Unconfirmed Minutes
IEEE 802.3 Plenary
Irvine, CA
March 9-12

Andy Luque
Open Communications

Monday, March 9, Administrative

Geoff Thompson convened the meeting at 15:30 as IEEE 802.3 chair. Andy Luque, IEEE 802.3 Secretary, recorded the Minutes. The Task Force reports will be presented Tuesday.

Geoff provided a status report on several documents. There was a Sponsor Ballot on IEEE 802.3z, Gigabit Ethernet, in December. The IEEE 802.3ac, VLAN, Task Force was officially approved by the IEEE at the end of December. The IEEE 802.3aa draft was recirculated. A preview of the 1000BASE-T document was distributed. Printed copies of the IEEE 802.3 Montreal Minutes will be distributed.

Geoff reviewed the sign-in procedure and rules for establishing voting rights. Participants introduced themselves. The attendance sign-up list was circulated.

The voting membership of IEEE 802.3 was reviewed (Attachment A2). There are a total of 198 voters. A list of potential voters was presented (Attachment A2). There are 99 potential new voters. The following were added as IEEE 802.3 voters: Mike McConnell, Jeffrey Denq, Larry Miller, Jeff Martin, Clarence Joh, Brad Allen, Huw Rees, Al Kelley, Arindam Sarkar, April Bergstrom, Larry Rubin, Terry Cobb, David Stacy, Ozay Oktay, Stephen Oh, Lloyd Hasley, Ramin Nobakht, Allen Kasey, and Bob Mayer.

Several documents were distributed. The Irvine Agenda and IEEE 802.3 Montreal Minutes were handed out. Approval of the Minutes will be considered on Thursday.

The Monday/Tuesday Agenda was reviewed (Attachment A1).

MOTION: Approve the Monday/Tuesday Irvine Agenda
M:Andy Luque S:Bill Quackenbush; Approved by acclamation.

Executive Committee Liaison - Geoff Thompson

Geoff reported on the activities of the IEEE 802 Executive Committee. The Executive endorsed the ISO ballots on IEEE 802.3r, PICS, and IEEE 802.3x, Full Duplex, without any comments.

The IEEE 802 Executive Committee is reaching closure on the new Conditional Approval procedure. There will be a meeting Tuesday at 15:00 to resolve ballot comments.

At the last meeting, the Executive Committee approved the purchase of several new projectors (Attachment A3). Four have been purchased at a cost of about $30K. A temporary fee increase has been adopted to pay for the projectors. The fee will increase to $275 for pre-registration and $300 for on-site registration starting with the July plenary. The fee may be rolled back $25 after two plenaries.

New WG Hibernation Rules are being considered (Attachment A4). Geoff will support these changes unless otherwise directed.

Several tutorial are scheduled for Irvine. Monday evening, there will be a presentation on Standards for Wearable LANs. This effort is led by FedEx. Tuesday evening, there will be a 1000BASE-T tutorial and a presentation on how to create new standards using the IEEE style templates. It is important that members attend the 1000BASE-T tutorial so that they can be prepared for the WG ballot.

Several new standards will be distributed at Irvine. IEEE 802.3x, IEEE 802.3y, and IEEE 802.11 are now ready. Voters will get the books on Wednesday, and non-voters on Thursday.

The contract with Classic Consulting will be considered at the Thursday evening IEEE 802 Executive Committee meeting. Geoff will support it, unless there are comments to the contrary.

A vote was taken on IEEE 802.3 officers (Attachment A5). No additional nominations have been received for IEEE 802.3 Chair.

MOTION: Geoff Thompson for IEEE 802.3 Chair.
M: Bob Dineen S:Rich Seifert; Y:76: N:0, A:0; Approved

MOTION: David Law for IEEE 802.3 Vice-Chair.
M: Bill Quackenbush S:Alan Flatman; Approved by Acclamation

MOTION: Robert Grow for IEEE 802.3 Secretary.
M: Howard Frazier S:Pat Thaler; Approved by Acclamation

State of the Standard - David Law

David reported on the State of the IEEE 802.3 standards (Attachment A6). We still need a reaffirmation ballot on the IEEE 802.3 standard. It is a struggle to get a snap-shot on which to ballot. Need a special edition to do a ballot.

We may need to change the way we publish the standard to conduct the reaffirmation ballot. The document is very complex. We may produce a consolidated edition with all the approved clauses. The target is June. The existing IEEE book could be the backup if we can not produce a consolidated document.

Paul Nikolich, has the group considered removing some of the obsolete sections? Geoff, it has been suggested. The FOIRL, 1BASE-5, and 10BROAD36 clauses are possible candidates for removal. If someone volunteers to investigate this issue, we could consider it Thursday.

Has an update to the first CD been considered? Response, there is a new publication policy. This is the last free book that will be distributed to non-WG members. A CD may be published once a year to encompass all IEEE 802 standards. A request was made to include the global IEEE 802.3 standard in the next revision of the CD.

