

Unconfirmed Minutes
IEEE 802.3 CSMA/CD PLENARY
LaJolla, CA
July 6-9, 1998

MONDAY, 6 JULY

ADMINISTRATIVE MATTERS

Mr. Geoff Thompson, Chair 802.3 CSMA, opened the Working Group plenary at 1500, by welcoming meeting attendees and introducing Mr. David Law, Vice-Chair 802.3, and Mr. Robert Grow, Secretary 802.3 who produced these minutes.

Mr. Sanjay Jain was introduced. He is working of a doctoral thesis on how consensus technology standards are developed. He will select, and if they are willing, interview some members of the Working Group to learn about our procedures and perspectives on the standards process.

The meeting attendees were asked to introduce themselves. The voting members of the Working Group ([Attachment A2](#)) were reviewed as were the requirements to qualify for voting membership. The potential voter list ([Attachment A3](#)) was presented, and the following individuals asked to become voting members of 802.3: Andersson, Ralph; Bohbot, Michel; Balmer, Keith; Christ, Chris; Fritz, Scott; Hsu, Jacob; Jin, Robert; Keonig, Christine; Lynch, Jeffrey; Lin, George; Naidu, Hari; Proffitt, John; Ross, Tam; Rizk, Ramez; Wong, David. This increases the voting membership to 223.

The attendance lists were explained and circulated ([Attachment A9](#)). All attendees were told of the obligation to register for the meeting and pay the \$300 meeting fee. A discounted rate of \$275 dollars is available for those preregistering. A list of future meetings and registration instructions are available through the IEEE 802 web site home page, <http://grouper.ieee.org/groups/802>.

Mr. Thompson explained attendance rules, the email lists maintained by the committee, and described information available on the web site. He also gave instructions on how to sign the attendance lists. The Working Group web pages contains a wealth of information about 802.3. This includes the 802.3 Operating Rules, descriptions of how to subscribe to the various email lists, meeting minutes and an archive of presentations to the Working Group and its Task Forces. The 802.3 home page is: <http://grouper.ieee.org/groups/802/3/index.html>.

Document Distribution

Since the March Irvine meeting, 802.3aa was submitted to the Standards Board for approval. 802.3ac had a Working Group recirculation ballot, and opened a Sponsor Ballot scheduled to close prior to the meeting. 802.3z completed two Sponsor Ballot

recirculations, and was submitted to the Standards Board for approval. 802.3ab posted draft 3.0 to the web site and copies were mailed to those not willing to get drafts through web ftp. 150 copies of 802.3ab/D3.0 were also available for distribution at the meeting.

March Minutes

The minutes of the March meeting in Irvine were not available for distribution though they were expected prior to the end of the meeting.

Agenda (Monday-Tuesday)

MOTION: Approve the agenda ([Attachment A1](#)).

M: Mr. Frazier, S: Mr. Dineen. Approved by voice vote.

Standards Board Report

All 802.3 Working Group items before the IEEE Standards Board were approved during its June meeting. This includes 802.3z, 802.3aa and the PAR for 802.3ad Link Aggregation. 802.3z and 802.3aa were approved at Sponsor Ballot recirculation with no negatives or comments prior to those meetings.

Executive Committee Report

Mr. Thompson reviewed items before the Executive Committee. Meetings in 1999, 2000 and 2001 have been scheduled over the 4th of July. A poll was taken to determine the effect on attendance. In 1999, 80 people indicated they expect to attend, while 8 would not attend and 34 would reduce the number of days of attendance because of scheduling. In 2000, 69 expect to attend, 38 not attending because of the holiday; and in 2001 59 expecting to attend and 35 not because of the scheduling.

Mr. Thompson described the two tutorials scheduled for the week. The Monday tutorial is on Flow Control issues, and Copper Cabling on Tuesday evening.

Standards distributed at this meeting do not include any 802.3 standards. The plan to distribute a CD of 802. standards was postponed until November, but IEEE has shown indications of withdrawing from the agreement that would allow 802 to publish the CD.

