Unconfirmed Minutes
IEEE 802.3 CSMA/CD PLENARY
Vancouver, BC
July 8-11, 2002

MONDAY, 8 JULY

ADMINISTRATIVE MATTERS
Mr. Robert Grow, Chair of 802.3 CSMA/CD, opened the meeting by explaining that the Vice Chair, Mr. Law and the Chair of 802.3af, Mr. Carlson would be unable to attend the week's meetings. He congratulated Mr. Law on the birth of their first son Andrew. The committee warmly applauded the announcement.

Mr. Grow explained that Mr. Turner would be dealing with the 802.3 Interpretation requests in place of Mr. Law and acting as the recording secretary during the opening Plenary in place of Mr. Carlson. He also said that Ms. Thaler would be undertaking the 802.3 Maintenance for Mr. Law. He went on to say that Mr. McCormack would be acting as the 802.3af chair in place of Mr. Carlson.

Each attendee present in the room introduced themselves.

Mr.Grow welcomed everyone to Vancouver and requested any amendments to the agenda. No amendments were forthcoming.

MOTION:
Approve the agenda <opening_agenda>
M: Mr. B. Murray
S: Mr. M. McCormack
Approved by voice without objection.

Mr. Grow explained the procedure for signing in to the two attendance books. He reminded everyone that a valid e-mail address is required for continued membership and participation in ballots and suggested the IEEE e-mail service as a way of guaranteeing an e-mail address that did not change over time.

Mr. Grow displayed the current list of voters <opening_voters> and explained the rules for gaining voting rights. He then displayed the list of voters at peril <opening_voters_at_peril>, and the list of people who were eligible to become voters <opening_potential_voters>. Mr. Grow then went through the list of potential voters asking if they wanted to become a voter.

"The list of potential voters that requested to become voting members at the Thursday closing plenary meeting was lost. If someone equested voter status on Thursday and they won't be in attendance at the November 11 opening plenary,please contact the Chair (bob.grow@intel.com)."

Mr. Grow reminded everyone that one of the conditions for continued voting rights is responding to Working Group ballots.

Mr. Grow requested any corrections to the minutes for the March meeting that were posted on the web. None were forthcoming.

MOTION:
Approve the March minutes as posted.
M: Mr. H. Barrass
S: Mr. B. Quackenbush
Approved by voice without objection (1.34 pm PST).

Working Group Activities Since St. Louis
Mr. Grow said that 802.3ae had a couple of interim meetings and three re-circulations, 802.3af had an interim meeting and re-circulation, and 802.3ah was in the process of creating a first draft.
There was a new maintenance PAR (#7) approved that had become 802.3aj

Standards Board Report
Mr. Grow said that 802.3ae had been unanimously approved by the standards board. The Maintenance #7 PAR was approved by NESCOM with a change of the name since the maintenance is a corrigenda.

Mr. Grow announced that there would be one tutorial during the week to be given by the IEEE on the standards process.

Executive Committee Report
Mr. Grow said that four PARs would be considered by the executive committee at the end of the week :
802.1 link discovery, 802.1 MAC service document (adopted from SC 6), 802.16 amending the purpose of their PAR, and 802.16 conformance testing.
Mr. Grow said that 802.15 had two PARs approved at the June meeting.

Mr. Grow announced that the executive committee would be meeting with the IEEE Board of Governors during the week to discuss the IEEE Trade Marks policy and the IEEE Compliance policy.
He said that three LSMC rules changes were being considered: adding a second Vice Chair, use of more electronic balloting, and moving the executive committee meeting to the Friday morning of a Plenary week.

GetIEEE802 program
Mr. Grow reminded the group that at the March plenary, a payment to the IEEE had been withheld as a result of the GetIEEE802 program extending the blackout window for free access to standards from six to twelve months. He reported that the GetIEEE802 program had moved the window back to six months, so the money had now been released to the IEEE. A draft agreement was being worked on to set the rules for the GetIEEE802 program. A meeting to discuss this agreement would be held during the week.
Mr. Frazier spoke about the work that the Task Force was doing to reach agreement with the IEEE over the funding of the GetIEEE802 program. He explained that the main issues to resolve were what documents would be available immediately for free download and what documents would be subject to the blackout window.
There was some discussion regarding the GetIEEE802 program.

Publicity
Mr. Grow explained that the executive committee was considering getting each Working Group to produce a 'news brief' at each Plenary that would be used to publicise the activities of 802. He asked if anyone was interested in taking on the task of writing such a news brief for 802.3. Mr Tolley said that he was interested in undertaking such a task.

Call for patents
Mr. Grow described the IEEE Patent Policy and showed the pro-forma patent declaration letter now posted on the IEEE web site. He explained that the policy applied both to granted patents and patent applications in progress. There were no comments or questions regarding the call for patents.

State of the standard
Mr. Grow reviewed the state of the 802.3 standard <state_of_standard>

Rules
Mr. Grow stated that one rules change request had been received since March <opening_rules>. The request proposed that Working Group ballots could not be less than 15 days. There would be a rules meeting during the week to discuss this proposed rules change.

External liaison report SC-25/WG3
This group had not met since March. Mr. Thompson stated that their next meeting would be in Washington DC in September and that 802 would be co-sponsoring the meeting.

External liaison report FO2.2
No report.

External liaison report SC-6/WG3
Mr. Grow said that he would have to find out about fast-tracking 802.3-2002 and 802.3ae for ISO/IEC approval.

External liaison report TR-42
Mr. DiMinico gave an update of the activities of TR-42 <TR42_liaison>

Mr. Grow called for any internal 802 liaison reports. There were none.

Maintenance
Ms. Thaler said that maintenance was on-going and there would be a meeting during the week.

Interpretations
Mr. Turner gave a presentation detailing the status of 802.3 Interpretations <opening_interpretations>. One interpretation request was about to finish ballot, and there were four new interpretation requests to be considered. A meeting would be held during the week to resolve comments and draft responses.

Ad-hoc on cable discharge
Mr. Dove stated that it had been decided to close down the ad-hoc, but that he would publish a chair's summary of their results.

The proceedings of the meeting were paused for a cookie break.

Mr. Grow resumed the meeting at 3.05 pm PST.

10 GIGABIT ETHERNET (802.3ae)
Mr. Thatcher gave a report of the work of 802.3ae <opening_ae>. He thanked the editorial team and technical contributors for their work. Mr. Grow thanked Mr. Thatcher and Mr. Booth for their hard work. Mr. Thompson requested that the 802.3ae reflector be shut down.
Mr. Grow said that the ITU had sent a letter regarding the clock tolerance of the WAN PHY and requested individuals to review the letter with him.

DTE POWER VIA THE MDI (802.3af)
Mr. McCormack gave a report of the work of 802.3af <opening_af>.
Mr. Grow spoke regarding the Sponsor Ballot Pool for 802.3af. He stated that the Sponsor Ballot Group for 802.3af would be closed this week. He said that he had a list of those currently in the Sponsor Ballot Group, and those who were in the Sponsor Ballot Pool and able to join the Sponsor Ballot Group if they wished. He requested that people who believed that they were in the Sponsor Ballot Group check that they were on the list.

ETHERNET IN THE FIRST MILE (802.3ah)
Mr. Frazier gave a report of the work of 802.3ah <opening_ah>. He reviewed the Clauses in D0.9.

TECHNICAL MOTION:
Affirm 802.3ah decision to add a new objective for EFM copper:
'PHY for single pair non-loaded voice grade copper distance >= 2700m and speed >= 2Mbps full duplex.'
M: Mr. Frazier (on behalf of the 802.3ah Task Force)
Y: 101, N: 0, Ab: 21
(Motion passes at 4.38 pm PST)

There was some discussion of the motion prior to the vote being taken.

Other Business
Mr. Healey announced a call for interest for 10GBASE-LX long reach PHYs. Twenty five people said they would be interested in attending the call for interest.
Mr. Grow scheduled the call for interest for Monday evening and made all the room assignments for the Task Forces.

At 4.50 pm PST, Mr. Grow adjourned the meeting without any objections.

THURSDAY, 11 JULY

ADMINISTRATIVE MATTERS
Mr. Grow opened the meeting at 1:16 pm PST and distributed the agendas. Mr. Grow called for any amendments to the agenda. Mr. Finn requested that a liaison report from 802.1 be added to the agenda.

MOTION:
Approve the modified agenda <closing_agenda>
M: Mr. G. Thompson
S: Mr. H. Barrass
Approved by voice without objection.

Mr. Grow showed a list of the future meeting locations <future_meetings> and Mr. Thompson reminded everyone that the 802 meetings would be split between two hotels again for the November Plenary. He went on to say that as a consequence of 802.3 opting to meet in the overflow hotel for the July Plenary meeting, 802.3 would be able to meet in the Hyatt Hotel at the November Plenary.

Mr. Grow announced that six individuals from the March potential voters list had requested to become voters at the March Plenary meeting and they had, incorrectly, been omitted from the voters list displayed at the opening 802.3 Plenary this week. He went on to say that the six individuals had now been added to the voters list <closing_voters>. Mr. Grow then went through the list of potential voters and added those that asked to the voter list <closing_potential_voters>.

GetIEEE802
Mr. Grow announced that a draft agreement had been reached with the IEEE regarding the GetIEEE802 program. He went on to say that the draft agreement would still have to be approved by the SEC and Board of Governors. Mr. Thompson said that a 194 day blackout period from the publication of new standards material had been agreed. This blackout period would only apply to new material and during the blackout, any existing material that would be updated by the new material would continue to be available under the GetIEEE802 program.

IEEE Trademarks
Mr. Grow announced that an agreement had been reached regarding the use of IEEE trademarks and compliance statements in the 802.3 standard. He said that the compliance page was to be replaced by a statement that IEEE and 802 are trademarks of the Institute of Electrical and Electronic Engineers. In addition, the registered trademark symbol would only be used in the introductory material and on the first occurrence of a particular trademark, as is standard practice in the industry. Mr. Grow said that the Board of Governors would still have to approve the proposed changes.

Call for Patents
Mr. Grow called for those with patents that have been granted or filed to visit the IEEE website to pick up a form to declare that they would comply with the stated IEEE Patent Policy. There were no questions from the floor regarding the call for patents.

PARs
There were no comments from the floor regarding the PARs that had been announced at the opening 802.3 Plenary.

Rules
Mr. Grow presented the proposed rules change regarding electronic balloting that had been considered by the rules committee <closing_rules>. He said that it was the opinion of the rules committee that the proposed rules change should be adopted.

PROPOSED TECHNICAL MOTION:
Add the proposed rules change into the 802.3 rules.
M: Mr. B. Quackenbush
S: Mr. G. Thompson

Mr. Quackenbush proposed an editorial amendment to the proposed rules change to move one of the words in the text. There was no objection to the modification.

Before voting on the motion, Mr. Grow displayed a list of voters who were at risk of losing their voting rights since they had not responded to either the Interpretation 1-11/01 Working Group ballot or the 802.3af Working Group draft ballot <voters_at_peril_for_not_voting>. Mr. Grow announced that after this Plenary meeting he would strike those voters on the list who had not attended any meetings since March.

The discussion returned to the motion regarding adopting the rules change with Mr. Thompson raising a point of order and stating that since this was a vote regarding rules, it would have to be a three way vote with the option of sending the proposed rules change out for a letter ballot.
When Mr. Grow asked whether anyone wished to send the rules change out for letter ballot, one person said that they did, however, no one else wished to second the proposal.
Mr. Grow reviewed the motion and was asked what 'including e-mail time' meant. He responded that this was the time from the e-mail being sent until the time when the ballot closed.
Mr. Grow was asked if an interpretation counted as a project draft and he responded that it was not. He was then asked if he would have to use his power as chair to make such ballots 35 days and he responded that he would.

TECHNICAL MOTION:
Add the proposed rules change into the 802.3 rules.
M: Mr. B. Quackenbush
S: Mr. G. Thompson
Y: 69, N: 1, Ab:3
(Motion passes at 2.02 pm PST)

External Liaison ITU-SG15
Mr. D. Martin gave a presentation regarding the response of the group that had reviewed the letter that had been received from ITU-SG15 question 11 regarding the WAN-PHY <ITU_SG15_letter>. He said that they had decided that there was no need for the Working Group to respond to the letter. He reviewed the contents of the letter

and said that it had been generated by question 12 and had come to 802.3 via question 11. He said that the letter described work that was in progress. He also said that as part of the 802.3ae project, 802.3 had already made a request to ITU for a path label for the WAN PHY and that a verbal message would be passed to question 12 to say that we had made such a request. It was pointed out from the floor that question 11 had recently issued some labels so it may be some time before they issued the WAN PHY label.

Internal Liaison 802.1
Mr. Finn stood to give a presentation regarding the response of 802.1 to the liaison letter generated by 802.3ah at the Edinburgh Interim. Mr. Finn reviewed the three questions asked by 802.3ah and the responses of 802.1 to each of the questions <dot1_liaison>.

Call for interest (10G extended reach PMD)
Mr. Healey stood to report on the call for interest for 10G extended reach PMDs that had been held during the week <closing_CFI>. He said that those present at the call for interest had unanimously agreed to bring forward a motion to 802.3 to initiate a study group.

PROPOSED TECHNICAL MOTION:
802.3 request the formation of a Study Group on low-cost, low-power 10Gb/s PMD with reach up to 40km and an additional 10Gb/s PMD with reach up to 80km.
M: Mr. A, Healey
S: Mr. J. Dallesasse

Several people spoke from the floor in favor if the motion.

There was also concern from the floor that PMD experts may desert the 802.3ah Task Force to attend the proposed Study Group, and that the extra PMDs would confuse the 10G market. For these reasons, some felt that the formation of the Study Group should be delayed.

PROPOSED MOTION:
To table the motion on the floor.
M: Mr. B. Tolley
S: Ms. P. Thaler

A point of order was raised asking if a call for interest is denied, then can it be called back. The answer was that it is a one-shot thing, but a Study Group can be created at a later date from the call for interest.

MOTION:
To table the motion on the floor.
M: Mr. B. Tolley
S: Ms. P. Thaler
Y: 36, N:15, A: 26
(Motion passes at 2.40 pm PST)

Mr. Grow asked if there was any objection to altering the agenda so that the interpretations report preceded the maintenance report. There were no objections to the modification.

Interpretations report
Mr. Turner stood to report on the activities of the Interpretations Task Force <closing_interpretations>.
Mr. Turner reviewed the results of the Working Group recirculation ballot on D2.0 of Interpretation 1-11/01. He explained that two comments had been received and he went on to show how these would modify the draft and showed a draft 2.1 that incorporated the two comments.

TECHNICAL MOTION:
To approve D2.1 for 802.3 resolution at this meeting.
M: Mr. E. Turner
S: Ms. P. Thaler
Y: 36, N:15, A: 26
Passed by voice without objection at 2.40 pm PST.

TECHNICAL MOTION:
To approve D2.1 for publication.
M: Mr. E. Turner
S: Ms. P. Thaler
Y: 65, N:0, A: 5
Passed by voice without objection at 2.54 pm PST.

Mr. Turner then showed the proposed response from the Interpretations committee to interpretation 1-07/02 regarding 1000BASE-T Autonegotiation transmit state machine.

Mr. Grow asked if anyone present wished to send the proposed response out to letter ballot. No one requested that it be sent out for letter ballot.

TECHNICAL MOTION:
To approve the proposed text as the 802.3 response.
M: Mr. E. Turner (on behalf of the Interpretations Task Force).
Y: 60, N:0, A: 3
(Motion passes at 2.58 pm PST).

Mr. Turner then showed the proposed response from the Interpretations committee to interpretation 2-07/02 regarding aperiodic operation of MDC.

Mr. Grow asked if anyone present wished to send the proposed response out to letter ballot. No one requested that it be sent out for letter ballot.

TECHNICAL MOTION:
To approve the proposed text as the 802.3 response.
M: Mr. E. Turner (on behalf of the Interpretations Task Force).
Y: 68, N:0, A: 2.
(Motion passes at 3.01 pm PST).

Mr. Turner then showed the proposed response from the Interpretations committee to interpretation 3-07/02 regarding Clause 37 autonegotiation.

Mr. Grow asked if anyone present wished to send the proposed response out to letter ballot. No one requested that it be sent out for letter ballot.

TECHNICAL MOTION:
To approve the proposed text as the 802.3 response.
M: Mr. E. Turner (on behalf of the Interpretations Task Force).
Y: 64, N:0, A: 4.
(Motion passes at 3.06 pm PST).

Mr. Turner then showed the proposed response from the Interpretations committee to interpretation 4-07/02 regarding maximum frame size.

A comment was made from the floor that 802.1 had received a similar interpretation request and had responded in a similar manner as the response presented.

Mr. Grow asked if anyone present wished to send the proposed response out to letter ballot. No one requested that it be sent out for letter ballot.

TECHNICAL MOTION:
To approve the proposed text as the 802.3 response.
M: Mr. E. Turner (on behalf of the Interpretations Task Force).
Y: 79, N:0, A: 3.
(Motion passes at 3.10 pm PST).

Maintenance report
Ms. Thaler took the floor to provide the Maintenance Request report <closing_maintenance>. Ms. Thaler discussed requests 1064 and 1089 and made the following motion:

TECHNICAL MOTION:
Affirm that 1064 and 1089 are editorial and may be applied to 802.3 as errata.
M: Ms. P. Thaler (on behalf of the Maintenance committee).
Y: 71, N:0, A: 4.
(Motion passes at 3.25 pm PST).

Ms. Thaler reported on the remaining maintenance requests and the following motion was made by Geoff Thompson:

TECHNICAL MOTION:
To accept the resolutions.
M: Mr. G. Thompson.
S: Mr. Weisberger.
Y: 63, N:0, A: 9.
(Motion passes at 3.29 pm PST).

DTE POWER VIA THE MDI (802.3af)
Mr. McCormack presented the closing report for 802.3af <closing_af>.

The Task Force performed comment resolution during the week but did not resolve all the ballots. The following schedule was proposed by the Task Force to complete comment resolutions and proceed with further ballots:
August 19 – 23 Meet / Continue comment resolution
 WG Re circulation September 3 – 18
 Interim - October 1
 WG Re circulation October 6 – 21
 Plenary – November 11- 15
 Sponsor ballot
 Interim – January 2003
 Sponsor re-circulation
 Standard – March 2003

The Task Force had also made a motion: "Motion to request the chair of 802.3 to send a liaison letter to inform cabling standards groups of our Task Force and to request assistance in relation to defining and/or testing DC imbalance in cabling plants." that was relayed to the chair of 802.3 and accepted with the provision that Mr. McCormack provide specific information regarding which groups and what assistance was required.

