Cl **00** *SC* **0** *P* *L* # 327
Thompson, Geoff GraCaSI

Comment Type **ER** *Comment Status* **X**

RE: D1.0 Comment #269
The response as it shows up in D2.0 does not satisfactorily addresses my concern expressed in my D1.0 Comment #269.
The rationale provided says that because this (poor) capitalization convention is used outside and we have occasion to use such terms then that is the reason we should adopt such poor conventions within our own standards for all of the terms that we create within our own standards. We can do better

SuggestedRemedy

Implement my original recommendation as expressed in D1.0 comment #269

Proposed Response *Response Status* **O**

Cl **00** *SC* **0** *P* *L* # 325
Thompson, Geoff GraCaSI

Comment Type **E** *Comment Status* **X**

RE: D1.0 Comment #274
The response as it shows up in D2.0 satisfactorily addresses my concern expressed in my D1.0 Comment #274

SuggestedRemedy

No further action required with respect to this comment.

Proposed Response *Response Status* **O**

Cl **00** *SC* **0** *P* *L* # 324
Thompson, Geoff GraCaSI

Comment Type **E** *Comment Status* **X**

RE: D1.0 Comment #273
The response as it shows up in D2.0 satisfactorily addresses my concern expressed in my D1.0 Comment #273

SuggestedRemedy

No further action required with respect to this comment.

Proposed Response *Response Status* **O**

Cl **00** *SC* **0** *P* *L* # 20246
Ganga, Ilango Intel

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

Is there any compliance requirements for P802.3bf. I do not see any "shall" statement in any of the Clause specifications.

SuggestedRemedy

Include compliance requirements, appropriate shall statements and corresponding PICS to the document.

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
Now we do - we will add PICS. See #264 for more details.

Cl **00** *SC* **0** *P* *L* # 322
Thompson, Geoff GraCaSI

Comment Type **E** *Comment Status* **X**

RE: D1.0 Comment #270
The response as it shows up in D2.0 satisfactorily addresses my concern expressed in my D1.0 Comment #270

SuggestedRemedy

No further action required with respect to this comment.

Proposed Response *Response Status* **O**

Cl **00** *SC* **0** *P* *L* # 328
Thompson, Geoff GraCaSI

Comment Type **TR** *Comment Status* **X**

RE: D1.0 Comment #275
The response as it shows up in D2.0 does not satisfactorily addresses my concern expressed in my D1.0 Comment #275.
Clearly the draft has improved in this regard, but i find no max/min requirements within the standard as there clearly should be. (If there weren't any requirements, then there would be no need for this standard.) If the issue is that the requirements are only expressed externally in 802.1AS then that is improper from a layering standpoint and from the standpoint of layered implementations being fully specified within the layer standard.

SuggestedRemedy

Fully specify the required behavior of the required signalling within this document.

Proposed Response *Response Status* **O**

Cl **00** *SC* **0** *P* *L* # 318

Marris, Arthur Cadence

Comment Type **TR** *Comment Status* **X**

I don't understand why latency registers have been added for WIS, PCS, XAUI and TC.
* WIS is obsolete.
* XAUI is arguably obsolete with SFP+ being the 10G module interconnect of choice.
* TC is too slow to be relevant to 802.1AS.
* It adds needless complexity calling out the PCS latency separately as the only delay of interest is the total delay between the MII and MDI. This might as well be reported as a consolidated value in MMD 1 PMA/PMD.

Another problem with attempting to include XAUI in this way is that it will make it even more difficult to deal with SGMII and XFI which are out of scope of 802.3.

I think the simplest solution is to stick with reporting a consolidated PHY latency in MMD 1 as was done in draft 2.0.

SuggestedRemedy

Please consider reverting the PHY latency register definitions to how they were in draft 2.0.

Proposed Response *Response Status* **O**

Cl **00** *SC* **0** *P* **13** *L* **1** # 20235

Ganga, Ilango Intel

Comment Type **ER** *Comment Status* **A**

I see new title format (in bold) at the start of existing Clauses. E.g.
Changes to ANSI/IEEE Std. IEEE 802.3-2008, Clause 30
Changes to ANSI/IEEE Std. IEEE 802.3-2008, Clause 45

Is this a new format adopted/docuemnted in the style manual for IEEE amendments. I do not see this format used in the recently published amendments. Please clarify the new style.

SuggestedRemedy

As per comment

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
Remove "Changes to ANSI/IEEE Std. IEEE 802.3-2008, Clause 30" on page 13 and "Changes to ANSI/IEEE Std. IEEE 802.3-2008, Clause 45" on page 17

Cl **00** *SC* **0** *P* **14** *L* # 315

Marris, Arthur Cadence

Comment Type **E** *Comment Status* **X**

Missing editing instructions.