ISO SC25/WG3 Liaison - Alan Flatman

Alan reported on the status of ISO SC25/WG3 (Attachment A7). The group met in Orlando. There were 48 participants from 16 companies. The membership has increased by 100%. There are two key areas of work. Short term amendments to ISO 11801. A new edition for the next generation of networks.

The short term project will be an Addendum to ISO 11801. Additional parameters are being added for 1000BASE-T.

The long term project will define Cat 6/Class E (200 MHz) and Cat 7/Class F (600 MHz) cabling. Optical fiber issues are being addressed.

The group rejected a proposal to make 4 pair outlets mandatory. The status quo remains. Users can choose 2 or 4 pairs.

SC25 will meet in Japan in May. SC6 will meet in Korea the following week.

IEEE 802.14 Liaison - Paul Nikolich

Paul reported on the status of IEEE 802.14. Second WG ballot after Irvine. New High Performance Upstream Channel increases performance in noisy environments. Joint meeting with SCTE.

IEEE 802.1 Liaison - Andy Luque

Andy reported on the status of IEEE 802.1. Significant progress on IEEE 802.1P and IEEE 802.1Q. There are no significant issues that relate to IEEE 802.3. Many IEEE 802.1 members are participating in the IEEE 802.3 Trunking Task Force.

Administrative - Geoff Thompson

There was a call for patents. The IEEE Patent Policy was reviewed. Patent holders must express a willingness to make them available. A letter is needed. There is no need to provide details on the terms. In addition, Geoff asks for information on pending patents. If we wait until a patent is granted, the IEEE 802.3 participants may have moved on.

The Irvine schedule was discussed. The group will reconvene at 8:30 Tuesday. There will be Task Force reports until 12:00. George Eisler would like IEEE 802.3 members to attend his Wednesday morning Task Force meeting. Technical issues will be discussed. If problems are identified, they can try to resolve them by Thursday morning.

Liaison TR.41 - Chris Di Minico

Chris reported on the TR.41 (Attachment A8). An Addendum to 568-A is being prepared to support 1000BASE-T.

Document 7A represents a reasonable worst case characterization of installed Cat 5 cabling for 1000BASE-T operation. It specifies field tests for validating the performance of installed cable.

Document 7B represents available Cat 5 components with improvements over 5A for installing 1000BASE-T.

A proposal for a small form factor connector rejected.

Geoff Thompson, what about the harmonization with international standards? Chris, the international standards are way far ahead. Higher performance cable. TR 41 adds performance testing we need to specify for IEEE 802.3ab.

What was the rationale for rejecting the small form factor connector? Chris, there was a long discussion on the connector. In his opinion, designs were in prototype state. It is too early to adopt a new connector. SC was approved only 2 years ago. Cable plants should last 10 years.

Who made the connector presentation at TIA? Chris, does not want to get into details. See me off-line. There were several proposals.

Geoff Thompson, the scope now is to the wall outlet. The patch panel could be anything. Chris, there was no vote on this question. The new connector(s) could be used in the patch panel equipment area. There was no vote, no determination.

Gigabit Ethernet - Howard Frazier

Howard Frazier indicated that the IEEE 802.3z optics group wanted to make a technical presentation today (Attachment B). Specific information on the ballot comments will be provided tomorrow.

Del Hanson reported on the PMD work. Most of the focus was on 62.5 MMF. The Jitter budget has been updated. The existing budget was broken. There are 4 reference test points. 96 psec of jitter was added for the fiber. Reviewed DCD Closure Amplitude Penalty.

The RX Stress Penalty Calculations lead to a reduction in various distances:

SW 62.5 MMF from 260m to 220m
SW 50 MMF from 525m to 500m
LW 62.5 MMF from 440m to 550m
LW 50 MMF from 550m to 550m

Howard Frazier, why did we from 440m to 550m? Del, the B/W increases because of the use of the offset launch. This gives us the 550m.

The distance for SW 62.5 MMF could be increased to 260m if we use 185 MHzKm BW. The input we have received indicates that 99% of the installed 62.5 MMF fiber can meet this modal bandwidth at 850 nm. A solution will not sell at 220m.

Chris Di Minico, opposes the proposal to go with 185 MHzKm for the installed base. We can not use an opinion. The value must be based on a document. We would be taking on faith the 185 MHzKm number.

Howard presented the motion, adopted by the PMD group, that increases the BW to 185 MHzKm. This increases the supported length to 260m. It was adopted by a vote of 34/3/5.

Chris Di Minico, argues against the motion. Concern about bringing in new data this late in the game. Need to put 185 MHzKm in a cell.

Tom Dineen, is it going to be 220m or 260m? Does it replace the exiting value? Del, if we accept 185 MHzKm then, we can go back to 250m-260m.

There is an elevated bit error rate when we experience worst case conditions on all parameters.

What could resolve this? A different transmitter might work. Statistical analysis does not cover 100%.