PROPOSED TECHNICAL MOTION:
Request that the 802.3 Working Group affirm votes of the 802.3af task force, authorize the task force to conduct an interim during August reducing the 30 day meeting notice to 21 days, authorize an interim meeting during the week of October 1, and charter the 802.3af task force to generate drafts and conduct Working Group re-circulation ballots.
M: Mr. M. McCormack (on behalf of the 802.3af Task Force)

The original motion did not include reference to reducing the meeting notice to 21 days and there was a friendly amendment to require at least 21 days notice, which was accepted to give the motion shown above.

As the motion required a rules waiver, the following motion was made by the chair :

TECHNICAL MOTION:
Motion to suspend the rules to allow 21 days meeting notice for 802.3af Interim Meeting during August.
M: Mr. B. Grow.
S: Mr. T. Dineen
Y: 44, N:2, A: 29.
(Motion passes).

As this is a rules suspension, it was deemed to require 2/3 to carry.
After the rules waiver was approved, the motion itself was passed

TECHNICAL MOTION:

Request that the 802.3 Working Group affirm votes of the 802.3af task force, authorize the task force to conduct an interim during August reducing the 30 day meeting notice to 21 days, authorize an interim meeting during the week of October 1, and charter the 802.3af task force to generate drafts and conduct Working Group recirculation ballots.
M: Mr. M. McCormack (on behalf of the 802.3af Task Force)
Y: 71, N:0, A: 10.
(Motion passes).

ETHERNET IN THE FIRST MILE (802.3ah)
Mr. Frazier took the floor to report on the work done by the 802.3ah task force during the week <closing_ah>. Mr. Frazier discussed the Task Force's efforts during the week, its objectives and presented their schedule, which he indicated he expected to slip. Mr. Frazier stated he was not sure how large the schedule slip would be.

Mr Frazer called forward Mr. O. Haran and Ms. D. Sala to report on the point to multipoint model. Mr. Haran and Ms. Sala presented the layer diagram   The following motion was made:

PROPOSED TECHNICAL MOTION:
Adopt P2MP layering model and description per the attached proposal haran-sala_p2mp_1_0702.pdf, slides 1-3.
M: Mr. H. Frazier (on behalf of the 802.3ah Task Force).

Discussion ensued regarding the management and control of the multiple MACs and were addressed by Mr. Haran and Ms. Sala. Mr. N. Finn joined the presenters to assist with the answers. Further questions were asked regarding how PON, multiple MACs and management interacted. Some discussion took place about the purpose of 802.3 layer diagrams and their meanings. Mr. Grow imposed a 5 minute limit to the debate.

MOTION:
Table the motion until a tutorial could be provided at the next plenary meeting.
M:
S:
Y: 28, N:38, A:
(Motion **fails** at 4.48 pm PST)

TECHNICAL MOTION:
Adopt P2MP layering model and description per the attached proposal haran-sala_p2mp_1_0702.pdf, slides 1-3.
M: Mr. H. Frazier (on behalf of the 802.3ah Task Force).
Y: 58, N:13, A: 27
(Motion passes at 4.51 pm PST).

TECHNICAL MOTION:
Adopt clause 56 of 802.3ah/D0.9 as the basis for clause 56 802.3ah/D1.0 with the changes reflected in notestotheeditor_clause56_0702.doc.
M: Mr. H. Frazier (on behalf of the 802.3ah Task Force).
Y: 73, N:2, A: 8.

(Motion passes at 4.58 pm PST).

TECHNICAL MOTION:
Add p2mp objective for function to enable the following mechanisms to provide
security:
Key transfer to cipher
Key change indication
En/decryption indications
Cipher counter synchronization.
M: Mr. H. Frazier (on behalf of the 802.3ah Task Force).
Y: 33, N:38, A: 14.
(Motion **fails** at 5.21 pm PST).

Prior to the vote, there was debate on the motion revolving about issues of necessity,
over specificness and other matters. Mr. Grow limited comments to 1 minute and Mr.
Frazer closed the commenter's queue to limit debate.

Mr. Frazier called Mr. V. Bhatt to the front to assist in the motion

TECHNICAL MOTION:
Adopt clauses 58, 59, 60 of 802.3ah/D0.9 as the bases for clauses 58, 59 and 60 of
802.3ah/D1.0, respectively with changes reflected in the documents
notestotheeditor_clause58_0702.doc, notestotheeditor_clause59_0702.doc,
notestotheeditor_clause60_0702.doc, respectively.
M: Mr. H. Frazier (on behalf of the 802.3ah Task Force).
Y: 75, N:0, A: 1.
(Motion passes at 5.26 pm PST).

There was no discussion.

TECHNICAL MOTION:
Accept OAM draft 0.9 with modifications and comments of K. Daines "OAM draft
0.9 Comments" as the initial 1.0 OAM baseline draft. Accept
brown_oam_1_0702.pdf in OAM baseline draft, addressing RFI capability in
100BASE-FX, 100BASE-TX, and 1000BASE-X. As one motion.
M: Mr. H. Frazier (on behalf of the 802.3ah Task Force).
Y: 71, N:0, A: 1.
(Motion passes at 5.31 pm PST).

TECHNICAL MOTION:
Split the copper clause (currently 61) into 3 clauses to reflect the objectives and
baselines:
PCS for EFM Copper
PMA and PMD for short reach port type
PME and PMD for long reach port type
M: Mr. H. Frazier (on behalf of the 802.3ah Task Force).
(Motion passed by voice).

TECHNICAL MOTION:

Adopt draft 0.9 plus the comments to the editor "copper_d.09_comments.pdf" as the basis draft 1.0 of clause 61,62, and 63.
M: Mr. H. Frazier (on behalf of the 802.3ah Task Force).
Y: 70, N:0, A: 0.
(Motion passes at 5.41 pm PST).

Mr. Frazier then explained the division on the single clause and the purpose of the split to the Working Group.

TECHNICAL MOTION:
Adopt presentation rezvani_1_0302.pdf (with addition of comments document, "notes_to_editor_1_0302.doc", with the exception of note 13) as the basis of the first draft.
Adopt "omahony_copper_1_0702.pdf" as the basis for the line code evaluation criteria. The line code selection process recognizes that Committee T1 has a goal of making a VDSL line code decision and will give due weight to that decision.
M: Mr. H. Frazier (on behalf of the 802.3ah Task Force).
Y: 65, N:0, A: 3.
(Motion passes at 5.51 pm PST).

Mr Frazer made one final motion:

TECHNICAL MOTION:
Limit proposal for consideration regarding the long reach objective to those based on "artman_copper_1_0702.pdf" and "jackson_copper_1_0702.pdf"
M: Mr. H. Frazier (on behalf of the 802.3ah Task Force).
Y: 54, N:1, A: 6.
(Motion passes at 5.56 pm PST).

Mr. Frazier presented an informal liaison letter to ITU-T SG15/2 but required assistance from his task force to present the informal letter to T1E1 and ITU-T SG15/4 as his PC died / locked up. <closing_ah_liaisons> Mr. Frazer also presented his task force's future meeting schedule.

MOTION:
Move that 802.3 requests the SEC to sponsor an 802.3 interim meeting in January 2003 at the Hotel Vancouover.
M: Mr. H. Frazier.
S: Mr. B. Quackenbush.
(Motion passed by acclamation).

Mr. Grow declared the meeting adjourned at approximately 6:20 pm PST.

Submitted by Steve Carlson, 802.3 Secretary. Grateful thanks to Ed Turner and Mike McCormack for taking the minutes in my place.

Files to attach :
Opening_agenda
Opening_voters
Opening_voters_at_peril
Opening_potential_voters
State_of_standard
opening_rules
TR42_liaison
Opening_interpretations
Opening_ae
Opening_af
Opening_ah
Closing_agenda
Future_meetings
Closing_voters
Closing_potential_voters
Closing_rules
Voters_at_peril_for_not_voting
ITU_SG15_letter
dot1_liaison
closing_CFI
closing_interpretations
closing_maintenance
closing_af
closing_ah
closing_ah_liaisons

IEEE 802.3 CSMA/CD WORKING GROUP   Draft AGENDA
See our web site: `http://www.ieee802.org/3`
8 July 2002, Vancouver. British Columbia
Start at 1:00 PM
`Meeting 802.3 Server is at: http://192.168.1.1, SSID: IEEE`

1300, MONDAY, 8 July
Administrative Matters..Bob Grow

- Welcome, Introductions and General Announcements
- Agenda, review and revise as needed
- Document Distribution
- Attendance, address list/e-mail list maintenance
- Review of Voting Membership
- Approval of Minutes: 11/01
- Announce WG activities since Austin
- Standards Board Report
- Executive Committee Report & Action Items
- Call for Patents
- PARs for approval this week (Comments by 5PM Tuesday)

- State of the Standard and the Operating Rules of 802.3................................Bob Grow
- Any Other business

Liaison Reports
- External Liaisons: TR-42, SC25/WG3, FO2.2, SC6/WG3, TR-41.3.4, IETF
- Internal Liaison Reports: 802.1, 802.11, 802.15, 802.16, 802.17, 802.18

Task Force Reports

- Maintenance/Reaffirmations..Pat Thaler
  - Approval/Publication of P802.3ag Maintenance #6
  - Update/Status of maintenance requests

- Interpretation requests..Ed Turner
  - Interpretation Ballot in process
  - Update/Status or interpretation requests

- Ad Hoc on Cat 6 Cable Discharge..Dan Dove

1500-1520   BREAK

Task Force and Study Group Reports

- P802.3ae, Task Force (10 Gig Ethernet)....................................Jonathan Thatcher
  - Update/Status of the project
- P802.3af, Task Force (DTE Power via MDI).............................Mike McCormack
  - Update/Status of the project
  - Plans for this week
  - Regarding Sponsor Ballot Pool for 802.3af
- P802.3ah Task Force (Ethernet in the First Mile)........................Howard Frazier
  - Update/Status of the project
  - Plans for this week
- Announcement of Call for Interest (1000BASE-LX long reach)............Adam Healey

- Room Assignments and Task Force Schedules..Bob Grow

IEEE 802.3 CSMA/CD WORKING GROUP   Draft AGENDA

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

11 July 2002, Vancouver. British Columbia
Start at 1:00 PM

1300, THURSDAY, 11 July

Administrative Matters .... Bob Grow

- Welcome and General Announcements
  - Venue of future 802 meetings
    11-15 Nov 2002 - Hyatt Regency Kauai
    9-14 Mar 2003 – Hyatt Regency DFW
    20-25 Jul 2003 – Hyatt Regency San Francisco
    9-14 Nov 2003 – Hyatt Regency Albuquerque
- Agenda, review and revise as needed
- Attendance, address list/e-mail list maintenance
- Review of Voting Membership
  - Responses to WG ballots
  - Additions to voting membership list
- Executive Committee Items
- Call for Patents
- PARs for approval this week (Comments by 5PM Tuesday)

- State of the Standard and the Operating Rules of 802.3 .... Bob Grow
- Any Other business

Liaisons Actions

- ITU SG15 – WAN PHY

Call for Interest Report

- Longer reach 10GBASE-, 1310nm

Task Force Reports

- Maintenance/Reaffirmations .... Pat Thaler
  - Progress this week
  - Approval of editorial changes

- Interpretation requests .... Ed Turner
  - Progress this week
  - Votes on recommended actions
- P802.3af, Task Force (DTE Power via MDI) .... Mike McCormack
  - Progress this week
  - Status of Sponsor Ballot Group
  - Motions
  - Plans for the future

1500-1520   BREAK

Task Force and Study Group Reports

- P802.3ah Task Force (Ethernet in the First Mile) .... Howard Frazier
  - Progress this week
  - Status of the draft
  - Liaison items
  - Motions
  - Plans for the future

- Wrap-up .... Bob Grow

Adams, Martin	Carlson, Steve	Fujimoto, Yukihiro	Jones, Chad
Alderrou, Don	Chang, Justin	Furlong, Darrell	Jonsson, Ulf
Alexander, Thomas	Chen, Raymond	Gaither, Justin	Kabal, David
Amer, Khaled	Chen, Xiaopeng	Gentry, Denton	Kaku, Shinkyo
Amundsen, Keith	Cobb, Terry	George, John	Kalkunte, Mohan
Anderson, Stephen	Coleman, Doug	Ghiasi, Ali	Kamat, Puru
Anderson, Tony	Congdon, Herb	Goldis, Moty	Karam, Roger
Andersson, Ralph	Cook, Charles I	Goldman, Matthew	Kaufman, Dave
Andresen, Jack	Cross, Richard	Golob, Larry	Kenny, John J.
Artman, Doug	Cruikshank, Brian	Goodman, Timothy	Kesling, Dawson
Atias, Ilan	Cullin, Chris	Graham, Rich	Kleiner, Norbert
Auld, Phil	Cunningham, David	Grann, Eric B.	Kohl, David E
Bachand, Gerard E	D'Ambrosia, John	Gray, C. Thomas	Kolesar, Paul
Baldman, Andy	Dahlgren, Robert	Greenlaw, Jonathan	Kramer, Glen
Bar-Or, Shahar	Daines, Kevin	Grow, Robert M.	Kutzavitch, Walter
Barrass, Hugh	Dallesasse, John	Gummalla, Ajay	Lackner, Hans
Barrett, Bob	Darshan, Yair	Gustafsson, Jonas	Lamers, Lawrence J.
Bartur, Meir	Dawe, Piers	Gyurek, Russ	Langston, Daun
Baumer, Howard	deBie, Michael	Haas, Steven	Lavasani, Javad
Beaudoin, Denis	Di Minico, Chris	Hackert, Michael	Law, David
Beck, Michaël	Diab, Wael	Haddad, Tariq	Le, Quang
Bemmel, Vincent	Dineen, Thomas	Haddock, Stephen	LeCheminant, Greg
Bennett, Mike	Dobson, Hamish	Hanson, Del	Lee, Eugene
Berglund, Sidney	Dove, Dan	Haran, Onn	Lehr, Amir
Berman, David J.	Drever, Brian	Hassoun, Marwan	Leo, Lisa
Bhatt, Vipul	Dudek, Mike	Hatley, Tom	Levy, Avinoam
Bisberg, Jeff E.	Dwelley, David	Healey, Adam	Limb, John O.
Bohbot, Michel	Eckert, Edward J.	Heldman, Ronen	Lindsay, Tom
Booth, Brad	Effenberger, Frank J	Hendel, Itzik	Ling, Stanley K
Bottorff, Paul	Egan, John	Hesson, James H	Liu, Fengkun
Bovill, Kirk	Eisler, George	Hinrichs, Henry	Lucas, Fred A.
Brand, Richard	Elhøj, Martin	Hirth, Ryan	Lum, Meilissa R.
Brikovskis, Rhett	Ewen , John F.	Hoge, Jay	Lynskey, Eric R.
Brooks, Rick	Ferrant, Jean-Loup	Hyer, David W.	MacLeod, Brian
Brown, Benjamin	Fiedler, Jens	Ishida, Osamu	Maislos, Ariel
Brown, Kevin	Figueira, Norival	Jackson, Steve	Marris, Arthur
Buckmeier, Brian	Finch, Robert G	Jacobsen, Krista S	Martin, David W.
Burton, Scott	Flatman, Alan	Jaffa, Brent	Mashiko, Koichiro
Busse, Robert	Fraser, Roger	Jetzt, John	Mathey, Thomas
Bynum, Roy	Frazier, Howard	Jewell, Jack L	Matni, Ziad Albert
Caldwell, Donald	Freitag, Ladd	Jiang, Wenbin	Matsuo, Hideyuki
Cam, Richard	Frojdh, Krister	Joh, Clarence	McCammon, Kent

McCarron, Philip L	Quilici, Jim	Suzuki, Hiroshi
McCormack, Michael	Quinn, Patrick W.	Swanson, Steve
McSweeney, Brian	Quirk, John	Szostak, Tad
Metzger, Jo Beth	Rabinovich, Rick	Taborek, Rich
Michalowski, Richard	Rahn, Jurgen	Tate, Mike
Mickelsson, Hans	Raman, Naresh	Thaler, Pat
Mizrahi, Jacob (Kobi)	Rasimas, Jennifer G.	Thatcher, R.
Mohamadi, Fred	Rautenberg, Peter	Thirion, Walter
Mohl, Dirk S.	Reintjes, Maurice	Thompson, Geoffrey
Montstream, Cindy	Remein, Duane	Thorne, David
Moriwaki, Shohei	Rennie, Lawrence	Tolley, Bruce
Moseley, Simon	Rezvani, Behrooz	Torgerson, Paul
Muir, Robert	Rogers, Shawn	Townsend, Rick
Muller, Shimon	Romascanu, Dan	Turner, Edward
Murphy, Denis	Rooke, Sterling	Tusiray, Bulent
Murphy, Thomas	Ross, Floyd	Twu, Bor-long
Murray, Brian	Rubin, Larry	van Doorn, Schelto
Nadeau, Gerard	Rundquist, Ron	Van Laanen, Peter
Naganuma, Ken	Ryu, Hyunsurk	Venkatavaraton,
Naidu, Hari	Sala, Dolors	Vepa, Ramakrishna
Nakamura, Karl	Sambasivan, Sam	Vergnaud, Gérard
Nazari, Nersi	Sanders, Anthony	Vogel, David
Nelson, Kristian	Sankey, Mark	Wagner, Martin
Nikolich, Paul	Sasaki, Akira	Warland, Tim
Noseworthy, Bob	Savara, Raj	Warren, Jeff
Obara, Satoshi	Schwartz, Peter	Weniger, Fred
Ohlén, Peter	Sefidvash, Khorvash	Wiedemann, Bill
Oksman, Vladimir	Selee, Steve	Wolcott, John
Ooka, Toshio	Seto, Koichiro	Won, King
Orlik, Philip	Shah, Sunil	Won, Shin-Hee
Oughton, George	Shain, Vadim	Wong, David
Pace, Robert R.	Shergill, Robbie	Wong, Edward
Papandrea, Gabriel	Song, Jian	Wong, Percy
Parsons, Elwood T	Soto, Walt	Wurster, Stefan M.
Pavlovsky, Alex	Squire, Matthew B.	Yoder, Doug
Payne, John	Stanley, Patrick H.	Yoshihara, Osamu
Peng, Y. Lisa	Starr, Tom	Young, Leonard
Pepeljugoski, Petar	Stewart, Donald S	Zona, Bob
Pesavento, Gerry	Stiscia, Jim	
Pitzer, Armin	Stoddart, Dean M	
Plunkett, Timothy R.	Stoltz, Mario	
Quackenbush,	Stuart, Richard	

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 very early in the meeting Monday PM and Thursday PM.

