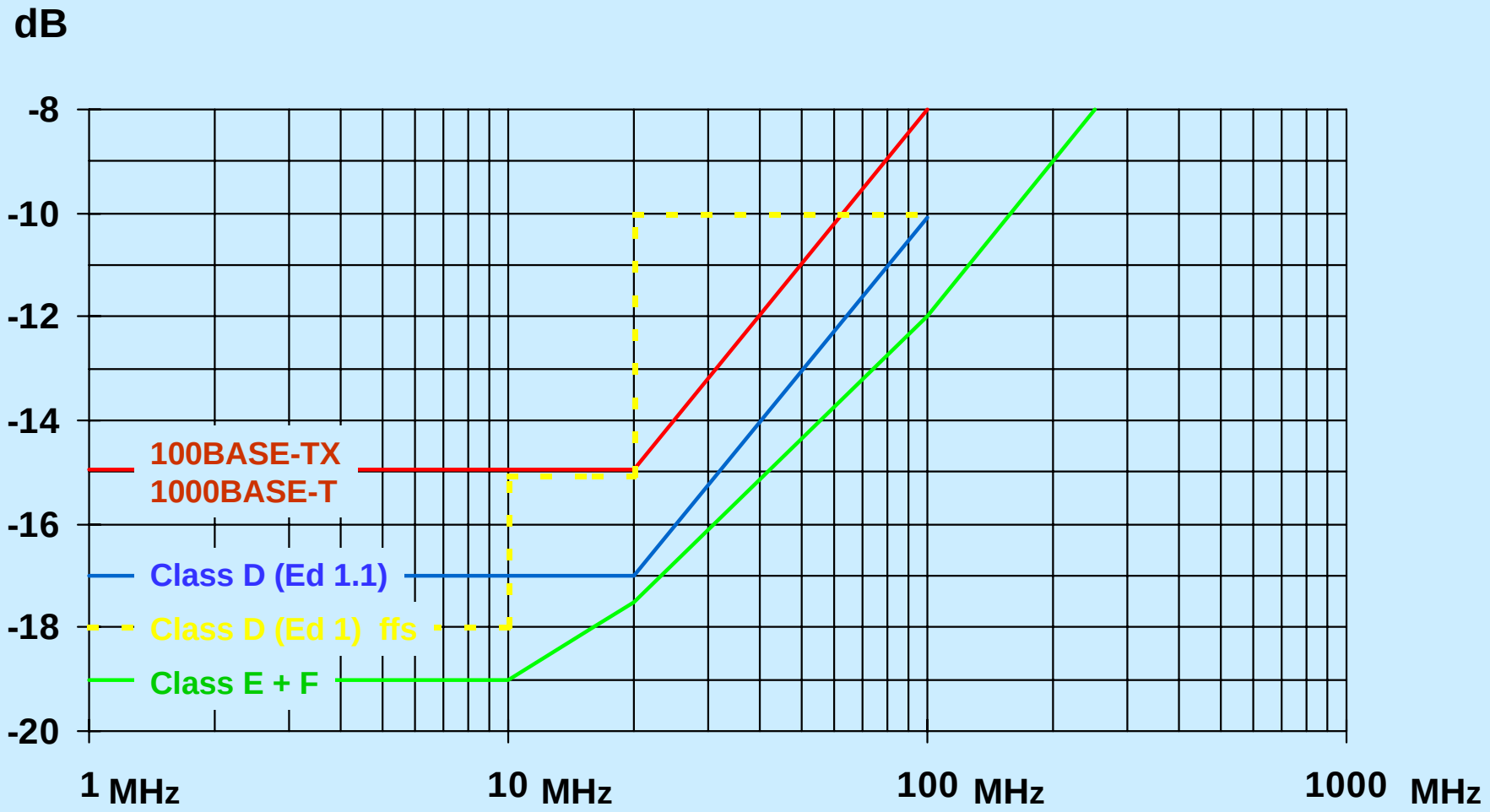
ISO/IEC 11801 2nd Edition: Copper Cabling

- **Category mixing now supported in channels**
- **$Z_{ch\ (mean)}$ specified as 100 ± 5ohm @ 100 MHz**
- **plan agreed to align with CENELEC 100%**
- **IEC Cat 6 RJ-45 UTP connector now 2nd CD**
- **IEC Cat 7 RJ-45 (Alcatel) connector now FDIS**
- **IEC Cat 7 back-up (Siemon) connector FDIS**
- **IEC TC48B will not make *product judgements***
  - » **original remit to check multi-vendor interworking and backwards-compatibility of new connectors**

100BASE-TX and 1000BASE-T
Channel Insertion Loss & NEXT Margins



100BASE-TX and 1000BASE-T Channel Return Loss Margins



ISO/IEC 11801 2nd Edition: Optical Cabling

- **3 - level scheme for generic optical cabling specified in terms of channel transmission characteristics:**
  - **OF-300 for channel lengths up to 300m**
  - **OF-500 for channel lengths up to 500m**
  - **OF-2000 for channel lengths up to 2000m**
- **4 optical fibre types spec'd for LED/laser bandwidth:**
  - **OM1 = 200/500 MHz.km 62MMF**
  - **OM2 = 500/500 MHz.km 50MMF**
  - **OM3 = 2200/500 MHz.km 50MMF**
  - **OS1 = Singlemode Fibre SMF**
- **serial and WDM transmission accommodated**

Liaison with Application Groups

- **SC25 WG3 had no comment on ESD issue**
  - » **will consider when liaison request is received**
- **IEEE 802, ATM Forum and ITU requested to define load reactance for remote powering**
  - » **required for connector characterisation**

