

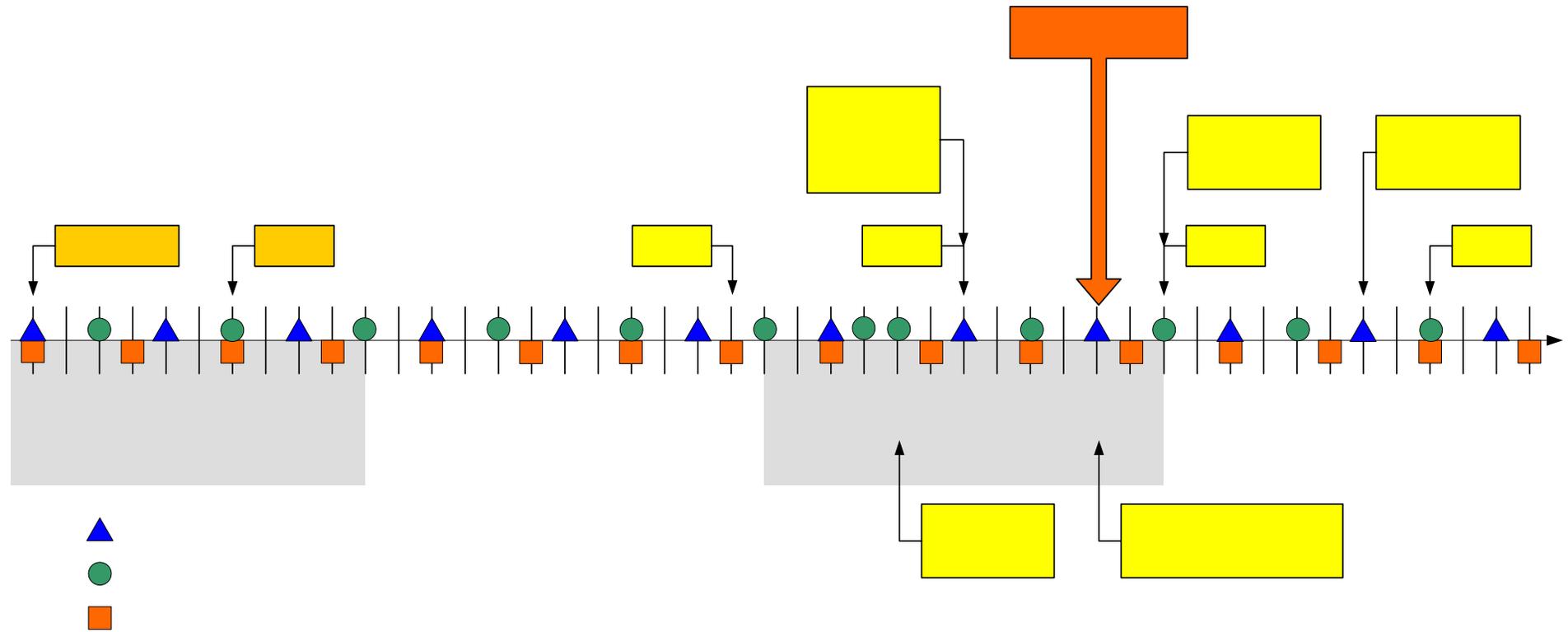


IEEE P802.3av Task Force

Procedure 19 Package for IEEE P802.3av
November 14, 2008
Dallas, TX

David Law, Chair of IEEE 802.3 WG

TF Approved Project Timeline



Approved by TF on November 15, 2007

Y:29 N:0 A:4

1st Recirculation Ballot Stats

- ❑ **Date the ballot closed**
 - Ballot closed October 22nd, 2008
- ❑ **Vote tally including Approve, Disapprove and Abstain votes**
 - See next slide
- ❑ **Comments that support the remaining disapprove votes and WG responses.**
 - Unsatisfied TRs/ERs: 12
 - Still waiting for sign-off: 5
- ❑ **Schedule for recirculation ballot and resolution meeting**
 - 12/03/08 – 2nd Recirc Ballot Opens
 - 12/18/08 – 2nd Recirc Ballot Closes
 - 01/05/09 – D2.2 Proposed comment responses posted
 - 01/12/09 – BRC meeting in New Orleans