-Abedmamoore, Hamlet

-Alavi, Reza

Amir, Angelica

-Arnold, Brian

Aytac, Haluk

Birch, Michael

Blakey, Samantha

Bluvstein, Ilan

Bouvy, Ralph

Boyd, Edward

-Braga, Al

Buchheit, Steve

Carlisle, Robert S

-Chow, Jacky

-Claseman, George

Closs, Dave

Collins, Henry B

Cooke, Janeen A

Dahan, Motti

Delgoshen, Udi

Dhamejani, Suveer

-Easley, J. Craig

Eaton, George

-Fanfoni, Sabina

-Ford, Brian

-Gaglianello, Robert D

Hansen, Mogens

Hart, Greg

Hickey, Tony

-Hiironen, Olli-Pekka

Holloway, Tim

Hudgins, Clay

-Huynh, Thong

Ikeda, Hiroki

Inn, Bruce

-Ip, Baldwin

Ivry, Raanan

Johnson, Richard V

Joiner, Steve

-Jørgensen, Thomas K.

Kaaja, Harald

Kalluri, Sudhakar

Karimi, Hamid

Kim, Ajung

-Kimpe, Marc

King, Neal

Kloth, Axel

Koyama, Tetsu

Kuo, JC

Lam, Jackson

-Le Goff, Yannick

-Leshem, Amir

Ly, Anh

Moody, Kristann L

Moore, Frank H

Moores, John D.

-Murakami, Ken

Murata, Hiroshi

Myers, Brock

Nagashima, Takashi

-Nedellec, Erwan

-Nguyen, Trung

-O'Mahony, Barry

O'Rourke, Aidan

Palm, Torbjorn

Peeters Weem, Jan P.

-Posthuma, Carl R.

Radcliffe, Jerry K.

Renner, Martin

Reysen, Bill

Rishi, Gaurav

-Saracino, Concita

-Schindler, Fred

Schneider, Kevin W

-Shohet, Zion

-Simon, Scott

Sisk, James (Randy)

-Soffer, Ran

-Song, Jaeyeon

-Sorbara, Massimo

Ta, John

Tatum, Jim

Thomas, Stephen

Vicini, Luca

Walford, Ric

-Wang, Chiung Hung

-Wei, Dong

*Weissberger, Alan

Welch, Jim

Weller, L. D.

Williamson, Douglas M

-Williamson, Erica

-Yang, Steven

Ye, Yinghua

*Zagalsky, Nelson

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.

Adams, Martin

Andersson, Ralph

Andresen, Jack

Auld, Phil

Baumer, Howard

Bohbot, Michel

Bovill, Kirk

Brikovskis, Rhett

Brooks, Rick

Chen, Xiaopeng

Cruikshank, Brian

Drever, Brian

Elhøj, Martin

Ferrant, Jean-Loup

Frojdh, Krister

Ghiasi, Ali

Goldman, Matthew

Goodman, Timothy D

Grann, Eric B.

Greenlaw, Jonathan E.

Hackert, Michael

Hanson, Del

Hatley, Tom

Heldman, Ronen

Hendel, Itzik

Hesson, James H

Hoge, Jay

Ishida, Osamu

Joh, Clarence

Kalkunte, Mohan

Kesling, Dawson

Lamers, Lawrence J.

Leo, Lisa

Levy, Avinoam

Liu, Fengkun

Lum, Meilissa R.

MacLeod, Brian

McCarron, Philip L

Metzger, Jo Beth

Michalowski, Richard

Mohl, Dirk S.

Muir, Robert

Murray, Brian

Nikolich, Paul

Pace, Robert R.

Parsons, Elwood T

Pavlovsky, Alex

Payne, John

Pitzer, Armin

Rautenberg, Peter

Ryu, Hyunsurk

Sanders, Anthony

Shergill, Robbie

Stewart, Donald S

Stoltz, Mario

Thirion, Walter

Torgerson, Paul

Venkatavaraton, Vinod Kumar

Vepa, Ramakrishna

Vogel, David

Wolcott, John

Wong, Edward

Wong, Percy

Young, Leonard

Future meetings

DTE ~Aug 19-21 TBD
DTE Oct 1-3   New Orleans, LA
EFM Sep 30-Oct 3 New Orleans, LA
Maint Oct 3 New Orleans, LA

802   Nov 10-15 Koloa, Kauai, HI
802   Mar 9-14 DFW, TX
802   Jul 20-25 San Francisco, CA
802   Nov 9-14 Albuquerque, NM

IEEE Project 802.3 Working Group Standards Status July 8th, 2002

ISO/IEC approved

ISO/IEC 8802-3:2000

.3
Policy and Procedures
Approved 11/97

Network Systems Tutorial
Published June 95

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

ANSI/IEEE Std. 802.3-2002   Published 8-Mar-02
Published as 3 Books (Sections)

Section 1 Clauses 1 to 20 Annexes A to H	Section 2 Clauses 21 to 32 Annexes 22A to 32A	Section 3 Clauses 34 to 43 Annexes 36A to 43C
CSMA/CD Overview MAC PLS/AUI 10BASE5 MAU 10BASE2 MAU 10BROAD36 MAU 10BASE-T MAU 10BASE-F MAUs 10Mb/s Repeater 10Mb/s Topology 1BASE5 DTE & MAU Mgmt Repeater Mgmt	100Mb/s Overview MII 100BASE-T2 100BASE-T4 100BASE-TX 100BASE-FX 100Mb/s Repeater 100Mb/s Topology MAC Control Auto Negotiation Management	1000Mb/s Overview GMII 1000BASE-X AutoNeg 1000BASE-SX 1000BASE-LX 1000BASE-CX 1000BASE-T 1000Mb/s Repeater 1000Mb/s Topology Link Aggregation

Maintenance #6 changes

ANSI/IEEE approved

IEEE Std. 802.3ae-2002
10Gb/s Ethernet

1000Mb/s Overview
XGMII   XAUI
XBSI   MDIO
10GBASE-LX4
10GBASE-ER/LR/SR
10GBASE-EW/LW/SW

Publication expected - End 07/02

802.3 WG in process

.3af
DTE Power via MDI Task Force
(S. Carlson)
WG Recirc Ballot closed 21-Jun-02

Liaison
802.1

802.3 WG new work items

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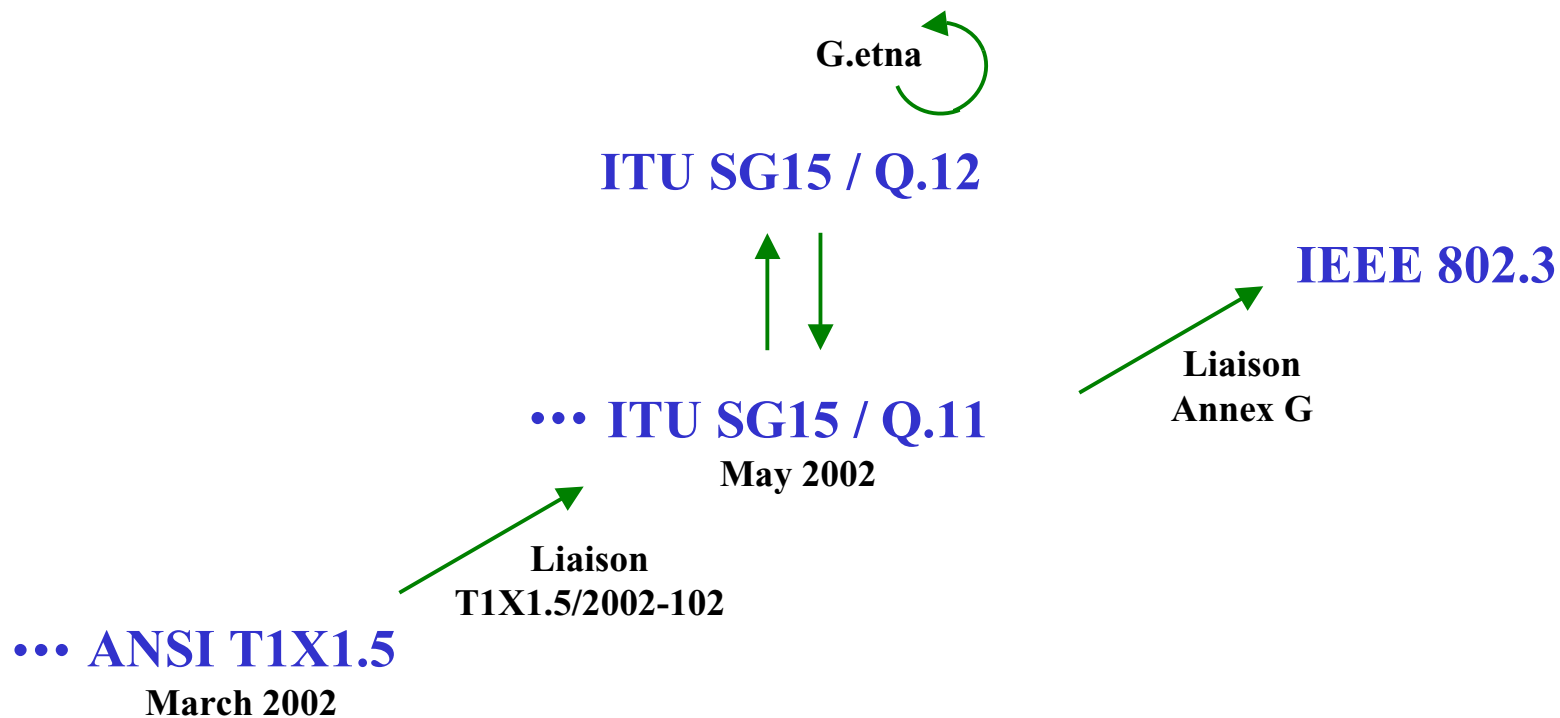(H. Frazier)
PAR approved 09/01

.3aj
Maintenance #7
(D. Law)
PAR approval 06/02

1310 nm 40 km 10Gb/s PMD
Call for Interest
(Adam Healey)

SG15 / Q.11 Liaison To 802.3

- Outlines several 10GE WAN PHY into SDH / OTN mappings currently under study in SG15 / Q.12 as part of G.etna
- Annex B, Figure B4:

    Mapping as a 10G CBR signal (+/-45ppm) into an OTN ODU2
- Annex B, Figure B3:

    Mapping as a VC-4-64c / STS-192c into an SDH network:

    – E.g. into a regenerator / transponder at +/-20ppm
- Annex B, Figure B2:

    Mapping via clock rate adaptation into 64/66 PCS and SDH
- Annex B, Figure B1:

    Mapping via GFP / X.86 (LAPS) into SDH
- Annex A, Figure 10:

    Mapping the 64/66 PCS directly into SDH

G.etna = G. "Ethernet Transport Network Architecture"

10GE Liaison Flow Summary

G.etna

ITU SG15 / Q.12

IEEE 802.3

ITU SG15 / Q.11

May 2002

Liaison
Annex G

Liaison
T1X1.5/2002-102

ANSI T1X1.5

March 2002

G.etna = G. "Ethernet Transport Network Architecture"

G.etna

"ITU-T Draft Recommendation G.etna

Ethernet over Transport Network Architecture (ETNA)

1   Scope

This Recommendation specifies the layer network architecture for:
- the connection of two physical Ethernet interfaces via the SDH or OTN transport networks
- a XYZ layer network optimised to support ethernet MAC frames over SDH and OTN transport networks."

SG15 / Q.12 upcoming meetings:
- Oct.7-11, 2002 – Ottawa - experts
- Jan.20-31, 2003 – Geneva - plenary

ITU - Telecommunication Standardization Sector   **Temporary Document 055(WP3/15)**

STUDY GROUP **15**

Geneva, 29 April-10 May 2002

Question(s):   9, 10, 11, 12, 13, 14/15

SOURCE*:   Chairman, WP3

TITLE: Liaison and Communication Statements To/From WP3/15

_____

This document contains indicates the liaison and communication statements received and sent by WP 3/15 at the April-May 2002 meeting of SG15. This also contains the liaisons sent by WP 3/15 on behalf of the full Study Group.

* Contact: Steve Trowbridge   Tel:
                                            Fax:
                                            Email:

ITU - Telecommunication Standardization Sector   **Annex G**

QUESTIONS: 11/15

SOURCE: SG 15 (Geneva, 29 April - 10 may 02)

TITLE: Communication on 10 GbE WAN PHY interface

_____

COMMUNICATION STATEMENT

TO: IEEE 802.3

APPROVAL: Approved by SG 15

FOR: Information and action

DEADLINE: -

CONTACT: G. JONCOUR   Tel: + 33 2 96 05 24 69
             France Telecom R&D - RTA/D2M   Fax: + 33 2 96 05 12 52
             2, avenue P. Marzin   Email:
             F-22307 LANNION Cedex   gilles.joncour@francetelecom.com

During a meeting held in October 01, we addressed the interconnection of 10 GbE WAN PHY (as defined by IEEE 802.3e) and SDH STM-64 interfaces. As regards the transport of a 10 GbE flow over an SDH network, it was provisionally agreed to introduce the mapping of Ethernet MAC frames in a VC-4-64c in a next version of G.707. The corresponding definition, derived from you own work, is copied in Annex A of this Communication.

The subject was further discussed at our April-May 02 meeting. The above mentioned mapping was still considered as provisionally agreed and a corresponding item has been created in the G.707 living list.

The various possibilities to carry Ethernet flows coming from 10 GbE WAN PHY in transport networks were also examined and are illustrated in Annex B of this Communication.
- Taking into account that 10 GbE WAN PHY and SDH STM-64 interfaces will operate with a different frequency accuracy it is necessary to terminate the VC-4-64c containing the Ethernet frames and then re-encapsulate these frames for further transport. Candidate adaptation techniques are the one described in Annex A of this document (See Figure B1) or GFP (G.7041/Y.1303) or X.86. In the 2 latter cases the encapsulated Ethernet frames will be mapped into virtually concatenated VC-n (See Figure B2).
- It was however noted that if an implementation of the 10 GbE WAN PHY uses an SDH clock with a better frequency accuracy and less jitter generation than the one selected by IEEE 802.3ae the VC-4-64c containing the Ethernet frames can be transferred unchanged to an SDH network (see Figure B3).
- In addition, note that the 10 GbE WAN PHY binary signal can be mapped (as per G.709), as a 10 Gbit/s CBR signal into an ODU2 for its transport over an OTN network (See Figure B4).

If, in the future, you or any of your attached Task Forces foresees to define new interfaces which are intended to be connected to transport network equipment, they should consider that compliance to the related ITU-T standards is necessary in order to achieve interoperability; thus avoiding the use of "adaptor" of any kind. Some SDH or OTN standards are listed in Annex C of this Communication for your or their attention.

ANNEX A

Mapping of 10 Gbit/s Ethernet 802.3

It has been provisionally agreed that the following text shall be incorporated to G.707

10.x - Mapping of 10 Gbit/s Ethernet 802.3

The IEEE 802.3 MAC is mapped into a VC4-64c as illustrated in Figure yy.

The 802.3 MAC is permitted to run at the nominal bit rate defined for 10 Gbit/s Ethernet, i.e. 10.0000 Gbit/s. Rate adaptation to the 9.58464 Gbit/s payload rate of STS-192c is performed by extending the idle period between Ethernet frames at the MAC (thereby reducing the sustained data rate), and removing the extra idle time within the 64B/66B coding sublayer before mapping to the VC-4-64c payload format.

The VC-4-64c is a 16704 - column by 9 - row structure into which the 64B/66B coded Ethernet data stream is mapped. The first column is used for Path Overhead, and the next 63 columns for fixed stuff, leaving 16640 columns of actual payload capacity. A bit relabeling process is used to accommodate the different bit numbering schemes used by IEEE 802.3 and SONET, see [14] clause 50.3.1 especially Figures 50-5 and 50-6.

Since the Ethernet frames are of variable length (the mapping does not impose any restrictions on the maximum length) a frame may cross the VC-4-64c boundary.

The Path Signal Label shall be set to indicate Ethernet-framed payloads. Path Signal Labels are specified in Table 9-11.
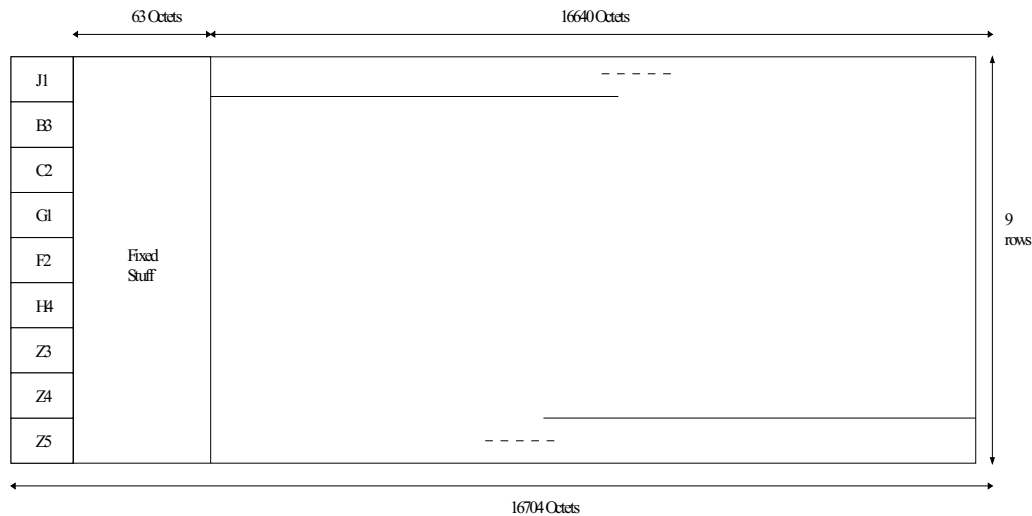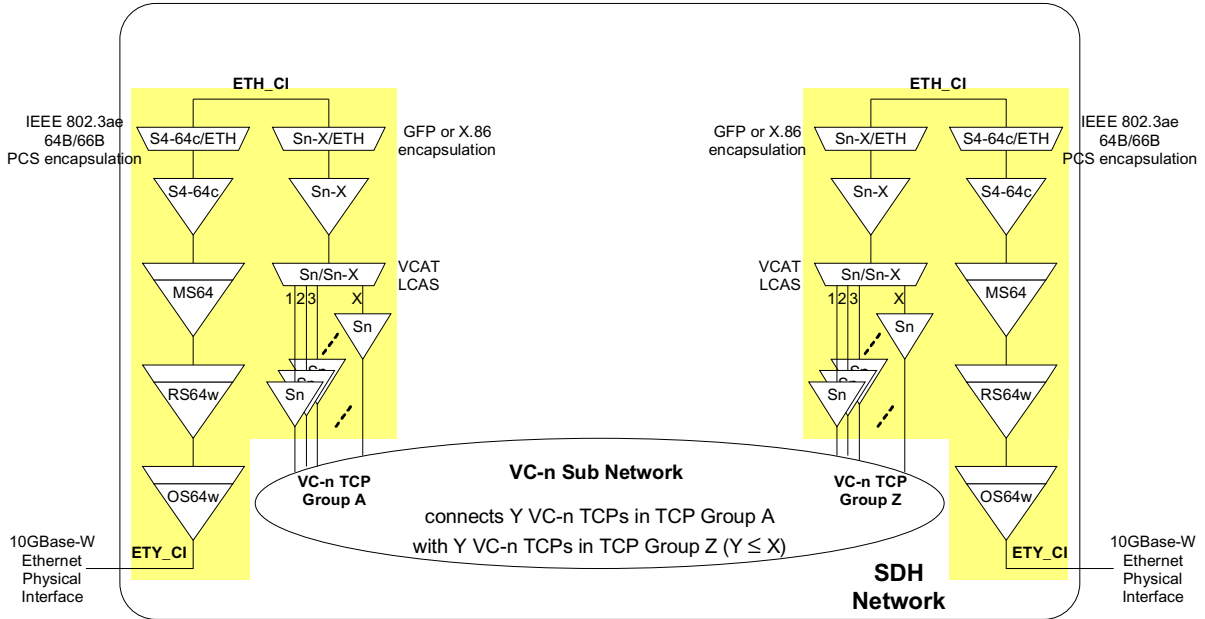