Future Meetings

27 - 31 Aug	2001	Munich
25 Feb - 01 Mar	2002	Venue TBD

ISO/IEC 11801 2nd Edition
Development Plan

Mar 2001 - forward 11801 2nd CD for review

Aug 2001 - resolve 11801 2nd CD comments

Sep 2001 - forward 11801 FCD for review

Feb 2002 - resolve 11801 FCD comments

Mar 2002 - prepare final text for 11801 Ed 2

802.3 Ethernet Over SONET Ad Hoc Report

ITU-T SG7 Liaison Communications To IEEE 802

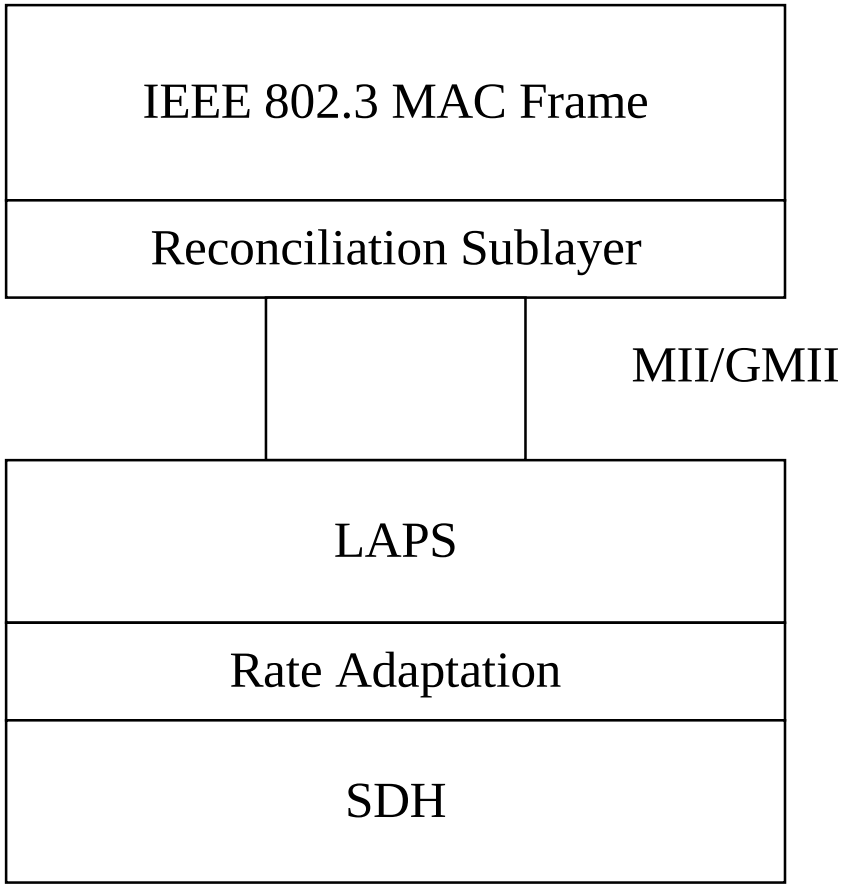
Roy Bynum

802 Plenary Meeting
March 12, 2001

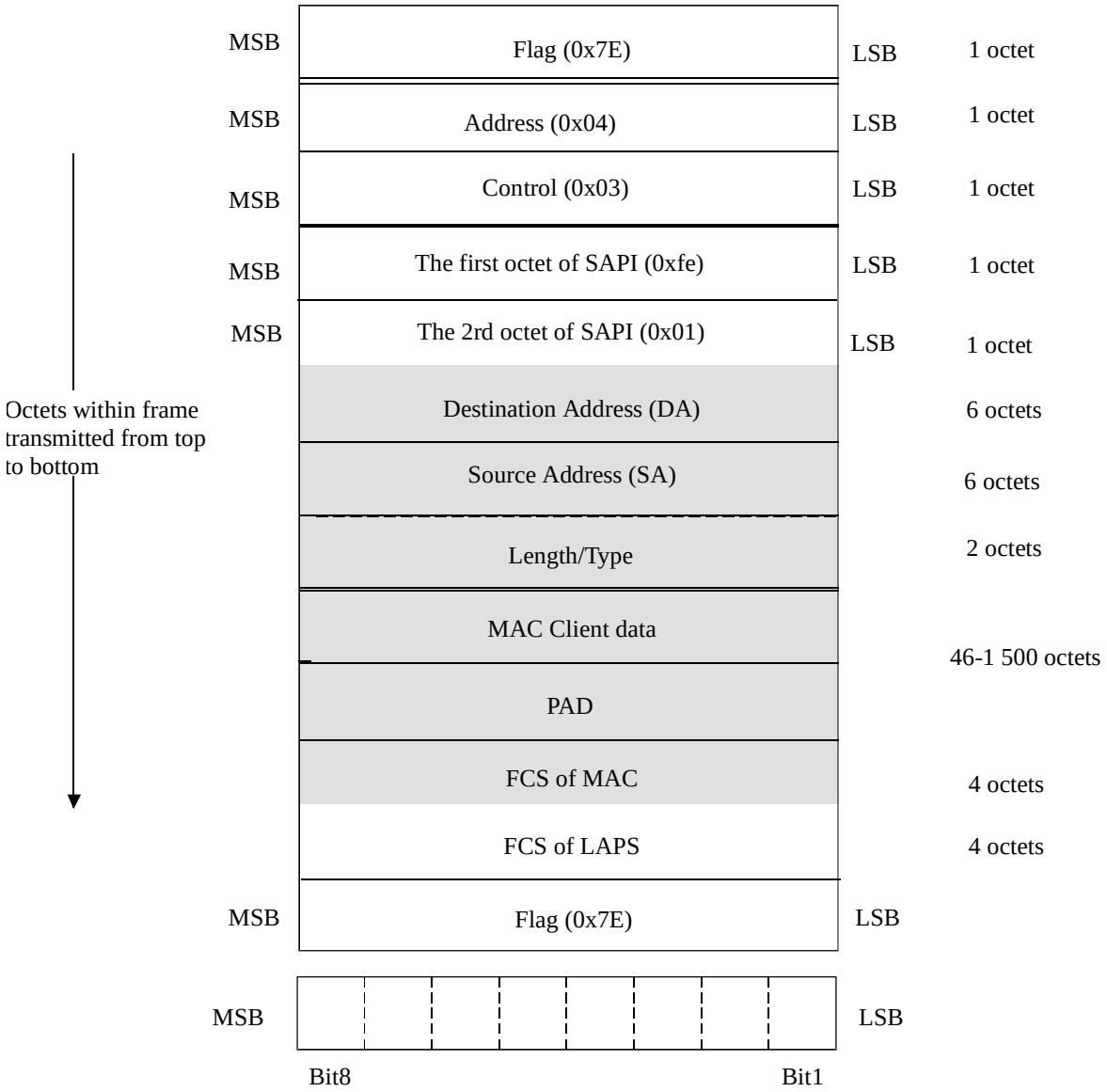
ITU-T SG7 Approved Recommendation X.86

"ITU-T SG 7 at its 29 January-2 February 2001 meeting has approved the draft Recommendation X.86 on Ethernet over LAPS. (Link Access Procedure - SDH) Recommendation X.86 is a new physical interface sublayer (PHY) for 802.3 Ethernet Media Access Control (MAC) frames. Recommendation X.86 provides for the encapsulation of 802.3 MAC frames in a sublayer level address and control frame, LAPS. Recommendation X.86 will allow 802.3 Ethernet switches and Hubs to interface directly with SDH (Recommendation G.707) transmission infrastructure for point to point data link communications over Wide Area Networks (WANs). The data transfer rates for this new PHY reflect the various concatenated and non-concatenated payload rates in the SDH standard. It is expected that Recommendation X.86 will provide at lower data transfer rates, some of the same functionality that is currently being considered by 802.3ae for 10GbE WAN PHY. IEEE 802 Committee is requested to provide comments regarding work in 802.3 standards that might be related to Recommendation X.86 and future work on Recommendation X.86."

X.86 Ethernet PHY Stack Relationship



X.86 Ethernet Encapsulation By LAPS



X.86 Rate Adaptation

"If the Rate Adaptation is needed in the LAPS transmit processing, transmit entity adds the rate adaptation octet(s) "0xdd" within the frame by sending sequence(s) of {0x7d, 0xdd}. This function is performed just after transparency processing and before the end flag is added. In receive direction, receive entity will remove the Rate Adaptation octet(s) "0xdd" within the LAPS frame when detecting sequence(s) of {0x7d, 0xdd}, This function will be done just before transparency processing and after the end flag is detected."

This works well with the initial implementation of 100BaseX into SDH VC-4 (150Mb) by expanding the data transfer rate to match the SDH payload rate. This will not work well with mapping Ethernet frames into lower SDH payload rates, such as 1000BaseX into SDH VC-4.

Recommended Response to ITU-T SG7

Recommend a motion to respond to ITU-T SG7 with a request to include 802.3x MAC Control Frames (802.3 Clause 31, Appendix 31A) be used as an alternative Rate Adaptation mechanism specific to mapping Ethernet MAC transfer rates into lower SDH Payload Rates.

This motion will be made at the 802.3 Plenary closing session on Thursday

802.3 Ethernet Over SONET Ad Hoc Report

IEEE 802 Liaison Communications To ITU-T SG7

Roy Bynum

802 Plenary Meeting
March 15, 2001

802.3 Ethernet Over SONET Ad Hoc Meeting

•The 802.3 EoS Ad Hoc Meeting was held on Wednesday Morning, 3/14/01, with 7 attending.

•A review of X.86 with specific focus on relative characteristics of PHY versus 2 port bridge.

• It was concluded that 802.3 has recognized that X.86 represents a simple 2 port bridge between an MII/GMII interface and transmission system payloads.

•It was also recognized that 802.3x (Flow Control) could be used as an alternative method of rate adaptation between the Ethernet data transfer rates and the transmission payload rates.

•It was decided to write a response to ITU-T SG7 and make a motion to 802.3 WG to respond with the following text:

Motion For Text To Send To ITU-T SG7

Move that the following text be sent to ITU-T SG7 in the form of a liaison letter from IEEE 802:

Thank you for informing us of the approval of your specification X.86 which seems to conform to our interface specification of the MII/GMII in ISO/IEC 8802-3.

You describe this as a new PHY for Ethernet. Because X.86 makes changes to the Ethernet frame transfer rate, and uses a store and forward functionality in LAPS, we believe that it is more appropriate to describe this device as a simple 2 port bridge to connect an MII/GMII to a SDH transmission payload.

In addition, in order to provide full functionality for rate adaptation to lower as well as higher payload rates from Ethernet frame transfer rates, we advise that you should consider the addition of 802.3x flow control capability to your Ethernet side interface."

Proposed: Roy Bynum

Seconded: David Martin

Yes:_____ No: _____ Abstain: _____

Pass: By Acclamation____

1) The choice of frame size for Ethernet packets is really the domain of 802.3 (CSMA/CD) and 802.1 (Bridging, VLANs). The last time the frame size was modified to increase by four bytes due to VLANs, 802.1 initiated this work and 802.3 also modified the Ethernet standard to include these extra bytes. The people with the experience dealing with this sort of thing attend IEEE 802. It's easy to define a new ethertype, but it's not too easy to figure out what happens when these frames get (sometimes) forwarded by bridges. I would expect discussions of this type to take place in 802.1.

2) This issue has come up several times in 802.3. It has significant problems in terms of compatibility with the installed base. This topic has been discussed in the back halls of 802.3, but never brought forward as a propsal. The problem is that it is very easy to do in the standard and hard to do in the world. It is just like changing the gauge on railroad tracks. All you have to do is change one line in the standard, never mind all of the rails you have to move. For this project to be done in 802.3, there would

need to be a consensus, and this may be difficult. This draft is just meant for carrying IS-IS routing protocol frames (the IS-IS working group is the intended sponsor of this draft) yet this appears to be a way to get the fox into the chicken coop. Those vendors supporting the larger frame will support this, those vendors not supporting the larger frame will not support this.

3) One suggestion is a Recommended Practice, along the lines of 802.1H, dealing with protocol encoding of Ethernet Type II frames over arbitrary length media.

4) Much of the gear produced today would be intolerant of greatly longer frames. There is no way proposed to distinguish between frame types in the network. Bridges might and repeaters would drop or truncate (and cause errors doing so) frames right and left for uncharacterized reasons. It would be a mess. It's all okay for small carefully characterized networks. It would be very difficult to do across the standard.

That IEEE P802.3 adopt the response as presented while granting the WG Chair editorial freedom to refine and strengthen the response.

M: Frazier
S: Quackenbush

Y: 41 N: 0 A: 4
Time: 1:25PM Date: 15th March 2001

Tech PASSED

Assistance in forming response

- Frazier
- Muller
- Haddock
- Thaler
- Thatcher

IEEE P1802.3Rev Conformance Test Revision Task Force

March 12th, 2001
Hilton Head, SC

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

- Sponsor Ballot
  - Sponsor Ballot Closed - 22nd November
    - 17 Comments received in total
  - Met to resolve comments at January Interim
  - Draft D3.1 Generation taking place
    - Draft now at IEEE for ‘style’ review
    - Need exact test to update subclause ‘1.2 Scope’
      - Conformance test only supports half-duplex

Plans for Completion

- Tasks for the week
  - Meet this week to review update to subclause ‘1.2 Scope’ new text

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: **1802.3Rev**

  Password: **********

  Password **is** case sensitive

IEEE P1802.3Rev Conformance Test Revision Task Force

March 15th, 2001
Hilton Head, SC

David Law

Overview

- 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).
- Timeline

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

IEEE P1802.3Rev Status

- Sponsor Ballot
  - Sponsor Ballot Closed - 22nd November
    - 17 Comments received in total
  - Met to resolve comments at January Interim
  - Draft D3.1 Generation taking place
    - Draft now at IEEE for ‘style’ review
    - Update subclause ‘1.2 Scope’ agreed
      - Conformance test only supports half-duplex

IEEE P1802.3Rev Sponsor Ballot Results

- Ballot Closed - 22nd November
- Ballot results: Pass
  - Response Ratio (> 75%): 31/40 = 77.0%
  - Abstention Ratio (< 30%): 0/40 = 0%
  - Approval Ratio (> 75%): 31/31 = 100%
- Comments received: 17
  - 9 Editorial
  - 6 Withdrawn
  - 2 Technical

IEEE P1802.3Rev
Plans for Completion

- Sponsor Recirculation Ballot
- Request conditional RevCom submittal for June Standards Board meeting
- Meet at May Interim meeting in St Louis to resolve Recirculation Sponsor Ballot comments (if required).

IEEE 802.3 Motion

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

IEEE 802.3 requests that the P802 LMSC Executive Committee forward P1802.3Rev/D3.1 to RevCom (by 05/01) based on successful Sponsor ballot with no new technical disapprove votes.

