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**SG15-LS125
STUDY GROUP 15**

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San Jose, 11– 15 June 2018

**LS
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Title: Reply to Liaison IEEE P802.1CM TSN for Fronthaul (replying to IEEE 802.1-oLS42/SG15-TD246/WP3)

LIAISON STATEMENT

For action to: -

For comment to: -

For information to: IEEE 802.1, CPRI Technical Working Group

Approval: Q13/15 Interim meeting (San Jose 11-15 June 2018)

Deadline: -

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Q13/15 thanks IEEE802.1 for the liaison on IEEE P802.1CM TSN for Fronthaul and for the enclosed P802.1CM/D2.2.

We reviewed your liaison at the Q13/15 Interim meeting held in San Jose on the 11-15 June 2018.

In particular, we reviewed the requirements of Case 1.2 in Categories A and B, and Case 2 in Categories A+ and A, as described in clause 6.4.1 of draft 2.2.

Q13/15 made some important progress at this meeting on the topic of synchronization solutions that can support the needs of new applications including Ethernet-based fronthaul.

In particular, as part of the discussion on new clocks that can support more stringent requirements (e.g., as indicated in P802.1CM/D2.2), the group agreed to specify new clock types in G.8273.2.

One of the new clocks (indicated as G.8273.2 “Class C”) is expected to meet the assumptions made by the CPRI Technical Working Group, “Requirements for the eCPRI Transport Network” that have been adopted in P802.1CM/D2.2, namely with target time error budget of 15 ns, as a combination of the constant time error and of the low frequency dynamic Time Error.

The plan for the Amendment to G.8273.2 with information on the new clocks is to consent it at the SG15 Plenary that will be held in October 2018.

As soon as the document is consented it will be made available to IEEE 802.1.

Other relevant activities concern the specification of an enhanced version of the synchronous Ethernet Equipment Clock (eEEEC), to be defined in G.8262.1. The work is currently focusing on analysing the end-to-end performance of various network reference models where cascaded eEEECs are combined with the new G.8273.2 clock types. The plan is to consent the first version of G.8262.1 in October 2018. This document will also be made available to IEEE 802.1 as soon as it is consented.

One of the time synchronization end-to-end requirements (i.e., time error between the time synchronization master and the End Application) being studied is on the order of 100 ns. This would allow meeting application requirements for relative phase error of 260 ns (i.e., as per Category B in P802.1CM/D2.2).

It should be noted that, based on information recently received from 3GPP about 5G synchronization requirements and related topologies, Category A and A+ are not expected to require distribution of network synchronization signals across a chain of clocks (the distribution of the reference timing signal would not be required between sites; an intra-site timing distribution would suffice). It has been suggested that the same could apply to LTE. This is being investigated.

We look forward to continued fruitful cooperation.