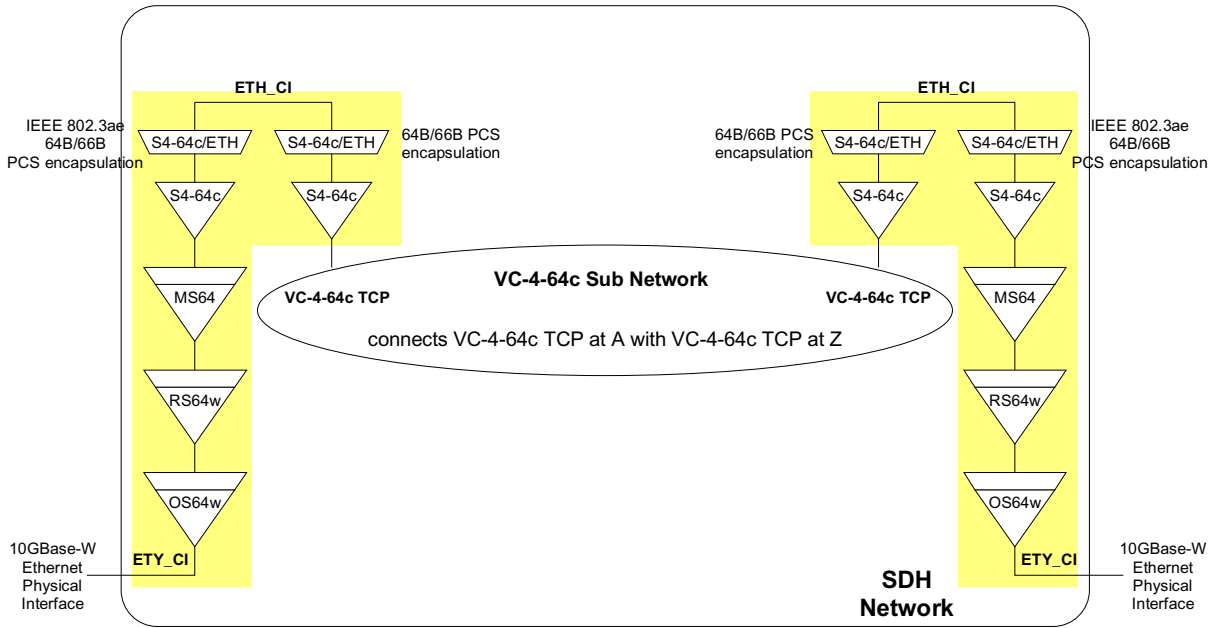**Figure 10-yy/G.707 - 10 GbE mapping into VC-4-64c**

ANNEX B

Transport of 10 GbE MAN PHY flows over SDH or OTN

Note 1 - The Y VC-n Network Connections are between VC-n TCP A[i] and VC-n TCP Z[j], with $1 \le i \le X$, $1 \le j \le X$; e.g. A[3] $\leftrightarrow$ Z[2]

Note 2 - Not illustrated are the synchronisation related functions (see Rec. G.781) which generate the clock signals for the adaptation source functions

Note 3 - OS64w and RS64w represent 10GBase-W specific OS64 and RS64 versions

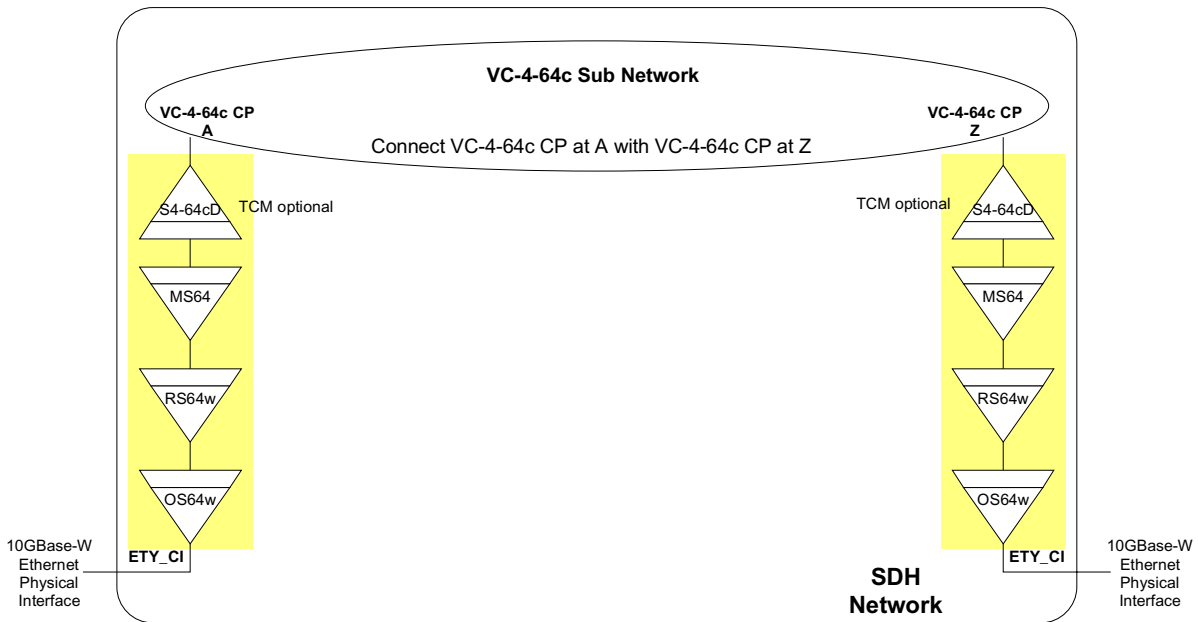**Figure B1 - Interconnecting two 10 GbE WAN PHY via an SDH transport network (case 1)**

ETH_CI

IEEE 802.3ae
64B/66B
PCS encapsulation

64B/66B PCS
encapsulation

S4-64c/ETH

S4-64c/ETH

S4-64c

S4-64c

MS64

VC-4-64c TCP

RS64w

OS64w

10GBase-W
Ethernet
Physical
Interface

ETY_CI

VC-4-64c Sub Network

connects VC-4-64c TCP at A with VC-4-64c TCP at Z

VC-4-64c TCP

ETH_CI

64B/66B PCS
encapsulation

IEEE 802.3ae
64B/66B
PCS encapsulation

S4-64c/ETH

S4-64c/ETH

S4-64c

S4-64c

MS64

RS64w

OS64w

10GBase-W
Ethernet
Physical
Interface

ETY_CI

**SDH
Network**

Note 1 - The Y VC-n Network Connections are between VC-n TCP A[i] and VC-n TCP Z[j], with $1 \le i \le X$, $1 \le j \le X$; e.g. A[3] ↔ Z[2]
Note 2 - Not illustrated are the synchronisation related functions (see Rec. G.781) which generate the clock signals for the adaptation source functions
Note 3 - OS64w and RS64w represent 10GBase-W specific OS64 and RS64 versions

Figure B2 - Interconnecting two 10 GbE WAN PHY via an SDH transport network (case 2)

VC-4-64c Sub Network

VC-4-64c CP
A

VC-4-64c CP
Z

Connect VC-4-64c CP at A with VC-4-64c CP at Z

S4-64cD

TCM optional

TCM optional

S4-64cD

MS64

MS64

RS64w

RS64w

OS64w

OS64w

10GBase-W
Ethernet
Physical
Interface

ETY_CI

ETY_CI

10GBase-W
Ethernet
Physical
Interface

**SDH
Network**

Figure B3 - Interconnecting two 10 GbE WAN PHY via an SDH transport network for the case the 10 GbE WAN PHY signal's clock accuracy complies with the SDH clock accuracy requirements
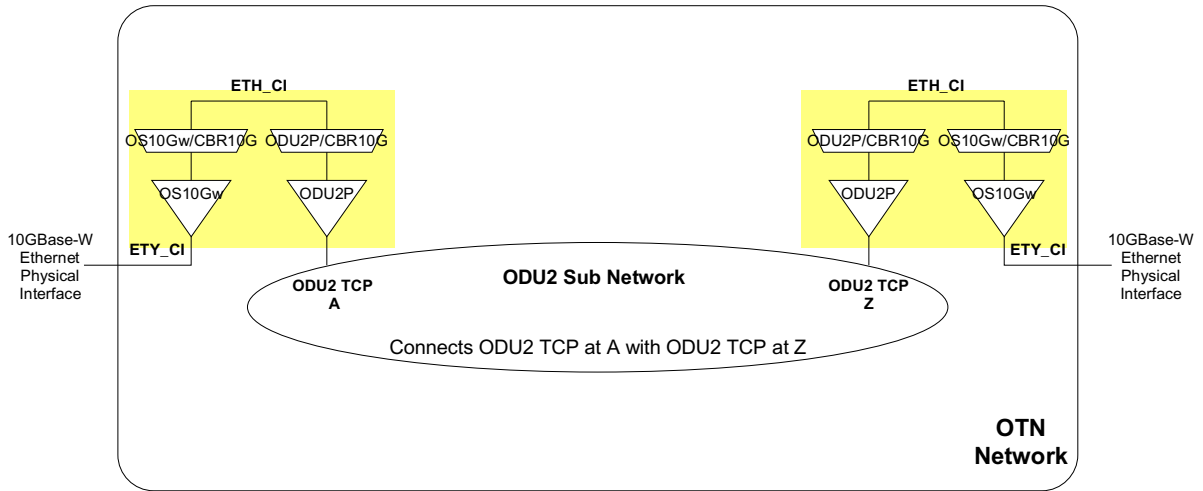
Figure B4 - Interconnecting two 10 GbE WAN PHY via an OTN network

ANNEX C

ITU-T Recommendations on SDH and OTN

	SDH	OTH
Rates and formats	G.707	G.709
Jitter and wander	G.783, G.825	G.8251
Equipment characteristics	G.783	G.798
Optical interfaces	G.957, G.691, G.693	G.692, G.959.1
Equipment clocks	G.813	G.8251
Node clocks	G.812	-

_____

10 Gb/s Extended Reach PMD

Call for Interest Report

IEEE P802.3 CSMA/CD Working Group

Vancouver, BC

July 2002

Attendance

❑ 34 individuals representing…

■ 9 optical transceiver companies

■ 5 systems companies

■ 3 cabling companies

■ 1 user

Presentations

---

1. Justification for an Extended Reach PMD in the 1310 nm Window

Adam Healey   Agere Systems
Shinji Shibao   Mitsubishi Electric
Bruce Tolley   Cisco Systems

2. Proposal for 1310 nm, 40 km Serial PMD Specification

Adam Healey   Agere Systems

3. 10 Gigabit Ethernet: Long Reach ($\geq$ 40 km) PMDs

John Dallesasse Molex

Summary of Observations

❏ Broad market potential

  ■ longer reach PMDs are required for expansion of 10 Gb/s Ethernet into metropolitan area networks

  ■ approximately 20% of spans exceed 10 km

  ■ more cost-effective and power efficient 40 km solutions and solutions with reach beyond 40 km remove barriers to entry for 10 Gb/s Ethernet into this market

Summary of Observations (40 km)

❏ Compatibility with IEEE Standard 802.3
  ■ new PMD sublayer using standard PMD service interface
❏ Distinct Identity
  ■ next generation, small form factor MSAs have a lower power dissipation requirements to facilitate a thermal design solution in high port density systems
  ■ 1550 nm-based solutions cannot track aggressive reduction in form factor
❏ Technical Feasibility
  ■ demonstrated capability
❏ Economic Feasibility
  ■ cost differential between cooled 1550 nm EML and uncooled 1310 nm DML
❏ 1310 nm transmission is the basis of a more cost and power efficient 40 km solution

Summary of Observations (80 km)

- ❏ Compatibility with IEEE Standard 802.3
  - ■ new PMD sublayer using standard PMD service interface
- ❏ Distinct Identity
  - ■ 80 km reach objective not included in 10 Gb/s Ethernet
- ❏ Technical Feasibility
  - ■ objectives achieved in SONET/SDH systems
- ❏ Economic Feasibility

Call for Interest

❑ I would participate in the "10 Gb/s Extended Reach PMD" Study Group in IEEE 802.3

  tally___18___

❑ My company would support participation in the "10 Gb/s Extended Reach PMD" Study Group in IEEE 802.3

  tally___15___

Motion

❑ 802.3 request the formation of a study group on a low-cost, low-power 10Gb/s PMD with reach up to 40 km and an additional 10Gb/s PMD with reach up to 80 km.

Moved: Adam Healey

Second: John Dallesasse

Y: N: A:

IEEE 802.3ah
Ethernet in the First Mile
Task Force
meeting report

Fairmont Hotel Vancouver, Vancouver BC

11-July-2002

**Ethernet in the First Mile
IEEE 802.3ah Task Force**

802.3ah Officers

- **Howard Frazier, 802.3ah Chair,** *millardo@dominetsystems.com*

- **Gerry Pesavento, P2MP Chair,** *gerry.pesavento@teknovus.com*

- **Hugh Barrass, Copper Chair,** *hbarrass@cisco.com*

- **Vipul Bhatt, Optics Chair,** *vipul_bhatt@ieee.org*

- **Matt Squire, OAM Chair,** *mattsquire@acm.org*

- **Ariel Maislos, P2MP Editor,** *ariel.maislos@passave.com*

- **Behrooz Rezvani, Copper Editor,** *behrooz@ikanos.com*

- **Wael Diab, Optics Editor,** *wdiab@cisco.com*

- **Kevin Daines, OAM Editor,** *kevin.daines@worldwidepackets.com*

- **Scott Simon, Recording Secretary,** *ssimon@cisco.com*

Ethernet in the First Mile
IEEE 802.3ah Task Force

Task Force Objectives (1/2)

- **Support subscriber access network topologies:**
  - Point to multipoint on optical fiber
  - Point to point on optical fiber
  - Point to point on copper

- **Provide a family of physical layer specifications:**
  - 1000BASE-LX extended temperature range optics
  - 1000BASE-X >= 10km over single SM fiber
  - 100BASE-X >= 10km over SM fiber
  - PHY for PON, >= 10km, 1000Mbps, single SM fiber, >= 1:16
  - PHY for PON, >= 20km, 1000Mbps, single SM fiber, >= 1:16
  - PHY for single pair non-loaded voice grade copper distance >=750m and speed >=10Mbps full-duplex
  - PHY for single pair non-loaded voice grade copper distance >=2700m and speed >=2Mbps full-duplex

Task Force Objectives (2/2)

- **Include an optional specification for combined operation on multiple copper pairs**

- **Support far-end OAM for subscriber access networks:**
  - Remote Failure Indication
  - Remote Loopback
  - Link Monitoring

- **Optical EFM PHYs to have a BER better than or equal to 10^-12 at the PHY service interface**

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

Ethernet in the First Mile
IEEE 802.3ah Task Force

Adopted timeline

Here U R

| SG | PAR | TF review | WG ballot | LMSC ballot | Std! |

01   02   03

N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D

Baseline | D1 | D2 | D3
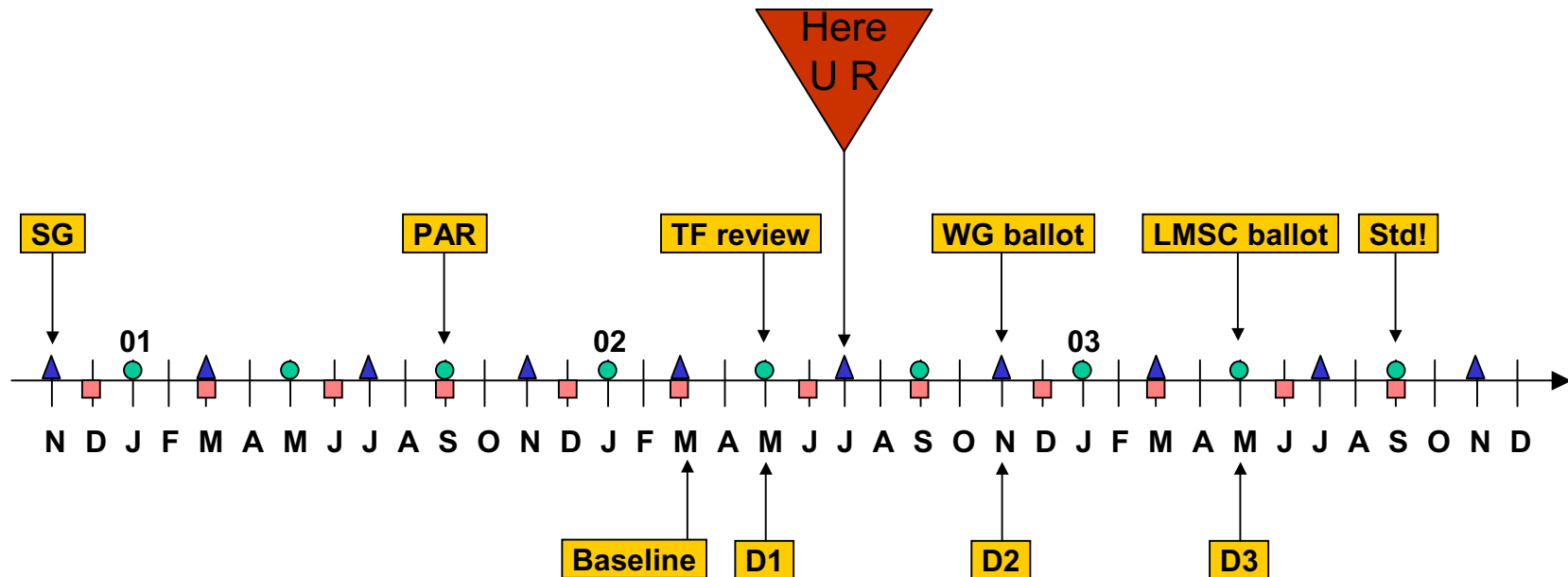
The schedule is at risk!