State of Standards and Operating Rules of 802.3

Mr. David Law, Vice Chair of 802.3, reviewed IEEE Project 802.3 Working Group Standards Status ([Attachment A4](#)). He also showed a copy of the matrix showing which clauses were changed by each project ([Attachment A5](#)). This matrix represents the current publication status of the full 802.3 standard: IEC 8803-3:1996 and the supplements 802.3u, 802.3r, 802.3x&y, 802.3z and 802.3aa.

Mr. Law also explained a proposed 802.3 rule change ([Attachment A6](#)) and the procedure for changing the 802.3 rules. This rule change is intended to exploit the electronic notice and document distribution capabilities that have been and are being used successfully by the Working Group and its Task Forces. It would allow notice requirements to be met by

posting on the 802.3 web site. The proposed rule change will be discussed more this week and precirculated to the 802.3 membership prior to an anticipated vote in the November 802.3 Thursday plenary meeting.

External Liaison Report — SC25/WG3

Mr. Alan Flatman presented the liaison report on the ISO/IEC SC25/WG3 meeting held in Tokyo on 25-28 May ([Attachments B1, B2](#)). An addendum to ISO/IEC 11801 is being prepared that will closer align with TIA specifications and will also add specifications for cabling called out in 802.3z and the requirements of 802.3ab. His report also covered the current state of the 2nd edition of 11801, and the state of Category 6 and 7 cabling (Class E and F). Mr. Flatman invited the Working Group to the Tuesday IEEE 802 tutorial on next generation cabling.

External Liaison Report — SC6/WG3

Mr. Thompson provided the SC6/WG3 liaison report. He presented a request to SC6 that the complications of producing ISO standards be simplified. They agreed that we will not need to produce ISO versions but will produce a list of what is ISO approved and what isn't within the IEEE edition of a standard.

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 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 ([Attachment A7](#)). 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://grouper.ieee.org/groups/802/3/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.

Interpretation Request

Mr. Law described a Request for Interpretation that has been received ([Attachment C](#)). The subject of the request is bit ordering of the OUI over the MII. A response to the request will be generated during the plenary week breakout meetings.

TUESDAY, 7 JULY

ADMINISTRATIVE MATTERS

Mr. Geoff Thompson re-convened the 802.3 plenary at 0840, Mr. Robert Grow recorded the minutes. Mr. Thompson again displayed the potential voter list and asked if anyone on the list desired to become a voting member of 802.3, those requesting voter status were: Furlong, Darrell; Hill, John. The attendance lists were circulated.

External Liaison Report — FO-2.2

Mr. Steve Swanson reported on the FO-2.2 meeting ([Attachment B3](#)). He reviewed the structure of TIA for the group. FO-2.2 met June 22nd in Vancouver. Its Task Group 1 is working on characterization of multimode bandwidth with laser launch. They plan to have a recommendation for the January 1999 TIA meeting. It is not known if this work will diverge from the 802.3z specifications. Task Group 2 is working on a 100 Mb/s 850 nm version of 100BASE-FX plus fiber auto-negotiation. It is to be patterned on clause 28 auto-negotiation, but it is not known if compatibility with clause 36 auto-negotiation will be achieved.

Mr. Thompson reported on a response letter that he has received to his query on the justification for the TIA fiber 10/100 project ([Attachment B4](#)) Mr. Flatman, Mr. Swanson, Ms. Thaler and Mr. Law agreed to help draft a response to the letter.

PARs From Other Groups — 802.5

Mr. Thompson presented the proposed PAR from 802.5 on a project to “Specify extensions to 802.1Q to enhance support for the source route bridging method”. ([Attachment D](#)). Discussion ensued as to how fully the PAR answers the five criteria. Questions were raised on various criteria details. Further discussion was postponed until the comment resolution in 802.1 was completed, so that individuals occupied there could be present in 802.3 to better educate the group of the relationship of 802.1 and the proposed PAR

100BASE-T MAINTENANCE (802.3aa)

Mr. Colin Mick, Chair of the 100 Mb/s maintenance Task Force reported on 802.3aa. 802.3aa completed Sponsor Ballot without comment or negative ballot. The project was submitted to and approved by RevCom and the Standards Board at its June meeting. 802.3aa will be incorporated into IEEE 802.3-1998.