SuggestedRemedy

Insert:
NOTE—The editing instructions contained in this amendment define how to merge the material contained therein into the existing base standard and its amendments to form the comprehensive standard.

The editing instructions are shown in bold italic. Four editing instructions are used: change, delete, insert, and replace. Change is used to make corrections in existing text or tables. The editing instruction specifies the location of the change and describes what is being changed by using strikethrough (to remove old material) and underscore (to add new material). Delete removes existing material. Insert adds new material without disturbing the existing material. Insertions may require renumbering. If so, renumbering instructions are given in the editing instruction. Replace is used to make changes in figures or equations by removing the existing figure or equation and replacing it with a new one. Editing instructions, change markings, and this NOTE will not be carried over into future editions because the changes will be incorporated into the base standard.

Also review the preamble to see if there is anything else missing or not compatible with the current style manual.

Proposed Response *Response Status* **O**

Cl **01** *SC* **1.3** *P* **15** *L* **7** # 326

Thompson, Geoff GraCaSI

Comment Type **ER** *Comment Status* **X**

RE: D1.0 Comment #271
The response as it shows up in D2.0 only partially addresses my concern expressed in my D1.0 Comment #271

SuggestedRemedy

Please update the referenced draft version of P802.1AS to D7.5
Add (or move from the front of cl.90) the update upon publication to a footnote to the normative references clause (1.3).

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.12.1** *P* **13** *L* **23** # 20237

Ganga, Ilango Intel

Comment Type **ER** *Comment Status* **A**

Add missing Editing instructions for new subclauses 30.12.1 to 30.12.1.6

SuggestedRemedy

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
See comment #300

Cl **30** *SC* **30.12.1.3** *P* **2** *L* **1** # 20231

Frazier, Howard Broadcom Corporation

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

The Clause 30 attributes for TimeSyncLatency are directly mapped to the values of the PHY transmit latency registers in Clause 45, and explicitly include only the PHY latencies. What if the gRS sublayer TS_SFD_Detect functions involve additional latency? There is no way that a PHY can know how much, if any additional latency is imposed by the gRS sublayer TS_SFD_Detect functions, but it is reasonable to assume that the pervasive management entity has access to this information, and it makes sense to include this additional latency (if any) in the Clause 30 attributes.
In the transmit path, any latency associated with the TS_SFD_Detect_TX function must be subtracted from the PHY delay, while in the receive path, any latency associated with the TS_SFD_Detect_RX function must be added to the PHY delay.

SuggestedRemedy

Add the following sentence to the behavioural definition of aTimeSyncLatencyTXmax:
The value reported in this attribute shall be adjusted to account for any latency associated with the TS_SFD_Detect_TX function by subtracting this latency from the value reported by the PHY.

Also make the corresponding change in 30.12.1.4.

In 30.12.1.5, add the following sentence to the behavioural definition of aTimeSyncLatencyRXmax:
The value reported in this attribute shall be adjusted to account for any latency associated with the TS_SFD_Detect_RX function by adding this latency to the value reported by the PHY.

Also make the corresponding change in 30.12.1.6.

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
See 3bf_1009_hajduczenia_4.pdf, 3bf_1009_hajduczenia_5.pdf, and 3bf_1009_hajduczenia_6.pdf for specific changes to Clause 30, 45 and 90.

Cl **30** *SC* **30.2.2.1** *P* **13** *L* **16** # 20236

Ganga, Ilango Intel

Comment Type **ER** *Comment Status* **A**

insert in proper location is an ambiguous instruction. Change Editing instruction as follows:

Insert new managed object oTimeSync in 30.2.2.1 to the list in alphabetical, as follows:

SuggestedRemedy

As per comment

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
Change to "Insert new managed object oTimeSync (with the following definition) in 30.2.2.1 in alphabetic order:"

Cl **30** *SC* **30.2.5** *P* **1** *L* **21** # 20219

Frazier, Howard Broadcom Corporation

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

Subclause 30.2.5 Capabilities is instantiated here for the sake of capturing the change to the containment diagram (Figure 30-3), but I think we also need to add a capabilities table, similar to Table 30-4.

SuggestedRemedy

Insert Table 30-6 TimeSync Capabilities, listing each of the attributes of the oTimeSync managed object class. They should all be defined as "GET" access, and all be made members of a "Support for Time Sync" package.

Response *Response Status* **W**

ACCEPT.

Cl **30** *SC* **30.2.5** *P* **13** *L* **17** # 20241

Ganga, Ilango Intel

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

Editing instructions and changes missing in 30.2.5 Capabilities.

Add oTimeSync to Table 30-1 capabilities

SuggestedRemedy

As per comment

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
See comment #219 for a new capability Table. See comment #299 and #300 for editing instructions.

Cl **45** SC P L # 20285
Diab, Wael Broadcom

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

Do you need any PICs for the newly defined material?