▲ 802 Plenary
● 802.3 Interim
■ IEEE-SA Standards Board

**Ethernet in the First Mile
IEEE 802.3ah Task Force**

Baseline Presentations

- The complete suite of baseline presentations is archived on our web site at:

http://www.ieee802.org/3/efm/public/baseline/index.html

Ethernet in the First Mile
IEEE 802.3ah Task Force

Motion

- **Adopt P2MP layering model and description per the attached proposal haran-sala_p2mp_1_0702.pdf, slides 1-3.**

- **All 70-13-39 PASS**
- **.3 53-5-25 PASS**

- **M: H. Frazier on behalf of 802.3ah**

**Ethernet in the First Mile
IEEE 802.3ah Task Force**

Motion

- **Adopt clause 56 of 802.3ah/D0.9 as the basis for clause 56 802.3ah/D1.0 with the changes reflected in notestotheeditor_clause56_0702.doc**

- **All 88-0-16 PASS**

- **.3 61-0-14 PASS**

- **M: H. Frazier on behalf of 802.3ah**

**Ethernet in the First Mile
IEEE 802.3ah Task Force**

Motion

- **Add p2mp objective for function to enable the following mechanisms to provide security:**
  - **Key transfer to cipher**
  - **Key change indication**
  - **En/decryption indications**
  - **Cipher counter synchronization**

- **All 79-18-26 PASS**
- **.3 56-17-16 PASS**

- **M: H. Frazier on behalf of 802.3ah**

Ethernet in the First Mile
IEEE 802.3ah Task Force

Motion

- **Adopt clauses 58, 59, 60 of 802.3ah/D0.9 as the bases for clauses 58, 59 and 60 of 802.3ah/D1.0, respectively with changes reflected in the documents notestotheeditor_clause58_0702.doc, notestotheeditor_clause59_0702.doc, notestotheeditor_clause60_0702.doc, respectively.**

- **All 104-0-9 PASS**

- **M: H. Frazier on behalf of 802.3ah**

Ethernet in the First Mile
IEEE 802.3ah Task Force

Motion

- **Accept OAM draft 0.9 with modifications and comments of K. Daines "OAM draft 0.9 Comments" as the initial 1.0 OAM baseline draft.**

- **All 115-0-5 PASS**

- **Accept brown_oam_1_0702.pdf in OAM baseline draft, addressing RFI capability in 100BASE-FX, 100BASE-TX, and 1000BASE-X.**

- **All 109-0-6 PASS**

- **M: H. Frazier on behalf of 802.3ah**

Ethernet in the First Mile
IEEE 802.3ah Task Force

Motion

- Split the copper clause (currently 61) into 3 clauses to reflect the objectives and baselines:
- PCS for EFM Copper
- PMA and PMD for short reach port type
- PME and PMD for long reach port type
- PASS BY ACCLAMATION

- Adopt draft 0.9 plus the comments to the editor "copper_d.09_comments.pdf" as the basis draft 1.0 of clause 61,62, and 63.
- All 126-0-8 PASS

- M: H. Frazier on behalf of 802.3ah

Ethernet in the First Mile
IEEE 802.3ah Task Force

Motion

- **Adopt presentation rezvani_1_0302.pdf (with addition of comments document, "notes_to_editor_1_0302.doc", with the exception of note 13) as the basis of the first draft.**

- **Adopt "omahony_copper_1_0702.pdf" as the basis for the line code evaluation criteria. The line code selection process recognizes that Committee T1 has a goal of making a VDSL line code decision and will give due weight to that decision.**

- **All 109-0-24 PASS   .3 75-0-22 PASS**

- **M: H. Frazier on behalf of 802.3ah**

Ethernet in the First Mile
IEEE 802.3ah Task Force

Motion

- **Limit proposal for consideration regarding the long reach objective to those based on "artman_copper_1_0702.pdf" and "jackson_copper_1_0702.pdf"**

- **All 81-5-26 PASS   .3 60-4-21 PASS**
- **M: H. Frazier on behalf of 802.3ah**

Ethernet in the First Mile
IEEE 802.3ah Task Force

Liaison Letters

- **Adopt the "copper" liaison response letter to ITU-T SG15/4**
  - M: Howard Frazier on behalf of 802.3ah (98-0-6)
  - Y: N: A:

- **Adopt the "optics/pon/oam" liaison response letter to ITU-T SG15/2**
  - M: Howard Frazier on behalf of 802.3ah (acclamation)
  - Y: N: A:

- **Adopt the liaison letter to T1E1.4**
  - M: Howard Frazier on behalf of 802.3ah (106-0-9)
  - Y: N: A:

Ethernet in the First Mile
IEEE 802.3ah Task Force

Future meetings

- **30 Sep - 3 Oct, New Orleans, LA - co-located with .1 and .17**
  Hosted by the Ethernet in the First Mile Alliance

- **10-15 Nov, 2002, Kauai, HI - IEEE 802 Plenary meeting**

- *Proposal to hold interim meeting here at the Hotel Vancouver, Tuesday January 7- Friday10th, 2003, hosted by IEEE 802 LMSC*

**Ethernet in the First Mile
IEEE 802.3ah Task Force**

802.3af DTE Power
via
MDI Task Force

Vancouver, B.C.
Closing Task Force Report

Mike McCormack
(4 minute 802.3af chairman)
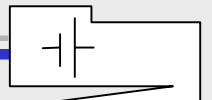
Work Conducted

- Resolution of WG recirculation ballots
- Developed a schedule

DTE Power via MDI TF
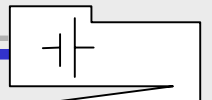
Comment Resolution

- 238 Editorials, 194 Technical and Technical Required were received

- Es – 2 promoted to T, 228 resolved 8 remaining

- Ts & TRs – 1 added, 152 evaluated, 28 unresolved, 15 unevaluated
  Note: 24 were evaluated by experts only

- No attempt was made to track down and bludgeon TR responders.

DTE Power via MDI TF
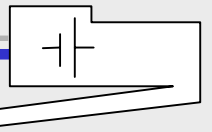
Task Force Schedule

- August 19 – 23 Meet / Continue comment resolution
- WG Re circulation September 3 – 18
- Interim - October 1
- WG Re circulation October 6 – 21
- Plenary – November 11- 15
- Sponsor ballot
- Interim – January 2003
- Sponsor re-circulation
- Standard – March 2003

DTE Power via MDI TF
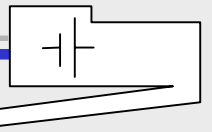
Plan to Move Forward

2 WG spins & out to Sponsor

- Create D3.2 after August meeting

- Create D3.3 after Interim

- Charter D4.0 at November Plenary (and 4.1)

DTE Power via MDI TF
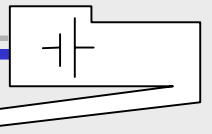
Motions of the TF

- Motion 1 – Approve editor's resolutions
- Motion 2 – Created TF schedule
- Motion 3 – Plan an August meeting
- Motion 4 – Ask for the regular interim
- Motion 5 – Drafts & WG recirculations
- Motion 6 – Approve minutes
- Motion 7 – Request a liaison letter

DTE Power via MDI TF
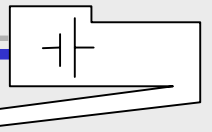
Liaison Request

- Motion to request the chair of 802.3 to send a liaison letter to inform cabling standards groups of our task force and to request assistance in relation to defining and/or testing DC imbalance in cabling plants.

DTE Power via MDI TF
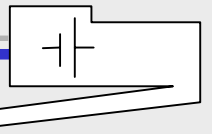
Motion

- Request that the 802.3 Working Group affirm votes of the 802.3af task force, authorize the task force to conduct an interim during August reducing the 30 day meeting notice to 21 days, authorize an interim meeting during the week of October 1, and charter the 802.3af task force to generate drafts and conduct Working Group recirculation ballots.

- Moved: M McCormack (for the TF)

DTE Power via MDI TF
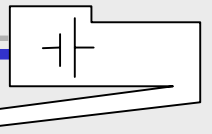
IEEE P802.3 Maintenance

Pat Thaler for David Law

July 8th, 2002

Vancouver, BC

Maintenance Requests Status

- 100 Maintenance requests
- 6 new Maintenance requests since March
- Opening meeting status -

Awaiting ballot	11
Awaiting clarification	7
Errata	2
To be categorised	4
Review by Technical experts	3
Withdrawn	3
Published	70

IEEE P802.3aj Maintenance #7

- IEEE P802.3ag PAR approved by NesCom
  - Approved 13th June 2002.
- Expect to ballot out of November plenary
  - Awaiting input from IEEE Std-802.3ae editing
    - Some comments submitted to the IEEE Editor may require balloting and will be submitted as Revision Requests

Results of the week

- Maintenance committee meeting this week
  - Reviewed status of existing revision requests
  - Classified new revision requests
    - 3 moved to ballot (1088, 1090, 1096)
    - 2 editorial errata (1064, 1089)
    - 1 Rejected (1072)
    - 1 Withdrawn (1057)
  - 1051 –a completed revision was also reviewed
  - 3 remain incomplete awaiting response from requesters
  - 2 await other events for review
- Circulate ballot pre-view draft for November plenary
  - May include changes from 802.3ae comment resolution

1051

- Changed dot3adAgg…Priority object syntax in Annex 30C (SNMP)
  - From Integer (0..255)
  - To Integer (0..65535)
  - Balloted, approved and published in 2002
- Ideally should have deprecated objects and added new correct ones.
- Since change is published, further action could cause problems – maintenance will not initiate action.

Editorial

- 1064 – incorrect subclause number in internal reference.

- 1089 – editorial corrections to Pause Operation Receive state diagram
  - Applying parenthesis to equations for clarity
  - Adding "data" definition
  - Correct grammar typo.

Maintenance Motion

- Affirm that 1064 and 1089 are editorial and may be applied to 802.3 as errata.
  - Y_71_
  - N_0_
  - A_4_
  - Moved by maintenance.

Maintenance Web Information

- The Maintenance web site is at:

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

- The Maintenance request form is available at:

  http://www.ieee802.org/3 /private/maint/revision_request.html
      Username: ****
      Password: ****
      Password **is** case sensitive

Rejected item: 1072

- Requested allocation if a Next Page Message Code Field to a company
  - Code space is 0..2047 – too small to allow proprietary assignments
  - Would require a PAR to amend the standard to provide a code space increase
  - Therefore, not appropriate for maintenance.

IEEE 802.3
Interpretations Report

Ed Turner for David Law

July 11th, 2002
Vancouver, BC

Activities during the week

- Interpretation ballot 1-11/01 D2.0 closed Tuesday 9th July at Midnight PDT

- Met Wednesday
  - Comment resolution on 1-11/01 D2.0 ballots
  - Reviewed four new interpretation requests and drafted responses

Interpretation 1-11/01 D2.0 Working Group ballot results (Closed 9th July 2002)

309	Voters
159	Ballots returned
51.5%	**Return rate (> 50% required)**
102	Approval
0	Disapprove
55	Abstain
100.0%	**Approval rate (> 75% required)**
34.6%	**Abstain rate (< 30% required)**
Comments:	
1	Technical
1	Editorial

Interpretation 1-11/01 D2.1

- Review change bars from D2.0 to D2.1

Interpretation 1-11/01 D2.1
Working Group vote

- 3 way vote :
  - Accept D2.1 for publication
    - Grant exception to abstention ratio
  - Reject D2.1 for publication
  - Send D2.1 for re-circulation

Interpretation 1-11/01 D2.1
Working Group vote

- Motion :

  To approve D2.1 for 802.3 resolution at this meeting

M: Turner, S: Thaler

Approved by acclamation

(2.52 pm PST)

Interpretation 1-11/01 D2.1
Working Group vote

- Motion to :

  To approve D2.1 for publication

M: Turner, S: Thaler

Y: 65, N: 0, A: 5

(2.54 pm PST)

New Interpretations

- 4 new Interpretations considered

  1-07/02 - 1000BASE-T Autoneg Transmit State diagram

  2-07/02 - Aperiodic operation of MDC

  3-07/02 - Clause 37 Auto-Negotiation options

  4-07/02 - Maximum Frame Size requirements

1-07/02 - 1000BASE-T Autoneg Transmit State diagram

Interpretation request reads :

'In Figure 40C-2 (Autoneg Transmit State diagram add-on for 1000Base-T), state Software_NP_TX and Software_NULL_TX can be grouped as follow.

The condition of Self-Transition in Sofware_NP_TX can be changed to :

(mr_page_rx = true * next_page_loaded = true * ack_finished = true)

the condition from Software_NP_TX state to Software_NULL_TX state can be changed to :

(mr_page_rx = true * next_page_loaded = true * ack_finished = true)'

(continued)

1-07/02 - 1000BASE-T Autoneg Transmit State diagram

Interpretation request reads *(continued)* :

'and both state can be called Software_NP_TX (for Null page and additional pages) and the new state will include :

mr_np_tx[NP] <= mr_np_tx_reg[NP];

mr_np_tx[MP] <= mr_np_tx_reg[MP];

mr_np_tx[11:1] <= mr_np_tx_reg[11:1];

mr_next_page_loaded <= next_page_loaded;

of course the software will be responsible to load mr_np_tx[MP] = 1 for NULL page and mr_np_tx[1] = 1;

like this the NULL page will viewed as normal additional Next-page with different coding.'

1-07/02 - 1000BASE-T Autoneg Transmit State diagram

- Classification : Not a request for interpretation

- Proposed response :

  'This request is being returned to you because it does not constitute a request for interpretation but rather a request to confirm a possible state machine optimization. Generally, an interpretation request is submitted when the wording of a specific clause or portion of a standard is ambiguous or incomplete. The request should state the two or more possible interpretations or the lack of completeness of the text.'

  (continued)

1-07/02 - 1000BASE-T Autoneg Transmit State diagram

- Proposed response *(continued)* :

    'While you refer to Annex 40C, you have not indicated any ambiguity nor lack of completeness of the text but rather seem to have understood the specification and made a suggested optimization. The committee has not judged the correctness of your optimization.'

1-07/02 - 1000BASE-T Autoneg Transmit State diagram

- **Working Group Vote**

- 3 way vote :

  - Accept proposed text for publication

  - Reject proposed text for publication

  - Send proposed text out for ballot

1-07/02 - 1000BASE-T Autoneg Transmit State diagram

- Invitation to request sending the proposed text to letter ballot
  - No requests from the floor.
- Motion to approve the proposed text as the 802.3 response

  Y: 60, N: 0, Ab: 3

  (2.58 pm PST)

2-07/02 – Aperiodic operation of MDC

Interpretation request reads :

'I'm looking for some clarification about 802.3 (1998) clause 22, and I am hoping you can help, or direct me to where I can find more information.

Clause 22.2.2.11 states "MDC is an aperiodic signal that has no maximum high or low times."

This implies that MDC can be turned off. However, the resulting MMD behavior is unclear. For example, would an MDIO interface be compliant with the spec. if it were to require 2 additional MDC cycles, following a register write, before the MMD acted on the new data?'

2-07/02 – Aperiodic operation of MDC

- Classification : Unambiguous
- Proposed response :

'The standard clearly states in subclause 22.2.2.11 that the MDC has no maximum high or low times and hence the MDC can be halted, if desired, at any time.

There is no requirement for an STA to send additional cycles following the last bit of a management frame on the MDIO, so a PHY may not get any additional cycles until the next MDIO operation is performed.

An MDIO interface that required 2 additional cycles before acting on the new data would not be compliant.'

2-07/02 – Aperiodic operation of MDC

- Working Group Vote
- 3 way vote :
  - Accept proposed text for publication
  - Reject proposed text for publication
  - Send proposed text out for ballot

2-07/02 – Aperiodic operation of MDC

- Invitation to request sending the proposed text to letter ballot
  - No requests from the floor.
- Motion to approve the proposed text as the 802.3 response

  Y: 68, N: 0, Ab: 2
  (3.01 pm PST)

3-07/02 – Clause 37 Auto-negotiation

Interpretation request reads :

'I found the Auto-Negotiation standard in IEEE 802.3z Gigabit Ethernet standard prevents easy linkage of Gigabit Ethernet, and manufacturers are following the standard. The issue is:

Equipment A enables its 802.3z Auto-Negotiation, it's always sending out Auto-Negotiation messages into the 1000Base-SX optic fiber, its "link" status will not establish unless it receive proper Auto-Negotiation reply.

-- This is according to 802.3z standard.'

(continued)

3-07/02 – Clause 37 Auto-negotiation

Interpretation request reads *(continued)* :

'Equipment B, the peer of A, disables its 802.3z Auto-Negotiation, its "link" status is easier to establish than A, it only need bit-sync and byte-sync from SerDes chip to light up "link" LED. So, B received A's auto-negotiation messages, get enough valid bit-sync and byte-sync to establish "link" status, but B will never reply A's autonegotiation messages so A will not establish "link" status.

Here comes the issue: A doesn't show "link" while B shows "link", this is only because A enables auto-negotiation and B disables it. This will confuse equipment customers and bring many difficulties for Gigabit Ethernet's application. Suppose "Auto-Negotiation" should make the application more easier, no matter if the peer enables its auto-negotiation.'

(continued)

3-07/02 – Clause 37 Auto-negotiation

Interpretation request reads *(continued)* :

'My suggestion is: Let A establish "link" status just when it receive valid commas from B, no matter B does or doesn't establish its auto-negotiation function. Do not make the auto-negotation guy difficult to talk with others. (1000Mbps and full-duplex are always used in Gigabit Ethernet areas.) Of course, it'll be more confident if it can receive auto-negotiation reply from its peer.'

3-07/02 – Clause 37 Auto-negotiation

- Classification : Not a request for interpretation
- Response :

'This request is being returned to you because it does not constitute a request for interpretation but rather a request for a change. Generally, an interpretation request is submitted when the wording of a specific clause or portion of the standard is ambiguous or incomplete. The request should state the two or more possible interpretations or the lack of completeness of the text.

While you referred to clause 37, you have not indicated any ambiguity nor lack of completeness of the text but rather you appear to have understood the specification and made a suggestion for a change.'

3-07/02 – Clause 37 Auto-Negotiation

- Working Group Vote
- 3 way vote :
    - Accept proposed text for publication
    - Reject proposed text for publication
    - Send proposed text out for ballot

3-07/02 – Clause 37 Auto-Negotiation

- Invitation to request sending the proposed text to letter ballot
  - No requests from the floor.
- Motion to approve the proposed text as the 802.3 response

  Y: 64, N: 0, Ab: 4
  (3.06 pm PST)

4-07/02 – Maximum Frame Size

Interpretation request reads :

'Request for Interpretation of 802.3 MAC behavior when it is attached to the 802.1D/Q Bridge.

It is clear that IEEE 802.3 MAC may not send frames greater than 1518 bytes in length for untagged frame and 1522 bytes for a tagged (802.3ac) frame. It is also clear (from 4.2.4.2.1 a.) that Reception of a frame greater than these are allowed to be truncated (and reported as a error) but not required to do so.'