Ballot Results

| | Initial Ballot (D2.0) | After D2.0 BRC | 1 st Recirc Ballot (D2.1) | After D2.1 BRC | Required |
|---------------------------------------|-----------------------|----------------|--------------------------------------|----------------|----------|
| Total Voters | 221 | 221 | 221 | 221 | |
| Approved | 108 | 115 | 123 | 128 | |
| Disapproved (with comments) | 13 | 6 | 11 | 7 | |
| Disapproved (without comments) | 0 | 0 | 1 | 0 | |
| Abstained | 22 | 22 | 22 | 22 | |
| Total Returns | 143 | 143 | 157 | 157 | |
| Response Ratio | 64.7% | 64.7% | 71.0% | 71.0% | > 50% |
| Abstention Ratio | 15.4% | 15.4% | 14.0% | 14.0% | < 30% |
| Approval Ratio | 89.3% | 95.0% | 91.8% | 95.5% | ≥ 75% |

Conditional Sponsor Ballot Approval

- Request that the 802.3 WG seek authorization under procedure 19 of the LMSC P&P to conduct a sponsor ballot on P802.3av pending successful completion of the WG ballot process.

Moved: Moved by G. Kramer on behalf of 802.3av TF

(Technical, $\geq 75\%$)

WG vote: Yes: 60 No: 0 Abstain: 0

TF vote: Yes: 33 No: 0 Abstain: 0

10G-EPON

Unsatisfied Negative Comments

Dawe, Piers Avago

Comment Type TR Comment Status R E PROCESSED], PAR scope

The proposed 31A and 31C have nothing to do with the objectives

SuggestedRemedy

Remove the material related to MAC Control EXTENSION to a separate draft. Prepare objective(s) for it, or decide to abandon it, or let 802.3 or another study group or task force address the question.

Response Response Status U

"REJECT.
802.3 considered it and chartered 802.3av TF to implement it as ""a service to humanity"". This mechanism was added by directive of the 802.3 WG - please see motion number #3 in minutes_0708.pdf."

Dawe, Piers

Avago Technologies

Comment Type **TR** *Comment Status* **R** *[TO BE PROCESSED]*

Draft says 'Upon reception of EXTENSION frames, the frame is sent to the MAC CONTROL client.' 31.2 says 'MAC Control clients may include the Bridge Relay Entity, LLC, or other applications.' I don't believe the intended recipient is Bridge Relay Entity, LLC, or the other applications imagined in the base standard. Note unsatisfied TRs in this area.

SuggestedRemedy

Change 'the MAC CONTROL client' to wherever you want these frames to go. One could call it 'the MAC Control organization specific extension client' and add another sentence to 31C.1 'The intended client for the MAC Control organization specific extension is an OMCI? remote management subsystem (see ITU-T G.984 and G.983?).'

Response *Response Status* **U**

"REJECT.
OMCI fits perfectly into the category of ""other applications"". No changes to the draft are believed to be needed."

TSUJI SHINJI

Sumitomo Electric

Comment Type **TR** *Comment Status* **R**

In this draft, the transmitter and receiver specification is defined by OMA and average power method. This can have a relaxed extinction ratio and lower transmitter cost. Current E-PON(1000BASE-PX-10/20) and 10G(10GBASE-LR) are also along with this manner. The benefit of applying this to ONU transmitter is relatively large because of its high volume in PON system. This also has a good technical/cost balance between OLT and ONU.

Suggested Remedy

"Modify the Extinction ratio (min) of 10GBASE-PR-U1 and 10GBASE-PR-U3 to 4.5dB."''''

Response *Response Status* **U**

REJECT.

Modify the Extinction ratio (min) of 10GBASE-PR-U1 and 10GBASE-PR-U3 to 5.3dB.
I approve this response to the comment:

Yes: 6

No: 18

Abstain: 7

Proposed REJECT (draft stays as per D2.1)

Yes: 21

No: 3

Abstain: 9

*Comment Type***TR***Comment Status* **A***PROCESSED], dual-rate term*

It is very confusing to use the term 'dual-rate' operation to mean something other than 10/1Gb/s operation supported by 10/1GBASE-PRX PHYs. What is described here seems instead to be dual-mode operation - or coexistence of EPON and 10GEPON - although it is not clear if dual-rate refers to [a] the coexistence of 10GBASE-PR and 10/1GBASE-PRX, [b] the coexistence of 10GBASE-PRX with 1000BASE-PX, [c] 10/1GBASE-PRX and 1000BASE-PX or [d] any of the above.