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

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

Y: 96 N: 0 A: 2 Time: 8:58

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: **1802.3Rev**

  Password: **********

  Password **is** case sensitive

802.3ae Report

Hilton Head, SC

Jonathan Thatcher

Jonathan.thatcher@worldwidepackets.com

May Meeting Announcement

Date: May 21-25

Location: St Louis, MO

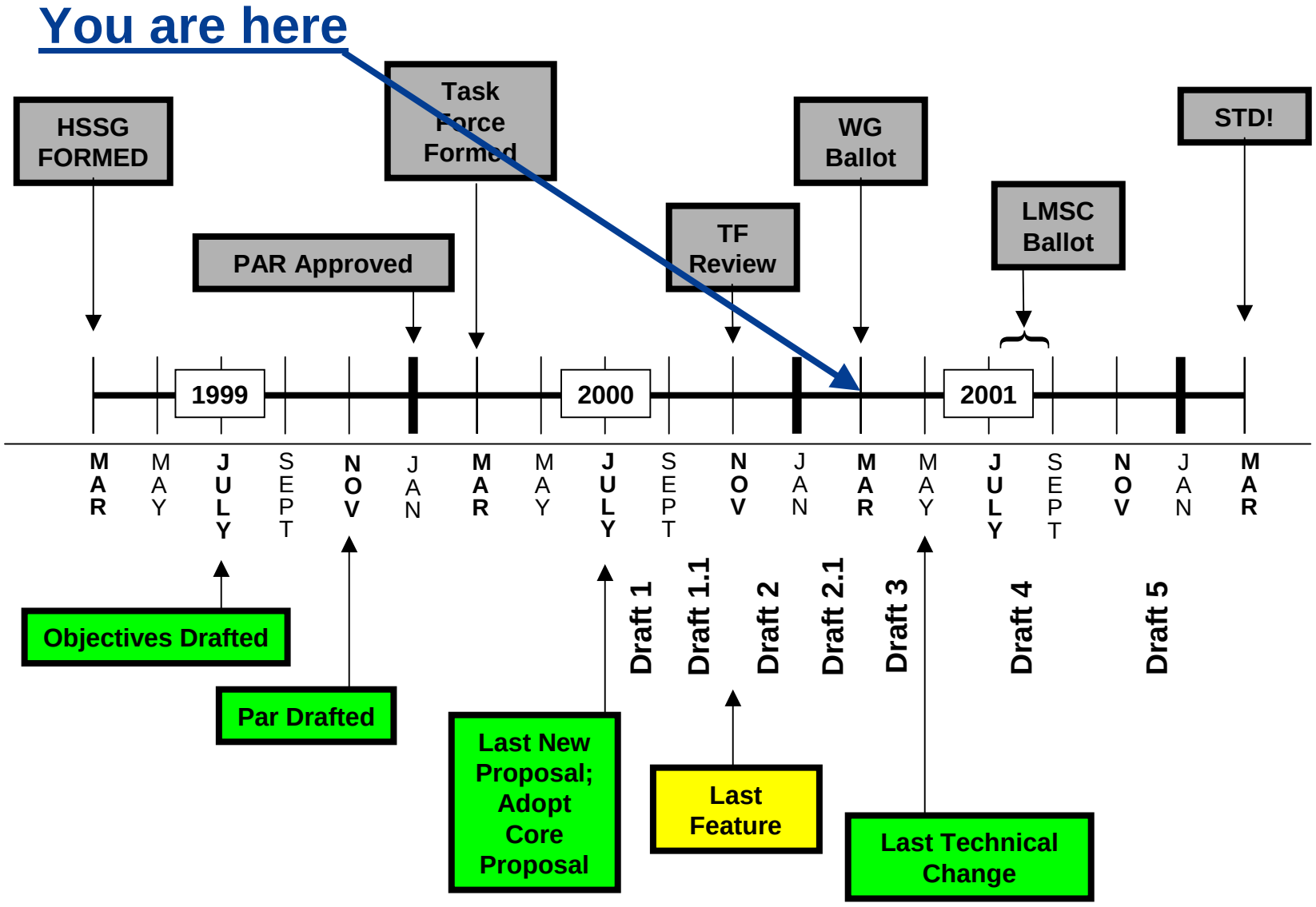
Adam's Mark Hotel

www.adamsmark.com/stlouis/index.html

Meeting Days:

- **EFM: May 21 – 23 noon**
- **802.1: May 21 – 23**
- **DTE: May 23 noon – May 25**
- **10GbE: May 23 – 25**

Long Term Schedule



January Synopsis

- **Worked through all comments using comment database**
  - 1420 comments resolved
  - 48 commenters
- **Adopted concept of a built in pattern generator and error counter (in PCS/WIS)**
- **Resolved electrical issues for optional interfaces**
- **Adopted update to the optical link model**
- **Rejected 10GBASE-LR4 as an alternative to LX4.**
- **Approved 2 sec/year statistic for Polarization Modal Dispersion (PMD)**

‘Tween Meeting Meetings

- **Expect closure of “Equalization Ad Hoc” and recommendation to 802.3/802.3ae**
  - Chair: Vipal Bhatt
- **“Jitter Ad Hoc” & PMD_Serial meetings & regular teleconferences**
  - Chair: Bill Reysen (Jitter)
  - Chair: Piers Dawe (PMD Serial)
- **XAUI meetings and teleconferences**
  - Chair: Anthony Sanders

General Report

Draft 2.1 approved for recirculation in Irvine

- 733 Comments
  - 377 Technical
  - 256 Editorial
- Chair authorized editors to create Draft 2.2 to help 802.3 member review
  - Fix “purely editorial” comments
  - Fix “undisputable; intent of committee” technical comments
  - Distributed via web last Monday

Vast majority in excellent shape

ACCESS TO 802.3ae DRAFTS

See www.802.org/3/ae/private

UserID: 802.3ae

Password: way_fastR

Case matters

Agenda for the week

Monday pm

- **Editor's Meeting (7-9): Indigo**
- **Clause 52 Prep (+30min on): Bayleys**
- **Clause 54 Prep (+30min on): Fairfield**

Tuesday

- **General Session: (8-10): W-Hall**
- **Breakouts (10 on): Details at Gen. Session**

Wednesday

- **Breakouts (8 – 1)**
- **Closing Session (1 – 6)**

Goals For This Week (1/2)

RESOLUTION OF BIG TICKET ITEMS

- **Jitter**
- **MDC/MDIO Cross Clause Correlation**

RESOLUTION OF Lil' TICKET ITEMS

- **Link Status / Signal Detect**
- **Compliance & Testing**
- **Refine OMA & Interferometric noise**

Goals For The Week (2 of 2)

Prepare For

And Request

Working Group Ballot

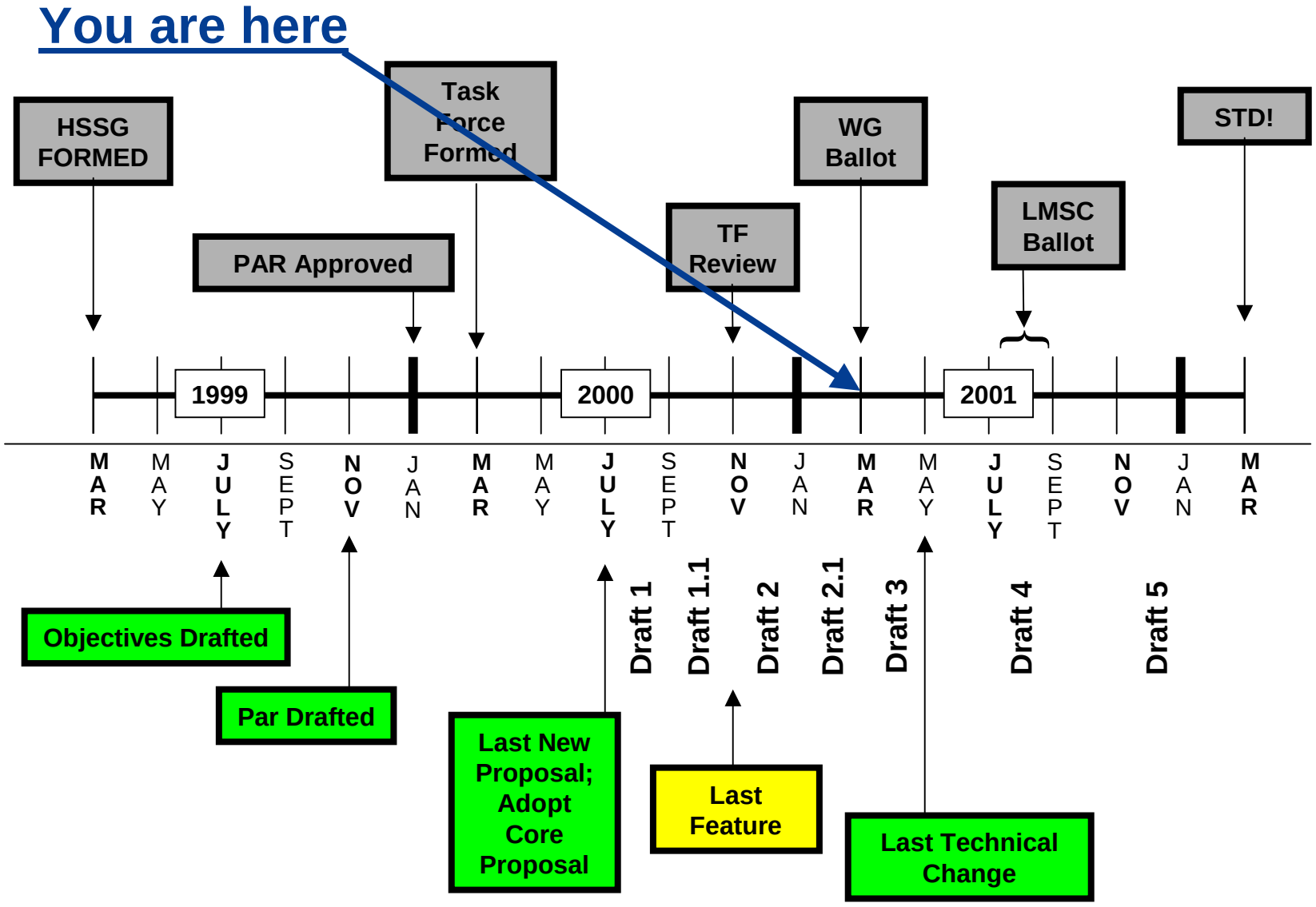
802.3ae Report

Hilton Head, SC

Jonathan Thatcher

Jonathan.thatcher@worldwidepackets.com

Long Term Schedule



General Report

Draft 2.1 approved for recirculation in Irvine

- 733 Comments
  - 377 Technical
  - 356 Editorial
- Chair authorized editors to create Draft 2.2 to help 802.3 member review
  - Fix “purely editorial” comments
  - Fix “undisputable; intent of committee” technical comments
  - Distributed via web last Monday

Vast majority in excellent shape

Goals For The Week (2 of 2)

Prepare For

And Request

Working Group Ballot

Goals For This Week (1/2)

RESOLUTION OF BIG TICKET ITEMS

- **Jitter**
- **MDC/MDIO Cross Clause Correlation**

RESOLUTION OF Lil' TICKET ITEMS

- **Link Status / Signal Detect**
- **Compliance & Testing**
- **Refine OMA & Interferometric noise**

JITTER SUMMARY: REYSEN

Create-A-Big-Ticket

Motion # 1 General Session Motion

Description: Move to accept response to comment 587 and remove all technical content that exclusively supports 10GBASE-LW4, and make all editorial changes necessary to remove references to 10GBASE-LW4.