SuggestedRemedy

See Comment

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
No new PICS needed (no shall statements).

Cl **45** SC **2.1.101** P **6** L **3** # 20214
Zimmerman, George Solarflare Communica

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

Using 32 bits for the phy latency in nanoseconds seems excessive. No 802.3 PHYs have latency beyond microseconds. Additional latency would be above the PHY layer, in the MAC. 16 bits would allow 65 usec latency.

SuggestedRemedy

Consider reducing latency fields to 16 bits, or justify 32 bits.

Response *Response Status* **W**

REJECT.
While it is technically reasonable, this specific register size was included at the request of IEEE 802.1AS TF, during consultations between IEEE P802.3bf and P802.1AS.

Cl **45** SC **2.1.102** P **6** L **24** # 20215
Zimmerman, George Solarflare Communica

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

32 bit latency seems excessive for PHYs. see previous comment on TX latency

SuggestedRemedy

Consider 16 bits or justify 32 bits

Response *Response Status* **W**

REJECT.
See comment #214.

Cl **45** SC **45.2.1** P **23** L **5** # 316
Marris, Arthur Cadence

Comment Type **E** *Comment Status* **X**

Change editing instruction from 'modify' to 'change'

SuggestedRemedy

Change editing instruction from 'modify' to 'change' here and also on pages 24, 26, 28, 30, 32 and anywhere else relevant.

Proposed Response *Response Status* **O**

Cl **45** SC **45.2.1** P **5** L **15** # 20234
Ganga, Ilango Intel

Comment Type **ER** *Comment Status* **A**

IEEE Std 802.3ba is already published. Change the Editing instruction as follows:

Change Table 45-3 (As modified by IEEE Std 802.3ba-2010) as follows:

Also change the next Editing instruction as follows:

Insert 45.2.1.100, 45.2.1.101, 45.2.1.102 after 45.2.1.99 (As modified by IEEE Std 802.3ba-2010)

Make similar changes to Editing instructions as appropriate throughout the document.

SuggestedRemedy

As per comment

Response *Response Status* **W**

ACCEPT.
See also comment #250.

Cl **45** *SC* **45.2.1.99a** *P* **23** *L* **42** # 319

Anslow, Peter Ciena

Comment Type **T** *Comment Status* **X**

in Table 45–65e, Bit 1.1800.0:
"receive path data delay in registers 1.1801 through 1.1804" should be "receive path data delay in registers 1.1805 through 1.1808"
The equivalent mistake appears in:
Table 45–81a
Table 45–115c
Table 45–114a
Table 45–121a
Table 45–132a

SuggestedRemedy

In the bottom row of Table 45-65e
change "registers 1.1801 through 1.1804" to "registers 1.1805 through 1.1808"
Make an equivalent change in:
Table 45–81a
Table 45–115c
Table 45–114a
Table 45–121a
Table 45–132a

Proposed Response *Response Status* **O**

Cl **90** *SC* **90.2** *P* **21** *L* **25** # 20238

Ganga, Ilango Intel

Comment Type **ER** *Comment Status* **A**

In 90.1 and in the Abstract "Time Synchronization Service Interface is referred to as Time Synchronization Service Interface(TSSI), however in 90.2 and later the interface is referred as Time Synchronization (TS) Service Interface, and TS service interface

Use a consistent notation throughout the document.

SuggestedRemedy

As per comment

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
See comment #253 for specific list of changes.

Cl **90** *SC* **90.4.1** *P* **22** *L* **1** # 20242

Ganga, Ilango Intel

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

Does the xMII include the interfaces in the recently approved IEEE Std 802.3ba amendment, if so include the following to the interface in this paragraph: "40 Gigabit and 100 Gigabit Media Independent Interface (XLGMII and CGMII, see Clause 81)". Please clarify

If this interface is implied in this xMII definition then also include this in the gRS description in 90.5.

SuggestedRemedy

As per comment

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
See comment #296.

Cl **90** *SC* **90.4.1.1** *P* **36** *L* **12** # 323

Thompson, Geoff GraCaSI

Comment Type **E** *Comment Status* **X**

RE: D1.0 Comment #272
The response as it shows up in D2.0 satisfactorily addresses my concern expressed in my D1.0 Comment #272

SuggestedRemedy

No further action required with respect to this comment.

Proposed Response *Response Status* **O**

Cl **90** *SC* **90.4.2.3.1** *P* **24** *L* **3** # 20243

Ganga, Ilango Intel

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

As per semantics of the primitives TS_RX.indication(SFD) and TX_TX.indication (SFD), the SFD parameter can take either of the following two values: DETECTED or undefined.

What is the reason for the parameter to take a value of undefined. Undefined could also mean it could send DETECTED! So define the vlaue when the SFD is not detected. One possibility is the parameter could take a value of "NOT DETECTED"

SuggestedRemedy

As per comment

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
See comment #230 for specific changes.