Chris Di Minico, 185 MHzKm is not worst case. Howard Frazier, agrees.

The specification says 260m at 160 MHzKm. Will the new proposal work if everything is worst case? Howard, the link model does not add up.

Colin Mic, data from Corning and Lucent show 200 MHzKm.

Geoff Thompson, it is not an issue with Lucent. They went from 160 MHzKm to 200 MHzKm to meet ISO. Del, that is correct?

Do people believe the worst case number in the standard? This is the issue. Uneasy that the standard represents worst case. This could push us over the edge. Prefer 260m on ISO fiber. If less than ISO fiber, reduce the distance. It may work for a period of time and then fail. It's a bad idea.

Howard Frazier, if we add all the worst case conditions and we have a fiber with 165 MHzKm, it will not work. In his opinion, the link figures are pessimistic. We do not have full information. They can be optimistic in this case based on the two largest vendors.

Colin Mic, we need feedback on testing estimated vs field values. Howard, need a large statistical sample. We did not see failure at up to 300m. We did see failure at longer distance. Only one site tested.

What about the future? We need reasonable assurance that 160 MHzKm cable will not fail in the future. Response, the numbers did not come out of the air. The guard band provides statistical protection. The Normal distribution in manufacturing processes could prevent this.

Geoff Thompson, can not put 200 MHzKm in the table because of the installed base. Expressed concern about 160 MHzKm being acceptable at 260m. There is at least one negative ballot because of concern for the installed base. The ISO recirculation has 200 MHzKm.

Alan Flatman, we should direct people to the 200 MHzKm in ISO 11801 fiber.

Howard Frazier, wanted to expose IEEE 802.3 to the discussion in the PMD group. May ask IEEE 802.3 to make a decision tomorrow on this issue.

Shimon Muller, the issue is to get 260m. Can we review the old data to see if 220m is still OK? Paul Kolesar, showed a survey on installed fiber. If SX is limited to 13%, it is not viable. There is a significant change in the distribution between 200m and 300m. Howard Frazier, we give up quite a bit of market if we stay at 220m. There is no data available to present a chart with 10m resolution.

Chris Di Minico, it is rock solid at 220m. The problem with going to 260m is the installed base. It is inappropriate to compromise to gain 40m. According to a survey of cable installers, 75% of the installed fiber links are under 200m.

How does this compare to the Compaq survey? Response, the results from the cable installers survey is different. The installer's survey was distributed at Montreal. It's in the Minutes.

Geoff Thompson, if the market was not sensitive, we would not have this problem.

The meeting was adjourned at 18:45.

Tuesday, March 10, Administrative

The IEEE 802.3 plenary re-convened at 8:35. Geoff Thompson chaired the meeting. Andy Luque recorded the minutes. The attendance list was circulated.

Geoff reported on several activities of the IEEE 802 Executive Committee. They will consider the Link Aggregation Trunking PAR. More details later. The IEEE Patent Policy was presented. There will be an election of IEEE 802 Officers. The only candidates are the incumbents.

The voting rules, and voting membership were reviewed. There are 198 voters. The voters in peril list was presented. None were removed. Six participants expressed interest in becoming voters: Jaime Kardontchik, John Ritger, Stephen Strong, Joel Goergen, Petar Pepeljugoski, and Daniel Krent.

Interpretation Request - David Law

David indicated that an interpretation request had been received from Vafa Rakshani of Broadcom (Attachment A9). He seeks clarification with regard to Auto-Negotiation Parallel Detection operation. He claims there is a possible contradiction or ambiguity.

Geoff Thompson suggested that David gather the pertinent experts and plan a session for the July plenary. David, they will try to resolve it this week. If it takes too much time, it may not be completed until July.

100BASET Maintenance - Colin Mic

Colin reported on the status of IEEE 802.3aa, 100BASE-T Maintenance (Attachment C). No new request. The Sponsor Ballot on MB#5 closed February 19. There was a 76% return rate and a 96% approval rate. There were 2 technical required and 3 technical comments.

The technical required comments restore the tolerance value for 10 Mb/s operation. This specification had been accidentally deleted as part of the IEEE 802.3x effort. The other three comments are editorial.

Geoff Thompson, will there be meeting? Colin, yes, a brief one to resolve comments and get ready for recirculation. We hope to have the document ready for the IEEE Standards Board by May 7.

Maintenance/SC6 - Gary Robinson.

Gary was not present.

1000BASE-T - George Eisler

George reported on the status of 1000BASE-T (Attachment D). He reviewed the history of 1000BASE-T. There will be a tutorial this evening. There will be a technical plenary Wednesday to answer questions from all IEEE 802.3 members.

Geoff Thompson, asked for a list of the technical issues. George, the Start-up procedure is the key issue. We have debated this for the last 4 months. Now, it can be a sequence or a blind Start-up. The task force has been unable to reach consensus on this issue. The group would like to get the opinion of other IEEE 802.3 members on this issue.