Motion Type: Technical > 75% required

Moved By: Bob Grow **Seconded By:** Tom Dineen

Results:

All Attendees	Y 73	N 6	A 37	92%
Voting Members	Y 54	N 6	A 17	90%

FYI

- **Created an ad-hoc to investigate potential improvements for the internal pattern generator**
  - **Chair: Ben Brown**
  - **Use SERIAL_PMD reflector**
- **Equalization ad-hoc**
  - Will request July Call-for-interest & Tutorial
  - Will continue to operate as ad-hoc till then
  - **Chair: Vipul Bhatt**
  - **Reflector will remain in operation**
- **Change to Clause 54 Editor (helper)**
  - Thank you David Cunningham (Bill Lane)
  - Welcome Eric Grann (Ken Herrity)

Happy Chair

In the context of preparation for our request to go to working group ballot I promised Geoff that "we would be ready."

I would like to report that based on the information available to me,

802.3ae DRAFT 2.3 IS READY

Happy Editor: Booth

P802.3ae Witness Program

David Law

Robert Grow

Ben Brown

Brad Booth

Stephen Haddock

Committee-at-large

802.3ae Motion

Move that IEEE P802.3ae TF affirm the resolution of all comments on IEEE P802.3ae/D2.1 as approved during the individual tracks, and that the editors are directed to create D2.3 for presentation to the Working Group.

Moved : Ben Brown **Technical (75%)**

Seconded : Walt Thirion

802.3 Voters **Y: 69 N: 0 A: 6 PASSES**

All **Y:103 N: 0 A: 15**

Motion

Move:

that IEEE P802.3ae TF direct the editors to create D3.0 in anticipation of a Working Group Ballot;

that the TF requests that 802.3 approve a Working Group Ballot to close prior to the May interim meeting;

that the TF request the creation of a Sponsor Ballot pool;

that the TF request to be authorised to conduct meetings and recirculation ballots as necessary to resolve comments received during the Working Group Ballot.

Moved: B. Brown Technical (75%)

Seconded: B. Booth

802.3 Voters	**Y: 75**	**N: 0**	**A: 2**	**PASSES**
All	**Y: 117**	**N: 0**	**A: 6**	

Motion to Affirm

Move that IEEE 802.3 WG affirm the resolution of all comments on IEEE P802.3ae/D2.1 as approved during the individual tracks

Moved : Jonathan Thatcher

Technical (75%)

Y: 112 N: 0 A: 2

Motion

Move:

that IEEE 802.3 affirm direction of P802.3ae editors to create D3.0 in anticipation of a Working Group Ballot;

that 802.3 approve a Working Group Ballot to close prior to the May interim meeting;

that the WG request the creation of a Sponsor Ballot pool;

that the WG authorises meetings and recirculation ballots as necessary to resolve comments received during the Working Group Ballot.

Moved: Jonathan Thatcher

Technical (75%)

Y: 99 N: 0 A: 0

Jitter Ad Hoc Update

3/15/01

Starting Point

- Risk to 802.3ae schedule based on open technical issue on jitter
- Fundamentally different technical approaches in LAN and WAN

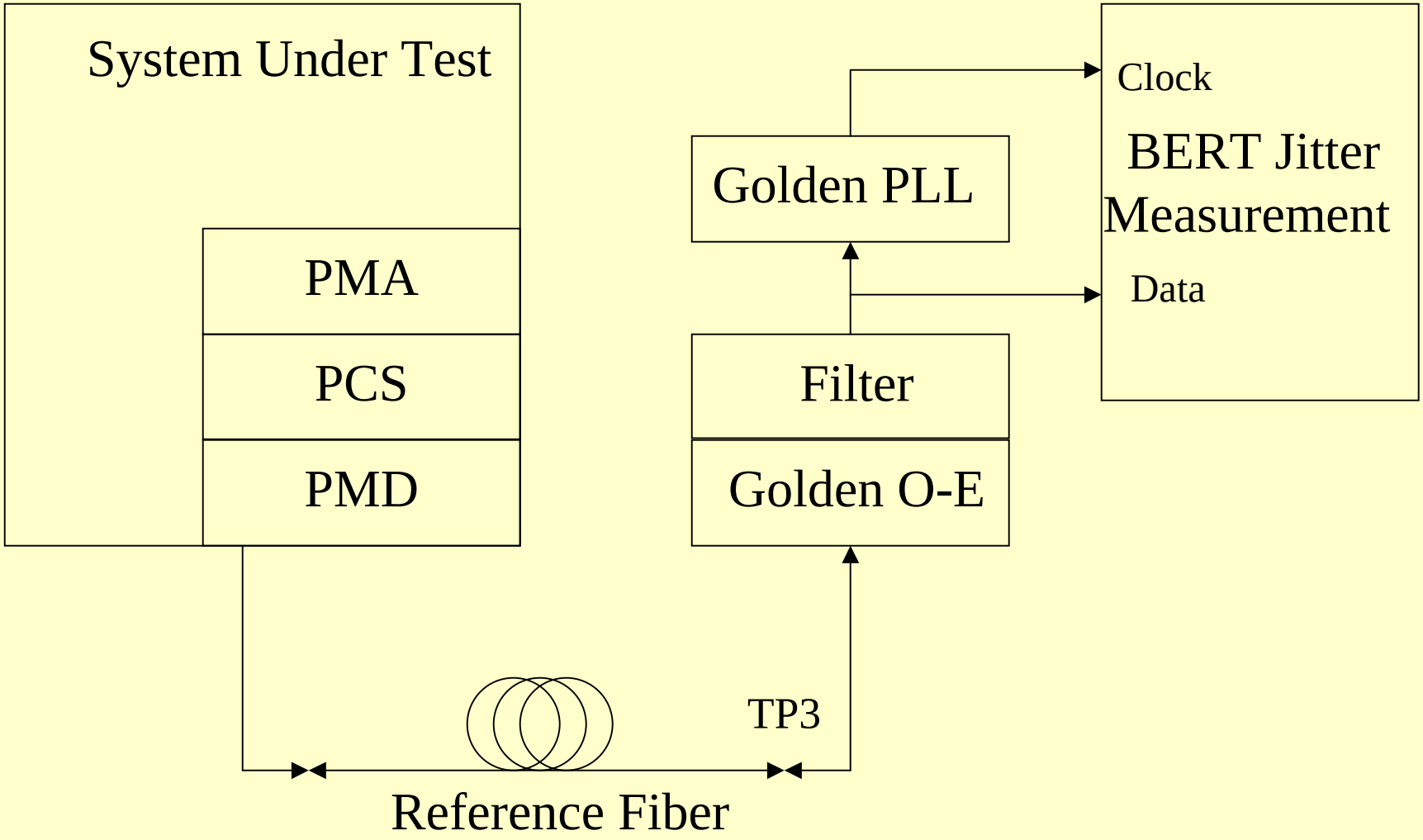
Technical Concerns

- Scaling of LAN approach?
- Lacking “plug and play” with WAN approach?
- System rather than component level compliance test?

Resolution

- Focus on system level interoperability
- Added built in pattern generation and detection to PCS/PMA
- Created the jitter compliance mask