(continued)

4-07/02 – Maximum Frame Size

Interpretation request reads *(continued)* :

'In an implementation designed to meet IEEE 802.1D/Q Bridge with integrated IEEE 802.3 MAC, it may receive well-formed (correct frame format with valid FCS) frame that is "slightly" longer than 1518/1522 bytes. It is desirable to allow these frames to be forwarded. However, simply by allowing these frames to be switched, does this implementation violate this aspect of IEEE 802.3 MAC standard? One could argue that since a frame reception does NOT enforce the frame size limit, it is acceptable to allow it to reach the bridge relay function, but on its egress, a MAC could send a frame that is longer than the maximum MTU specified. But one could further argue that, so long as the implementation only generates longer frame if and only if it received one, the implementation is still conformant in this respect.'

(continued)

4-07/02 – Maximum Frame Size

Interpretation request reads *(continued)* :

> 'Please ignore the 4 bytes of 802.3ac/802.1Q tag generation/removal issue when answering this question. The reading of IEEE 802.1D Clause 6.3.8 allows any MTU to be supported and also allows for only supporting smallest common denominator between bridged LAN.

> So what is not clear, and would like the clarification/interpretation of the clause 4.2.4.2.1 relative to 802.1D bridging, if a MAC receives frames longer than 1518/1522, otherwise well formed, and relays it to a egress port, and the egress port sends this frame, does the implementation violate the standard?

> Or this extended length support not covered by the standard? It would settle some internal debate if you could answer both questions and provide any other helpful guidance for us.'

4-07/02 – Maximum Frame Size

- Classification : Unambiguous
- Response :

'The standard clearly states in 3.2.7 that the maximum frame size is 1518 (for untagged frames) or 1522 (for tagged frames).

A DTE (MAC plus MAC Client) that issues frames greater than the maximum frame size is not compliant.'

4-07/02 – Maximum Frame Size

- Working Group Vote
- 3 way vote :
  - Accept proposed text for publication
  - Reject proposed text for publication
  - Send proposed text out for ballot

4-07/02 – Maximum Frame Size

- Invitation to request sending the proposed text to letter ballot
  - No requests from the floor.
- Motion to approve the proposed text as the 802.3 response

    Y: 79, N: 0, Ab: 3

    (3.10 pm PST)

IEEE 802.3ah
Ethernet in the First Mile
Task Force

Interim meeting report

Fairmont Hotel Vancouver, Vancouver BC

8-July-2002

**Ethernet in the First Mile
IEEE 802.3ah Task Force**

Reflector and web

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

    majordomo@ieee.org

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

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

- Our email reflector policy is described at:

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

Ethernet in the First Mile
IEEE 802.3ah Task Force

Reflector and web

- Our web site is located at:

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

- Our private web site is located at:

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

    username:
    password:

    This is where we keep draft documents, and
    where a set of ITU-T recommendations and drafts is stored

    Do NOT distribute this URL, username and password

    Do NOT copy or distribute the documents on this site

Ethernet in the First Mile
IEEE 802.3ah Task Force

802.3ah Officers

- **Howard Frazier, 802.3ah Chair,** *millardo@dominetsystems.com*

- **Gerry Pesavento, P2MP Chair,** *gerry.pesavento@teknovus.com*

- **Hugh Barrass, Copper Chair,** *hbarrass@cisco.com*

- **Vipul Bhatt, Optics Chair,** *vipul_bhatt@ieee.org*

- **Matt Squire, OAM Chair,** *mattsquire@acm.org*

- **Ariel Maislos, P2MP Editor,** *ariel.maislos@passave.com*

- **Behrooz Rezvani, Copper Editor,** *behrooz@ikanos.com*

- **Wael Diab, Optics Editor,** *wdiab@cisco.com*

- **Kevin Daines, OAM Editor,** *kevin.daines@worldwidepackets.com*

- **Scott Simon, Recording Secretary,** *ssimon@cisco.com*

Ethernet in the First Mile
IEEE 802.3ah Task Force

Interim Meetings

- 3 day meeting - May 20-22, 2002

- Edinburgh, UK
  - Hosted by Tality

- ~145 attendees

- 56 technical presentations covering
  - OAM, P2P Fibre, EPON, P2P Copper

**Ethernet in the First Mile
IEEE 802.3ah Task Force**

Interim Meetings

- ## Key decisions from Edinburgh
  - Adopted frame-based transport mechanism for OAM
  - Adopted document structure for the draft
  - Adopted a proposal to add a laser control signal from MAC-Control to PHY for P2MP
  - Initiated cooperative work with 802.1 on upper layer shared LAN emulation
  - Adopted basline proposals for
    - 100 Mbps dual fiber P2P PMD
    - 100 Mbps single fiber/dual wavelength P2P PMD
    - 1000 Mbps single fiber/dual wavelength P2P PMD

Ethernet in the First Mile
IEEE 802.3ah Task Force

Interim Meetings

- Key decisions from Edinburgh (continued)
  - Decided to add an FEC option for P2P and P2MP PHYs maintaining backward compatibility with 1000BASE-X PCS
  - Established an informal liaison (through Koichiro Seto) to TTC
  - Transmitted informal liaison letter to ITU-T SG15 concerning addition of capability to gamma interface
  - Could not reach consensus on a baseline proposal for copper PHY

Ethernet in the First Mile
IEEE 802.3ah Task Force

Interim Meetings

- 1 day meeting - July 7, 2002

- Vancouver, BC

- ~100 attendees

- 8 technical presentations covering
  - P2MP Layering, P2MP Security/Encryption, FEC, Copper Objectives

Ethernet in the First Mile
IEEE 802.3ah Task Force

Interim Meetings

- ## Key decisions from Vancouver

  - ### Added a new objective for Copper

    PHY for single pair non-loaded voice grade copper
    distance >=2700m and speed >=2Mbps full-duplex

Ethernet in the First Mile
IEEE 802.3ah Task Force

Task Force Objectives (1/2)

- **Support subscriber access network topologies:**
  - **Point to multipoint on optical fiber**
  - **Point to point on optical fiber**
  - **Point to point on copper**
- **Provide a family of physical layer specifications:**
  - **1000BASE-LX extended temperature range optics**
  - **1000BASE-X >= 10km over single SM fiber**
  - **100BASE-X >= 10km over SM fiber**
  - **PHY for PON, >= 10km, 1000Mbps, single SM fiber, >= 1:16**
  - **PHY for PON, >= 20km, 1000Mbps, single SM fiber, >= 1:16**
  - **PHY for single pair non-loaded voice grade copper distance >=750m and speed >=10Mbps full-duplex**
  - **PHY for single pair non-loaded voice grade copper distance >=2700m and speed >=2Mbps full-duplex**

Ethernet in the First Mile
IEEE 802.3ah Task Force

Task Force Objectives (2/2)

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

- Support far-end OAM for subscriber access networks:
  - Remote Failure Indication
  - Remote Loopback
  - Link Monitoring

- Optical EFM PHYs to have a BER better than or equal to 10^-12 at the PHY service interface

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

Ethernet in the First Mile
IEEE 802.3ah Task Force

Adopted timeline

The schedule is at risk!

Legend:
- 802 Plenary
- 802.3 Interim
- IEEE-SA Standards Board

Ethernet in the First Mile
IEEE 802.3ah Task Force

Schedule risk

- Our schedule is at risk of a substantial slip

- The causes for the slip are:
  - Proposed addition of security/encryption in P2MP
  - Proposed addition of FEC
  - Lack of concensus on copper baseline
  - Proposed additional functions in OAM

- We will attempt to reach closure on these issues this week

- We may need to revise the schedule, depending on the outcome of this week's meeting

Ethernet in the First Mile
IEEE 802.3ah Task Force

Objectives for this meeting

- **Finalize the suite of baseline proposals**

- **Review P802.3ah/D0.9**

Ethernet in the First Mile
IEEE 802.3ah Task Force

Reviewing the first draft

- Our editors have produced P802.3ah/D0.9, using the baseline proposal motions we adopted in St. Louis and Edinburgh

- We will review these drafts line by line in the Sub Task Force breakout sessions on Tuesday

- Each STF needs to adopt, with a 75% majority vote, the D0.9 text as the basis for the next draft, *with changes as necessary*

- 802.3ah must ratify the STF motions on Thursday

- Our editors will produce P802.3ah/D1.0 after this meeting, and we will start the Task Force review process

Ethernet in the First Mile
IEEE 802.3ah Task Force

Plan for the week

	SUN	MON	TUE				WED				THU
8:30 9:00 9:30 10:00 10:30 11:00 11:30			P2MP STF British	Optics STF Columbia	OAM STF Waddington	Copper STF Vancouver Island	P2MP STF British	Optics STF Columbia	OAM STF Waddington	Copper STF Vancouver Island	802.3ah EFM Task Force Closing Session BC Ballroom
12:00 12:30			Lunch				Lunch				Lunch
1:00 1:30 2:00 2:30 3:00 3:30 4:00 4:30 5:00 5:30	802.3ah EFM Task Force Interim Meeting Vancouver Island	802.3 CSMA/CD Working Group Opening Plenary Meeting BC Ballroom	P2MP STF British	Optics STF Columbia	OAM STF Waddington	Copper STF Vancouver Island	P2MP STF British	Optics STF Columbia	OAM STF Waddington	Copper STF Vancouver Island	802.3 CSMA/CD Working Group Closing Plenary Meeting BC Ballroom
6:00 6:30 7:00							Social				

Ethernet in the First Mile
IEEE 802.3ah Task Force

Motion

Affirm 802.3ah decision to add a new objective for EFM copper:

PHY for single pair non-loaded voice grade copper distance >=2700m and speed >=2Mbps full-duplex

- M: H. Frazier (on behalf of 802.3ah)

- Y: N: A: Tech >= 75%

Ethernet in the First Mile
IEEE 802.3ah Task Force

802.3af Task Force

Data Terminal Equipment (DTE) Power via Media Dependent Interface (MDI)

802.3 July 2002
Opening Plenary Report

802.3 July 2002 Plenary
July 8, 2002

802.3af Staff Changes

- Chair – Steve Carlson

Changes:

- Draft Editor – John Jetzt

- Comment Editor – Scott Burton

- Temporary 4 Day Plenary Meeting Chair – Mike McCormack

802.3af Interim

- 3 Day Interim was held in Las Vegas, NV
- Completed comment resolution of D3.0 against D3.01
- Voted to:
  - Remove Link disconnect, Include AC disconnect, state machine & test materials
  - Accept remaining comment resolutions
  - Generate D3.1 & recirculate it.

802.3af Draft Status

- Resolved over 600 comments, 14 unsatisfied TRs to D3.0

- D3.01 produced from from comments resolution of D3.0 as a TF tool.

- D3.1 generated after May Interim for recirculation (428 comments)

802.3af July Plans

- Resolve comments to D3.1
- Determine a schedule
- Plan an interim meeting

802.3af Sponsor Ballot Pool

- Bob Grow

802.3af Website

Somewhere under:

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

Username: xxxxx

Password: xxxxx

802.3ae Report

Vancouver, BC

Jonathan Thatcher, Chair

Brad Booth, Chief Editor

April Interim 1

April 8-10: Vancouver, BC

Reviewed Draft 4.2 comments; Created Draft 4.3 and Recirculated

All clauses except 52 complete

- **Complete in one day**

- **Hung out with clause 52 rest of mtg**

April Interim 2

April 30: San Jose, CA

Interesting dialogue from meeting (probably not exact quotes):

1. **…to optical experts, "Is this an essential change, or are you polishing?"**

2. **Expert: "It's clear that we're not going to make any changes, why don't we reject the comments and go home."**

3. **Vice Chair: "We are going to review every comment."**

4. **Go to 1**

April Interim 2

All comments were reviewed from Draft 4.3

Only technical changes made were to correct references

Draft 5.0 recirculated with no new comments and no new negative ballots and submitted to Revcom

Ballot Results

Voters: 109	D4.0	D4.1	D4.2	D4.3	D5.0
Return	76%	79%	83%	85%	87%
Abstain	8%	5%	5%	5%	4%
Approve	82%	82%	86%	88%	96%

Original Schedule
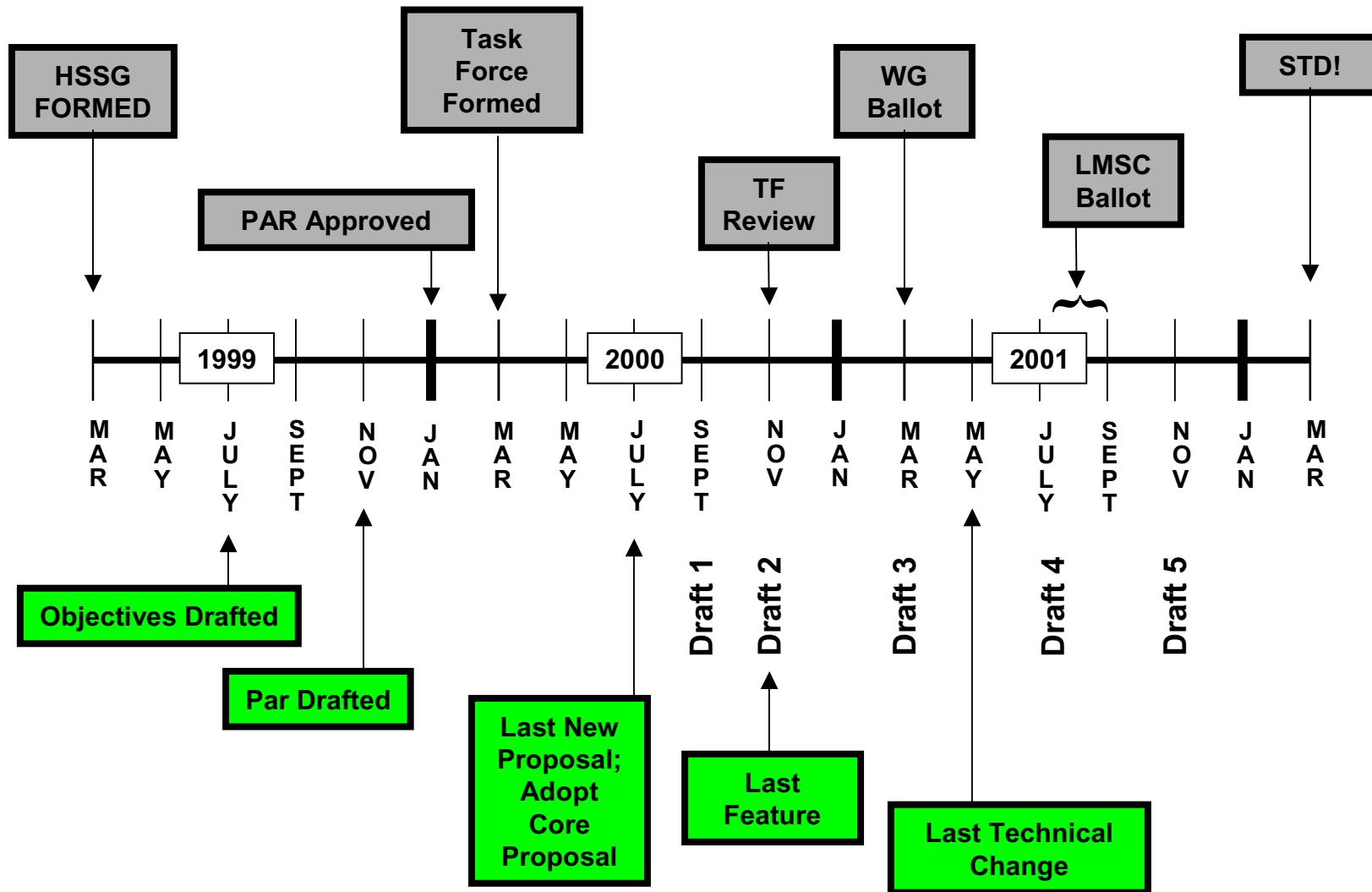
Schedule Accompli
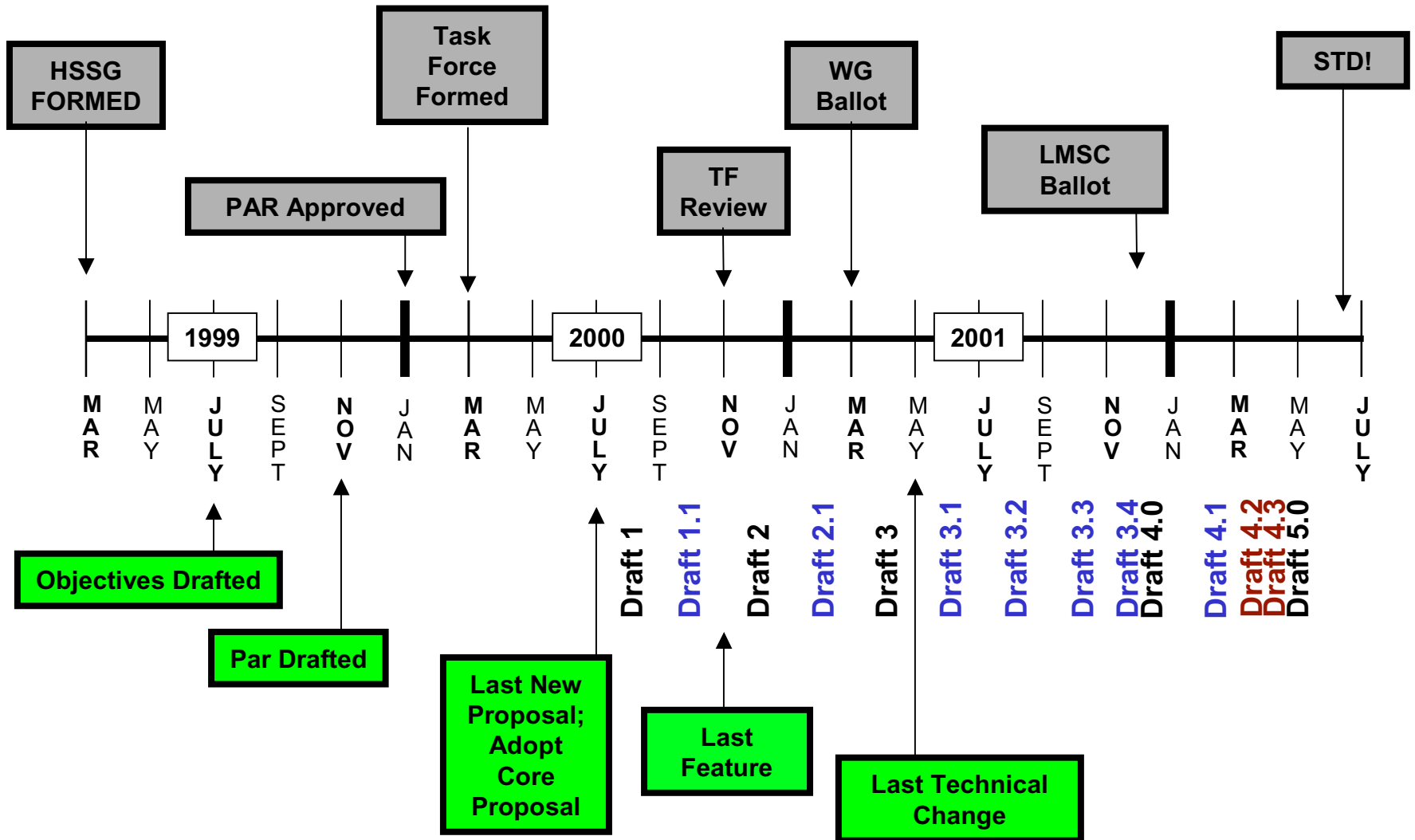
Lessons Learned