Shimon Muller, if the procedures interoperate, is there any reason for having two procedures?

Tom Dineen, there is no technical reason for two procedures. Full interoperability is to be determined. Some say yes. Some say no.

Shimon Muller, does this finish the job? Is it ready for ballot?

Tom Dineen, there is another issue. There are two Forward Error Corrections Codes. This is a similar issue. George, this is difficult. The simpler solution can be implemented in common silicon. The high performance approach requires .25 silicon.

Are the two codes interoperable? George, chose one procedure, then Auto-Negotiation negotiates to determine capability.

Pat Thaler, every unit has to support the low performance procedure.

There was request for more detail on the Start-up procedures. Sailesh Rao, presented an overview of both alternatives.

Tom Dineen, would the Start-up procedure from 100BASE-T2 be a compromise? Sailesh, it could work.

What is the advantage of using a sequence? Response, the master sees the echo and cancels better when it sync. It is a simpler sequence than when it is blind. George, how much easier? Are there new problems? There is the issue of reliability.

Geoff Thompson, in sequence Start-up, you need to make assumptions about the other system. In blind Start-up, you make no assumptions. George, it is difficult to quantify.

Andy Luque, are there any prototypes? Simulations? Information on 100BASE-T2 field trials?

David Law, what happens when both sides do not agree? Response, blind accommodates the sequence Start-up by staying quiet at the appropriate period of time.

Dan Dove, give us some direction. The split approach or one solution. At Montreal, we failed to resolve this issue by one vote.

It was noted that Oscar Agazzi, a key proponent of one of the Start-up options, was not present. There was a brief break between 9:35 and 9:50 to allow him to get to the meeting.

The possible sites for the July 2000 Plenary were presented, prior to the resumption of the 1000BASE-T presentation.

Geoff Thompson, there is a lack of closure. We are missing a single approach in at least one area. If some of the participants are not here that is their problem. This is a voting meeting.

Bob Grow, let's force that task force into one single solution.

Oscar Agazzi, to have one solution you can remove a transition in the State Machine.

Rich Seifert, disagrees on the use of the State Machine. The task force should resolve this.

Sailesh Rao, the task force did not allow the removal of the bypass.

Tom Dineen, there is still the issue of two Forward Error Corrections Codes.

Pat Thaler, are there any samples to determine which way works better?

Sailesh Rao, the technical experts in the task force need direction from the Working Group.

Oscar Agazzi, there will be many implementations. So the implementations will be different. It is just another implementation option. Simulations shows that the algorithm works and is robust.

Geoff Thompson, standards do not control internal behaviour. We are concerned, if it affects external behaviour. How much will we add to the test burden to deal with multiple implementations? We should not have to deal with this.

Oscar Agazzi, it is particularly important that the choice does not put a burden on the user.

Andy Luque, there is no proof that blind Start-up works or does not work. If blind does not work, you are shooting the standard.

Tom Dineen, if you are not sure it will work, why is it there? This is not a development group. It is a standards group. This is a significant overhead. We are developing and verifying two Start-up protocols.

Rich Seifert, blind Start-up may not work. We should not send a standard, if we do not know if it will work. This is more important than the number of states.

Howie Johnson, Start-up is a very important component. It is inappropriate to get two options at Start-up.

Geoff Thompson, the 20 minutes are up.

Several strawpolls were taken to give guidance to the TF.

STRAWPOLL: Single solution for Start-up 63
Two solutions for Start-up 2
M:Colin Mic S:Andy Luque

STRAWPOLL: Blind Start-up 5
Sequenced Start-up 10
Delegate to TF 74
M:Andy Luque S:Colin Mic

Tom Dineen, favors the strawpoll. This is a democratic organization. The task force is deadlocked. There is a tradition of giving guidance. We did it for IEEE 802.3z yesterday.

Geoff Thompson, in a democracy majority rules. In our case, we are a consensus organization. It's a more sloppy decision process. There is a possibility that we may not have a standard if we can not resolve this issue.

Colin Mic, task force does not have the tools to solve this impasse.

Rich Seifert, there is a problem with 100 people reviewing a detailed State Machine and making a technical decision. Calls the question. There are no objections. A vote is taken on the Luque/Mic strawpoll.

STRAWPOLL: 100BASE-T Forward Error Correction Scheme
Single solution
Two solutions
M:Colin Mic S:Tom Dineen

Geoff Thompson, would like more time to consider this issue. The Dineen/Mic strawpoll was withdrawn.

The July 2000 sites were discussed.

Gigabit Ethernet - Howard Frazier

Howard reported on the status of the Gigabit Ethernet task force (Attachment E). There was a Sponsor Ballot on draft 4. It closed January 26 with a 76% return rate. There were 91 approve, 9 disapprove and 13 abstain ballots for a 91% approval rate. As of February 4, there were 94 approve, 6 disapprove, and 13 abstain ballots for a 94% approval rate.