TX Jitter Measurement



RX Jitter Measurement

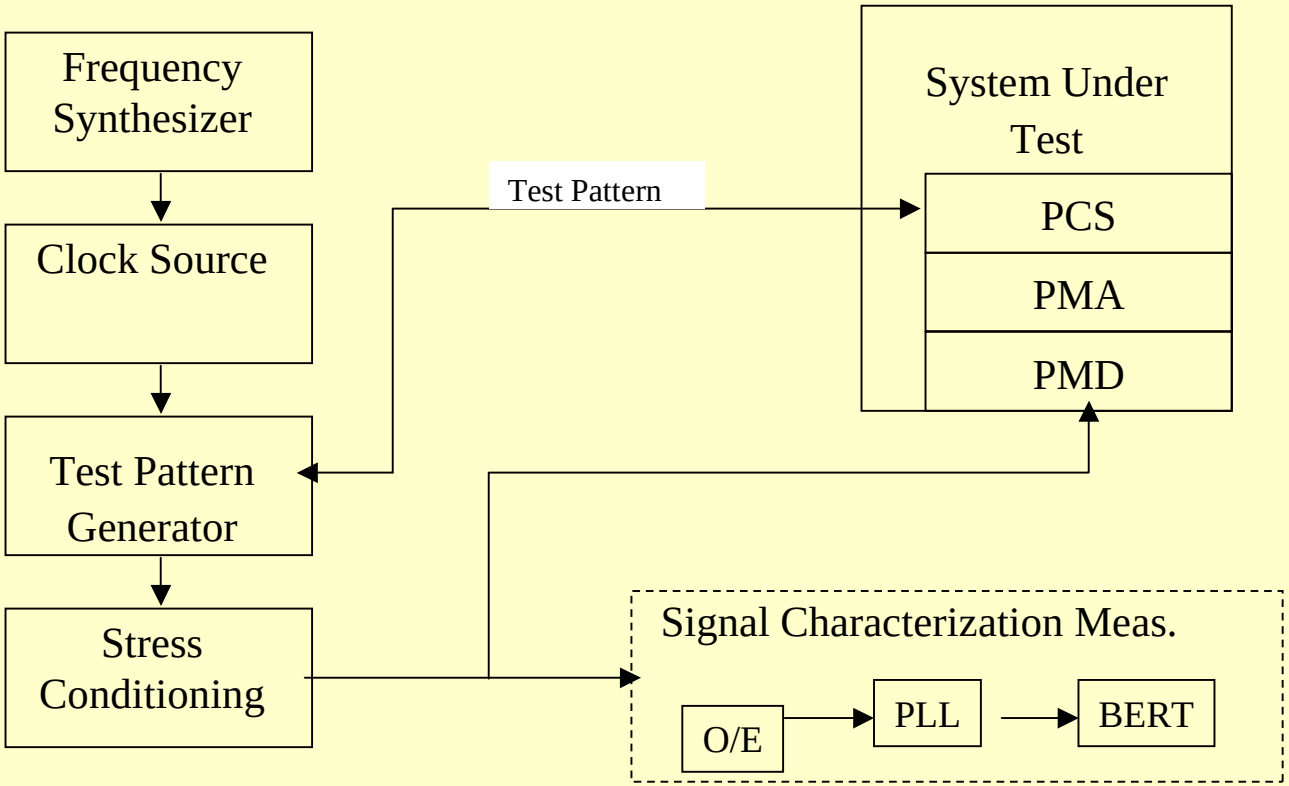


Figure 52-xxxx Receive jitter test block diagram

Jitter Mask

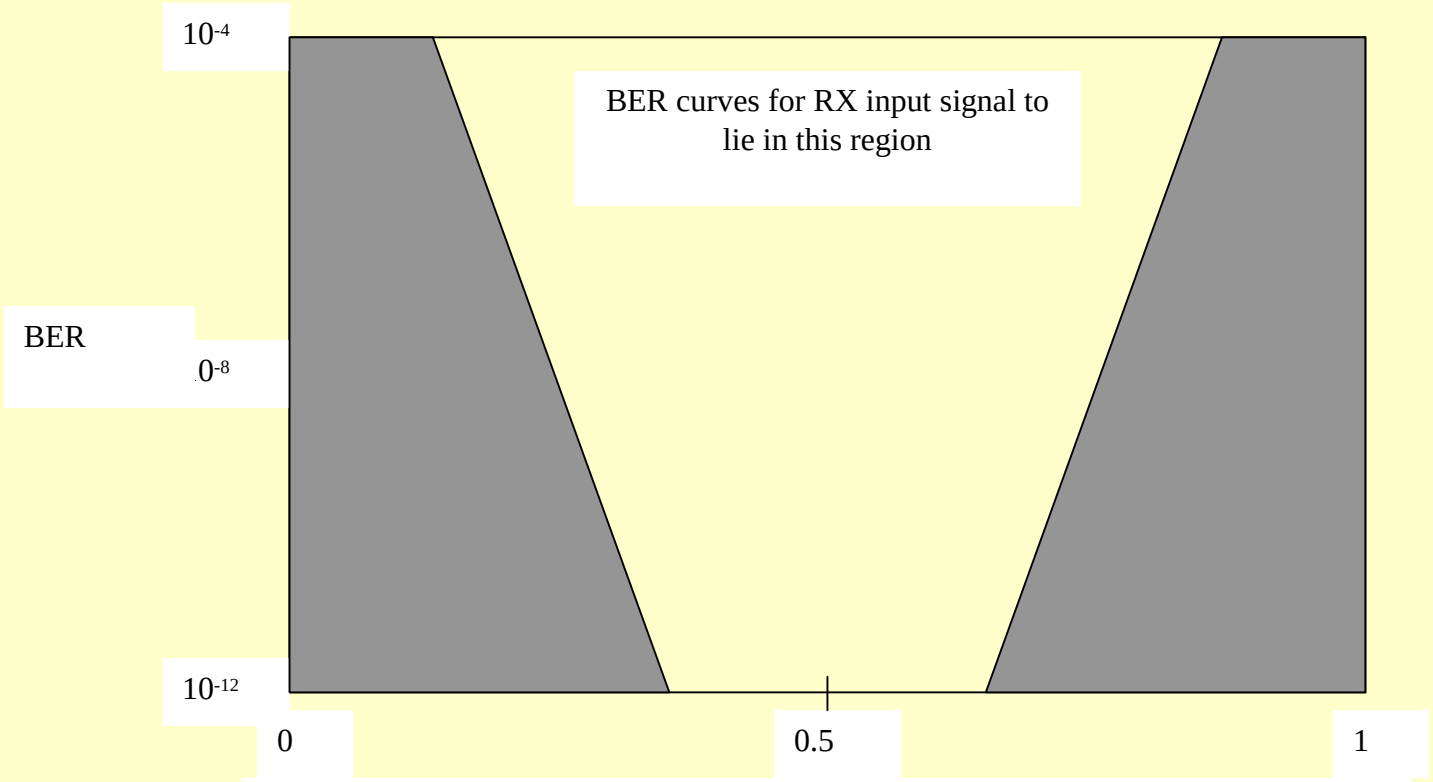


Figure 52-????? Input jitter mask for receiver test (Informative)

Accomplishments

- Methodology and Specification
  - Approved jitter methodology and draft text.
- Test Patterns
  - Ad-hoc formed to propose alternative jitter test patterns based on the 58 bit scrambler by the May 802.3ae interim meeting

What P802.3ae did in 24 Hours

Brad Booth

Happy Editor-in-Chief

Overview

- In about 24 hours, we resolved 733+ comments
  - “+”comments added during meeting
- All the technical holes filled
- Excellent work by all those involved!
- Thank you!!!

What we did…

- Shimon (1, 2, 4, 6, 22, 31, 31B, 35)
  - Editorial change from D2.2 in Clause 1
- David Law (30, 30A, 30B)
  - Removal of LW4 information
  - Changed latching property of parameter
  - Added clearing signal for parameter
- Brad Booth (44, 44A)
  - Removal of LW4 information
  - Editorial changes

What we did…

- Ed Turner (45, 45A)
  - Removal LW4 information
  - Jitter information
  - Editorial changes
- Bob Grow (46)
  - Require idle or sequence ordered set prior to start control character
  - Technical clarifications and editorials

What we did…

- Dawson Kesling (47)
  - Signal detect
  - Minor technical and editorial changes
- Rich Taborek (48)
  - Jitter test methodology
  - Minor technical and editorial changes
- Pat Thaler (49)
  - Jitter test pattern deferred to ad-hoc
  - Removal of LW4 information

What we did..

- Tom Alexander (50)
  - Removal of LW4
    - Closed the outstanding jitter issue
  - Minor technical and editorial changes
- Justin Chang (51)
  - Minor technical and editorial changes
- David Kabal (52)
  - Jitter, OMA, RIN, etc.
  - Closed technical and editorial comments

What we did..

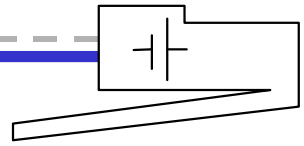
- Paul Bottorff (53)
  - Deleted from D2.2
- Eric Grann (54)
  - Referencing 52 where applicable
  - Closed technical and editorial comments

Thanks!

DTE Power via MDI

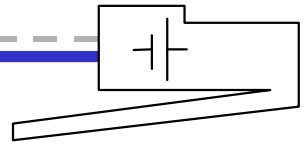
802.3af Task Force
Opening Plenary Meeting Report
March 2001
Hilton Head Island, SC

Steve Carlson, TF Chair



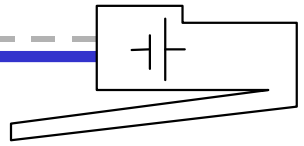
March Plenary Meeting

- Interim meeting in Irvine, CA
- Hosted by Broadcom
- 55 people from 27 companies
  - 20% new people
- Proposals/Reports
  - 3 on discovery
  - 2 on 1000BASE-T
  - 3 on power supply
  - 1 on EMC/environment
  - 1 on management



March Plenary Meeting

- Results from Irvine Interim
  - Creation of discovery ad hoc to create additional draft input
  - Creation of power supply ad hoc to create additional draft input
  - 802.3af Management Objects defined
  - Liaison with IETF
  - IETF Draft
  - **http://www.ietf.org/internet-drafts/draft-romascanu-hubmib-power-ethernet-mib-00.txt**
  - Ongoing hazard matrix testing (0ver 300 devices tested to date)
  - Data on support for 1000BASE-T presented by two independent groups
  - Draft reviewed, ballot tool distributed
  - Charter for next draft

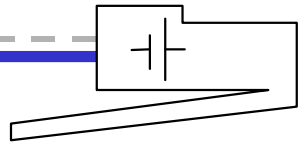


Plans for the Week

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

Goals for the week:

- Presentations
  - Reports from ad hoc's (input to draft)
    - Discovery
    - High-level state machine
    - Power supply
    - Management
- Review latest draft of standard
- Charter for next draft-prepare for WG ballot in July
- Affirm votes at 802.3 WG closing Plenary

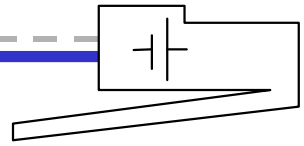


Task Force Info

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

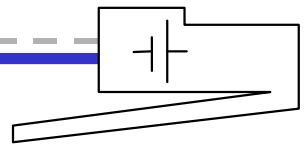
http://www.ieee802.org/3/af/index.html

All archive information from earlier minutes is available. Information on subscribing to the e-mail reflector, proper usage thereof, and presentation guidelines are here.