SC6 has agreed to put 802.3 standards on fast track approval. A pre-publication proof is in the process of being submitted this week as a fast track document. The final published version is expected to be submitted as a ballot comment in September. If, at some time in the future, the approved ISO version is identical to the IEEE standard, the document would then be published as an ISO standard, if not, the portions of the IEEE standard approved as ISO standard will be listed.

MAINTENANCE/SC6

Mr. Law reported on a clause 7 issue raised in ISO. The ISO comment points out that maintenance actions taken by the committee make clause 7 internally inconsistent. Mr. Law recommended that a group of experts work to review the issue to determine if an editorial fix to the document is possible, or if the appropriate fix is technical and therefore will require balloting. Mr. Thompson requested Mr. Frazier, Mr. Molle, and Ms. Thaler to assist in the maintenance meeting on this issue.

1000BASE-T (802.3ab)

Mr. George Eisler, Chair 802.3ab, reported on the progress of the Task Force ([Attachment E1](#)). The group held an interim meeting in Merrimack in April, reached agreement on the start-up procedure and resolved comments on D2.1. Editors produced D3.0 which was available prior to the meeting, with the intent to request approval of a Working Group ballot at this plenary.

Mr. Steve Pryor gave a brief tutorial on 1000BASE-T with emphasis on the start-up protocol, since this was the last major technical issue that the Task Force felt it needed to resolve prior to Working Group ballot ([Attachment E2](#)).

ADMINISTRATIVE MATTERS

PARs From Other Groups — 802.5 (postponed discussion)

Mr. Tony Jeffere described the limitations in 802.1Q that the proposed 802.5 PAR plans to address. Native source routing frames are the area of focus. The project does not need to define any frame formats but only define the uses of frame fields already defined. There is no perception that the PAR will affect 802.3. Mr. Seifert agreed to be a 802.3 designated voter if the PAR is approved. Mr. Thompson will request the voting rights in the Executive Committee.

GIGABIT ETHERNET (802.3z)

Mr. Howard Frazier, Chair 802.3z, made his final report on the Task Force ([Attachment F](#)). Two recirculation ballots closed since the March meeting, and an interim meeting was held in Merrimack, NH on April 30 and May 1. The Sponsor Ballot closed with no negative ballots and no comments. Draft 5.0 was the subject of the second recirculation ballot. It was approved by RevCom and the Standards Board. In addition, the draft will be available from IEEE Standards until IEEE 802.3-1998 is available. 802.3z will not be published as a separate volume. Mr. Frazier, assisted by Mr. Howard Johnson, Editor-in-Chief of 802.3z, presented awards to outstanding contributors in the development of the standard.

VLAN TAG (802.3ac)

Mr. Ian Crayford, Chair of 802.3ac, reported on progress of the project ([Attachment G1](#)). The Sponsor Ballot is one ballot short of being able to close. The received ballots include one negative ballot. The Task Force will require approximately 1 hour during the week to address ballot comments.

LINK AGGREGATION TASK FORCE (802.3ac)

Mr. Geoff Thompson reported on the Link Aggregation Study Group at the request of Mr. Stephen Haddock, study group Chair. The Link Aggregation PAR was approved, and the work will continue as the Link Aggregation Task Force 802.3ad. The Task Force will formally organize and continue its work this week.

ADMINISTRATIVE MATTERS

Mr. Riggsby, Executive Secretary IEEE802, presented alternatives for future July meetings based on the poll conducted on Monday. Three alternative were presented for July 2000. Moving from the week including the 4th of July would increase rates, and decrease some of the benefits available during that week, while staying at the Hyatt Regency LaJolla location. Mr. Riggsby also presented a non 4th of July option for the Hyatt Regency in St. Louis. A poll was taken:

3-7 July	LaJolla, CA	1
10-14 July	LaJolla, CA	37
10-14 July	St. Louis, MO	35

CALL FOR INTEREST:

Congestion Control, Extending Dot3x Flow Control

Mr. Fouad Tobagi of Stanford University presented some research work in the area of congestion control ([Attachment I](#)). The analysis included study of 802.3x flow control and possible extensions to it. Congestion caused by rate mismatch (e.g., 100 Mb/s into 10 Mb/s) and by traffic merging (e.g., n*100 Mb/s into 100 Mb/s) were simulated to analyze packet loss with no congestion control and with XON/XOFF control. The effects of adding a class of service to 802.3x flow control was also simulated, as was addition of destination information to the congestion control protocol.