Several issues remained open after the Seattle interim. Receiver BW. Jitter budget is broken. DMD is really significant. Draft 4.1 has been distributed. The goal is to complete the work at Irvine and proceed for final approval by June.

The PMD group has been meeting since Sunday. They reviewed the MBI work and are also focused on the conformance test.

The IETF Hub Management group has started an activity for 100BASE-T.

Howie Johnson, reviewed comments/resolutions from draft 4.1.

The specification now supports a total of 4 optical options.

Why is a solution that covers 99% of the installed base not valid?

Geoff Thompson, option #4 is not viable in the commercial world. No one will use it.

Jonathan Thatcher, we can not delete #4 because we use statistics.

Steve Swanson, presented a foil that identified Modal BW distribution of the installed base. On a worldwide basis, 80% 160MHzKm and 20% 200MHzKm. 200MHzKm is a new fiber. What do we tell customers that have installed fiber? Do we go out and measure the fiber?

Pat Thaler, in the past we have used 99% percentile. Crosstalk for 10BASE-T. Low likelihood of failure. New information was presented Sunday about 185MHzKm. Is there degradation in the installed cable? Favors option #3. It does not go below 260m and uses standard fiber.

Bob Grow, option #4 is not acceptable. Option #3 addresses the two standards.

Steve Swanson, users need an answer for both 160MHzKm and 200MHzKm. The 99% Note may be added later.

Geoff Thompson, 200MHzKm fiber is not new fiber. It is in ISO 11801:1995. It is not popular in the US. Not in TIA.

Alan Flatman, option #3 is better from a European perspective. Uncomfortable with the 185MHzKm option.

Dave Cunningham, option #3.

Howard Frazier, gave his opinion on the 4 solutions.
option #1, disapprove vote. Difficult to resolve.
option #2, could refute objections.
option #3, could refute objections.
option #4, questionable assumptions.
He prefers option #2 and option #3. They agree with the data we have.

Someone attempted to call the motion.

Andy Luque, noted that there was no motion on the floor.

Del Hanson, the Note applies to option #3. That is a separate issue.

A strawpoll was then proposed.
STRAWPOLL: fiber options

option #1	3
option #2	11
option #3	128
option #4	1

All participants were allowed to vote in the strawpoll. Vote for as many options as you desire.

A second strawpoll looked at cells for 50um fiber.

50um	850nm	1300nm
400/400MHzKm	500	550
400/600MHzKm	500	550
500/500MHzKm	500	550

STRAWPOLL: Should we support all 3 cells or keep just 400/400MHzKm?
All 3 cells
Just 400/400

Alan Flatman, ISO 200/500 does not distinguish between 50um and 62.5um fiber. There will be a future 500/500 version for 50um. No 500/500 being shipped. 400/400 represents a good choice.

Geoff Thompson, there is no EIA specification for 62.5um fiber.

Howard Frazier, customers have various grades of cable installed.

The strawpoll was modified.
STRAWPOLL: cells for 50um fiber.

One cell	16
More than on cell	77

TECHNICAL MOTION: to the SX 62.5 MMF, option #3, add the Note from option #4 to the 160 MHzKm.
M:Del Hanson S:Jonathan Thatcher; Out of Order

Geoff Thompson, indicated that the motion was out of order. A strawpoll would be more appropriate.

STRAWPOLL: to the SX 62.5 MMF, option #3, add the Note from option #4 to the 160 MHzKm.
Yes: 56 N:28

VLAN Tag - Ian Crayford
Ian reported on the status of the IEEE 802.3 VLAN task force (Attachments F). There was a WG ballot on draft 2.1. There were 99 approve, 13 approve with comment, 9 disapprove, and 24 abstain ballots. A total of 21 comments were received. Need to get sign-off from several negative voters.

Geoff Thompson, may need to do recirculation.

Trunking - Steve Haddock
Steve reported on the status of IEEE 802.3 Trunking group (Attachments G). About 130 attended the interim February 4. PAR and 5 Criteria have been developed. Plan to request an IEEE 802.3 vote on Thursday. A set of objectives have been adopted. The focus will be on Full Duplex Links that operate at the same speed. Is it one type of MAC per Trunk? Steve, yes.

The meeting adjourned at 13:05.

Thursday, March 12, Administrative
The IEEE 802.3 closing plenary convened at 8:35. Geoff Thompson presided over the meeting. Andy Luque, IEEE 802.3 Secretary, recorded the Minutes. The Thursday Agenda was reviewed (Attachment A1). It was modified to include the IEEE 802.1 PAR and the location of future meetings.

The sign-up list was circulated. The voter list was presented. Guna Bala, John Creigh, and Bruce Gladstone were added as new voters.

The election of IEEE 802 chair was discussed (Attachment A10).
MOTION: Jim Carlo reaffirmed as chair of IEEE 802.
M:Alan Flatman S:Floyd Ross; Approved by acclamation.

This is the only position that we vote on. The non-WG chairs in the IEEE 802 Executive Committee are appointed by the IEEE 802 chair.