Entertainment Ethernet News

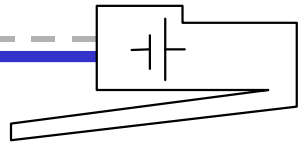
- Disney's "California Adventure" Theme Park - up and running
- Dave Matthew's 2001 Tour - all audio is carried over Ethernet
- WholeHog III Moving Light Controller – Ethernet is the only control output



DTE Power via MDI

802.3af Task Force
Closing Plenary Meeting Report
March 15, 2001
Hilton Head Island, SC

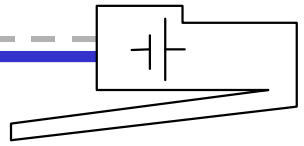
Steve Carlson, TF Chair



General Report

Goals for the week:

- Presentations
  - Reports from ad hoc's (input to Draft 2.0)
    - Discovery
    - High-level state machine
    - Power supply
    - Management
- Review Draft D1.1 of standard (Clause 33)
- Charter for Draft D2.0-prepare for TF ballot in May; WG ballot in July
- Affirm votes at 802.3 WG Closing Plenary



Presentations

" System Considerations – System Modeling," Yair Darshan, PowerDsine

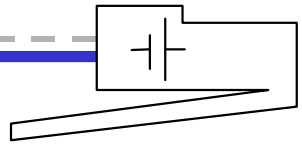
"System Considerations – PD Detection," Yair Darshan, PowerDsine

"System Considerations – PSE – PD Issues," Yair Darshan, PowerDsine

"Power Turn-On," Dieter Knollman, Avaya

"PSE Power Dissipation," Bruce Inn, Micrel

"Draft 2 – DTE Power Electrical and Environmental Specifications," Terry Cobb, Lucent – input to draft



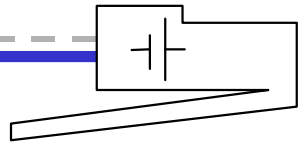
Presentations

"Discovery Ad-Hoc Report," Don Stewart - Chair, Avaya

- Input to draft
- Behavioral description of resistive detection

" Power Supply Ad-Hoc Report," Karl Nakamura - Chair , Cisco

- Input to draft
- Specification for PSE and PD power supplies



Motions to Affirm

Motion 1 (January Interim)

The auto-polarity diode bridge in the PD is optional on either pair set.

Moved by: Roger Karam

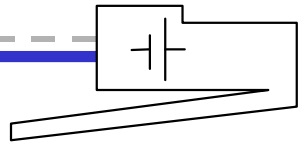
Seconded by: Rick Brooks

Technical Motion 75% required

802.3 voters: Yes 18 No 1 Abstain 5

All present: Yes 37 No 1 Abstain 8

Motion passes



Motions to Affirm

Motion 2 (January Interim)

802.3af shall allow a 1000BASE-T PSE DTE/repeater to provide power to a 1000BASE-T PD.

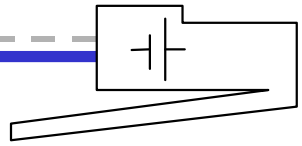
Moved by: Chris Cullen

Seconded by: Amir Lehr Technical 75% required

802.3 voters: Yes 16 No 3 Abstain 3

All: Yes 26 No 5 Abstain 3

Motion Passes



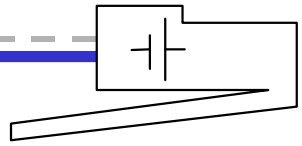
Motions to Affirm

Motion 3 (March Plenary)

Move that 802.3af instruct the editor to include the content of the two packages of source material titled “Draft Requirements from PSE 3-14.doc” and “PDStandardsreqs0313.doc” from the detection ad-hoc in the next draft

Moved: Don Stewart
Second: Jennifer Rasimas
Technical 75% Y: 28 N: 0 A: 2 .3 voters

Motion Passes



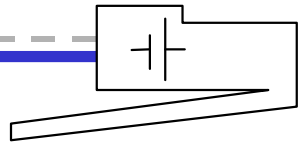
Motions to Affirm

Motion 4 (March Plenary)

Move that 802.3af instruct the Editor to include the content of source material titled “IEEE802af power spec RevB karln.doc” from the detection ad-hoc in the next draft

Moved: Karl Nakamura
Second: Hank Hinrichs
Technical 75% Y:29 N:0 A:1 .3

Motion passes



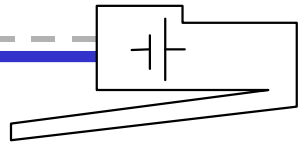
Motions to Affirm

Motion 5 (March Plenary)

Move to charter the 802.3af editor to produce a new draft incorporating the work and motions of the committee as Draft 2.0 for Task Force Ballot in May 2001.

Moved: Scott Burton
Second: Amir Lehr
Technical 75% Y: 26 N: 0 A: 0 .3

Motion passes



Motions to Affirm

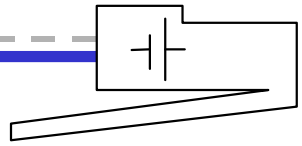
Motion 6 (March Plenary)

Move that the chair ask 802.3 to approve an Interim meeting in St. Louis, MO in May 2001.

Moved: Robert Muir
Second: Amir Lehr
Procedural 50%

Y: 26 N: 0 A:0 .3

Motion passes

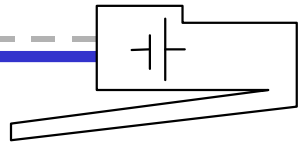


IEEE 802.3 Motion

IEEE 802.3 affirm all motions except #2 presented on behalf of the 802.3af Task Force. D2.0 available by April 15, 2001.

Moved: Steve Carlson on behalf of 802.3af TF
Second: Elwood Parsons
Technical 75%
Date: 15 March 2001
Time: 9:51

Y: 72 N: 1 A: 21
Passed/Failed: Passed

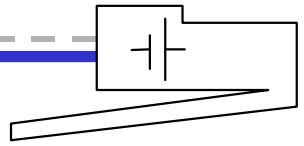


IEEE 802.3 Motion

Move to divide and separately vote on 802.3af TF Motion 2.

Moved: Terry Cobb
Second: John George
Proc 50%
Date: 15 March 2001
Time: 9:45

Y:30 N:25 A:38
Passed/Failed: Passed

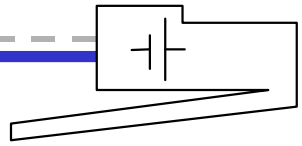


IEEE 802.3 Motion

Move affirm 802.3af TF motion 2.

Moved: Steve Carlson
Second: Elwood Parsons
Technical 75%
Date: 15 March 2001
Time: 9:45

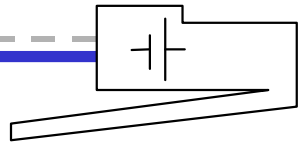
Y:64 N: 3 A: 31
Passed/Failed: Passed



Other Work

TIA-TR42 Liaison: Request for access to Draft 2.0 for review and comment

ISO/IEC SC25/WG3: Request 802 provide load reactance for remote powering



IEEE P802.3
Maintenance

March 12th, 2001
Hilton Head, SC

David Law

Maintenance Requests Status

- 72 Maintenance requests
- 5 new Maintenance requests since November
- Current status:

In Ballot (IEEE P802.3ag)	22
Awaiting clarification	5
Errata	27
To be categorised	5
Review by Technical experts	11
Withdrawn	2

IEEE P802.3ag Maintenance #6

- IEEE P802.3ag PAR approved by NesCom
  - Approved 21st September 2000
- In Working Group Ballot
  - WG Ballot Closed 8th November
  - 1st WG Recirculation Closed 12th January
    - Received 2 comments
      - 1 Technical and 1 ‘Technical Require’ from a non-voter
    - Met at January Interim in Irvine
      - Resolved both comments, two technical changes
  - 2nd WG Recirculation Ballot Closes 24th March
  - Sponsor Ballot group formation ends 13th March

Plans for the week

- Meet this week
  - Maintenance Requests
    - Review status of existing revision requests
    - Classify new revision requests
  - Review of Maintenance Requests against IEEE Std. 802.3-2000
    - Discovered some request implement prior to approval or implemented incorrectly
      - Expect an errata sheet to be issue this week

Maintenance Web Information

- The Maintenance web site is at:

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

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

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

- The Maintenance request form is available at:

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

  Username: **802.3**
  Password: ******
  Password **is** case sensitive

IEEE P802.3 Maintenance

March 15th, 2001
Hilton Head, SC

David Law

Maintenance Status

- Maintenance Requests
  - Review against Y2K edition
    - As suspected some request implement prior to approval and one request implemented incorrectly
    - Errata sheet to Y2K to be published
- Plan to have Maintenance conference call
  - Notice will be posted on 802.3 reflector
    - Review outstanding requests
    - Categorise new requests
    - Complete Y2K review

Maintenance Requests Status

- 72 Maintenance requests
- Current status:

In Ballot (IEEE P802.3ag)	22
Awaiting clarification	5
Errata	18
To be categorised	5
Review by Technical expert	10
Total Open	**60**
Withdrawn	2
Published	10
Total Closed	**12**

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	March 2001
Standards board approval	September 2001

IEEE P802.3ag Rev
Plans for Completion

- In Working Group Ballot
  - 2nd WG Recirculation Ballot Closes 24th March
  - Sponsor Ballot group formation Closed 13th March
- Meet at May Interim meeting in St Louis
  - Review and resolve Sponsor Ballot comments.
- Recirculation Sponsor Ballot (if required).
- Request RevCom submittal at July Plenary for September Standards Board meeting

IEEE 802.3 Motion

IEEE 802.3 requests that the P802 LMSC Executive Committee forwards IEEE P802.3ag for LMSC Sponsor Ballot conditional upon successful completion of Working Group recirculation Ballot with no new negatives.