ADMINISTRATIVE MATERS

The Tuesday afternoon and Wednesday meeting schedule for Task Force, Study Group and Ad Hoc groups was established, and 802.3 was recessed at 1205.

THURSDAY, 9 JULY

ADMINISTRATIVE MATERS

Mr. Geoff Thompson, Chair 802.3, opened the Working Group closing plenary at 0830 and welcomed those attending the meeting. The attendance lists were circulated. The minutes of the March meeting in Irvine were distributed. Mr. Thompson explained that individuals would be dropped from the 802.3 email list based on “bounced” messages.

MOTION: Approve the agenda. ([Attachment A8](#))

M: Mr. Quackenbush, S: Mr. Paine. Approved by voice vote.

The potential voter list was again presented, and the following individuals asked to become voting members of 802.3: Bovill, Kirk; Castellano, Andy; Youngbum, Kim; Munson, Carrie; Turlej, Zbigniew. Prior, Steve was added later per the Chair’s prerogative.

Input on Executive Matters: 802.3 Position on 802.5 PAR

The 802.3 Ad Hoc Group recommendations on the 802.5 Source Routing PAR were accepted by Mr. Love. The wording of the PAR will be amended to state that its purpose

is to specify the operation of source routing within a VLAN environment, and not as an addition to 802.1.

Chairman's Action Items: 10/100 Ad Hoc

Mr. Thompson presented the Ad Hoc Group's proposed response letter on the TIA 10/100 fiber project ([Attachment B5](#)). After giving time for attendees to read and discuss the letter, a motion was made:

MOTION: Accept the proposed TIA FO-2.2 letter.

M: Mr. Cook, S: Mr. Mick.

Y: 29 N: 0 A: 7 Approved.

Distribution of Minutes

Mr. Thompson opened a discussion on the use of electronic communications for conducting Working Group business. The Working Group has been improving effectiveness through the use of electronic communications. Task Forces have conducted ballots through primarily electronic means, by encouraging comments via email or the web site. Task Forces are posting presentations and minutes to the web. In some cases, a complete package of minutes and presentations have been posted within 24 hours of the close of the meeting. As part of the discussion, Mr. Thompson asked that the Working Group consider the distribution of minutes through electronic means.

MOTION: Distribute minutes via EMAIL notification and web posting. Exceptions to be handled at the discretion of the WG chair.

M: Mr. Nikolich, S: Mr. Quackenbush

Y: 43 N: 2 A: 2 Approved.

A motion to amend by striking "minutes" and replacing with "all documents" was withdrawn to be considered as a separate motion.

Discussion of the above motion included more testimonials to the benefits of electronic tools similar to those described above. A plea for members to be understanding of the download times this would require of those accessing the internet through a 28K modem was countered by the remark that as a networking standards group, we should be willing to use networking technology. After a little more discussion, the question was called without objection.

MOTION: Distribute all documents between meetings via EMAIL notification and web posting. Exceptions to be handled at the discretion of the WG chair.

M: Mr. Jover, S: Mr. Mick

Y: 35 N: 4 A: 13 Approved.

Discussion on the above motion centered on the differences between documents and minutes. The cost of mailing was raised, and it was pointed out that traditionally large companies have covered those mailing costs. It was mentioned that some projects had

not received this kind of support. A suggestion that funds be allocated at the beginning of a project for these expenses was responded to by Ms. Thaler, Treasurer of IEEE 802 as to the undesirability and difficulties of this approach. It was pointed out that many of our documents are multi-megabyte to reinforce the point about download times. The concern that some documents may not be available in electronic form was responded to that these documents could be scanned. The question was called without objection.