There appears to be a need for a cabling tutorial to deal with recent developments and future cabling. Cat 5, Cat 6, Cat 7 and field testing. It relates to 1000BASE-T and new types of cable that are beyond our current applications.

Position on IEEE 802.5 Maintenance PARs - Geoff Thompson
IEEE 802.5 is seeking a new Maintenance PAR (Attachment H). This is a Maintenance Supplement, not a revision. It deals with problems found in the 1998 draft. Take the default position and support it.

A note from IEEE 802.5 on this PAR was read.

Rich Seifert, no particular concern about this Maintenance PAR. However, there is no 5 Criteria documentation. We have a process for PARs. It is an extremely bad precedent to submit a PAR without 5 Criteria, as trivial as that may be. Geoff, the 5 Criteria is there to help other groups review the PAR.

Gary Robinson, does not see it that way. Bring the subject up at the IEEE 802 Executive Committee, but do not reject the PAR.

Paul Nikolich, an exception is not justified. This is a long term requirement. It is not a burden. Need to notify the WGs that future Maintenance PARs should include the 5 Criteria.

TECHNICAL MOTION: IEEE 802.3 directs its chair to vote against the IEEE 802.5 Maintenance PAR at the IEEE 802 Executive Committee based on the lack of 5 Criteria (which violates IEEE 802 PAR Requirements)
M:Rich Seifert S:Colin Mic; Y:6 N:31, A:4; Not Approved

Someone suggested that this requirement could be waived. Gary Robinson, as far as he remembers, there are no exceptions.

Tom Dineen, it is not appropriate to ignore the rules. There is a procedure to change the rules. They should not be change on the fly.

Paul Nikolich, understands the sentiment to comply with the rule. However, it should be waived in this instance. It is the sensible thing to do.

Hon Wah Chin, against the motion. This motion is a waste of time.

Rich Seifert, agrees that the 5 Criteria are not important in this case. However, this sets a precedent. If we waive the rule when does it apply. If you waive it, you have no rule.

Pat Thaler, the PAR procedure does not mention the 5 Criteria. We have not been so strict in the past.

Geoff, any modifications to the Seifert/Mic motion?

Rich Seifert, no.

A vote was taken on Seifert/Mic motion. It was not approved.

IEEE 802.1 Liaison - Andy Luque

Andy reported on the status of IEEE 802.1 (Attachment I). There is a new IEEE 802.1 PAR to support Multiple Spanning Trees. It was not clear if the PAR would be considered at this plenary.

Geoff Thompson, concerned about the lack of information. Thinks that the PAR will be considered in July.

IEEE 802 Hibernation Procedure - Paul Nikolich

Paul reported on the changes to the WG Hibernation rules. Under the new rules, the WG chair gets to vote for 3 meetings after the WG goes into hibernation. Currently, the WG chair continues to vote for an indefinite period of time. Under the new rules, if a WG has 6 or less voters at two plenaries, it goes into hibernation.

Book distribution will be handle via a CD-ROM once a year. WG members will continue to get a printed copy of their own standards.

The 5 Criteria have been incorporated into the PAR procedure. In the past, it was part of the IEEE 802 Functional Requirements.

Only active WG chairs will get to vote at the IEEE 802 Executive Committee.

The Montreal Minutes were considered. There was a request to correct the spelling of Colin Mic and Mic Seamen. This request was accepted.

MOTION: To approve the IEEE 802.3 November 1997 Montreal Minutes, as amended.
M:Andy Luque S:Bob Grow; Approved by Acclamation.

Maintenance/ISO - Gary Robinson
Gary reported on ISO JTC1/SC6 related issues (Attachment J). Due to its long approval cycle, there is a basic problem with MB#4. What was in it? The 100BASE-T Maintenance ballot closes March 20.

TECHNICAL MOTION: approve 10BASE5 PICS at JTC1 with no comments.
M:Gary Robinson S:Rich Seifert; Approved by Acclamation

The Full Duplex and 100BASE-T2 drafts were combined into a single document. It was noted that the 10BASE-T tolerance had been accidentally deleted, as part of the development of these two standards. This value can be put back into the standard sooner, if we include this value, as part of the U.S. comments to the Full Duplex and 100BASE-T2 ISO ballot.

TECHNICAL MOTION: to generate a U.S. comment that inserts the tolerance of the signaling rate for 10BASE-T, which was accidentally deleted. (Same as IEEE 802.3aa MB#5).
M:Gary Robinson S:Colin Mic; Approved by Acclamation

There are two New Projects at ISO. One is for IEEE 802.3z. The other covers MB#5.

Geoff Thompson, did ISO get all the changes in IEEE 802.3z? Gary, yes, they have everything that went to the printers.

The IEEE 802.3aa recirculation document needs to go to Gary.

The path we follow at SC6 is changing. Need to decide on what is the best route for Full Duplex and 100BASET2.