Essential to drive process to select baseline proposal rapidly

- **Couldn't start process until PMDs were selected**

The comment resolution process is unforgiving if you leave holes in baseline proposals

- **Test and Measurement Methodology for serial optics was left incomplete until late in schedule**
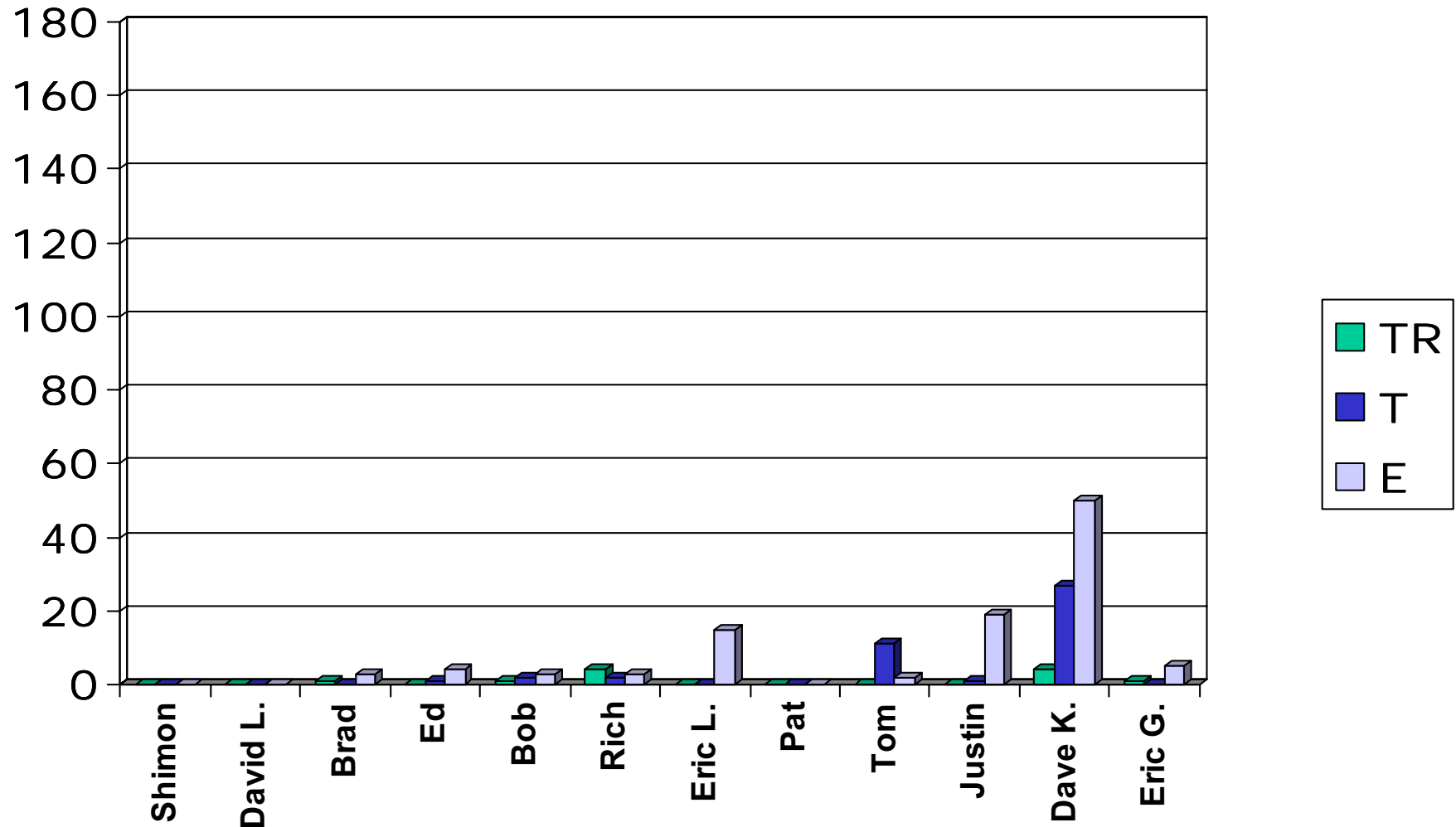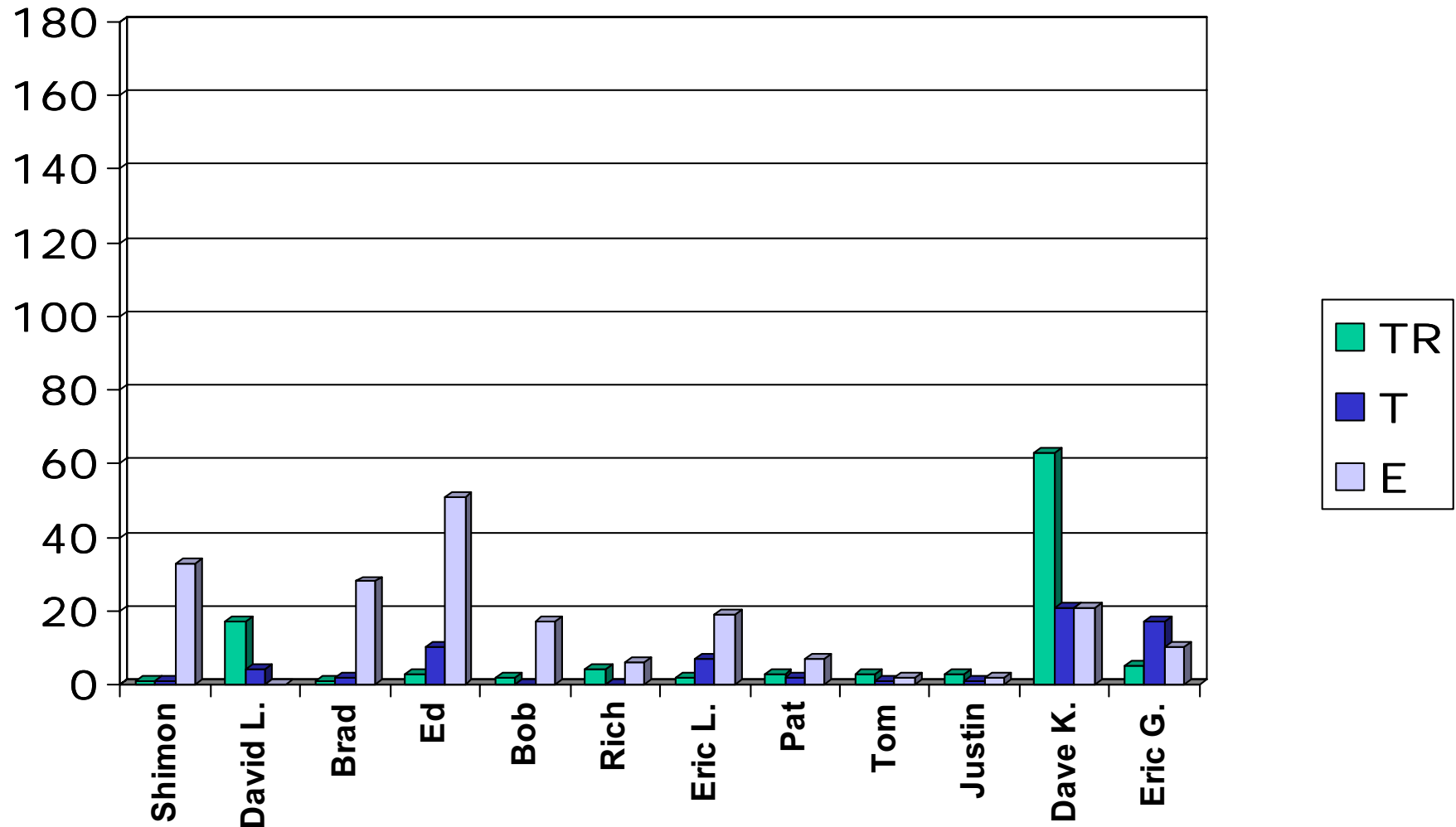
D3.0 Comment Distribution
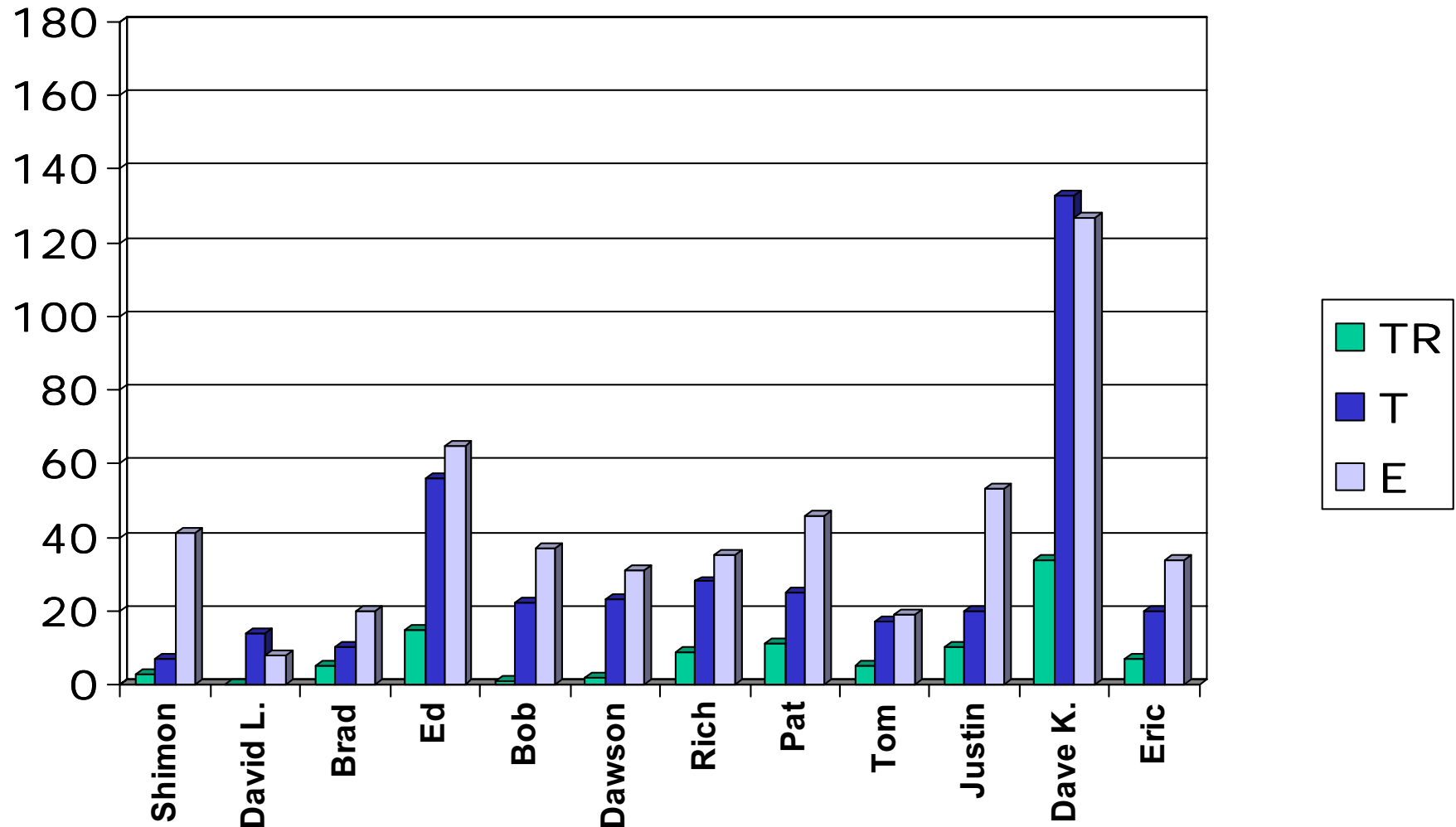
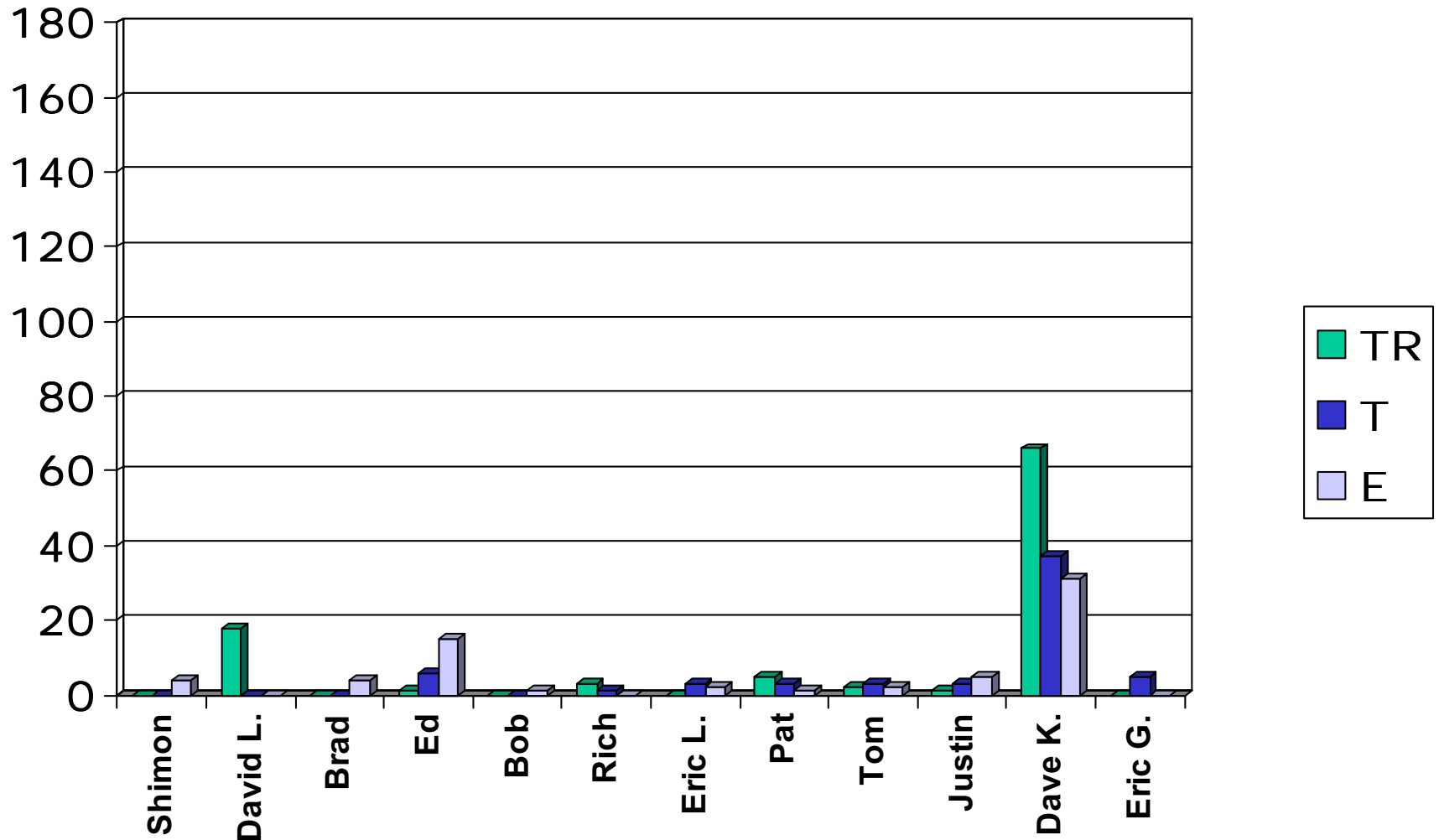# D3.1 Comment Distribution
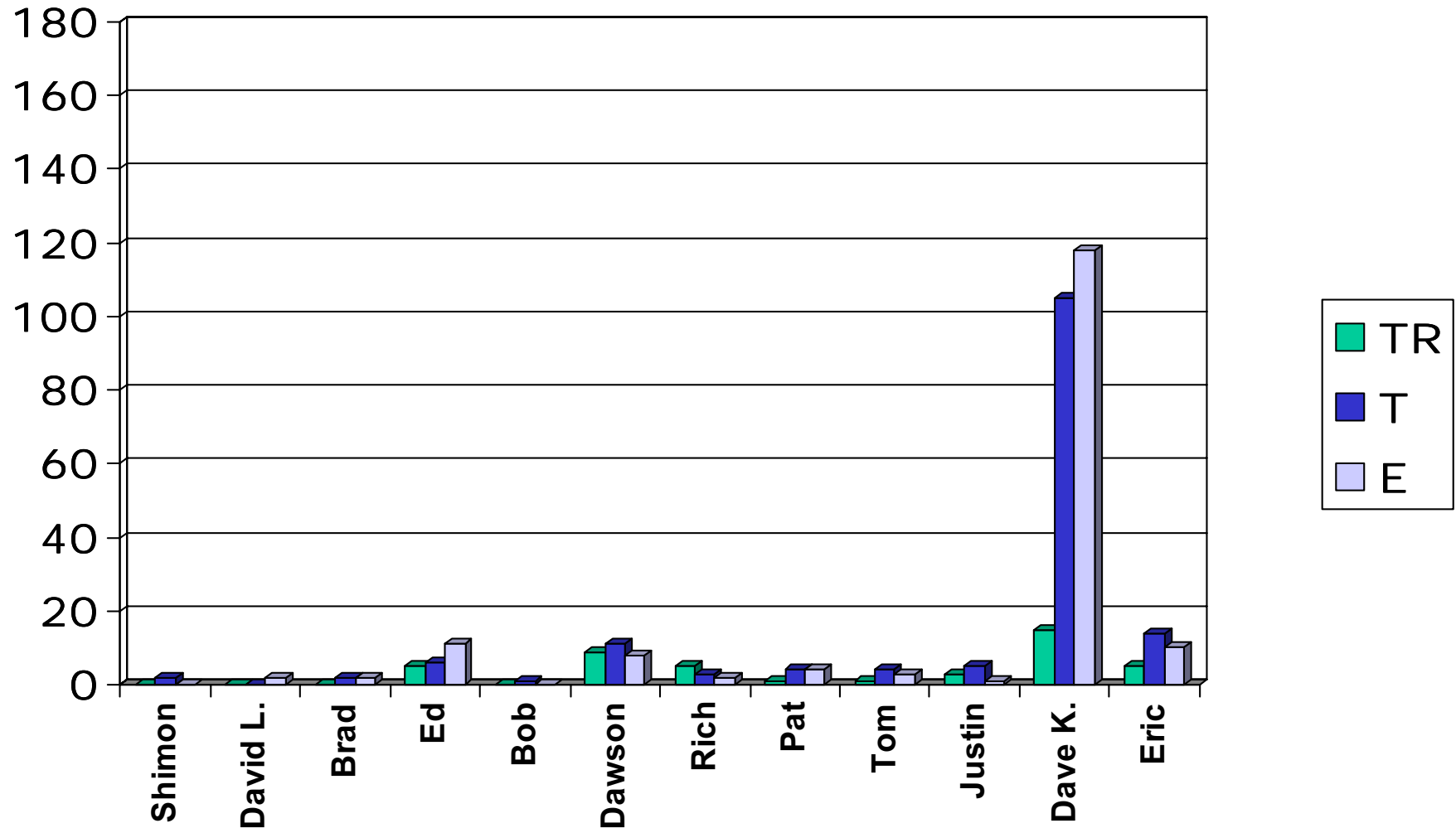
D3.2 Comment Distribution
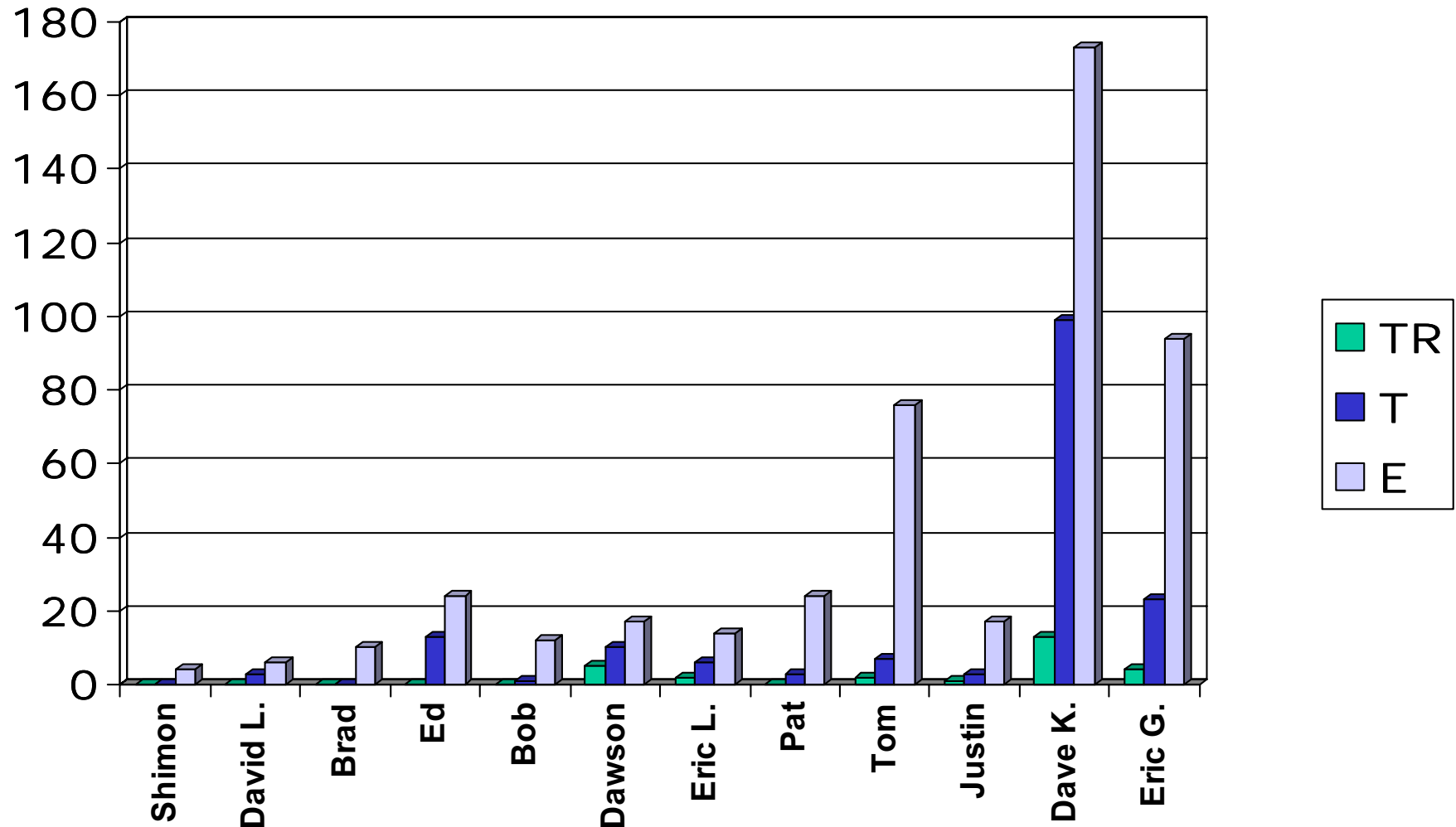
D3.3 Comment Distribution