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: P Thaler Tech 75%/~~Proc 50%~~

PASSED Date: 15th March 2001

Y: 93 N: 0 A: 4 Time: 8:48am

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: **802.3**
  Password: ******
  Password **is** case sensitive

Ethernet in the First Mile Study Group

Interim Meeting Report

IEEE 802.3 CSMA/CD Working Group

Marriot Golf Resort

12-March-2001

Reflector and web

- To subscribe to our reflector, send email to:

  majordomo@ieee.org

  and include this line in the ***body of the message:***

  subscribe stds-802-3-efm <*your email address*>

- Our web site is located at:

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

Interim Meeting

- Two day meeting - January 8-9 2001
- Hyatt Regency Irvine
  - Hosted by Broadcom
- 200+ attendees
- 23 technical presentations

Objectives for Interim

- **Hear presentations concerning:**
  - **The need for an EFM project in IEEE 802.3**
  - **Justification in terms of the 5 Criteria**
  - **Goals and Objectives for a project**
- **Attempt to reach consensus on:**
  - **Project Authorization Request (PAR)**
  - **5 Criteria responses**
  - **Goals and Objectives (at least a start)**

Presentations at interim

IEEE 802.3 Ethernet in the First Mile Study Group - January, 2001 Presentation Materials

#	Name	Company/Organization	Presentation Title	File	email
	MEETING MINUTES			minutes_01_2001.pdf	
	ALL FILES		Compressed in zip format	all_files.zip	
1	**Howard Frazier**	Dominet Systems	Agenda and General Information	agenda_1_01_2001.pdf	millardo@dominetsystems.com
2	**Pasi Vaananen**	Nokia	Ethernet for Residential Access Applications	vaananen_1_01_2001.pdf	pasi.vaananen@nokia.com
3	**David Closs**	ADC	Ethernet in the First Mile	closs_1_01_2001.pdf	david_closs@adc.com
			David Closs's notes from the presentation	closs_2_01_2001.pdf	
4	**Gerry Pesavento**	Alloptic	Ethernet Passive Optical Networks (EPONs)	pesavento_1_01_2001.pdf	gerry.pesavento@alloptic.com
5	**Nicolas Nguyen**	One Path Net	Need for Ethernet Based PON Standard	nguyen_1_01_2001.pdf	nnguyen@onepathnet.com
6	**John George**	Lucent	Optical Architecture Options	george_1_01_2001.pdf	johngeorge@lucent.com
7	**Jonathan Thatcher**	WWP	Objectives for "First Mile" Gigabit Optics	thatcher_1_01_2001.pdf	jonathan.thatcher@worldwidepackets.com
8	**David Kabal**	Picolight	Optical Ethernet in the First Mile	kabal_1_01_2001.pdf	dkabal@picolight.com
9	**Cees Van Der Stoep**	Calynet	The Cost Effective Solution	vanderstoep_1_01_2001.pdf	dan@calynet.com
10	**Patrick Stanley**	Elastic Networks	Robust Ethernet in the First Mile	stanley_1_01_2001.pdf	pstanley@elastic.com
11	**Jim Carlo**	TI	Spectrum Management	carlo_1_01_2001.pdf	j.carlo@ti.com
12	**Marty Staszak**	3Com	A Case for the Marriage of Ethernet and DSL	staszak_1_01_2001.pdf	marty_staszak@3com.com
13	**David Melman**	Galileo	Virtual Private Bridged Networks	melman_1_01_2001.pdf	davidm@galileo.co.il
14	**John Wolcott**	WWP	Layer 2 Tag Extension - EFM Objective	wolcott_1_01_2001.pdf	john.wolcott@worldwidepackets.com
15	**Jon Moore**	GCPUD	Gig-E FTTH	moore_1_01_2001.pdf	jmoore@gcpud.org
16	**Maha Achour**	Optical Access	Free Space Ethernet	achour_1_01_2001.pdf	machour@opticalaccess.com
17	**Howard Frazier**	Dominet Systems	EPON TDMA	frazier_1_01_2001.pdf	millardo@dominetsystems.com
18	**David Thorne**	BT	A Service/Network Provider's Perspective	thorne_1_01_2001.pdf	
19	**Steve Jackson**	Nortel	Considerations prior to a PAR	jackson_1_01_2001.pdf	ssj@nortelnetworks.com
20	**Steve Haddock**	Extreme	Considerations for Project Scope	haddock_1_01_2001.pdf	shaddock@extremenetworks.com
21	**Jonathan Thatcher**	WWP	Meta Thoughts	thatcher_2_01_2001.pdf	jonathan.thatcher@worldwidepackets.com
22	**Bruce Tolley**	Cisco	Defining Scope and Objectives	tolley_1_01_2001.pdf	btolley@cisco.com
23	**Ed Eckert**	Nortel	T1E1 Status Report	eckert_1_01_2001.pdf	ejeckert@nortelnetworks.com
24	**Howard Frazier**	Dominet Systems	Draft PAR and 5 Criteria	par_1_01_2001.pdf	millardo@dominetsystems.com
25			Goals & Objectives, Poll Summary	goals_1_01_2001.pdf	

Project Goals & Objectives

- Y:7 N:31 - 100 mbps SMF-PMD (clause 26)
- **Y:72 N:2 - 1000 mbps single SMF @ 10 km**
- Y:8 N:34 - Single SMF
- Y:22 N:41 - 1000 mbps @ 10 km (extended LX)
- Y:25 N:47 - 1000 mbps @ >= 40 km @ 1550 nm
- Y:3 N:56 - 1000 mbps @ >= 40 km @ 1300 nm
- *Y:51 N: 34 - 1000 mpbs @ >= 40 km*
- *Y: 54 N: 31 - Ethernet over Cu @ >= X Mbps @ >= Y km*
- *Y: 47 N: 39 - EoVDSL @ >= X Mbps @ >= Ykm*
- *Y: 34 N: 32 - Make recommendation re: EoVDSL*
- Y: 33 N: 36 - EoxDSL (Ethernet over some flavor of DSL)

Project Goals & Objectives

- *Y: 46 N: 24 - Ethernet over Cu (for the MxU)*
- *Y: 61 N: 21 - Ethernet over Cu (for the OSP)*
- *Y: 50 N: 27 - One PMD for all Local Loop Cu Twisted Pair*
- Y: 14 N: 39 - Ethernet over the air
- **Y: 71 N: 1 Make recommendation re: environmental requirements**
- **Y: 88 N: 3 Make recommendation re: EPONs**
- *Y: 45 N: 17 Make recommendation to 802.1 re: VLAN Tag extension*
- **Y: 60 N: 4 Make recommendation re: inclusion of OAM&P functionality**
- **Y: 56 N: 8 Solicit recommendations re: OAM&P functionality**
- Y: 16 N: 40 Study FSAN approach for last mile for Ethernet
- Y: 16 N: 42 Make recommendation re: rate adaptation

Plans for This Week

- Continue work on PAR and 5 Criteria
- Continue technical presentations
- Continue work on objectives
- May ask for renewal of EFM Study Group charter

Presentations This Week

IEEE 802.3 Ethernet in the First Mile Study Group - March, 2001 Presentation Materials

#	Name	Company/Organization	Presentation Title	# of Slides	minutes	File	email
	ALL FILES		Compressed in zip format			all_files.zip	
1	**Howard Frazier**	Dominet Systems	Agenda and General Information	11	25	agenda_1_0301.pdf	millardo@dominetsystems.com
2	**Howard Frazier**	Dominet Systems	Draft PAR and 5 Criteria	8	30	par_1_0301.pdf	millardo@dominetsystems.com
3	**Osamu Ishida**	NTT	First Mile OAM&P Objective	8	15	ishida_1_0301.pdf	ishida@exa.onlab.ntt.co.jp
4	**Hiroshi Suzuki**	Cisco Systems	Why OAM for Ethernet	12	20	suzuki_1_0301.pdf	hsuzuki@cisco.com
5	**Michael Silverton**	Fiberhood Networks	Ethernet in the First Mile	15	20	silverton_1_0301.pdf	michael@fiberhood.net
6	**Glen Kramer**	Alloptic	Multiple Access Techniques for ePON	15	20	kramer_1_0301.pdf	glen.kramer@alloptic.com
7	**Gerry Pesavento**	Alloptic	Optical Considerations for the First Mile	10	20	pesavento_1_0301.pdf	gerry_pesavento@alloptic.com
8	**Ariel Maislos**	Passave Networks	Ethernet PON, navigating the Minefield	7	15	maislos_1_0301.pdf	maislos@passave.com
9	**Frank Effenberger**	Quantum Bridge	EPON Technical Considerations	7	15	effenberger_1_0301.pdf	feffenberger@quantumbridge.com
10	**Brian Petersen**	Cisco Systems	Ethernet over Passive Optical networks	13	20	petersen_1_0301.pdf	brianp@cisco.com
11	**David Levi**	BroadLight	Evolution of Services Over Passive Optical Net	18	20	levi_1_0301.pdf	david@broad-light.com
12	**Ed Beili**	One Path Networks	EPON Protocol	21	20	beili_1_0301.pdf	ebeili@onepathnet.com
13	**Bruce Tolley**	Cisco Systems	Scope and Objectives for Active Optics	10	15	tolley_1_0301.pdf	btolley@cisco.com
14	**Jack Jewell**	PicoLight	EFM PMDs	10	15	jewell_1_0301.pdf	jljewel@picolight.com
15	**John George**	Lucent Technologies	Optical Architectures and Fibers	11	15	george_1_0301.pdf	johngeorge@lucent.com
16	**Jane Jude**	Hargray Communications	EFM in the Real World	9	20	jude_1_0301.pdf	jjude@hargray.com
17	**Sergey Zakourdaev**	individual	Ethernet in the First Mile	4	10	zakourdaev_1_0301.pdf	szakourd@mikron.ru
18	**Bob Svacina**	interlinkBT	Ethernet - The last mile for industrials	11	15	svacina_1_0301.pdf	bob.svacina@interlinkbt.com
19	**Nersi Nazari**	Marvell Semiconductor	Two Long Range PHYs	16	20	nazari_1_0301.pdf	nersi@marvell.com
20	**Patrick Stanley**	Elastic Networks	Fast Robust Ethernet in the First Mile	57	40	stanley_1_0301.pdf	pstanley@elastic.com
21	**Hugh Barrass**	Cisco Systems	Ethernet over Copper	20	25	barrass_1_0301.pdf	hbarrass@cisco.com
22	**Michael Beck**	Alcatel	Ethernet over Copper	9	15	beck_1_0301.pdf	steve.nordstrom@alcatel.com
23	**Brad Booth**	Intel	Ethernet in the First Mile: w/ fries?	11	15	booth_1_0301.pdf	bradley.booth@intel.com
24	**Richard Brand**	Nortel Networks	New World Applications for the First Mile	8	15	brand_1_0301.pdf	rbrand@nortelnetworks.com
25	**Yaron Raz**	Atrica	EFM Direction	13	15	raz_1_0301.pdf	raz@atrica.com