Mr. Thompson stated that he will do a paper mailing notifying WG participants that the target for implementing this policy will be for all distributions after the November 1998 plenary. He also will notify the Executive Committee of 802 of this action.

At Mr. Grow's request, Mr. Thompson requested that all presenters in 802.3 meetings either email in advance or bring to the meeting electronic copies of presentations (as well as the traditional paper copy for the minutes). PDF files are strongly preferred. (In general, it is best to include fonts to preserve formatting and readability by the maximum number of people.) If this is not possible, copies of source files will be accepted (FrameMaker and Microsoft Office). Only as a last resort should presentations have to be scanned.

Book Distribution

Mr. Thompson announced the books that were being distributed to registered attendees. The distribution does not include any 802.3 standards. Standards distributed: ISO/IEC 15802-5: 1998 [802.1G, 1998], ISO/IEC 8802-2: 1998 and ISO/IEC 8802.5: 1998.

Rules Ad Hoc

Mr. Law reported on the Rules Ad Hoc. Mr. Law revisited the proposed rules change. WG members were able to ask questions about the change. It was pointed out that the notice including agenda was not followed very well. This has usually been covered by the notice including the scope of the meeting. Mr. Thompson indicated a pro-forma agenda would satisfy the requirement.

10 Mb/s Maintenance Ad Hoc

Mr. Law reported on the 10 Mb/s Maintenance Ad Hoc meeting. He reviewed for the WG the ISO comments on Clause 7 and briefly discussed the changes to the base 802.3 document that precipitated the comments. The group of experts that reviewed the comments recommended the use of non-normative notes to describe the mapping between messages and variables. An example was provided for CARRIER_STATUS ([Attachment H](#))

10 Mb/s Interpretation Ad Hoc

Mr. Law reported on the Ad Hoc on Interpretation of the Standard. The Standard is unambiguous. He reviewed the proposed Response to the Interpretation Request ([Attachments C1](#), [C2](#) and [C3](#)).

TECHNICAL MOTION: That 802.3 approves the Interpretation response of the “Interpretation Requests AdHoc” as an appropriate and correct response without a 30 day WG letter ballot.

M: Mr. Seifert, S: Mr. Quackenbush

Y: 46 N: 0 A: 5 Approved.

The Request and Response will be posted to the web site in a archive of interpretation requests.

1000BASE-T (802.3ab)

Mr. George Eisler presented the report on the 802.3ab Task Force meeting held Tuesday and Wednesday. Two technical changes on the draft were agreed to in responding to comments: 1) common-mode noise rejection test, 2) easing of transmit high pass filtered jitter measurement specification. The Task Force passed a motion to request that the Working Group approve a ballot ([Attachment E3](#)). Mr. Colin Mick reviewed the detailed changes to D3.0 ([Attachment E4](#)).

TECHNICAL MOTION: Approve changes to 802.3ab D3.0, generate D4.0, and approve for working group ballot.

M: Mr. Eisler, S: Mr. Mick

Y: 58 N: 0 A: 3 Approved.

The Working Group mailing of D4.0 must be by 20 July to close the WG ballot before the interim meeting. The Task Force will meet in Austin TX 3-4 September 1998.

VLAN TAG (802.3ac)

Mr. Ian Crayford reported on the 802.3ac Task Force meeting held Wednesday. The Sponsor Ballot closed with faxed ballots and with a 98% approval. There was one negative ballot to resolve. The resolution was accepted by the voter and the ballot will be converted to affirmative ([Attachment G2](#)).

TECHNICAL MOTION: 802.3 requests 802 Exec Com. To forward 802.3ac D3.1 for LMSC recirculation and subsequently forward to RevCom (by 8/2) based on successful recirculation ballot with no new technical disapprove votes.

M: Mr. Crayford, S: Mr. Seifert

Y: 40 N: 0 A: 0 Approved.

LINK AGGREGATION (802.3ad)

Mr. Rich Seifert reported on the initial meeting of the 802.3ad Task Force meeting held Wednesday and Thursday. The Task Force was organized with Mr. Stephen Haddock elected as Chair. Mr. Rich Seifert was elected Editor-in-Chief. There were a number of presentations and vigorous discussion on topics that were before the Trunking Study Group. These presentations were posted on the web site within 24 hours because all presenters brought electronic copies of their presentations to the meeting.