Interpretation Request - David Law
David reported on the Auto-Negotiation interpretation request (Attachment K). It has not been resolved. The question is how to choose the highest common denominator when doing parallel detection (28.2.3.3). The relevant sections of

IEEE 802.3u were presented.

A panel of experts will be assembled before the July plenary to review this issue. Need to decide if its a Maintenance request, or an Interpretation request.

In the meantime, a response has been drafted. it indicates that the standard is unclear in this area.

TECHNICAL MOTION: IEEE 802.3 approves the Interpretation response of the AdHoc without the need for a 30 letter ballot.
M:Steve Brewer S:Alan Flatman; Y:38 N:2 A:13; Approved

Rich Seifert, agrees with AdHoc. In response, we need to indicate that the issue is being considered, and the issue is not closed. We are trying to determine if a Maintenance change is needed. David, the format for the response is specified by IEEE. A motion would be needed to start a new Maintenance item.

Pat Thaler, we have an opinion. However, we can not change the document without a Maintenance Ballot.

100BASE-T Maintenance - Colin Mic

Colin reported on the status of 100BASE-T Maintenance (Attachment L). The Sponsor Ballot closed. There were 2 negative comments with 5 comments.

Geoff Thompson, have the negative responses been handled? Colin, it needs to be done. Geoff, please collect autographs.

No new Maintenance requests have been received.

VLAN Tag Proposal - Ian Crayford

Ian reported on the status of IEEE 802.3 VLAN group (Attachments M). The task force met Tuesday afternoon. Reviewed all 28 comments.

The changes from draft 2 to draft 2.1 were presented:

-"maxFrameSize" changes to "maxUntaggedFrameSize"
-constant "qTagPrefixSize" added
-Management attributes were deleted.
-Management Annex 30A no longer required.
-defined a maximum stream size as a number of code groups based on 1518 maxFrameSize

Resolved most comments, except for those from Andy Luque. There will be a recirculation ballot.

Andy Luque presented his two unresolved technical comments. There is no compelling need to change the "maxFrameSize" to "maxUntaggedFrameSize" (#23). The existing standard should not be affected by the work of IEEE 802.3ac. It is very confusing and unnecessary.

Pat Thaler, views "maxUntaggedFrameSize" best.

Rich Seifert, agrees with Pat. This change was agreed to at the Bellevue interim.

Ian Crayford, VLANs were identified by Type Field information. There were no Management statistics running currently in VLANs. No hooks.

Geoff Thompson, this is entirely the sort of thing that should be resolved in the recirculation ballot.

Andy Luque, there is an inappropriate overlap with IEEE 802.1Q as stated in the second comment (#27). Specifically, figure 3.3 contains information that belongs in IEEE 802.1Q. There is no need to deal with User Priority, CFI, or VLAN identifiers. Furthermore, these terms are not defined in the draft. This information is not needed to have an IEEE 802.3ac standard. This level of detail is unnecessary. IEEE 802.1Q is making good progress, and we do not need to duplicate their work.

Geoff Thompson, what should be informative/normative in figure 3-3? What has been done represents a consensus view and also the views of IEEE 802.1Q membership.

Andy Luque, it is not a good practice to duplicate the text from one standard into another document. It is confusing having normative and informative text in the same figure.

TECHNICAL MOTION: IEEE 802.3 authorizes an update from draft 2.1 to draft 2.2 to incorporate resolution of comments. IEEE 802.3 authorizes a second WG recirculations ballot on draft 2.2. If no new technical changes or disapprove votes are received on draft 2.2, IEEE 802.3ac can be forwarded to Sponsor Ballot.
M:Ian Crayford S:Rich Seifert; Y:46, N:0, A:5; Approved

Future Meeting Sites - Geoff Thompson
Geoff conducted a strawpoll on meeting sites for July 2000.

March 5, 2000	YES	NO
Baton Rouge	19	20
Baton Rouge	same as above	

Vancouver	52	4
Albuquerque	31	11
Austin	26	18
West Palm	9	27
Irvine	36	11
Hilton Head	8	22
Bellevue	15	18

July, 2000	YES	NO
West Palm	5	46
Seattle	6	23
Vancouver	60	1
La Jolla	22	5
Portland Hilton	39	6
Portland Marriott	39	5
New York	53	19
West Seattle	0	12
Seattle	16	9
Hilton Head	8	29

November, 2000	YES	NO
Vancouver	36	10
Baton Rogue	17	9
Baton Rogue	17	9
Miami	45	7
Tampa	53	3
Bellevue	7	24
New Orleans	67	3

Link Aggregation and Trunking - Steve Haddock

Steve reported the Link Aggregation and Trunking (Attachment N). Task force met Wednesday. Over 100 in attendance. The PAR and 5 Criteria were reviewed. In addition, there were seven technical presentations.

The ability support of other MACs has surfaced as an issue. The Task Force has indicated that the focus will be IEEE 802.3. However, an effort will be made not to preclude the use of this specification by other MACs.