Ethernet in the First Mile Study Group

Plenary Meeting Report

IEEE 802.3 CSMA/CD Working Group

Marriot Golf Resort - Hilton Head, SC

15-March-2001

Presentations This Week

IEEE 802.3 Ethernet in the First Mile Study Group - March, 2001 Presentation Materials

#	Name	Company/Organization	Presentation Title	# of Slides	minutes	File	email
	ALL FILES		Compressed in zip format			all_files.zip	
1	**Howard Frazier**	Dominet Systems	Agenda and General Information	11	25	agenda_1_0301.pdf	millardo@dominetsystems.com
2	**Howard Frazier**	Dominet Systems	Draft PAR and 5 Criteria	8	30	par_1_0301.pdf	millardo@dominetsystems.com
3	**Osamu Ishida**	NTT	First Mile OAM&P Objective	8	15	ishida_1_0301.pdf	ishida@exa.onlab.ntt.co.jp
4	**Hiroshi Suzuki**	Cisco Systems	Why OAM for Ethernet	12	20	suzuki_1_0301.pdf	hsuzuki@cisco.com
5	**Michael Silverton**	Fiberhood Networks	Ethernet in the First Mile	15	20	silverton_1_0301.pdf	michael@fiberhood.net
6	**Glen Kramer**	Alloptic	Multiple Access Techniques for ePON	15	20	kramer_1_0301.pdf	glen.kramer@alloptic.com
7	**Gerry Pesavento**	Alloptic	Optical Considerations for the First Mile	10	20	pesavento_1_0301.pdf	gerry_pesavento@alloptic.com
8	**Ariel Maislos**	Passave Networks	Ethernet PON, navigating the Minefield	7	15	maislos_1_0301.pdf	maislos@passave.com
9	**Frank Effenberger**	Quantum Bridge	EPON Technical Considerations	7	15	effenberger_1_0301.pdf	feffenberger@quantumbridge.com
10	**Brian Petersen**	Cisco Systems	Ethernet over Passive Optical networks	13	20	petersen_1_0301.pdf	brianp@cisco.com
11	**David Levi**	BroadLight	Evolution of Services Over Passive Optical Net	18	20	levi_1_0301.pdf	david@broad-light.com
12	**Ed Beili**	One Path Networks	EPON Protocol	21	20	beili_1_0301.pdf	ebeili@onepathnet.com
13	**Bruce Tolley**	Cisco Systems	Scope and Objectives for Active Optics	10	15	tolley_1_0301.pdf	btolley@cisco.com
14	**Jack Jewell**	PicoLight	EFM PMDs	10	15	jewell_1_0301.pdf	jljewel@picolight.com
15	**John George**	Lucent Technologies	Optical Architectures and Fibers	11	15	george_1_0301.pdf	johngeorge@lucent.com
16	**Jane Jude**	Hargray Communications	EFM in the Real World	9	20	jude_1_0301.pdf	jjude@hargray.com
17	**Sergey Zakourdaev**	individual	Ethernet in the First Mile	4	10	zakourdaev_1_0301.pdf	szakourd@mikron.ru
18	**Bob Svacina**	interlinkBT	Ethernet - The last mile for industrials	11	15	svacina_1_0301.pdf	bob.svacina@interlinkbt.com
19	**Nersi Nazari**	Marvell Semiconductor	Two Long Range PHYs	16	20	nazari_1_0301.pdf	nersi@marvell.com
20	**Patrick Stanley**	Elastic Networks	Fast Robust Ethernet in the First Mile	57	40	stanley_1_0301.pdf	pstanley@elastic.com
21	**Hugh Barrass**	Cisco Systems	Ethernet over Copper	20	25	barrass_1_0301.pdf	hbarrass@cisco.com
22	**Michael Beck**	Alcatel	Ethernet over Copper	9	15	beck_1_0301.pdf	steve.nordstrom@alcatel.com
23	**Brad Booth**	Intel	Ethernet in the First Mile: w/ fries?	11	15	booth_1_0301.pdf	bradley.booth@intel.com
24	**Richard Brand**	Nortel Networks	New World Applications for the First Mile	8	15	brand_1_0301.pdf	rbrand@nortelnetworks.com
25	**Yaron Raz**	Atrica	EFM Direction	13	15	raz_1_0301.pdf	raz@atrica.com

Proposed PAR

- Title:

  Standard for —Information technology— Telecommunications and information exchange between systems—Local and metropolitan area networks—Specific requirements—Part 3: Carrier sense multiple access with collision detection (CSMA/CD) access method and physical layer specifications—**Media Access Control Parameters, Physical Layers and Management Parameters for subscriber access networks**

M: Quackenbush S: Chin

Tech >= 75% Y: 75 N: 0 A: 1 PASS

Proposed PAR

- Scope:

  Define 802.3 Media Access Control (MAC) parameters and minimal augmentation of the MAC operation, physical layer specifications, and management parameters for the transfer of 802.3 format frames in subscriber access networks at operating speeds within the scope of the current IEEE Std 802.3 and approved new projects.

M: Brand S: Barrass

Tech >= 75% Y: 117 N: 0 A: 10 PASS

Proposed PAR

- Purpose:

  To expand the application of Ethernet to include subscriber access networks in order to provide a significant increase in performance while minimizing equipment, operation, and maintenance costs.

M: Payne S: Eisler

Tech >= 75% Y: 108 N: 0 A: 1 PASS

Broad Market Potential

a) Broad sets of applicability

b) Multiple vendors and numerous users

c) Balanced costs (LAN versus attached stations)

Residential and business subscriber access networks represent a new and very broad application space for Ethernet. The available market is estimated by third party analysts at greater than 40 million subscribers in the US and 150 million subscribers worldwide by 2005. The technology developed for access networks will have applications in other markets as well.

At the second EFM study group meeting, 121 individuals from 77 companies representing both vendors and users expressed their support for the project.

Ethernet equipment vendors and customers are able to achieve an optimal cost balance between the network infrastructure components and the attached stations.

M: Dineen S: Beaudoin Tech >= 75% Y: 103 N: 0 A: 3 PASS

Compatibility

a) Conformance with 802 Overview and Architecture

b) Conformance with 802.1D, 802.1Q, 802.1f

c) Compatible managed object definitions

As a supplement to IEEE Std 802.3, the proposed project will remain in conformance with the 802 Overview and Architecture.

As a supplement to IEEE Std 802.3, the proposed project will remain in conformance with 802.1D, 802.1Q and 802.1f, though extensions to these standards may be proposed as additional work items.

As a supplement to IEEE Std 802.3, the proposed project will follow the existing format and structure of 802.3 MIB definitions.

M: Dineen S: Welch Tech >= 75% Y: 93 N: 0 A: 1 PASS

Distinct Identity

a) Substantially different from other IEEE 802 standards.

b) One unique solution per problem (not two solutions to a problem).

c) Easy for the document reader to select the relevant specification.

There is no existing 802 standard or approved project appropriate for wire line access using the Ethernet access protocol and frame format, with the exception of certain combinations of operating speed and media defined in various supplements to IEEE Std 802.3. This project will expand that set to include new media.

While the proposed project includes a choice of physical media and operating speeds, it will specify only one solution for each media at a given operating speed range.

The proposed project will be formatted as a supplement to IEEE Std 802.3, making it easy for the document reader to select the EFM specification

M: Dineen S: Bennet Tech >= 75% Y: 96 N: 0 A: 0 PASS

Technical Feasibility

a) Demonstrated system feasibility.

b) Proven technology, reasonable testing.

c) Confidence in reliability.

Ethernet systems (comprising interface controllers, bridges, routers, management systems, and other devices) represent the most widely deployed networking technology in history. The proposed project will build on the vast array of Ethernet component and system design experience, and the broad knowledge base of Ethernet network operation.

The proposed project will, to the extent possible, re-use specifications developed by other standards bodies and develop new specifications in accordance with the rigorous standards of proof applied to 802.3 projects.

The reliability of Ethernet components and systems can be extrapolated in the target environments with a high degree of confidence.

M: Dineen S: Welch Tech >= 75% Y: 93 N: 0 A: 3 PASS

Economic Feasibility

a) Known cost factors, reliable data.

b) Reasonable cost for performance.

c) Consideration of installation costs.

The cost factors for Ethernet components and systems are well known. The proposed project may introduce new cost factors which can be quantified.

Ethernet consistently demonstrates the most attractive cost/performance ratio of any networking technology, at any operating speed. This fact is well established in the enterprise networking application space, and the goal of this project is to extend the same cost/performance advantage to the access application space.

Installation costs, as well as maintenance and operations costs, should be reduced when compared to competing technologies through a combination of higher manufacturing volume, broader competition, a broader labor pool, simpler configurations and a more optimal system architecture.

M: Dineen S: Welch Tech >= 75% Y: 89 N: 0 A: 5 PASS

EFM SG Motion

Direct the chair to present the PAR and 5 Criteria to the 802.3 WG on Thursday and to ask for permission to presubmit it to the 802 SEC for consideration at the July meeting and ask that the study group's charter be renewed for another meeting cycle.

M: Flatman S: Dineen Tech >= 75% Y: 89 N: 2 A: 2 PASS

802.3 WG Motion

Authorize the EFM Study Group to presubmit their draft PAR and 5 Criteria to the 802 SEC for consideration at the July meeting.

Renew the charter of the EFM Study Group for another meeting cycle.

M: EFM Study Group

Tech >= 75% Y: N: A:

SG Objectives

Support subscriber access network topologies:

84-3-12 Point to multipoint on optical fiber

86-0-10 Point to point on optical fiber

64-1-33 Point to point on copper

Provide a family of physical layer specifications:

87-0-11 1000BASE-X extended temperature range optics

84-4-13 1000BASE-X long distance over single SM fiber

68-0-27 PHY for copper

59-3-19 PHY for long distance over PON

79-0-12 Support OAM&P for subscriber access networks

Plans for Next Meeting

- Monday, Tuesday, Wednesday
- May 21, 22, 23
- Adams Mark Hotel
- St. Louis, MO
- Hosted by Agilent