The Task Force intends to close technical proposals in November. The Task force will meet 1-2 September in Austin, TX.

10/100 Ad Hoc/Liaison to TIA

Mr. Thompson a letter from Mr. Charles Berestecky, Chair of TIA TR-41, reporting on the progress of work taking place in TIA41.8.1 on the subject of potential new optical fibre interfaces ([Attachment B6](#)). Mr. Thompson will correspond with the TIA representative and thank them for keeping us informed. No action is required by the committee.

Follow-up On Monday Tutorial

Mr. Khaled Amer gave a brief presentation following up on the Monday Tutorial and discussions at 802.1 ([Attachment J](#)).

CALL FOR INTEREST:

Congestion Control, Extending Dot3x Flow Control

Mr. Tobagi reported on the Call for Interest Ad Hoc. There is strong interest in studying the issue (44 of the participants in the Ad Hoc and 38 that would attend an interim meeting). The group were interested in a wider scope for the study group than that proposed by Mr. Tobagi. More work is required to make a meeting productive, so no interim meeting will be held. He promised to return in November after more study.

ADMINISTRATIVE MATTERS — Minutes

Mr. Thompson asked if there had been sufficient time to review the Irvine minutes.

MOTION: Defer approval of Irvine minutes to November.

M: Crayford, S: Quackenbush

Y: 25 N: 0 A: 19 Approved.

Mr. Thompson thanked Mr. Law, Mr. Grow, the Task Force and Ad Hoc Chairs for their work. With no further business to conduct and without objection the meeting was adjourned at 1130.

ATTACHMENTS:

- A1 [Monday/Tuesday 802.3 Agenda](#)
- A2 [802.3 Voting Member List](#)
- A3 [802.3 Potential Voter List](#)
- A4 [802.3 Standards Status](#)
- A5 [8802.3 Clause Change Matrix](#)
- A6 [Proposed Rules Change](#)
- A7 [Call for patents and example response letter](#)
- A8 [Thursday 802.3 Agenda](#)
- A9 [July 1998 Attendance List](#)
- B1 [SC25/WG3 Liaison Report \(Flatman\)](#)

- B2 Addendum to SC25/WG3 Liaison Report (Swanson)
- B3 FO2.2 Liaison Report (Swanson)
- B4 TIA Email on FO2.2 10/100 project
- B5 802.3 Response Letter on FO 2.2 10/100 project
- B6 TIA Letter on Optical Connectors work in TR41.8.1
- C1 IEEE Standards letter on Interpretation Request
- C2 Interpretation Request
- C3 Interpretation Response
- D Proposed 802.5 PAR and Five Criteria
- E1 Tuesday 802.3ab Task Force report (Eisler)
- E2 1000BASE-T Duffer's Guide to Basics and Startup (Prior)
- E3 Thursday 802.3ab Task Force report (Eisler)
- E4 802.3ab D3.0 Comment Resolutions (Mick)
- F Tuesday 802.3z Task Force report (Frazier)
- G1 Tuesday 802.3ac Task Force report (Crayford)
- G2 Thursday 802.3ac Task Force report (Crayford)
- H 10 Mb/s Maintenance Ad Hoc Report (Law)
- I Congestion Control presentation (Tobagi)
- J GLAN Tutorial Follow-up (Amer)

Respectfully submitted 20 July 1998

Robert Grow
IEEE 802.3 Secretary
XLNT, Inc.
15050 Avenue of Science STE 200
San Diego, CA 92128
bob@xlnt.com

Additional note to WEB version only.

The attachments which form an essential portion of the minutes may not be available on the web site. All attachments submitted in electronic form or that could be scanned with acceptable quality have been included. Other attachments are only available in the paper distribution, which can be obtained from the address below.

IEEE Document Distribution Service
Alpha Graphics #35
Attention: P. Thrush
10201 North 35th Ave.
Phoenix AZ 85051 USA
Phone: 602 863-0999
FAX: 602 866-8801