Geoff Thompson, this could include IEEE 802.11, IEEE 802.14 or IEEE 802.5. There have no motions in IEEE 802.3 to expand the effort. It is better if we get the work done, before we expand the focus. This is an IEEE 802.3 project, not an IEEE 802.1 project. Liaison from other WGs are welcome.

TECHNICAL MOTION: IEEE 802.3 accepts the Link Aggregation and Trunking

PAR as presented.
M:Steve Haddock S:Pat Thaler; Y:46, N:0, A:0; Approved

A series of motions were offered to review the 5 Criteria. Minor modifications were introduced as a result of this process.

TECHNICAL MOTION: Criteria #1 Broad Market Potential. A total of 94 participants from 54 companies have attended meetings.
M:Steve Haddock S:Hon Wah Chin; Y:36, N:0, A:0; Approved

The possible reordering of frames by an aggregating link was considered. According to the current requirements, MACs are not allowed to reorder frames as they traverse between a source and a destination. This requirement is very difficult to enforce when any link of an aggregate pair can carry a particular frame.

There are four options to resolve this issue.
#1-ignore it for now.
#2-seek an exception of the frame ordering requirement.
#3-change the MAC service requirements.
#4-constrain implementations.

Geoff Thompson, full disclosure is best. Deal with it and report the problem to the IEEE 802 Executive Committee.

Howard Frazier, agrees with Geoff. Precedent was set with the waiver of the Hamming Distance requirement.

Options #2 and #3 are outside the scope of our work.

TECHNICAL MOTION: Criteria #2, Compatibility with IEEE 802.3. Conforms with CSMA/CD MAC and PLS, and with currently authorized extensions. Conforms with LLC interface. Conforms to IEEE 802 Functional Requirements, with possible relaxation of the frame ordering requirements.
M:Steve Haddock S:Bill Quackenbush; Y:40, N:1, A:2; Approved

TECHNICAL MOTION: Criteria #3, Distinct Identity. It enables users to operate aggregated links at bandwidths incremental to the links specified in the current IEEE 802.3 standards. Only solution that provides incrementally scaleable bandwidth per link, and at the same time provides high availability and reliability through multiple links.
M:Steve Haddock S:Hon Wah Chin; Y:42, N:0, A:0; Approved

Does this preclude new PHYs? Response, the new standard does not require a

new PHY. New PHYs are outside the scope of this work.

TECHNICAL MOTION: Criteria #4 Technical Feasibility. It has been demonstrated in widely deployed products from numerous vendors.
M:Steve Haddock S:Thomas Mathey; Y:41, N:0, A:0; Approved

TECHNICAL MOTION: Criteria #5, Economic Feasibility. Cost factors can be extrapolated from the existing standard. The cost will scale incrementally with performance and availability
M:Steve Haddock S:Colin Mic; Y:44, N:0, A:0; Approved

TECHNICAL MOTION: IEEE 802.3 accept PAR and 5 Criteria as presented.
M:Steve Haddock S:Andy Luque; Y:48, N:0, A:0; Approved

Gigabit Ethernet - Howard Frazier
Howard reported on the status of the Gigabit Ethernet (Attachments O). Things look good for June. The draft 4 ballot results were reviewed. Key comments were listed. There are 3 unresolved technical comments.

Del Hanson presented the responses developed for the fiber ballot comments. The proposed values are conservative, due to the imperfect nature of the information available. We did not push the envelope. We do not have the information to replace the pessimistic characterization. The 1000BASE-LX SMF Link Length has been increased from 3km to 5km. Added 96ps MMF Deterministic Jitter.

There are 3 open items.

1.Reinstate 10Mb/s clock tolerance in clause 7 - referred to Maintenance.

2.Change RIN for LX from 120 dB/Hz to 116 dB/Hz - rejected as unnecessary.

3.Change working regarding 4th order BT filter - rejected 2nd time.

Sponsor recirculation in early April. Ready for the IEEE Standards Board by May 7.

TECHNICAL MOTION: IEEE 802.3 affirms the responses to the draft 4 ballot comments and requests that they be forwarded to U.S. TAG.
M:Howard Frazier S:Howie Johnson; Y:67, N:0, A:0; Approved

If needed to resolve ballot comments, there will be an interim April 30 and May 1 in NH.

1000BASE-T - George Eisler

George reported on the status of the 1000BASE-T task force (Attachment P). Resolved most outstanding comments on draft 2. Eliminated 3dB coding gain option. All PHYs will provide 6dB coding gain. Eliminated Bypass path from the PHY Control state diagram. The TF decided not to ask for a WG ballot at this plenary. Ballot after July plenary.

Most interims in New Hampshire April 28-May 1. Trunking Tue-Wend, VLAN Wend PM, IEEE 802.3z Th-Fri, and IEEE 802.1 Th. 1000BASE-T May 5-6 in South Florida.

The IEEE 802.3 plenary meeting adjourned.

Respectfully submitted July 5, 1998.

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