Also it is not clear why it has to be stated that TDMA techniques have to be used specifically in the case of coexistence to avoid collisions since, as far as I understood, TDMA always has to be used in PONs to avoid collisions.

Finally the term channel is used to refer to the Fibre optic cable plant - see for example Figure 75-3 and Table 75-1 (channel insertion loss).

Suggested Remedy

Change the text 'An OLT supporting both upstream channels must use TDMA techniques to avoid collisions between transmissions originating from different ONUs, resulting in a dual-rate, burst mode transmission as discussed in Subclause 75.7.' to read 'For implementation information related to an OLT that supports both upstream wavebands see subclause 75.7.'. The details of the coexistence should be described in that subclause.

Elsewhere in the draft change 'dual-rate' to read 'coexistence'.

*Response**Response Status* **U**

"ACCEPT IN PRINCIPLE.

Where appropriate replace term ""channel"" with ""data rate"".

In the draft, 10/1GBASE-PRX is referred to as ""asymmetric-rate"" PHY. The term ""dual-rate"" is exclusively reserved for OLT Rx being able to receive 10G and 1G signals. TF believes that term ""dual rate"" is more specific than term ""coexistence"" and should be retained.

Implement together with #2373 and #2347."

Comment Type **TR** *Comment Status* **R**

C Code

"Draft says 'Code examples given in this clause adhere to the style of the ""C"" programming language.' This is a particularly bad choice, because C is notorious for being too cryptic and compact. D2.0 comment 1962 pointed out that the standard is supposed to be written in English, or state machine notation, or, only when desperate, specified programming languages with references so that the reader can find what the syntax actually means (Pascal and Matlab have been used and are MUCH more readable), and that code should if possible be executable by a machine."

SuggestedRemedy

Be sure that you state anything the reader needs to know, preferably in words, failing that in state diagrams, Pascal or Matlab. Avoid short fragments. Say which takes precedence if English and pseudo-code disagree.

Response

Response Status **U**

"REJECT.

- 1) The task force pays strong attention to clarity and readability of the produced draft.
- 2) Many studies show that today, programming language ""C"" is the most popular language. For example, see <http://www.langpop.com/>
- 3) C-style notation was adopted by many other programming environments, for example, Verilog. The TF believes that the C-style notation would be easiest to understand to a largest fraction of potential standard users.
- 4) Pascal was developed in 1968 and its popularity peaked around 1980. Since then, both popularity and user base of Pascal has been continuously shrinking. Today, Pascal's popularity is far behind C. In fact, studies show it to be in the same category with languages like Delphi, Ada, Scheme. Again, please, refer to <http://www.langpop.com/>.
- 5) Pascal programming language is no longer a mandatory course in computer science curriculum (for about 10-15 years now) while C programming language is widely studied. Pascal constructs today may appear unclear and confusing to many engineers who graduated in the past decade.
- 6) The IEEE Style Manual places no requirements of which programming language to use.
- 7) The task force believes that the draft development should reflect objective realities of technology development and evolution. Continued use of Pascal language in the draft will make a negative impression on potential users of the standard. The standard may unnecessarily be perceived as obsolete, not being in sync with modern technologies, and may turn potential users to use alternative standards developed by other SDOs.
- 8) Use of ""C"" language is consistent with code examples given in other projects for example see clause 61A.3."

Dawe, Piers

Avago

Comment Type **TR** *Comment Status* **A**

This standard is supposed to be written in English, or state machine notation, or, only when desperate, specified programming languages with references so that the reader can find what the syntax actually means (Pascal and Matlab have been used), and that code should if possible be executable by a machine. You can't just insert snippets of unattributed pseudo-code in I don't know what syntax.

Suggested Remedy

If this pseudo-code fragment says anything that the preceding sentence doesn't, replace it with another sentence, in English. If it doesn't, delete it. Similarly in 76.2.3.1.3, 76.2.3.3.3

Response *Response Status* **U**

"ACCEPT IN PRINCIPLE.

Insert at end of 76.1.6.1.4

""Code examples given in c76 adhere to the style of the ""C"" programming language.""

Move 76.1.6.1.4 to new subclause 76.2.1.3"

Dawe, Piers Avago Technologies

Comment Type TR Comment Status R C Code

"Does this pseudo-C fragment say anything that the sentence above doesn't? It uses three sorts of brackets; what does this signify?"