D4.0 Comment Distribution

D4.1 Comment Distribution

D4.2 Comment Distribution

D4.3 Comment Distribution

Legend: TR, T, E

Categories: Shimon, David L., Brad, Ed, Bob, Rich, Eric L., Pat, Tom, Justin, Dave K., Eric G.

Y-axis: 0, 20, 40, 60, 80, 100, 120, 140, 160, 180
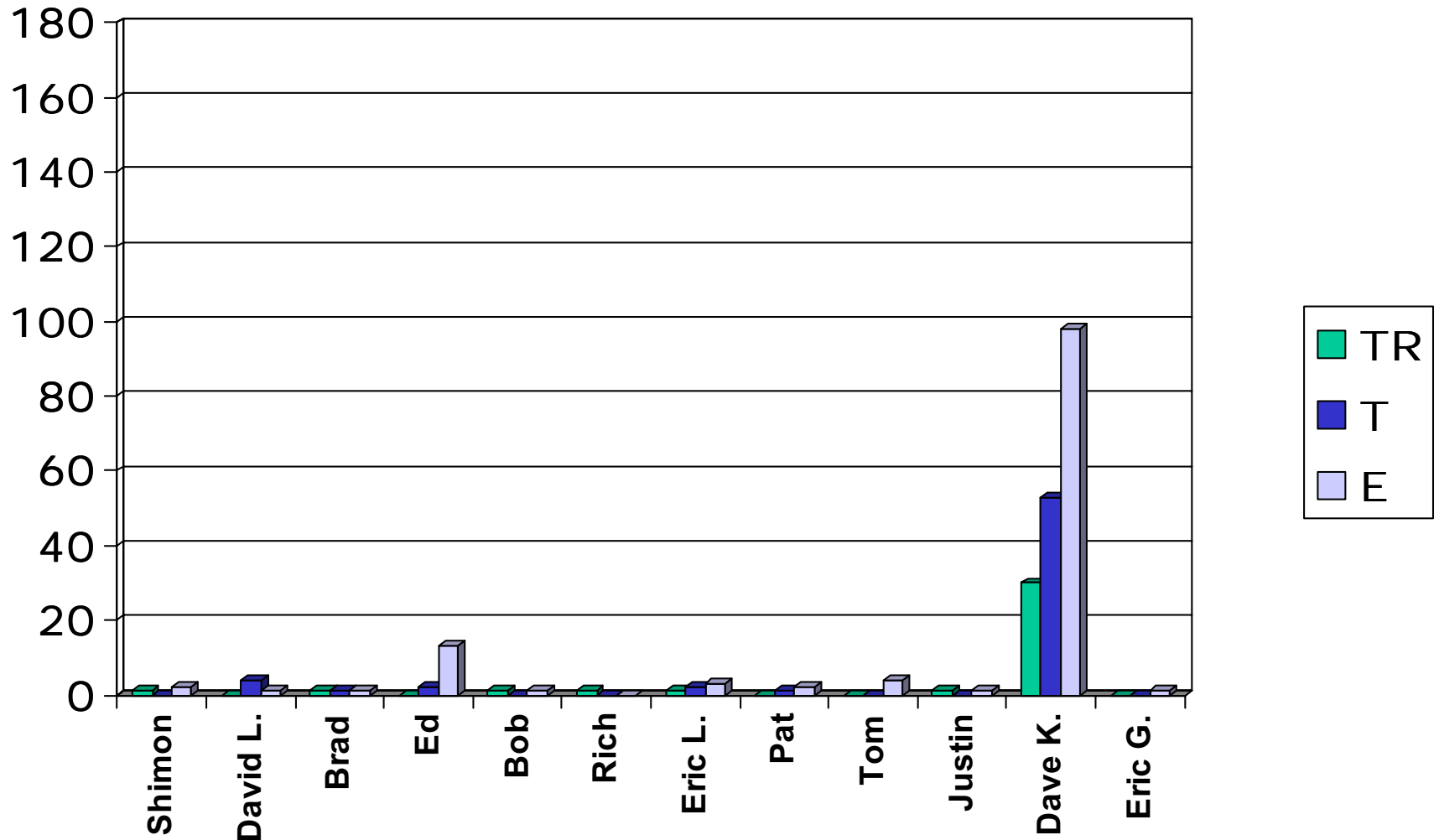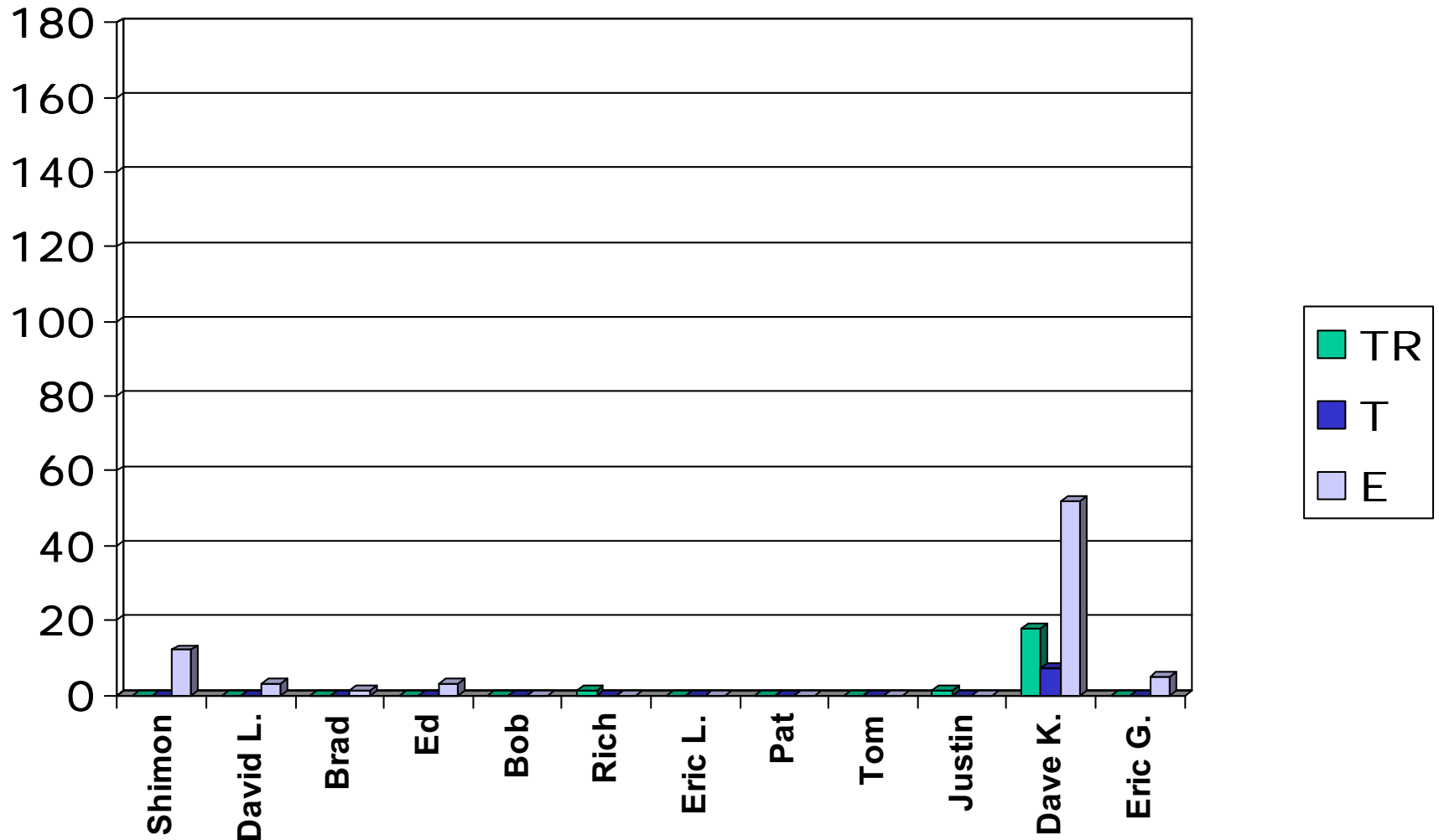
Memorable Moments

Jonathan using his laser pointer as a ("why doesn't this thing work") microphone

Jonathan Thatcher's inability to get his Editor-in-Chief's and his Logic Track Chair's names correct

  § Hint: Brad (BJB) and Ben (BJB), respectively

New Orleans… need we say anymore

Dave Kabal's sadistic desire to deprive Clause 52 participants of sleep

  § And surprisingly, they seemed to enjoy this!

  § B. Booth bringing Pizza & Beer as midnight snack

Memorable Moments (cont.)

Jonathan and Bob getting free bottles of wine

§ For those that don't know, neither drinks

Dave Kabal meeting the woman of his dreams on a re-routed flight to Hilton Head

Tornadoes in Austin, TX

§ And the thunder that seemed to have uncanny, if not supernatural, timing

Decision not to go to Copenhagen, Denmark on September 17th

Outstanding Contributors

Tom Alexander (E)

Paul Bottorff (E)

Rhett Brikovskis (E)

Ben Brown (TC)

Justin Chang (E)

Piers Dawe (T)

Eric Grann (E)

Bob Grow (E, WG-S)

Stephen Haddock (TF-VC)

David Kabal (E)

Dawson Kesling (E)

Lacreshia Laningham (E*)

David Law (E, WG-VC)

Shimon Muller (E)

Rich Taborek (E)

Pat Thaler (E)

Walt Thirion (TC)

Geoff Thompson (WG-C)

Ed Turner (E)

Rick Walker (T)

Jeff Warren (TF-S)

Please come to the front of the room!

Special Recognition

John Dallesasse

John D'Ambrosia

Norival Figueria

Howard Frazier

Krister Frojdh

Mike Hackert

Osamu Ishida

Tom Lindsay

Eric Lynskey

Bob Noseworthy

Peter Ohlen

Juan Pineda

Dan Romanscanu

Bill Wiedemann

Recognition

Don Alderrou

Vipul Bhatt

Stretch Camnitz

David Cunningham

Chris Diminico

Mike Dudek

Richard Dugan

John Ewen

Justin Gaither

Del Hanson

Ken Herrity

Jack Jewell

Paul Kolesar

Bill Lane

David Martin

Tom Palkert

Petar Pepeljugoski

Juergen Rahn

Shawn Rogers

Anthony Sanders

Steven Swanson

Bruce Tolley

Bor-Long Twu

Schelto Van Doorn

Tim Warland

Robert Zona

Goals For The Week

PARTY!

IEEE 802.3
Rules Report

July 8th, 2002
Vancouver, BC

Rules change procedure

- 1 Rules Change received in March
- Change procedure in subclause 2.9 of rules
  - Meeting held to discuss change in March
  - Changes pre-circulated prior this plenary
  - Meeting this week to discuss comments
    - 2 Received - thanks you
  - Vote held at the closing 802.3 plenary, either:-
    - **Reject**
    - **Approve**
    - **Send out to Working Group Letter Ballot**

Proposed Rules Revision 1-03/02

Proposed revision

In the WG Balloting subclause add a new requirement to the 802.3 additional requirements that reads:

2.8.4 Draft Standard Re-circulation Ballots Requirements

WG Recirculation letter ballots shall be not less than 15 days in duration (including e-mail time).

Proposed Rules Revision 1-03/02

Rational for Proposed Rules Revision

The 802.3 Rules reference the 802 Rules for the majority of Working Group Letter ballot requirements including the ballot cycle duration requirements. In the case of recirculation ballot however, the 802 rules simply state that 'There is a recirculation requirement. For guidance on the recirculation process see Section 5.4.3.2 Resolution of comments, objections, and negative votes in the IEEE Standards Operating manual'. On examination of this section of the IEEE Standards Operating manual it will be seen there is no specific duration requirement for recirculation ballots.

Until this issue is addressed at the 802 level, the 802.3 rules should be modified to state how we have been operating.

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

Ed Turner

July 8th, 2002
Vancouver, BC

Interpretations

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

Interpretations Status

- 4 new Interpretations received

  1-07/02 - 1000BASE-T Autoneg Transmit State diagram

  2-07/02 - Aperiodic operation of MDC

  3-07/02 - Clause 37 Auto-Negotiation options

  4-07/02 - Maximum Frame Size requirements

- Hardcopies available for those interested
  - Also posted in the Interpretations area of web site
- 1 Interpretation in progress
  - Response to 1-11/01 [1000BASE-T]
    - D1.0 Working Group Ballot closed 1st April 2002

Interpretation 1-11/01 D1.0 Working Group ballot results (Closed 1st April 2002)

309	Voters
157	Ballots returned
50.8%	**Return rate (> 50% required**)
99	Approval
1	Disapprove
57	Abstain
99.0%	**Approval rate (> 75% required**)
36.3%	**Abstain rate (< 30% required**)
Comments:	
1	Technical Required
1	Technical
7	Editorial

Interpretations 1-11/01 Status

- Based on motion from March plenary
  - Exception granted to abstention ratio requirement
  - Comment resolution meeting at May Interim
  - D2.0 produced and recirculation ballot opened
    - Technical Required resolved by rewrite of Item 1 (Definition of CEXT and CEXT_Err symbols) to provide more detailed explanation.

- D2.0 in Working Group Recirculation Ballot
  - Ballot closes Midnight PDT 9th July 2002
  - Have already met requirements to close ballot (with the exception of abstention ratio)

Plans for the week

- ## Meet this week
  - Comment resolution on 1-11/01 D2.0 ballots
  - Review new interpretation requests and draft responses

- ## Present responses to Closing 802.3 Plenary
  - Three way vote
    - Approve proposed response
    - Reject proposed response
    - Send proposed response out for Working Group Ballot