Cl **90** *SC* **90.5** *P* **24** *L* **24** # 20244

Ganga, Ilango Intel

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

Does the definition for gRS include the 40 Gb/s and 100 Gb/s operation specified in Clause 81. If so, clarify or describe the inclusion/exclusion in in 90.5.

SuggestedRemedy

As per comment

Response *Response Status* **U**

ACCEPT IN PRINCIPLE.
See comment #296 for specific changes to 90.5.

Cl **90** *SC* **90.5.2** *P* **25** *L* **23** # 20239

Ganga, Ilango Intel

Comment Type **ER** *Comment Status* **A**

Figure 90-2: Currently the dotted lines for TS service interface and PLS service interface appear to merge in the figure. Provide enough separation between these two service interfaces or show the service interface at two different levels.

SuggestedRemedy

In Figure 90-2, move the dotted line for TS service interface further to the left of PLS service interface.

Response *Response Status* **W**

ACCEPT.

Cl **90** *SC* **90.6** *P* **39** *L* **29** # 321

Giannakopoulos, Dimitrios Applied Micro

Comment Type **E** *Comment Status* **X**

Managment should be Management

SuggestedRemedy

Replace Managment with Management

Proposed Response *Response Status* **O**

Cl **90** *SC* **90.6** *P* **39** *L* **44** # 320

Giannakopoulos, Dimitrios Applied Micro

Comment Type **T** *Comment Status* **X**

Text "value of the series of transmit path data delay registers" is in description of receive path.

SuggestedRemedy

Replace "value of the series of transmit path data delay registers" with "value of the series of receive path data delay registers"

Proposed Response *Response Status* **O**

Cl **90** *SC* **90.7** *P* **26** *L* **4** # 20245

Ganga, Ilango Intel

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

Include the MDIO control variable, PMA/PMD control variable bits etc., in table 90-1 in 90.7 (See example tables in PMA/PMD clauses in base standard e.g. see Clause 88).

SuggestedRemedy

Response *Response Status* **W**

REJECT.
The TF believes we do not require any control registers - we only need capability indication, which is already covered in C45.

Cl **90** SC **90.8** P **14** L **48** # 20227

Frazier, Howard Broadcom Corporation

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

The PHY latency is reported with nanosecond granularity (per 45.2.1.101 and 45.2.1.102), but there are no bounds on either the precision or the accuracy of the measurement. It is hard to see how the project objective ("...provide an accurate indication of the transmission and reception initiation times of
all packets...") can be met without such bounds.

SuggestedRemedy

Replace the last sentence of 90.8 with the following:
The PHY latency measurements shall be accurate to within one nanosecond.

Response *Response Status* **U**

ACCEPT IN PRINCIPLE.
See comment #264.

Cl **90** SC **90.8** P **26** L **23** # 20275

Thompson, Geoff GraCaSI

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

It may be true that: The method used for the PHY latency measurement and the the process of selecting the minimum and maximum PHY latency values are outside the scope of this specification.
It is NOT true that the tolerances on those values are not in scope. Without required and standardized tolerances on measured vs. actual values, there can be no assurance of multi-vendor interoperability.

SuggestedRemedy

Establish and document the required accuracy on maximum and minimum latency measurements that is needed to support the higher level interaction functions in 802.1AS and include them in this sub clause.
(Since you seem to be gathering a max and min count for each as your data, you might be better off to define latency in count units rather than ns and then define the tolerances on the clock driving the counter.)

Response *Response Status* **W**

REJECT.
The way the measured values are specified is using the max/min range, which already accounts for all necessary measurement tolerances.

Cl **93** SC **93.4.3.1.1** P **37** L **28** # 317

Marris, Arthur Cadence

Comment Type **TR** *Comment Status* **X**

This is a pile on to comment 243 against draft 2.0. Also see the agreed resolution to comment 31 against draft 0.21 which was never implemented:
http://www.ieee802.org/3/bf/comments/Files/D0.21/3bf_1003_comments_final.pdf

"The SFD parameter can take only one possible value, DETECTED." does not make sense.

SuggestedRemedy

Change to:
"The SFD parameter takes the value of either DETECTED or NOT DETECTED."

make the same change in 90.4.3.2.1

Proposed Response *Response Status* **O**

Cl **99** SC P **2** L **2** # 20233

Ganga, Ilango Intel

Comment Type **ER** *Comment Status* **A**

Expand the acronyms in the abstract. Abstracts may be referenced in various bibliographic literature and hence expand the acronyms.

Start Frame Delimiter (SFD)
Medium Dependent Interface (MDI)
Physical Layer devices (PHY)

SuggestedRemedy

As per comment.

Response *Response Status* **W**

ACCEPT.
Implement together with #221