SuggestedRemedy

Delete this fragment

Response Response Status U

REJECT.
See response to comment #2712

Dawe, Piers

Avago Technologies

Comment Type **TR** *Comment Status* **R***[TO BE PROCESSED]*

This abstract avoids telling the reader that there is a draft new transmission scheme in Annex 31C, unrelated to anything described here.

Suggested Remedy

Either remove the draft new transmission scheme in Annex 31C or add text here to mention it. This could be done by an additional objective.

*Response**Response Status* **U**

REJECT.

Front matter is not part of the published standard.

Independently of that, the abstract does not need to list every minor mechanism added to the draft. The EXTENSION MAC Control message was added at the directive of 802.3 Working Group at the July 2008 plenary meeting. Please review meeting minutes.

Response accepted by voice vote without opposition.

10G-EPON

**Comments awaiting
commenters' sign-off**

Doug Coleman

Corning

Comment Type **TR** *Comment Status* **A**

Need to add tight-buffered fiber cable row into Table 75-14 for FTTH deployments to living units throughout MDU buildings that may use both indoor and outdoor fiber cables.

Suggested Remedy

Would suggest having an OSP fiber cable row (existing) and an ISP fiber cable row (new). ISP attenuation performance is specified at maximum values of 1.0/0.75 dB/km at 1310/1550 nm.

Response *Response Status* **W**

"ACCEPT IN PRINCIPLE.

Rationale for the response: we are not writing a standard for the ODN and we cannot prescribe what fibers are to be used. The TF will make reasonable effort to not preclude mentioned fiber types.

Changes to Table 75-1:

- remove row ""Fiber type""

Changes to Table 75-14:

- add a footnote to field with all the supported fiber types (column 2, line 1) with the following text ""Other fiber types are acceptable if the resulting ODN meets channel insertion loss and dispersion requirements.""

Comment Type TR *Comment Status* A *velength plan - once resolved*

The downstream wavelength for PR10 and PR20 should not be changed without any discussion for power budget. Considering long history of discussion for PMD, especially wave length and power budget, in 802.3av TF, combination of power budget and wave length in D2.0 were the only solution for convergence of the discussion.

SuggestedRemedy

If wave length change is required, OLT transmitter launched power and ONU receiver sensitivity for PR20 should also be changed as below.

OLT transmitter average launched power: 2 to 5 dBm (same as PR30)

ONU receiver sensitivity (max): -28.5 dBm (same as PR30)

(related parameters will be also changed.)

In this solution, we can reduce the downstream PMD class. (from 3 to 2 classes)

In addition, we ca use same ONU receiver for PR20 and 30 by changing condition of FEC. (same receiver with FEC for PR30, without FEC for PR20)

Response *Response Status* W

"ACCEPT IN PRINCIPLE.

[subclause number was fixed, was 4, is 75.4]

I approve the response (REJECT). Draft 2.1 remains as it is.

Yes: 15

No: 8

Abstain: 11

Motion fails

I approve the response ("AIP. See comment #2737 for resolution").

Yes: 27

No: 0

Abstain: 8

Comment is closed"

Ganga, Ilango Intel

Comment Type ER Comment Status A , Else

Update state diagram with conventions/notations defined in 1.2 (also see 21.5).

Replace else statement, pseudo code, etc., with appropriate logic.

Applies to Fig 76-5, Fig 76-10, Fig 76-11, Fig 76-19

SuggestedRemedy

As per comment

Response Response Status W

ACCEPT.

At November 2008, the state diagram Fig 76-10, Fig 76-11 and Fig 76-19 were modified to address the comment. Figure 76-5 was removed from the draft at September 2008 meeting in Seoul.

Law, David 3Com

Comment Type ER Comment Status A , FEC_Formula

Please follow subclause 17.3 'Presentation of equations' found in the IEEE-SA Style Manual [http://standards.ieee.org/guides/style/section6.html#915].

SuggestedRemedy

Need to define the following by adding to the 'where:' list:

G(x) and x

Similarly, the equations on lines 21, 27 and 29 should add a 'where:' list and need to define all variables, functions and vectors - for example on line 21 L(x) is used but not defined.

Response Response Status W

ACCEPT IN PRINCIPLE.
See comment #2715.